

PROPOSED KIRBY PARKWAY

Memphis, Shelby County, Tennessee
Macon Road to Walnut Grove Road

Draft Supplemental Environmental Impact Statement

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This document is a supplement of a segment of the Kirby Parkway project for which a Final Environmental Impact Statement was approved in 1991. This document is intended to update the environmental reevaluation of potential environmental impacts and investigate alternatives that have been developed since 2001.

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PROJECT SUMMARY

Brief Description of the Proposed Action

The City of Memphis, in conjunction with the Federal Highway Administration (FHWA) and the Tennessee Department of Transportation (TDOT), is proposing to construct the 2.5-mile Kirby Parkway from Walnut Grove Boulevard to the intersection of Whitten and Macon Roads in Memphis, Tennessee. The new road design consists of a four-lane, median-divided, access-controlled highway.

The entire Kirby Parkway project study area involves a 10-mile long north-to-south corridor in eastern Shelby County, Tennessee. This new travel corridor will benefit people at local, state, and regional levels by improving accessibility to nearby and remote employment opportunities, markets, and services. The new route will facilitate not only through traffic between Interstate 240 (I-240) and I-40, but it shall also serve the commuting populations of Bartlett, Germantown, and the surrounding residential areas via improved connectivity. As a result, both accident potentials and travel times in the area of impact will be reduced. An evaluation of the project's potential to enhance recreational uses of nearby Shelby Farms is in the development stages.

Development and Purpose of SEIS

Based on public comments to previous alternatives, Shelby County, the City of Memphis, and the Federal Highway Administration (FHWA), it was deemed necessary to examine additional Kirby Parkway alternatives by preparing a SEIS. According to 23 CFR 771.130(f), a SEIS may be required to address issues of limited scope, such as the extent of proposed mitigation or the evaluation of location and design variations for a limited portion of the overall project. This Draft Supplemental Environmental Impact Statement is being prepared to address changes that have occurred since the approval of both the Final Environmental Impact Statement (August 1991) and the Environmental Reevaluation (March 2001), as well as FHWA's issuance of a Record of Decision (ROD) on November 11, 1991. It is not intended to replace or reconsider the information presented in these documents as a whole, but rather to apply new knowledge about the project since FEIS approval and Reevaluation of Kirby Parkway. The purpose of this DSEIS will be to evaluate three alternatives, Q, L, and M (see Figures 2.8-2.10), of Kirby Parkway from the north intersection of Humphreys Boulevard and Walnut Grove Road through Shelby Farms to the south of I-40 ending at Macon Road. The proposed new designs include the addition of a new interchange, intersection modifications and design change from six lanes to four lanes split by a landscaped median. The new route would involve improving and connecting existing sections of Whitten Road/Kirby Parkway, ending at Macon Road.

History of Shelby Farms Advisory Team and Context Sensitive Solution (CSS)

In 2002, Governor Phil Bredesen and Tennessee Department of Transportation (TDOT) Commissioner Gerald Nicely requested a detailed study of 15 controversial transportation projects across the state by the University of Tennessee Center for Transportation Research. Governor Bredesen and Commissioner Nicely based their decision to target these 15 projects following comments received during the 2002 political campaign. After the review, TDOT decided to refer a proposal to relocate Walnut Grove Road in Shelby County back to local government



officials for future planning in October 2003. The University of Tennessee report suggested that the City of Memphis and Shelby County, in consultation with interest groups and the general public, re-affirm support and interest in pursuing the project to completion before development occurs. It was assumed that if there was continued local government support, the appropriate local entities would work to select a preferred alternative and perform the necessary environmental, economic, and social impact studies. Due to the public nature of this project, Context Sensitive Solution (CSS) principles were deemed critical in planning/designing phase of the Parkway. CSS is defined as "a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist."

Community representatives formed the Shelby Farms Parkway Advisory Team in 2005. The Team, made up of 17 individuals from organizations, major employers, and community members, was assembled in order to convey expert and public opinion concerning the decision-making process regarding the Shelby Farms area. They were guided by CSS principles and were challenged to come to an agreement on alternatives and design criteria that reflected the unique characteristics of Shelby Farms and the surrounding residential and natural areas.

After six meetings and two public workshops, The Advisory Team (an inclusive list is located in Table 5.1) identified three alternatives as well as the evaluation of a no-build alternative. These alternatives were designed specifically to avoid the controversy that surrounded the Preferred Alternative in the Final Environmental Impact Statement (signed in 1991). The new preferred Alternative, Q, was chosen for its overall design qualities, including fewer lanes, advantages in functionality, fewer environmental impacts, improved safety, and aesthetics.

Summary of Alternatives Considered and Identification of the Preferred Alternative

As a result of this comprehensive and inclusive process, the preferred Alternative modifies the previously considered Kirby Parkway alternatives. From Macon Road following Whitten Road to Mullins Station Road, the right-of-way will be 100-foot, with four (4) 12-foot traffic lanes, a 14-foot center turn lane, 10-foot shoulders, and curb and gutter on either side of the roadway. This section also is to be constructed with 5-foot sidewalks, one (1) on either side. From Walnut Grove Road to Mullins Station Road, Kirby Parkway is to be constructed with a 220-foot right-of-way, four (4) 12-foot traffic lanes (two in each direction), 12-foot outside shoulders (10 foot paved, 2 foot grass), six-foot inside shoulders, and a variable-width, depressed median. A speed limit of 35 mph is proposed for the parkway; the road is designed for 40 mph. Additionally, the preferred Alternative includes a new grade-separated interchange with Walnut Grove Road (see Figure 2.2), approximately 1,900 feet east of the newly constructed Wolf River Bridge and 3,500 feet west of the existing signalized intersection of Walnut Grove and Farm Road. The trumpet design interchange required Walnut Grove Road to be relocated north of the existing roadway by 450 feet to provide for the loop ramp. Travel speeds associated with the interchange/ramp system will range from 20 to 35 mph. This alternative provides Farm Road with right-in/right-out access to westbound Walnut Grove Road, while eliminating access to eastbound Walnut Grove Road; access to Walnut Grove Road will be accomplished via Kirby Parkway.

Summary of Major Environmental Impacts

Construction of Kirby Parkway may induce impacts of varying degrees to the human and natural environments. This document evaluates direct, indirect, and cumulative consequences to the area's air and noise quality, aquatic ecosystems, wildlife, cultural resources, and socioeconomic setting.

The primary environmental impacts of the proposed action include:

- the displacement of up to five (5) residences;
- impacts to streams (320 feet estimate);
- impacts to biological ecosystems from the conversion of wetlands (1.804 acres) to highway right-of-way; and
- temporary impacts, such as dust and noise, and inconvenience, such as traffic delays at cross roads and equipment access points during the construction period.

These items should be evaluated and mitigated to achieve the most beneficial response possible.

Beneficial effects of the proposed action include:

- improved regional travel safety and accident reduction;
- decreased travel times;
- improved local and regional accessibility;
- improved system connectivity;
- improved functionality and use of Shelby Farms through greater accessibility; and
- highlight natural beauty of Shelby Farms for the parkway user.

The proposed action will not use land protected by: Section 106 of the National Historic Preservation Act; Section 4(f) of the US Department of Transportation Act; nor Section 6(f) of the Land and Water Conservation Act. In addition, this project will not affect archaeological or UST/Hazmat sites. During the development of this project, a review of previous environmental studies was necessary to address segments of the project that have been altered since its inception. Additional documentation was necessary to address changes in environmental laws and regulations that occurred during the life of the project.

Areas of Controversy and/or Unresolved Issues

No areas of controversy or unresolved issues have been identified or raised by agencies or the public.

List of Other Federal Actions Required

U. S. Department of the Army, Corps of Engineers (USACE)

- Section 404 Permit
- Section 401 Water Quality Certification Permit

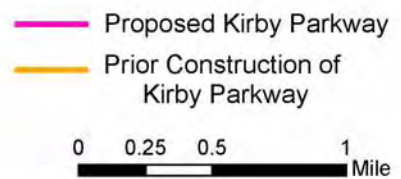
Summary of SAFETEA-LU Statute of Limitations

SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) establishes a 180-day Statute of Limitations for legal challenges to federal approvals of highway and transit projects, triggered by publication of a 23 USC 139(1) notice in the Federal Register. If a 23 USC 139(1) notice is not published, the Statute of Limitations extends for six (6) years. This Statute of Limitations pertains to the DSEIS and is as follows: "A Federal agency may publish a notice in the Federal Register, pursuant to 23 USC 139(1), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such a notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within a shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply."



Proposed Kirby Parkway Vicinity Map

Memphis, Shelby County, Tennessee





Views of Shelby Farms

ENVIRONMENTAL COMMITMENTS

Throughout the alternative development process, alternatives have been designed to avoid and minimize, to the extent practicable, impacts to environmental resources. Prior to and during construction, mitigation measures will be followed. Mitigation measures, as defined by the Council of Environmental Quality (CEQ) (40 CFR 1508.20), include avoiding impacts, minimizing impacts, rectifying impacts, reducing or eliminating the impact over time, and compensating for the impact.

Wetlands, Streams, and Floodplains

The provisions of the *Tennessee Water Quality Control Act of 1977* (T.C.A. 69-3-101 et seq.) and the authorization by the United States Environmental Protection Agency (USEPA) under the *Federal Water Pollution Control Act*, as amended by the *Clean Water Act of 1977* (33 U.S.C. 1251, et seq.) and the *Water Quality Act of 1987*, P.L. 100-4 with the permits required prior to project initiation shall be fully enforced during construction to minimize adverse impacts to the water quality of surface streams and groundwater in the project corridor. If concurrence is needed, the Memphis District's Hydraulics and Hydrology Branch would need to review the road profiles and hydraulic model to provide a more detailed analysis of the expected effect on the flowlines or assess the likelihood of increased scour at the Walnut Grove Road Bridge as a result of this project. Water normally carried by the ditches and streams within the Shelby Farms area should be handled by a provision of culverts through the proposed parkway.

Executive Order 11990, *Protection of Wetlands*, provides guidelines to avoid wetlands where possible and minimize contact with them where total avoidance is not feasible. Federal resources management agencies (e.g., the NRCS and USFWS) also recommend impact minimization measures as the Best Management Practices (BMP). Mitigation measures and BMP's are proposed during highway construction to avoid, minimize, or mitigate impacts to jurisdictional wetlands caused by any of the alternatives. These measures may include avoidance and minimization through roadway design modifications and mitigation through wetland banking. A combination of measures to mitigate for wetland losses and changes in functions and values will be employed. Selection of BMP's or mitigation measures is influenced primarily by functional values, wetland type, or objectives of the mitigation.

Detailed wetland studies and delineation will take place prior to the Section 404/401 permitting. For Department of Army (DA) permits, each crossing of a water of the U.S. is typically considered a single and complete project; therefore, each crossing/impact site should be specified as just part of a permit application. Mitigation monitoring plans will be approved by permitting agencies, and will be included with the wetland mitigation plan. Avoidance of floodplains should take place. If this is not feasible, construction limits will be minimized and BMP will be utilized. During or following high precipitation, limited activity should occur; work near streams shall be conducted during low flow periods to minimize disturbance.

Erosion Controls and Construction Practices

Prior to construction, application for a National Pollutant Discharge Elimination System (NPDES) permit will be carried out to confirm a plan that will prevent silt from entering creeks and tributaries by the use of silt traps, sedimentation basins, silt checks, silt fences, temporary seeding, and, if necessary, temporary silt ditches properly located along the length of the embankment and in ephemeral ditches tributary to these features. This will assure that all runoff from construction is routed through these erosion control structures before reaching streams and that sediment control structures will be shown on the final parkway design. Construction and hazardous material releases, oil spills, fish/animal kills, and radiological incidents must be reported to Office of Emergency

Services, the Western Region Office of TEMA. This contact should occur as soon as action has been taken to either contain/control the extent of the release, or protect persons, animals or fish from harm or further harm. Dust and other air pollutants must be controlled to the greatest extent. Any action taken on open burning during the construction phase will be in accordance with *Chapter IV, "Open Burning"*, of the *Tennessee Air Pollution Control Regulations*. Construction and Demolition (C & D) solid waste will be properly disposed in the appropriate solid waste facility. All roadway fills must be stabilized immediately upon placement; disturbed areas must be revegetated immediately following construction activities. Combination grass/asphalt shoulders and a landscaped median will be used where feasible to support erosion control and the natural setting. In addition, caution must be executed near the landfill at the southern end of the project area; landfill wells will be avoided where feasible.

Invasive Species

Executive Order 13112, issued in 1999, calls for the prevention and control of invasive species (non-native exotics). Since many invasive species can be found within the project area, the following mitigation measures will be employed to hinder spread of these species:

- Grasses, shrubs, and trees planted for beautification purposes or to prevent erosion should be native species, and, if possible, naturally occurring at the project locale.
- All disturbed soil, whenever possible, should be seeded with non-invasive or temporary annual species.
- Pay careful consideration to the types and quality of plants at borrow areas.

Endangered Species

According to the United States Fish and Wildlife Service (USFWS), no records regarding proposed threatened and/or endangered species of plants and animals exist within the proposed project corridor. However, according to TDEC, seven (7) state-listed rare species may be near the project area (see Section IV). If any of these are discovered in or near the project site, protection measures will be used to prevent or minimize impact to these species. With heightened potential for nesting site destruction of two state sensitive bird species, it was suggested that the ROW in the Shelby Farms area be cleared and grubbed between mid September to March prior to construction.

Cultural Historic Resources

If archaeological material is uncovered during construction, all construction will cease in that area and the Tennessee Division of Archaeology and the recognized Native American Tribes will be contacted to afford a representative the opportunity to examine and evaluate the materials found.

Traffic Restrictions

At the April 25, 2005 Advisory Team meeting, the Team decided that Kirby Parkway through Shelby Farms will not be permitted for tractor trailers. Some method of enforcement will be implemented: patrol; signage; etc.

Pedestrians and Bicyclists

It was concluded at the August 18, 2005 Advisory Team meeting that the project should include bicycle facilities for commuters as well as recreational cyclists throughout the project area. The

addition of multi-use paths and sidewalks/side paths are expected to maintain and/or increase continuity and connectivity of the current bicycle and pedestrian facilities. No design plans regarding exact location, type, and/or length of the additional trails have been established. Bicycle facilities will be developed in conjunction with the ideals expressed in the Shelby County Comprehensive Plan.

TABLE OF CONTENTS

SIGNATURE PAGE	i
PROJECT SUMMARY.....	ii
MITIGATION COMMITMENTS.....	vii
I. PURPOSE OF AND NEED FOR ACTION.....	1
I.A. Project History.....	1
I.B. Project Purpose.....	2
I.C. Project Need	2
I.C.1. System Linkages	3
I.C.2. Growth in East Memphis	4
I.C.3. Safety	5
I.C.4. Highway Capacity.....	6
I.C.5. Project Purpose of and Need for Summary.....	13
II. ALTERNATIVES	14
II.A. Preferred Alternative – Alternative Q	14
II.B. Alternative Considered – Alternative L.....	23
II.C. Alternative Considered – Alternative M.....	23
II.D. Alternative Considered – No Build	24
III. AFFECTED ENVIRONMENT	28
III.A. Socioeconomic Setting.....	28
III.A.1. Project Population	28
III.A.2. Project Area Wages and Income Status	30
III.A.3. Project Area Age Distribution	31
III.A.4. Project Area Ethnic Composition.....	32
III.A.5. Project Area Labor Characteristics.....	33
III.A.6. Project Area Agriculture	35
III.A.7. Project Area and Economic Setting Summary	35
III.B. Existing Land Use and Land Cover.....	36
IV. ENVIRONMENTAL IMPACTS	38
IV.A. Air Quality.....	38
IV.A.1. Alternative Results	38
IV.A.2. Air Quality Maintenance	39
IV.A.3. Cumulative and Indirect Air Quality Impacts	40
IV.B. Noise	40
IV.B.1. Alternative Results	40
IV.B.2. Noise Abatement.....	40
IV.B.3. Indirect and Cumulative Noise Impacts	41
IV.C. Aquatic Ecosystems.....	42
IV.C.1. Water Quality	42
IV.C.2. Wetlands	43
IV.C.3. Floodplains	44
IV.D. Wildlife	44
IV.D.1. Endangered Species	44

IV.D.2. Invasive Species	45
IV.D.3. Construction Impacts to Wildlife	46
IV.E. Cultural Resources.....	47
IV.E.1. Historical Resources	47
IV.E.2. Archaeological Resources.....	47
IV.F. Land Use.....	48
IV.G. Community	48
IV.H. Relocations and Displacements.....	49
IV.I. Farmland	50
IV.J. Environmental Justice	50
IV.K. Recreational Resources.....	50
IV.L. Pedestrian and Bicycle Facilities.....	50
IV.M. Hazardous Waste Materials	51
IV.N. Visual	51
IV.O. Construction	52
IV.P. Indirect and Cumulative Impacts.....	52
V. COMMENTS, COORDINATION, AND PUBLIC INVOLVEMENT.....	54
V.A. Correspondence.....	54
V.B. Public Involvement via Context Sensitive Solutions (CSS).....	54
APPENDIX A Correspondence/Supporting Documents	59
APPENDIX B National Wetland Inventory Map	81
APPENDIX C Section 4(f) Documentation.....	83

LIST OF TABLES

1.1	Proposed Kirby Parkway vicinity collision data	5
1.2	Description of LOS for unsignalized intersections	6
1.3	Existing and projected no build traffic capacity figures for study area	6
1.4	Projected traffic capacity figures of proposed alternative	8
2.1	Kirby Parkway design criteria for the Preferred Alternative, Q.....	19
3.1	State, local, and regional population figures, 1990 v 2000	28
3.2	Twenty-five year (2005-2025) population projects for study area labor market ...	28
3.3	Memphis migration tendencies, 1991-2001	29
3.4	2002 Memphis and selective national cost of living indices	29
3.5	Project area, State, and National per capita incomes, 1993 v 2002	30
3.6	Project area, State, and National household incomes, 1990 v 2003	30
3.7	Project area, select Tennessee County, and National poverty rates	31
3.8	Percent method and length of travel to work in Memphis MSA	31
3.9	Percent population by age for Memphis, Shelby County and Memphis MSA.....	32
3.10	Race by percent for Memphis, Shelby County, and Memphis MSA	32
3.11	Population percentages by race for Shelby County and Tennessee	33
3.12	Labor force characteristics for Shelby County, 2000	33
3.13	Local, State, and Nation unemployment rates, 1996-2003	34
3.14	Shelby County and Tennessee percent employment by major industry, 2000	34
3.15	Shelby County percent employment by industry, 2000.....	35
4.1	Alternative L, current and project carbon monoxide concentrations	39
4.2	Alternative M, current and projected carbon monoxide concentrations	39
4.3	Stream impacts	42
4.4	Wetland impacts	43
4.5	Floodplain impacts	44
4.6	Rank One Invasive Species.....	45
4.7	Cultural resource locations identified	48
5.1	Shelby Farms Parkway Advisory Team Members and Affiliations.....	55

LIST OF FIGURES

Proposed Kirby Parkway Vicinity Map	v
Views of Shelby Farms	vi
1.1 Completed Portion of Kirby Parkway from Macon Road to Stage Road.....	1
1.2 Traffic at the intersection of Macon Road and Whitten Road	2
1.3 Traffic at the intersection of Whitten Road and Mullins Station Road	2
1.4 Overhead view of Farm Road and Study Area	4
1.5 Current use of Shelby Farms multi-use trails.....	4
1.6 General Levels of Service.....	7
1.7 ADT and LOS for 2010 Proposed Parkway Build Year Conditions.....	9
1.8 ADT and LOS for 2030 Proposed Parkway Conditions	10
1.9 ADT and LOS for 2010 Build Year Conditions.....	11
1.10 ADT and LOS for 2030 No Build Conditions.....	12
2.1 Alternative Q versus existing roadway.....	15
2.2 Visualization of Alternative Q's trumpet interchange	16
2.3 Visualization of Walnut Grove Road's approach to trumpet interchange.....	17
2.4 Looking east at Walnut Grove Road and the Walnut Grove Road Bridge	18
2.5 Alternative Q typical section.....	20
2.6 Alternative Q trumpet interchange profile from Sta. 75+00 to Sta. 90+00	21
2.7 Kirby Parkway Area Land Use	22
2.8 Alternative Q	25
2.9 Alternative L	26
2.10 Alternative M	27
3.1 Shelby Farms Visitors' Center and one of the many paths available.....	36
4.1 Sample residences along west-side of Whitten Road.....	49
4.2 Sample housing stock.....	49
5.1 Brainstorming Session	54
5.2 Site Reconnaissance	54

1.0 PURPOSE OF AND NEED FOR ACTION

Since the late 1960s, the East Memphis community has expressed the need for greater accessibility. The purpose of and need for the proposed Kirby Parkway is to create a new north-south route in the east Memphis area of Shelby County, Tennessee. By providing improved access, the new roadway is expected to improve mobility of Bartlett and Germantown residents, as well as the Poplar Avenue employment and commercial corridor commuters, reduce congestion, and lessen travel time along existing routes in east Memphis. Also, it will result in a more efficient and safer roadway, as well as provide for growth in east Memphis.

I.A. Project History

In 1969, the Memphis Urban Area Transportation Study emphasized the need for a Kirby Parkway in eastern Shelby County. In 1973, The East Memphis Urban Area Transportation Plan update evaluated this need for a continuous north-south arterial. The 1981 Major Road Plan Update projected the construction of Kirby Parkway by 1990. The Transportation Improvement Program (TIP) 1991-1995 for the Memphis Urbanized Area designated Kirby Parkway as the fourth priority project. The 1999 TIP also included Kirby Parkway connecting in the vicinity of Shelby Farms. Currently, the project is contained in the September 30, 2005 TIP (Fiscal Years 2006-2008) for the Memphis Urbanized Area. The MPO is in the process of developing a new TIP and Long Range Transportation Plan to reflect changes in the reduction of lanes since the CSS process began; both will be SAFETEA-LU compliant and be in effect by October 1, 2007.

The FEIS was approved in August 1991 with an Environmental Reevaluation following in March 2001. The portion of Kirby Parkway from Macon Road south of I-40 to Stage Road north of I-40 was constructed and opened to traffic from 1991-1999 (see Figure 1.1). The Parkway area of study is from I-240 to I-40 encompassing all roads and projects connected to this project. Kirby Parkway also encompasses an area to the west of the proposed roadway, near Humphreys Boulevard; however, this section is still under construction (see Proposed Kirby Parkway on page vi).

Preliminary design plans for the portion of Kirby Parkway from Humphreys Boulevard to Macon Road were prepared from 1991-1994. TDOT held a Public Hearing in November 1994, whereby comments and concerns prompted Shelby County to modify the proposed parkway's design through

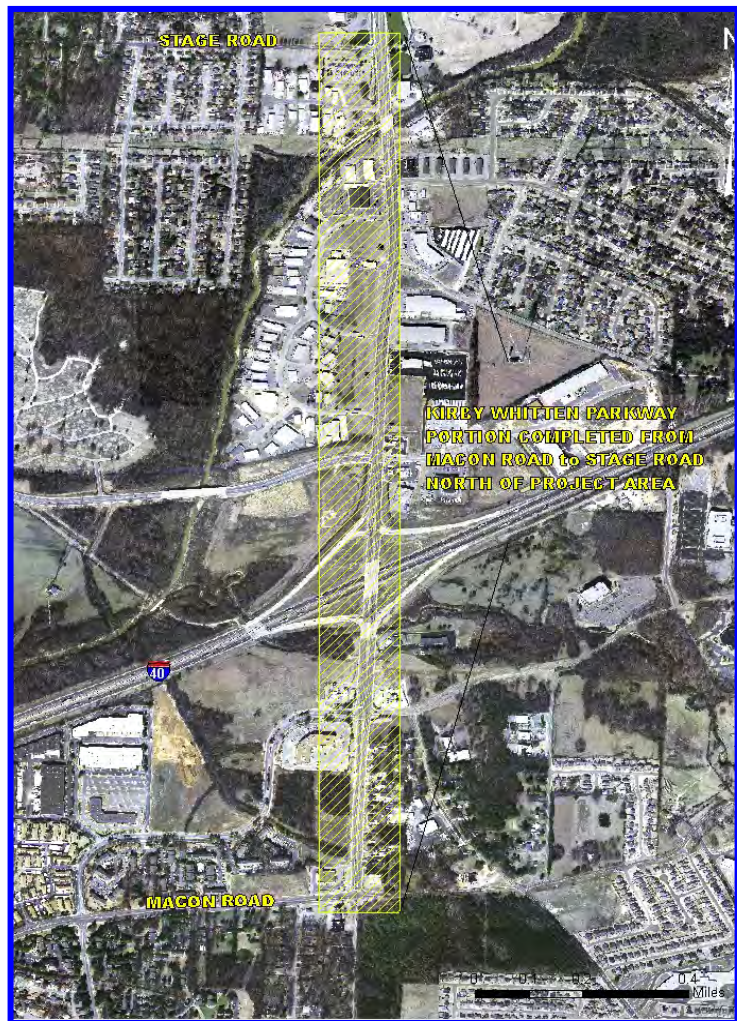


Figure 1.1. Completed portion of Kirby Parkway from Macon Road to Stage Road (north of project)

Shelby Farms. This alternative included lane reductions from six lanes to four lanes and the addition of a landscaped median. The proposed interchange at Walnut Grove and Farm Road onto Kirby Parkway was shifted further west.

I.B. Project Purpose

The purpose of the project is to decrease travel time and improve travel convenience between Poplar Avenue (Germantown and Bartlett) and I-40, as well as reduce congestion and provide a safer and more efficient roadway. This proposed segment of Kirby Parkway will connect to other previously constructed segments.

I.C. Project Need

The need for the Kirby Parkway project was documented in several transportation studies. For more than three decades, Memphis regional transportation plans have included a north-south connection in the vicinity of Shelby Farms. These plans were part of an overall strategy for a coherent road pattern based on a one-mile grid system. According to plans, a road pattern consisting of a north-south element was missing from the desired grid. In 1983, Kirby Parkway was chosen as the north-south route between I-240 and Germantown Parkway. Since that time, the route has been redesigned to reflect opinions stated during several public meetings. Prior to 1983, the regional plans consisted of two major north-south roadway projects, the northern extension of Kirby Parkway and the proposal for a Riverdale Road. In 1983, development of the Agri-Center International center located in Shelby Farms removed the possibility for Riverdale Road. The proposed Kirby Parkway extension northward to Whitten Road remained intact.

In 2010, the current roadway system is expected to have a combined Level of Service below the desired level of "C"; four of the five road segments will be at a level of "E" by 2030. Typically, this traffic pattern quickly progresses to a LOS ("F") which represents the worst possible traffic conditions. These figures were projected from traffic conditions of the current roadway system. Therefore, measures are and will be needed to alleviate current and future traffic congestion. Kirby Parkway will cross several east-west routes (see Figures 1.2 and 1.3). They are, from south to north: Walnut Grove; Mullins Station; and Macon Road. Alleviation of traffic congestion on these roadways is expected when the parkway is completed.



Figure 1.2. Traffic at the intersection of Macon Road and Whitten Road viewed from south of intersection



Figure 1.3. Traffic at the intersection of Whitten Road and Mullins Station Road

Kirby Parkway is needed to address the growing population base in Shelby County. Population in East Memphis increased 33.2 percent between 1990 and 2000. This pattern is expected to continue. In 2000, according to United States Census data, population in Shelby County reached 897,472. Similar population figures for 1990 equaled 826,330, an increase of approximately 8 percent.

In addition to population growth, Memphis is considered one of the top places in the country to relocate businesses; business growth in east Memphis has increased tremendously over the past 14 years since the FEIS.

The combination of population and economic growth has added to highway congestion in east Memphis along area routes, such as I-240, Germantown Parkway and even I-40. The addition of Kirby Parkway will provide an alternative route with the potential to reduce congestion impacts from adjacent residential areas and business/employment centers in the Poplar Avenue. Poplar Avenue runs east to west from downtown Memphis, south of the project area. Poplar Avenue encompasses the commercial development centered on this major roadway leading into and out of the city. A 1.5 mile long completed portion of Kirby Parkway connects Humphreys Boulevard and Poplar Avenue.

I.C.1. System Linkages

Memphis, the county seat of Shelby County, is the area's center of employment, public and government services, commerce and shopping, education, and health. Memphis offers many opportunities and basic social and economic services that are not found elsewhere in the region. The lack of an efficient connection from Walnut Grove Boulevard to I-40 contributes to major congestion and decreased safety for users of this heavily traveled corridor. Currently, the Walnut Grove Road/Humphreys Boulevard intersection and Walnut Grove Road Bridge reconstruction over Wolf Creek are soon to be completed; this junction and improvement are located adjacent to the west of the project's southern terminus and will accommodate traffic to/from Kirby Parkway. Access to Kirby Parkway from Humphreys Boulevard north onto Walnut Grove Road east will be maintained by a separate lane; through access will be maintained for this lane to continue on Walnut Grove Road east (see Figures 2.2 and 2.4). Walnut Grove Road traffic from west of Humphreys Boulevard will have both Kirby Parkway and through access as well. These two lanes, from Walnut Grove Road east and Humphreys Boulevard north onto Walnut Grove Road east do not merge at the interchange location. They maintain separate travel lanes and do not require a weaving of traffic.

The current roadway system consists of a two-lane paved road (see Figure 1.3), characterized by poor geometrics, lack of shoulders, and lack of system connectivity. A continuous four-lane route providing south-north travel service would satisfy these constraints, enhancing accessibility and connectivity throughout the region. It would be expected to provide the safe and efficient access needed to reach local destinations of county governments, local businesses and services, as well as those in distant markets.

Connection with major highway systems is extremely important for the economy of the study area. The area is poorly connected to National Highway System (NHS) routes; although the Interstate Highway System (IHS) is nearby, there is no easy connection to these major routes. This proposed segment of the Kirby Parkway would provide substantially improved regional connections to east Memphis and the IHS. This enhanced access would assist commerce and industry with shipping and on-time deliveries, and be expected to decrease travel time for employees. The Memphis International Airport is located south of Interstate 240. The proposed Kirby Parkway will provide another route of access from north of Shelby Farms to Interstates 40 and 240.



Figure 1.4. Overhead view of Farm Road and Study Area

I. C. 2. Growth in East Memphis

According to 2000 United States Census data, the east Memphis area has experienced a surge in population since 1990. The project area is represented by census tracts 211.22, 211.23, and 212. Population rose from 14,073 to 21,355 between 1990 and 2000, an increase of 33.2 percent in these tracts. In addition, the overall population for Shelby County which includes Germantown and Bartlett increased approximately 8 percent from 826,330 to 897,472 during the same timeframe. The Shelby County Metropolitan Planning Commission projects that Shelby County will have a population of approximately 1,106,610 by 2020, up from 869,379 in 1999. This trend is expected to increase due to the attractiveness of the Memphis Metropolitan Statistical Area (MSA) and the opportunity for future expansion. Memphis MSA is slower in overall growth than Germantown or Bartlett.

The population along Whitten Road has steadily increased during the past 30 years. There are several new subdivisions, churches, and roads east and west of Whitten Road. Visible traffic congestion, particularly during peak daily travel times accompanies this growth. Redesigning the road will alleviate inaccessibility and traffic congestion.

The Shelby County Government owns Shelby Farms, a 4,500-acre former county penal farm. The property includes governmental uses, such as the Shelby County Corrections Center, Sheriff's Department, other county administration offices; dispersed recreational activities such as the Lucius Burch Jr. State Natural Area, the Visitors Center, Patriot Lake, the Arboretum, Plough Park, hiking trails, and other facilities. A future 911 Call Center is planned in the Shelby Farms area, west of the project corridor. In the 1980's, the county established the Plough Development Board to oversee the property. In transferring the administration of the farm property, Shelby County also reserved a 1,000-foot wide corridor through Shelby Farms for the future



Figure 1.5. Current use of Shelby Farms multi-use trails

construction of the Kirby Parkway. To accommodate increased population growth in the area, the Memphis Comprehensive Plan has included additional recreational opportunities in the vicinity of Shelby Farms. The public requested that the plan incorporate new and improved multi-use trails to compliment the current facilities (see Figure 1.5). The existing trails are not adequate to accommodate the expected increase of recreational uses on Shelby Farms.

Sustained commercial development along with population growth has accompanied increased development adjacent to Poplar Avenue, not to mention the Memphis metro area. Several magazines rank Memphis as one of the top ten best cities for company expansion or relocation. In a January 2004 study, Memphis ranked as the 16th least expensive city for corporate headquarters. This sustained economic development in the MSA has earned Memphis a reputation for advantageous relocation. Consequently, this growth has congested the existing north-south routes; therefore, in order for Memphis to continue its competitive attractiveness, an improved transportation system is needed to relieve pressures due to the area's past growth patterns and to accommodate/provide for future growth.

I.C.3. Safety

The City of Memphis Engineering Department, Traffic Division conducted a safety analysis of the current roadway system in August, 2006. In the previous five and a half years, the majority of crashes in the project area resulted in property damage and/or minor injury. Approximately sixty percent of all collisions took place at the intersection of Walnut Grove Road and Farm Road. The preferred Alternative will replace the existing signalized intersection at this location with an unsignalized trumpet interchange. Thus rear-end collisions will decrease by the elimination of this stopping point. This alternative provides Farm Road with right-in/right-out access to westbound Walnut Grove Road, while eliminating access to eastbound Walnut Grove Road. Thus, the construction of Kirby Parkway is expected to improve overall safety through this heavily traveled corridor. Table 1.1 summarizes collision data from January 1, 2001 to August 7, 2006. No fatal incidents occurred at any of the intersections.

Table 1.1. Proposed Kirby Parkway vicinity collision data (January 1, 2001-August 7, 2006)

Collision Type	Intersection Location				
	Walnut Grove Rd Farm Rd	Whitten Rd Macon Rd	Whitten Road Mullins Station Rd	Farm Rd Mullins Station Rd	Pine Lake Rd Farm Rd
Property Damage	312	126	66	33	4
Injury	76	16	9	2	2
Critical	1	0	0	0	0
Fatal	0	0	0	0	0
TOTAL	389	142	75	35	6

Source: City of Memphis Engineering Department, Traffic Division

Collision data for accidents along existing roadway segments was not provided. However, congestion and inattention are to blame for collisions at non-intersection locations. Since congestion and inattention are related to traffic conditions at intersections and uncontrolled access, the proposed Kirby Parkway from Walnut Grove Road to Macon Road will eliminate many of the existing intersections and the resulting stop-and-go conditions that lead to collisions through partially controlled access.

I.C.4. Highway Capacity

A Level of Service (LOS) analysis for the intersections included in the study area was conducted using year 2010 build-year traffic information and projected traffic figures (2030) to represent completion of the Parkway. A No Build Scenario traffic capacity projection is also included.

Level of Service (LOS) is a qualitative measure of traffic flow. The Levels of Service range from A to F, with "A" being the best quality of flow, and "F" being the poorest. Table 1.2 and Figure 1.6 describe the general Levels of Service situations. LOS is dependent upon Average Control Delay; this is the delay (in seconds) a vehicle experiences given the presence of a traffic signal and/or conflicting traffic. This includes time spent decelerating, idling, and accelerating. Figures 1.7-1.10 feature LOS diagrams of all three scenarios at different points in time, current, no build, and proposed traffic capacity.

Table 1.2. Description of LOS for Unsignalized Intersections

Level of Service	Description	Average Control Delay
A	Minimal Delay	≤10
B	Brief Delay	>10 and ≤15
C	Average Delay	>15 and ≤25
D	Significant Delay	>25 and ≤35
E	Long Delay	>35 and ≤50
F	Extreme Delay	>50

Source: *Highway Capacity Manual*, 1997 Update, TRB Special Report 209, Third Edition

Based on existing capacity figures, current traffic delays vary from average to long. If the no build alternative was selected and traffic increases as expected, the LOS for each road will remain at current conditions and/or decrease in quality. Overall, congestion issues are anticipated to hamper the area without construction of the Parkway. Table 1.3 outlines the above conditions. Figures 1.7-1.10 illustrate the 2010 No Build, 2030 No Build, 2010 Proposed, and 2030 Proposed Scenarios.

Table 1.3. Existing and Projected No Build Traffic Capacity Figures for Study Area

	2010 No Build Alternative		2030 No Build Alternative	
	ADT	LOS	ADT	LOS
Farm Road (including Pine Lake Road)	17,244	E	18,289	E
Mullins Station Road (Farm Road to Whitten Road)	13,164	E	19,209	E
Walnut Grove Road (Pine Lake Road to Humphreys Blvd)	56,202	D	69,075	E
Walnut Grove Road (West of Pine Lake Road)	46,358	C	51,385	C
Whitten Road (Macon Road to Mullins Station Road)	10,564	E	10,609	E

Figure 1.6. General Level of Service



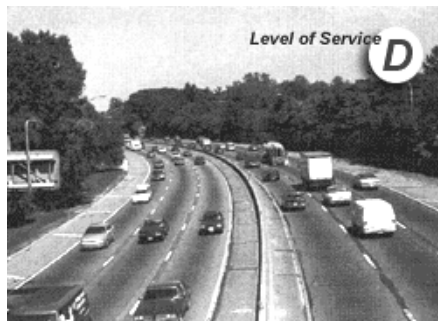
• **Level of Service A** - Represents the best operating conditions and is considered free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.



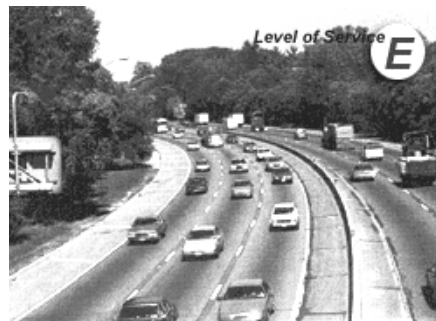
• **Level of Service B** - Represents reasonably free-flowing conditions but with some influence by others.



• **Level of Service C** - Represents a constrained constant flow below speed limits, with additional attention required by the drivers to maintain safe operations. Comfort and convenience levels of the driver decline noticeably.



• **Level of Service D** - Represents traffic operations approaching unstable flow with high passing demand and passing capacity near zero, characterized by drivers being severely restricted in maneuverability.



• **Level of Service E** - Represents unstable flow near capacity. LOS E often changes to LOS F very quickly because of disturbances (road conditions, accidents, etc.) in traffic flow.



• **Level of Service F** - Represents the worst conditions with heavily congested flow and traffic demand exceeding capacity, characterized by stop-and-go waves, poor travel time, low comfort, and convenience, and increased accident exposure.

(LOS information has been reproduced here by permission of the Transportation Research Board. Special Report 209: Highway Capacity Manual, Third Edition, Copyright 1998 by the Transportation Research Board, National Research Council, Washington, D.C.)

Average daily traffic numbers are expected to increase with the construction of Kirby Parkway. However, unlike the no build alternative, improvements in the project's overall level of service and efficiency are expected to accompany this increase in vehicles; traffic will face minimal to average delays. After Kirby Parkway is built, traffic conditions in the study area are expected to be improved, as outlined in Table 1.4.

Table 1.4. Projected Traffic Capacity Figures of Proposed Alternative

	2010 Proposed Alternative Build Year		2030 Proposed Alternative	
	ADT	LOS	ADT	LOS
Proposed Parkway (Sycamore View Road to Walnut Grove Road)	17,800	A	36,400	C
Proposed Parkway (Sycamore View Road to Mullins Station Road)	13,400	A	27,300	B
Walnut Grove Road (Proposed Parkway to Humphreys Blvd)	54,100	B	83,100	D
Walnut Grove Road (Proposed Parkway to Pine Lake Road)	47,600	B	56,500	B
Whitten Road (Macon Road to Mullins Station Road)	7,800	A	15,100	A

Figure 1.7.

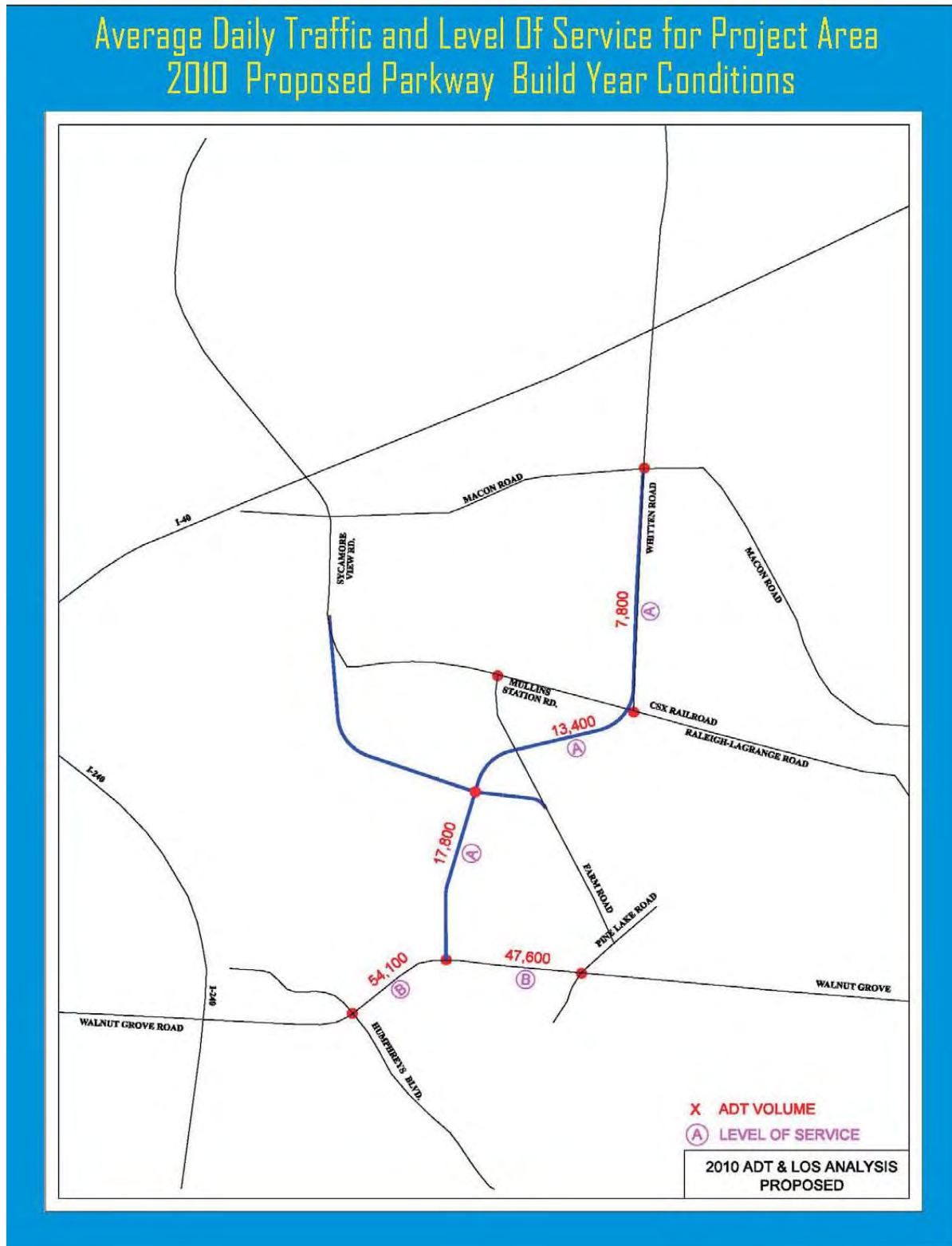


Figure 1.8.

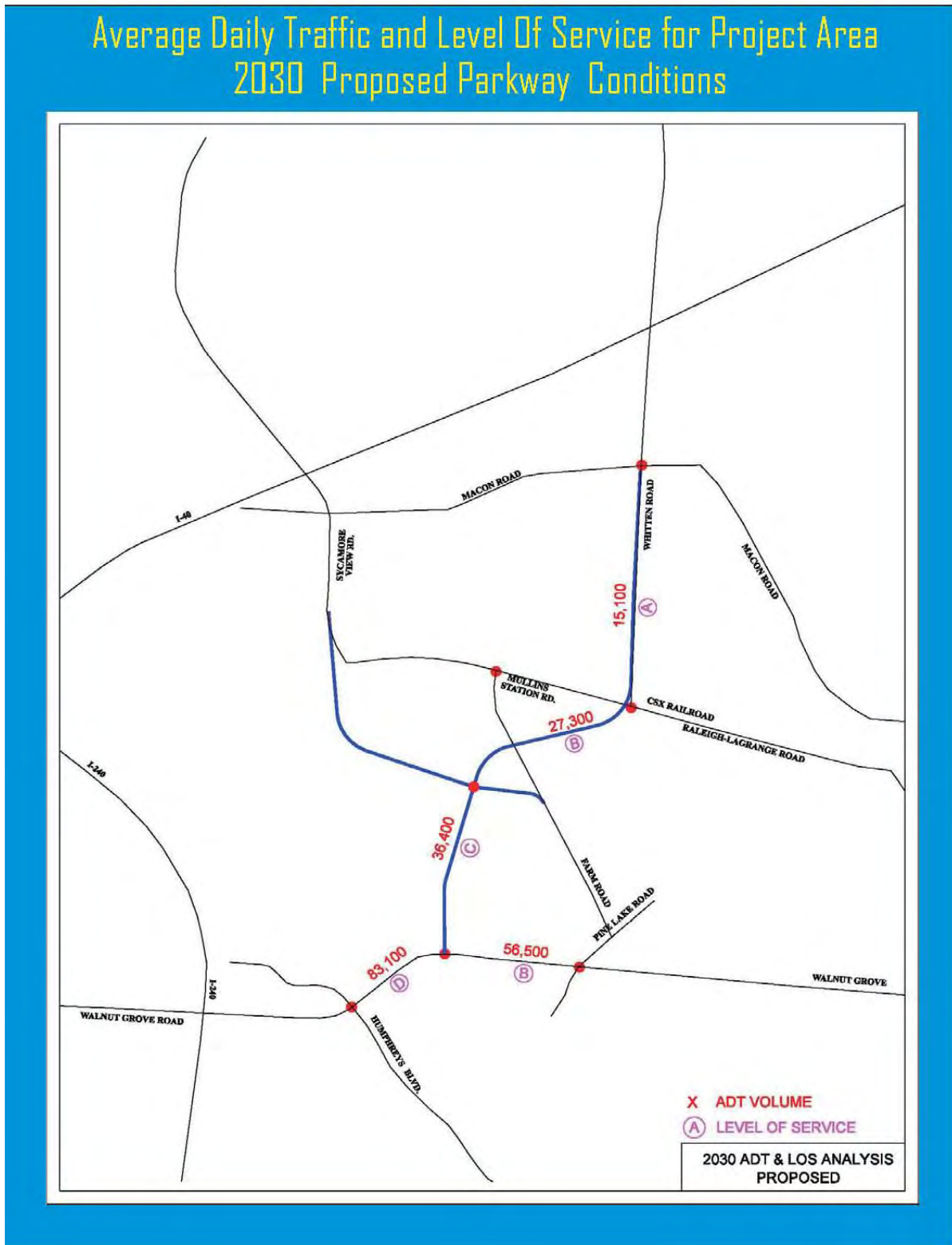


Figure 1.9.

Average Daily Traffic and Level Of Service for Project Area 2010 No Build Conditions

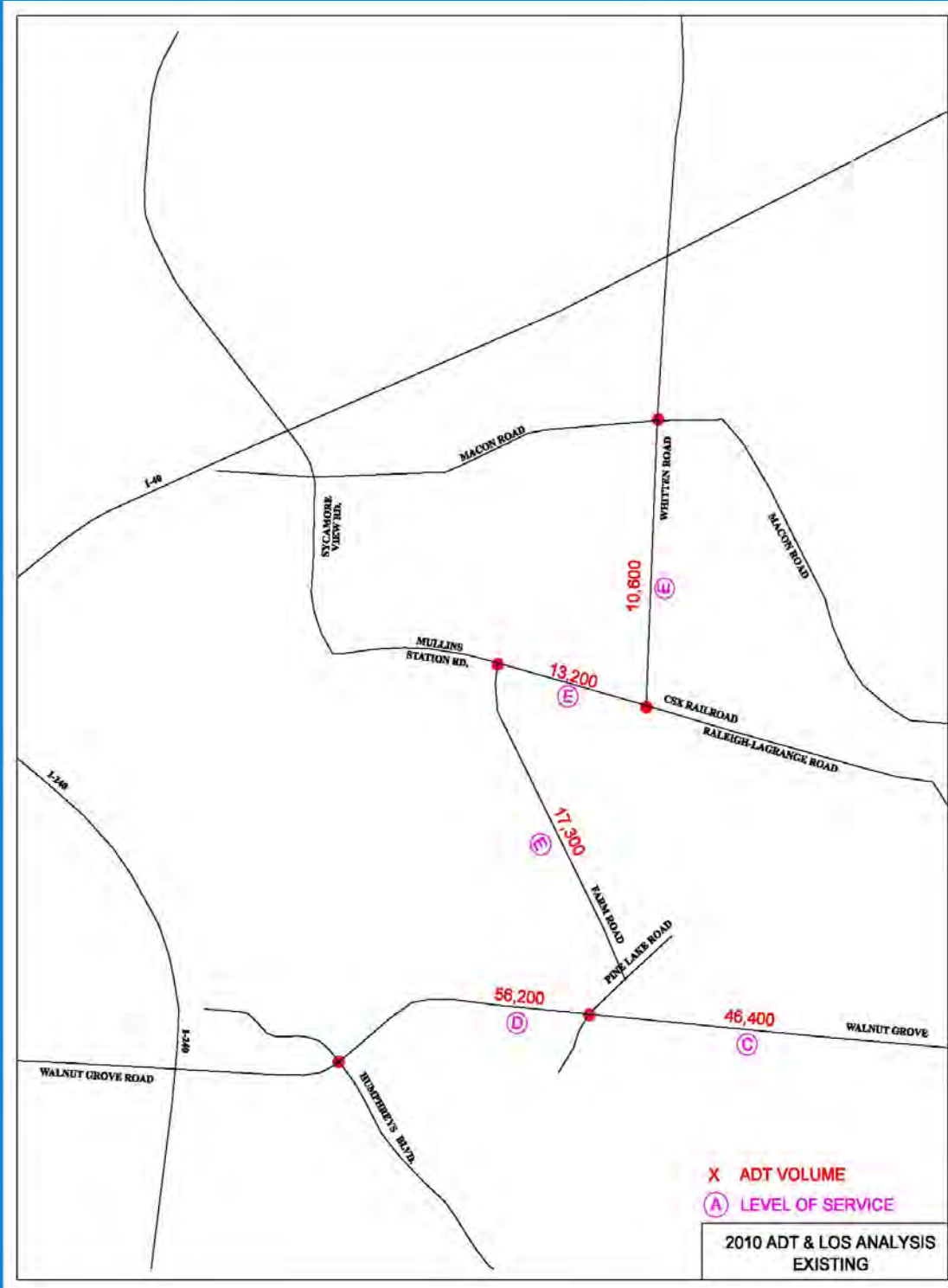
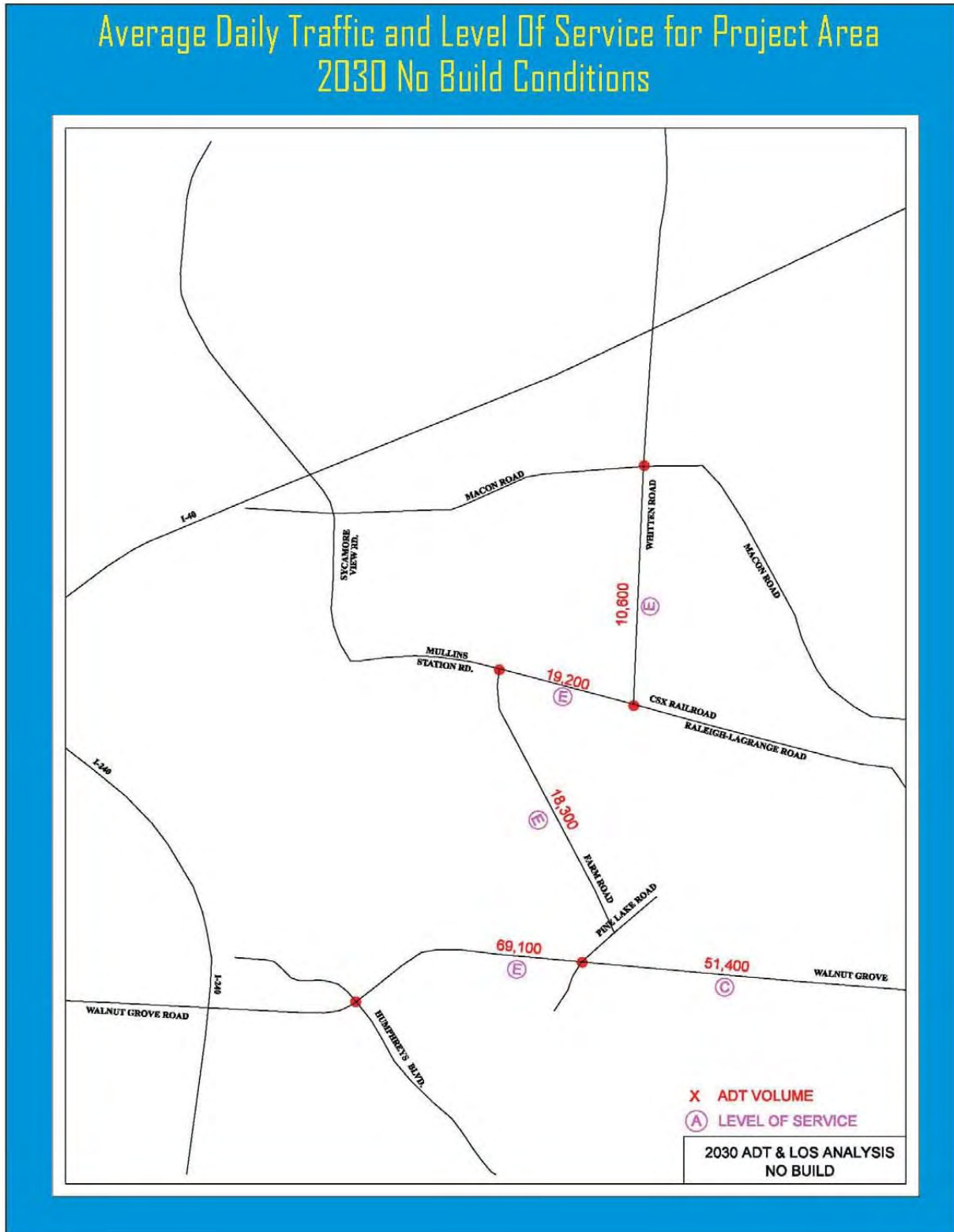


Figure 1.10



I.C.5. Project Purpose and Need Summary

The Kirby Parkway project has been through thirty years of project reevaluations, studies, and public debates all the while maintaining its high priority status in the East Memphis area. The design has varied over the years to meet the needs of the project and to include the most environmentally, socially, and economically sound plans. The need for this north-south route has been proven time and again through various studies. The purpose and need of this project have been described in the four (4) main objectives:

1. To improve system linkages by providing a new north-south connection;
2. To accommodate growth in East Memphis;
3. To improve or reduce travel time and delays on existing routes; and
4. To improve overall safety.

These purpose and need objectives have been validated and reconfirmed by the public and the Shelby Farms Parkway Advisory Team at numerous points during project development and public involvement activities (see Section V). In addition, the Shelby Farms Parkway Advisory Team reached a consensus on additional Partnership Goals to be pursued in conjunction with the project design criteria. These goals were also utilized in the consideration of alternatives:

<i>PARTNERSHIP GOALS</i>
<i>Create a road that enhances and embraces the park</i>
<i>Create a design concept that is socially, economically, and environmentally responsible</i>
<i>Create a safe and effective roadway design</i>
<i>Reduce corridor congestion</i>
<i>Produce an excellent design that enhances the quality of life in the community</i>
<i>Create the opportunity for non-vehicular traffic to enter and use the park</i>
<i>Create the opportunity for vehicular and non-vehicular crossing of the corridor including access for the physically challenged</i>

II. ALTERNATIVES

Since the approval of the Reevaluation in 2001, a considerable amount of changes have occurred to warrant additional study concerning the construction of Kirby Parkway through Shelby Farms. In 2005, a committee consisting of the general public, local officials, and state and federal agencies joined in order to establish the status of Kirby Parkway. In 2006, following the CSS process, this group developed and came to a consensus on the Parkway alternatives. For nearly one year, information about the project area, the needs and wants of the community, and the environmental constraints of the area were gathered to evolve several previously designed alternatives into three new alternatives: L, M, and Q; they are described in this DSEIS.

At the outset of the CSS process, the Advisory Team formulated an overall plan that included six (6) 12-foot traffic lanes with a landscaped median, curbs, gutters, and a center turn lane. However, after review of traffic projections, the number of lanes was revised from six (6) to four (4) with a landscaped median. The Team agreed that access to Walnut Grove Road from Kirby Parkway required a grade-separated interchange to eliminate conditions caused by the intersection of Pine Lake Road and Walnut Grove Road. They also agreed that Kirby Parkway should not be designated as a through truck route. The Advisory Team then established a study corridor and some preliminary alignments by addressing the project area benefits and constraints. As environmental impacts or design information were received, the alternatives were retained for future study or dismissed from further consideration because they did not satisfy the purpose and need.

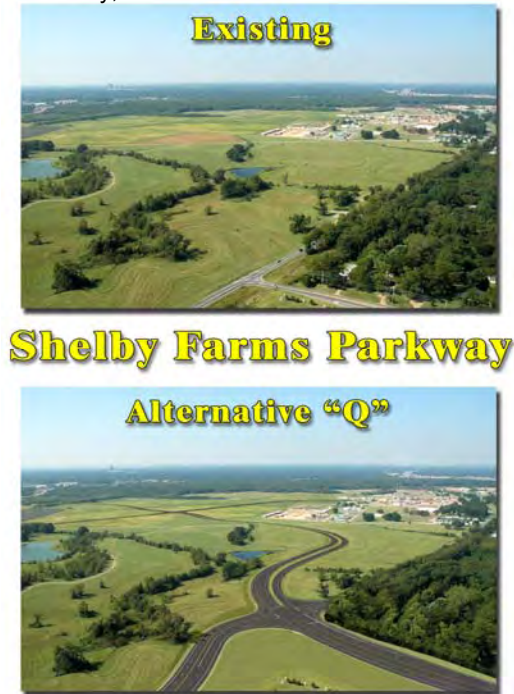
Each of the reasonable alternatives subjected to detailed examination and documented in the FEIS were considered to accomplish the project purpose and need objectives to varying degrees and were considered candidates for selection. There have been noteworthy changes to the alternatives examined since circulation of the FEIS, hence the need for the DSEIS. The preferred Alternative has been altered after careful consideration of all reasonable alternatives, including the assessment of their potential environmental impacts (social, natural, and physical), project costs, and the evaluation of public and agency comments stemming from the extensive project coordination and public involvement/public hearing process. The identification of the preferred Alternative Q and the basis for its selection follows.

II.A. Preferred Alternative- Alternative Q

Alternative Q was recommended by the Shelby Farms Advisory Team as the preferred Alternative. Alternative Q was developed from the combination of Alternatives L and M, which are discussed later in this document. The Advisory Team decided that Alternative L (the former preferred alternative) needed alignment modifications in order to: lower the speed limit from 45 to 35 mph and to move the roadway curve south of Mullins Station further north out of the Shelby Farms area wetland and archaeological resource. Therefore, the bifurcated, independent roadway of Alternative M was integrated into the design, while simultaneously conveying the trumpet interchange. These combinations developed into the preferred Alternative Q.

The preferred Alternative includes a four-lane, divided, partially-controlled access facility. Partially-controlled access gives preference to through traffic, but may provide at-grade or grade-separated access to selected public roads and streets. All other design criteria not specified below, will be in accordance with the currently approved *AASHTO Policy on Geometric Design of Highways and Streets*. The typical section dimensions are summarized in Table 2.1. The four-lane typical sections are shown in Figure 2.5.

Figure 2.1. Alternative Q versus existing roadway, as viewed from Whitten Road



In addition, Alternative Q will include the construction of a new grade-separated interchange with Walnut Grove Road approximately 1,900 feet east of the newly constructed Wolf River Bridge (east of the Humphreys Boulevard intersection) and 2,500 feet west of the existing signalized intersection of Walnut Grove and Farm Road. The trumpet interchange (see Figures 2.2 and 2.3) requires Walnut Grove Road to be relocated north of the existing roadway by 3,500 feet to provide for the loop ramp. This alternative provides Farm Road with right-in/right-out access to westbound Walnut Grove Road, while eliminating access to eastbound Walnut Grove Road. Travel speeds associated with the interchange/ramp system will range from 20 to 35 mph. The interchange will have 6-foot shoulders. The section from Walnut Grove Road to Mullins Station Road is to be constructed with a 220-foot right-of-way, four (4) 12-foot traffic lanes (two in each direction), a 30- to 100-foot variable-width, depressed median, 12-foot outside shoulders (10 foot paved, 2 foot grass), and 6-foot paved inside shoulders. From Walnut Grove Road to Mullins Station Road, the preferred Alternative would use an independent roadway concept, wherein the grade and

alignment of the Parkway would vary to blend the roadway into the natural topography. From the Walnut Grove Road/Kirby Parkway interchange, Alternative Q will travel in a northerly direction while curving to the west and back to the east, intersecting the proposed Sycamore View Extension at a perpendicular angle. The Sycamore View intersection will be a signalized intersection to provide traffic movements in all directions. The alignment continues north, curving east then west, crossing north of a gas regulator station located within the farm area, then east again before crossing the relocated Mullins Station Road at a slight skew. The signalized Mullins Station Road intersection will be realigned to eliminate an existing skew and provide turn lanes on all approaches. Alternative Q will then continue north along the existing alignment of Whitten Road to Macon Road. Figure 2.1 is a visualization of existing conditions versus Alternative Q; the intersection at Mullins Station Road and Whitten Road is located in the foreground. From Mullins Station Road to Macon Road, the Alternative Q right-of-way will be 100 feet, with four (4) 12-foot traffic lanes, a 14-foot center turn lane, 10-foot outside shoulders, and curb and gutter on either side of the roadway. This section also is to be constructed with 5-foot sidewalks, one (1) on each side of the roadway. A speed limit of 35 mph is proposed for Alternative Q; however, the road is designed for 40 mph. Bicycle and pedestrian access to/from Shelby Farms will accompany the Humphreys Boulevard/Walnut Grove Road intersection reconstruction to the south and the Greater Memphis Greenmile to the north. According to the commitments made by the Advisory Team, bicycle and pedestrian facilities must be made available. The location of these facilities has yet to be determined.

The Sycamore View Road Extension is a separate project proposed for the Shelby Farms area and is not covered in this DSEIS. The extension would provide better access to Sycamore Road from Kirby Parkway. The Sycamore View Road area, located north of Walnut Grove Road, is bordered by commercial and industrial facilities. In addition, the extension will reach Farm Road and the Shelby Farms Visitor's Center, allowing for direct access from Sycamore View Road and from Kirby Parkway at a signalized intersection.

The Humphreys Boulevard/Walnut Grove Road intersection and Walnut Grove Road Bridge reconstruction are under construction as separate projects during the completion of this DSEIS (see

Figure 2.4). This location is to the east of the Wolf River, but west of I-40. A separate travel lane will accommodate traffic turning east onto Walnut Grove Road from Humphreys Boulevard. This lane will have access to Kirby Parkway and through access on Walnut Grove Road east. This road parallels and runs adjacent to the Walnut Grove Road entrance ramp onto Kirby Parkway. Walnut Grove Road traffic traveling to the east from the west of Humphreys Boulevard will have both Kirby Parkway and through access (see Figure 2.2). These two lanes, from Walnut Grove Road east and Humphreys Boulevard north onto Walnut Grove Road east do not merge at the interchange location. They maintain separate travel lanes and do not require a weaving of traffic.

Access to Kirby Parkway will include a new grade-separated interchange at Walnut Grove Road. This trumpet interchange provides Farm Road with right-in/right-out access to westbound Walnut Grove Road and eliminates access to eastbound Walnut Grove Road while preserving the flow of traffic. The signalized Mullins Station Road intersection will be realigned to eliminate an existing skew and provide turn lanes on all approaches. Access will remain available to Whitten Road/Kirby Parkway north of Macon Road.

The decision of the preferred Alternative was made by Shelby County and the City of Memphis in consultation with TDOT and FHWA. The decision was based on recommendations made by the Shelby Farms Parkway Advisory Team, following the Public Workshops that were held on March 24, 2005 and November 15, 2005. The preferred Alternative is considered to meet the project purpose and need objectives, fulfill the project decision determinants, and meet the Shelby Farms Advisory Team goals better than all other reasonable project alternatives considered. The official selection of the preferred Alternative will not be made until a public meeting is held upon approval of this environmental document.



Figure 2.2. Visualization of Alternative Q's trumpet interchange looking east on Walnut Grove Road

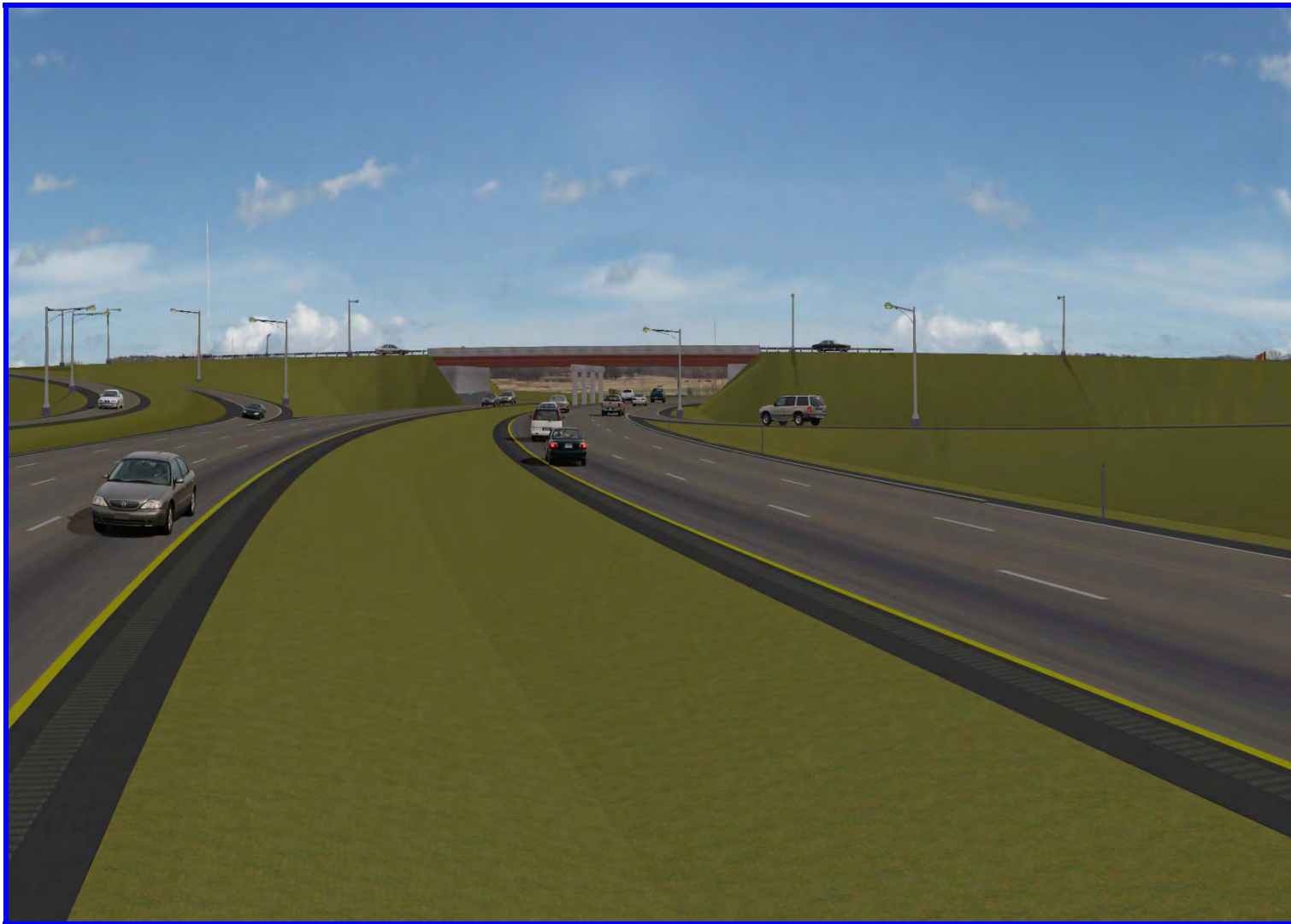


Figure 2.3. Visualization of grade-separated Kirby Parkway's approach to Walnut Grove Road from trumpet interchange



Figure 2.4. Looking east at Walnut Grove Road and the Walnut Grove Road Bridge construction (as of December 2006); Humphreys Boulevard/Walnut Grove Road intersection in background; project area in foreground

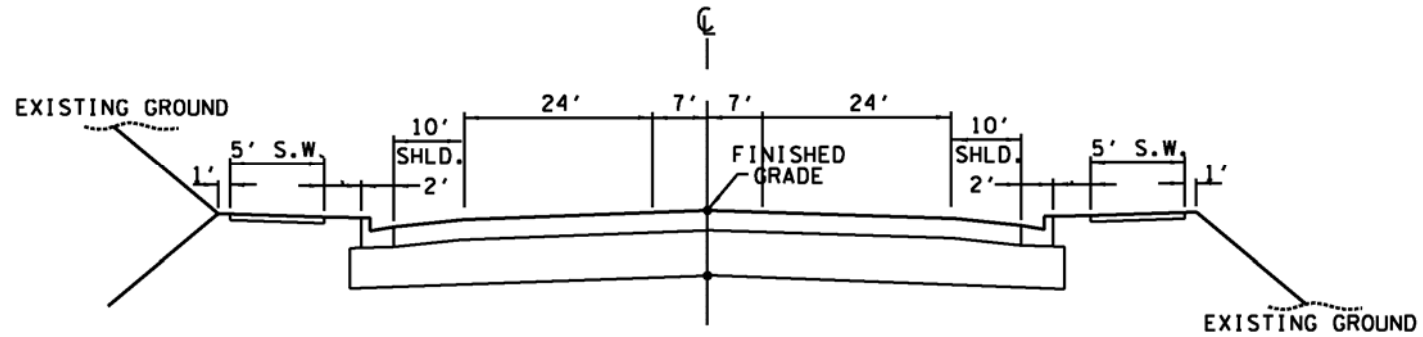
Table 2.1. Kirby Parkway Design Criteria for the Preferred Alternative, Q

KIRBY PARKWAY DESIGN CRITERIA			
DESIGN ELEMENT	MULLINS STATION RD to MACON RD	WALNUT GROVE RD to MULLINS STATION RD	KIRBY PKWY INTERCHANGE w/ WALNUT GROVE RD
Classification	Urban Arterial	Urban Arterial	
Access	By Permit	Partial-Controlled	
Design Speed	40 mph	40 mph	25 mph
Posted Speed	35 mph	35 mph	35 mph
Minimum Curve Radius	955 ft	955 ft	216 ft
Maximum Grade	4%	4%	6%
ROW	100 ft	220 ft	
Number of Lanes	4	4	
Lane Width	12 ft	12 ft	
Center Turn Lane	14 ft		
Shoulder Width	10 ft (each side)	6 ft (inside) 12 ft (outside)	6 ft (each side)
Median	none	variable	
Sidewalk	5 ft (each side)		
Minimum Stopping Sight Distance	300 ft	300 ft	

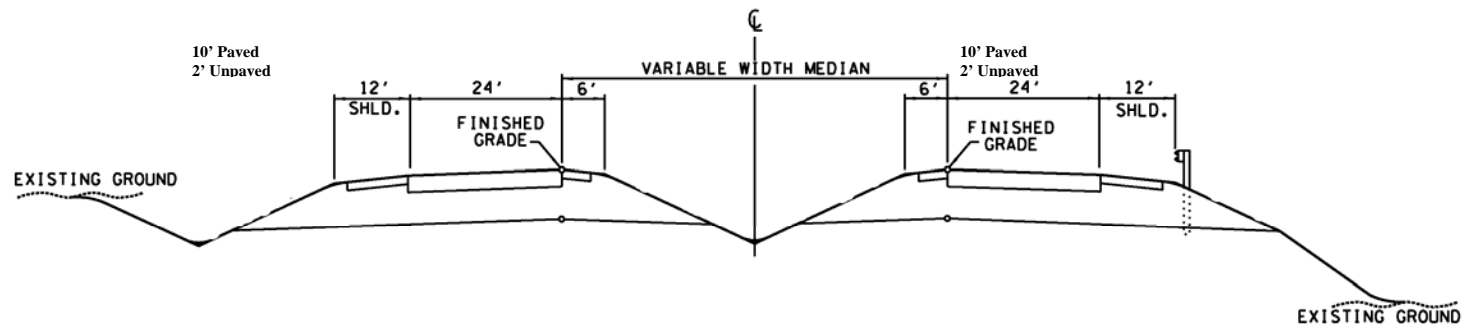
The preferred Alternative would serve directly the local communities, as well as a large regional population. It stands to provide the best access possible between I-40 and Poplar Avenue for residential, employment, and commercial areas, as well as provide new and improved access to Shelby Farms recreation areas for vehicular and non-vehicular traffic. Subdivision residents along Whitten Road will have improved access. The preferred Alternative will impact roughly the same level of streams and wetlands as the other explored alternatives. The design preferred Alternative was considered by the Shelby Farms Advisory Team to best meet their project goals, receiving the highest recommendations and endorsement from them, as well as from the project design team. The preferred Alternative would not be expected to produce any long-term adverse social, economic, or environmental impacts for the project area.

Figure 2.5 shows the preferred Alternative typical section. Figure 2.6 shows profile for Alternative Q's trumpet interchange from Station 70+00 to Station 95+00. The proposed Kirby Parkway is 11 to 38 feet above the existing elevation. Figure 2.7 presents the scope of the project's study area and land use map. See Figure 2.8 for a visual depiction of the preferred Alternative.

Mullins Station to Macon Rd



Walnut Grove to Mullins Station



4-Lane Section

Figure 2.5. Alternative Q typical section

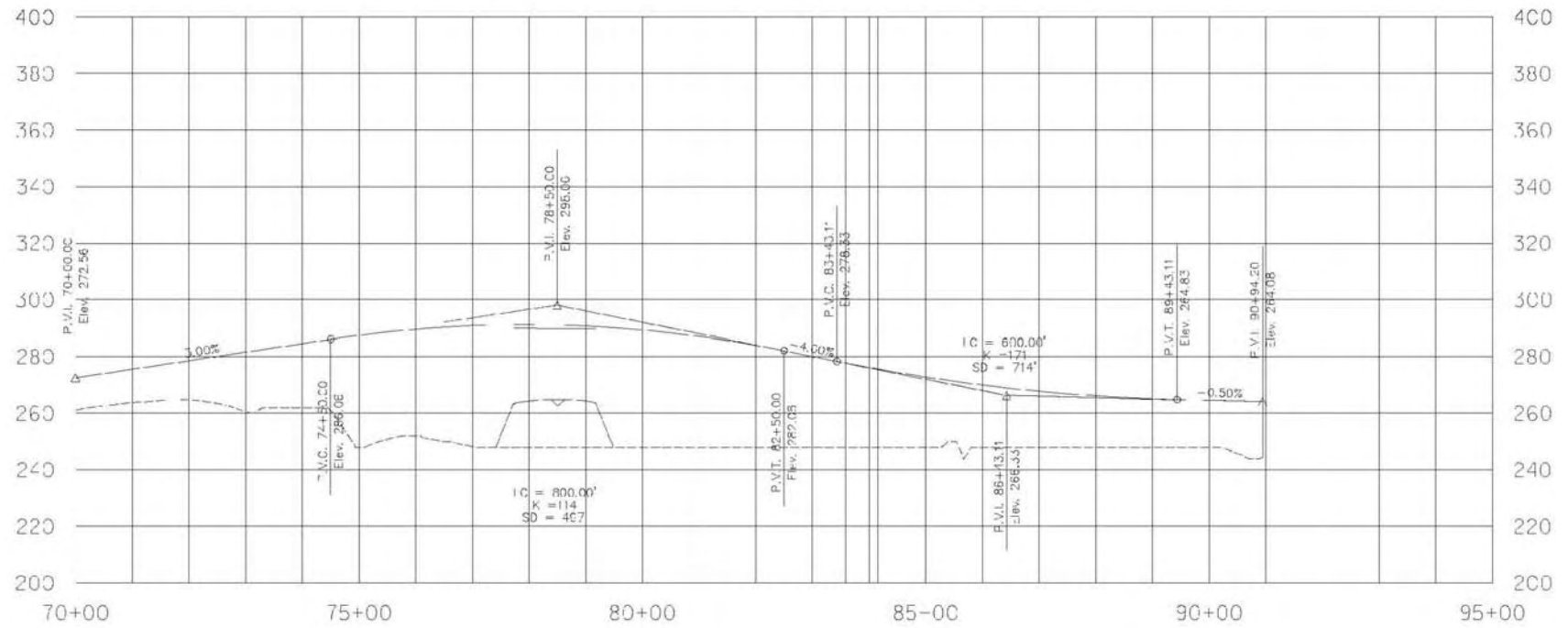
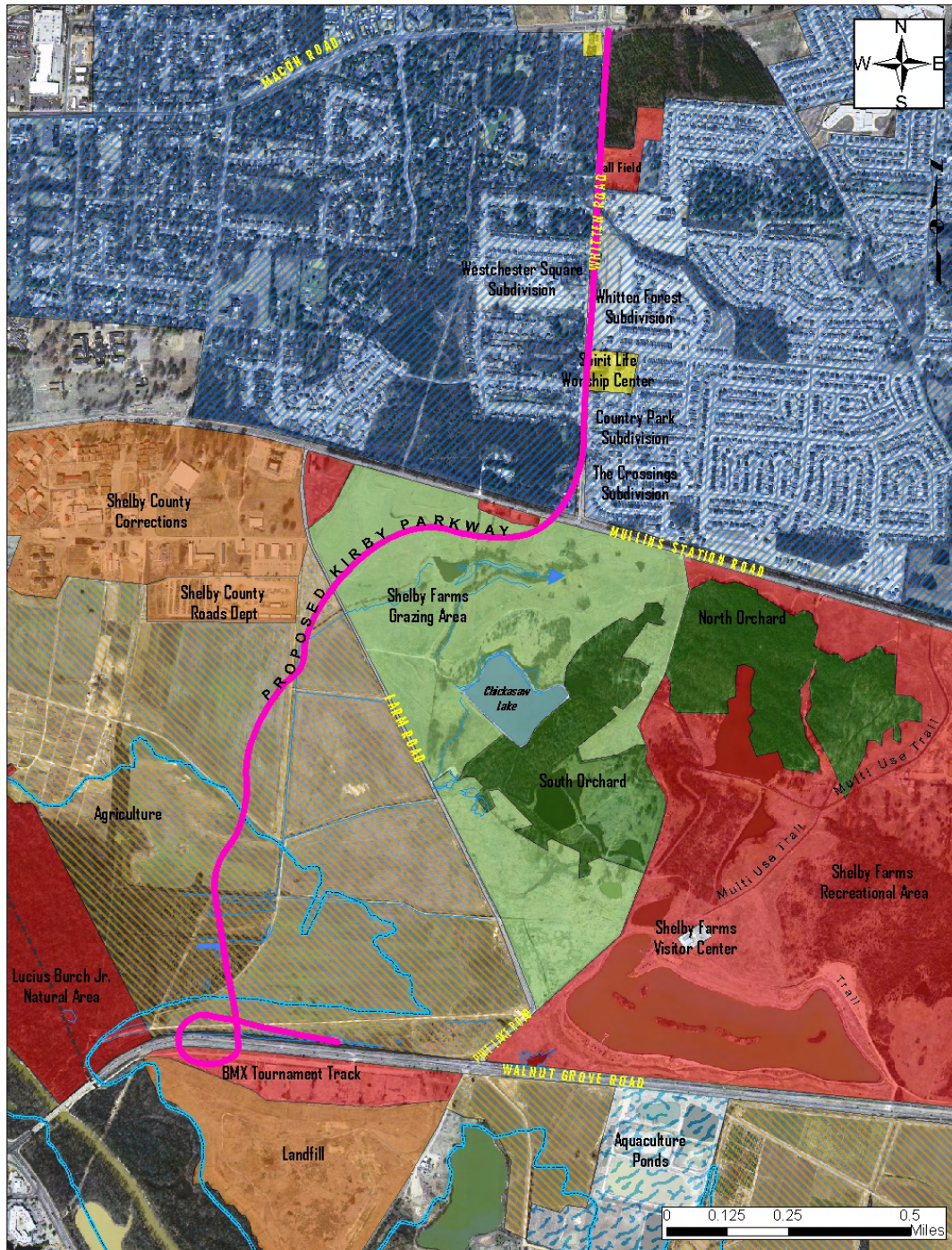


Figure 2.6. Alternative Q trumpet interchange profile from Sta. 70+00 to Sta. 95+00



Proposed Kirby Parkway Area Land Use

Memphis, Shelby County, Tennessee

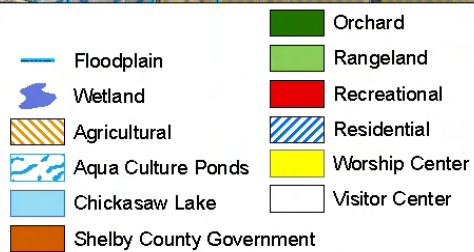


Figure 2.7. Kirby Parkway area land use

II.B. Previously Considered Alternative – Alternative L

Alternative L, from Walnut Grove Road to Mullins Station Road, was to be constructed with a 220-foot right-of-way, four (4) 12-foot traffic lanes (two in each direction), and curb and gutter on the inside with a 40-foot raised median. From Mullins Station Road to Macon Road, the right-of-way for Alternative L equaled 100-feet, with four 12-foot traffic lanes, a 14-foot center turn lane, 10-foot shoulders, and curb and gutter on either side of the roadway. This section was designed with a 5-foot sidewalk on each side of the roadway. A travel speed of 40 mph was proposed for Alternative L. Alternative L included the construction of a new grade-separated interchange with Walnut Grove Road approximately 1,900 feet east of the newly constructed Wolf River Bridge and 3,500 feet west of the existing signalized intersection of Walnut Grove and Farm Road. The trumpet interchange required the relocation of Walnut Grove Road 450 feet to the north to provide for the loop ramp. This alternative provided Farm Road with right-in/right-out access to westbound Walnut Grove Road, while eliminating access to eastbound Walnut Grove Road. Travel speeds associated with the interchange/ramp system ranged from 20 to 40 mph.

From the Walnut Grove Road interchange, Alternative L was to travel in a northerly direction while curving to the west and back to the east, intersecting the proposed Sycamore View Extension at a 90° angle. In contrast to the preferred Alternative, the travel lanes of Alternative L will parallel one another from Walnut Grove Road to the location of Mullins Station Road. The newly signalized Sycamore View intersection was designed to provide for traffic movements in all directions. The alignment continued north, curving east then west, crossing north of a gas regulator station located within the farm area, then east again before crossing the relocated Mullins Station Road at a slight skew. The signalized Mullins Station Road intersection was realigned to eliminate an existing skew and provide turn lanes on all approaches. Alternative L was to continue north along the existing alignment of Whitten Road to Macon Road (see Figure 2.9).

While Alternative L satisfied many current roadway deficiencies, it was eliminated by the Kirby Parkway Advisory Team because it lacked the desired aesthetic characteristics. Therefore, the most desirable features of Alternative L, particularly the trumpet interchange, were combined with the best features of Alternative M, another previously considered alternative, to create Alternative Q.

II.C. Previously Considered Alternative – Alternative M

During the project planning stages, Alternative M was considered for parkway design. As determined by TDOT, accompanied by concerns from the Shelby Farms Parkway Advisory Team, Alternative M was determined inadequate. Alternative M was to include four 12-foot traffic lanes (two in each direction), a variable-width median, and a variable right-of-way that stretched from Walnut Grove to Mullins Station. This alternative would use an independent roadway concept, wherein the grade and alignment would vary to blend the roadway into the natural topography. From Mullins Station Road to Macon Road, the right-of-way for Alternative M would be 100-foot, consisting of four 12-foot traffic lanes and a 14-foot center turn lane, 10-foot shoulders, and a curb and gutter on either side of the road. A 5-foot sidewalk was proposed for each side of the roadway.

Alternative M would have included a new interchange with a fly-over for eastbound traffic that used the proposed road. This alternative included a signalized intersection for vehicles traveling south and turning east on Walnut Grove Road. The proposed interchange was located along Walnut Grove Road approximately 2,000 feet east of the newly constructed Wolf River Bridge and 2,200 feet west of the existing signalized intersection of Walnut Grove and Farm Road. The fly-over interchange required Walnut Grove Road to be relocated off the existing roadway. This alternative provided Farm Road with right-in/right-out access to westbound Walnut Grove Road and eliminated access to

eastbound Walnut Grove Road. Alternative M traveled in a northerly direction curving to the west and back to the east intersecting the proposed Sycamore View Extension at 90° angle. The Sycamore View intersection was a signalized intersection that provided traffic movements in all directions. The alignment continued north curving east, crossing south of a gas regulator station located within Shelby Farms, then returned east before crossing the relocated Mullins Station Road at a slight skew. The signalized Mullins Station Road intersection was realigned to eliminate an existing skew and provided room for turn lanes on all approaches. Alternative M continued north along the existing alignment of Whitten Road to Macon Road (see Figure 2.10).

While Alternative M satisfied many current roadway deficiencies, it was eliminated by the Kirby Parkway Advisory Team because fly-over interchange failed to eliminate the present intersection conditions. In addition, the fly-over interchange was not visually pleasing and was located closer to the Farms than Alternative L. Therefore, the most desirable features of Alternative M, particularly the typical section, were combined with the best features of Alternative L, another previously considered alternative, to create Alternative Q.

II.D. Alternative Considered – No Build

A No Build Alternative is also under consideration. The No Build Alternative would leave the existing road as it currently stands with only maintenance activities performed as they become necessary. However, selection of the No-Build alternative would leave the area with a deficient, poorly linked, and functionally obsolete transportation network. If the existing roadway were to remain, traffic conditions would be expected to decline according to projected traffic analysis figures for years 2010 and 2030. Residential development along Whitten Road and locations outside the project's study area may worsen the current conditions and, thus, not satisfy the purpose of and need for traffic improvements. The area's inaccessibility via foot or bicycle would not improve in its current state. Overall, the No Build Alternative does not satisfy the purpose and need.

Figure 2.8. Alternative Q

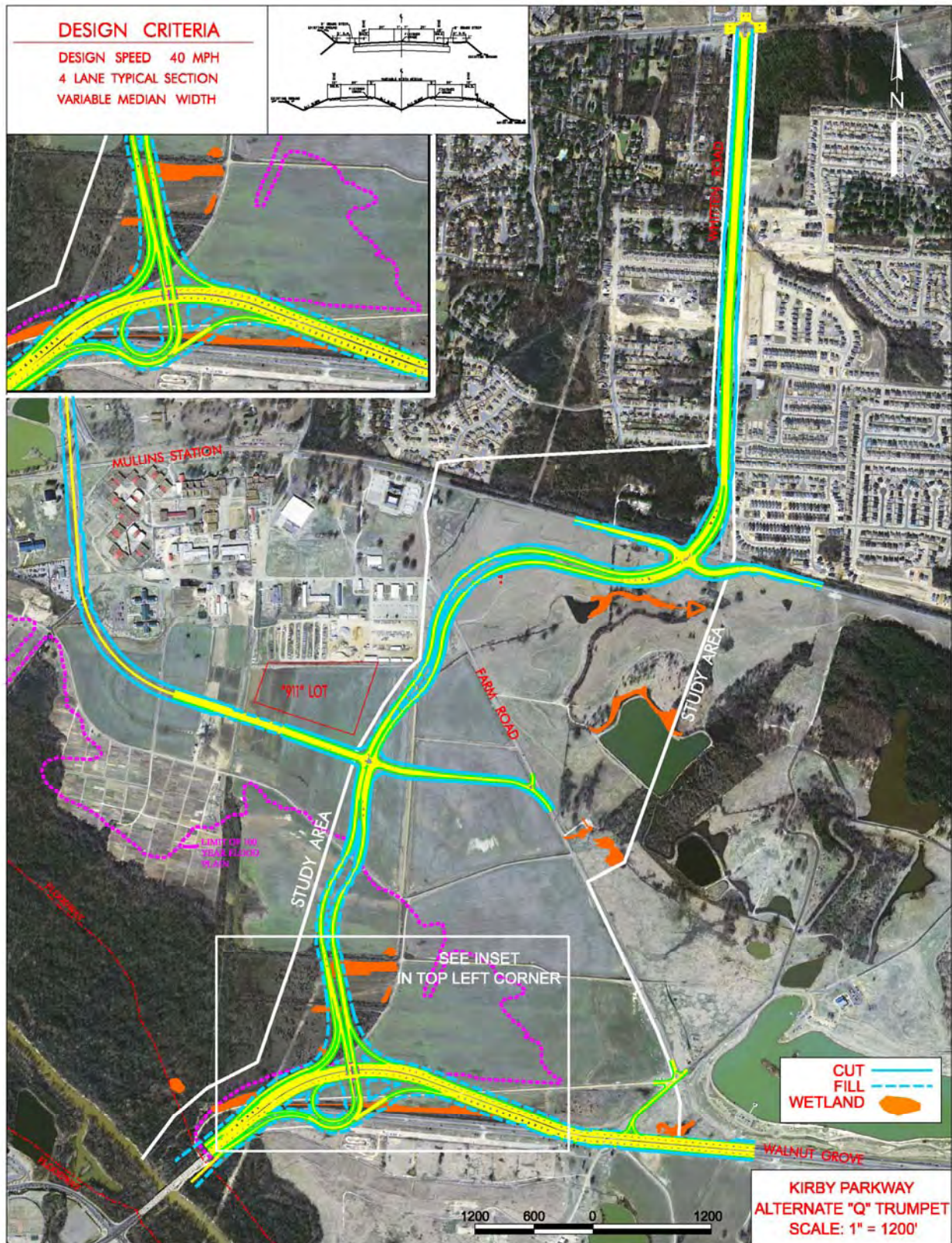


Figure 2.9. Alternative L

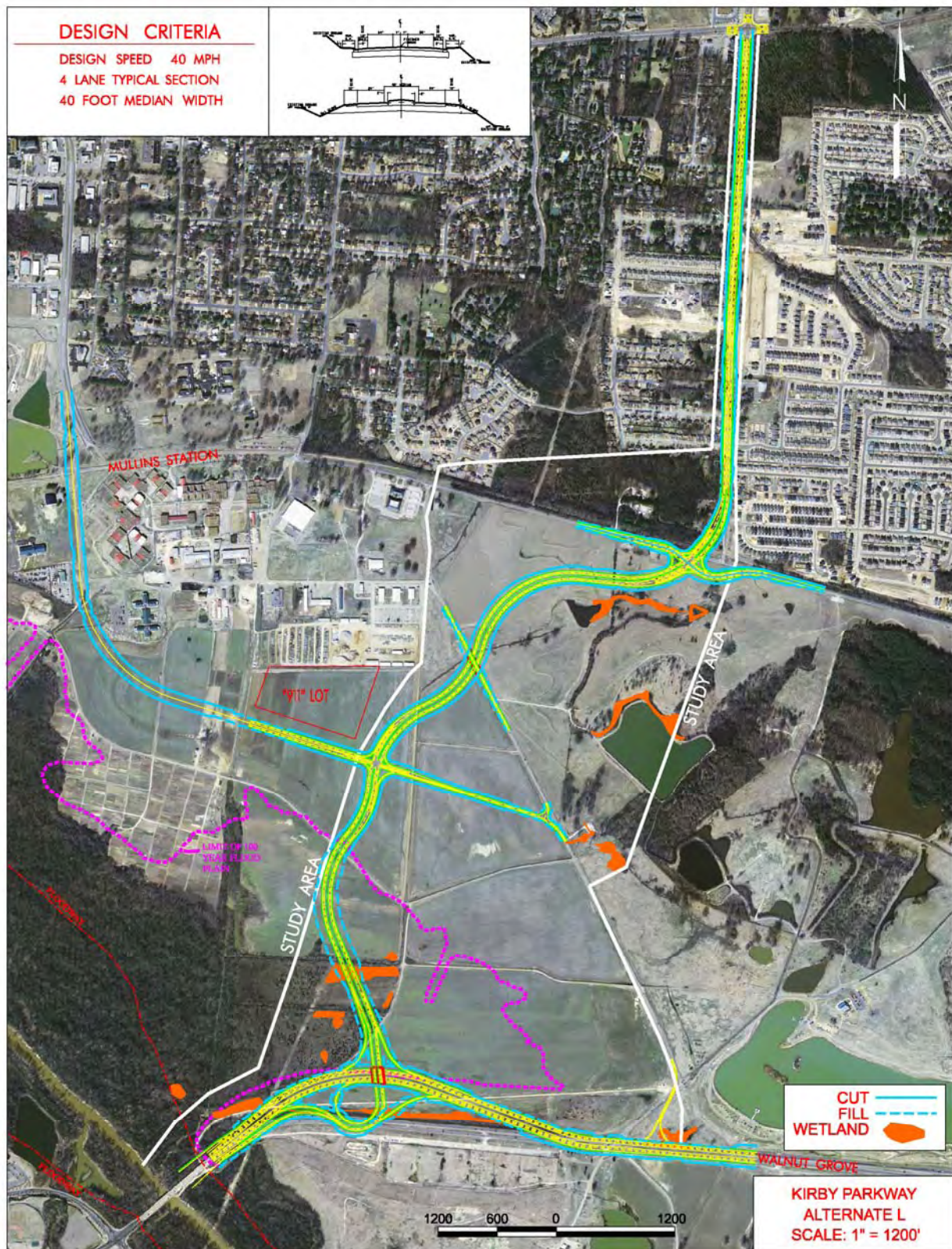
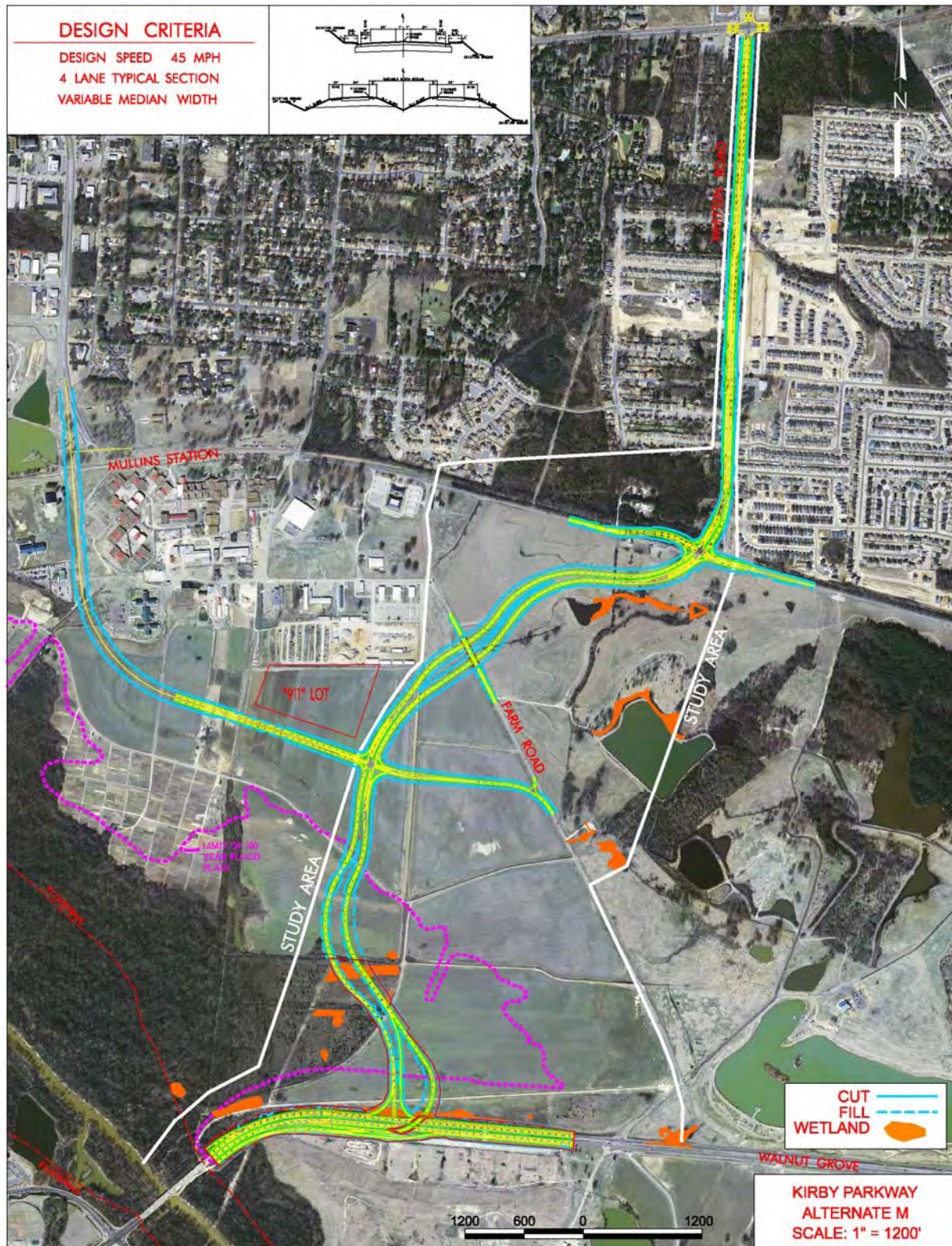


Figure 2.10. Alternative M



III. AFFECTED ENVIRONMENT

This section provides a summary description of the social, economic, and physical environmental setting for the area affected by the alternatives. The project study area is situated in east Memphis, Tennessee. The description of the area is general in nature applying to the entire project area. Detailed study area data, which were utilized to prepare this section, are provided in the Technical Reports prepared for the project. Very few changes in the affected environment and setting of the project area have occurred since the FEIS and the FEIS Reevaluation were circulated.

During the development of this project over the past several decades, additional environmental studies, environmental reevaluations, and new or supplemental environmental documents were conducted. These studies and documents outlined the potential environmental impacts to the project area.

III.A. Socioeconomic Setting

III.A.1. Project Area Population

In 2000, the project area is represented by Census Tracts 211.22, 211.23, and 212 was 21,355 according to U.S. Census data. This figure increased 33.2% from 14,273 in 1990. Population figures for the study area labor market and Shelby County population projections are shown in Tables 3.1 and 3.2. In a little over twenty years, Shelby County is expected to grow 27%.

Table 3.1. State, local, and regional population figures, 1990 v. 2000

STATE, LOCAL and REGIONAL POPULATION		
	1990	2000
Shelby County	826,330	897,472
Census Tracts	14,273	21,355
Memphis MSA	N/A	650,100
Tennessee	4,877,185	5,689,283

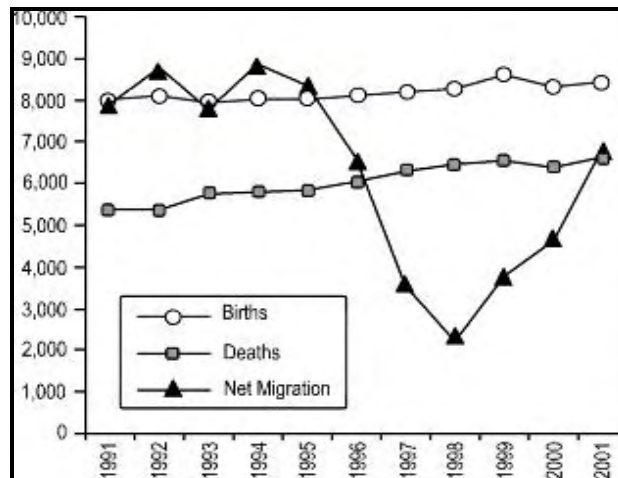
Table 3.2. Twenty-one year (1999-2020) population projections for study area labor market

POPULATION PROJECTIONS FOR SHELBY COUNTY		
Year	1999	2020
Population	869,379	1,106,610

Source: Shelby County Metropolitan Planning Commission (Tables 3.1 and 3.2)

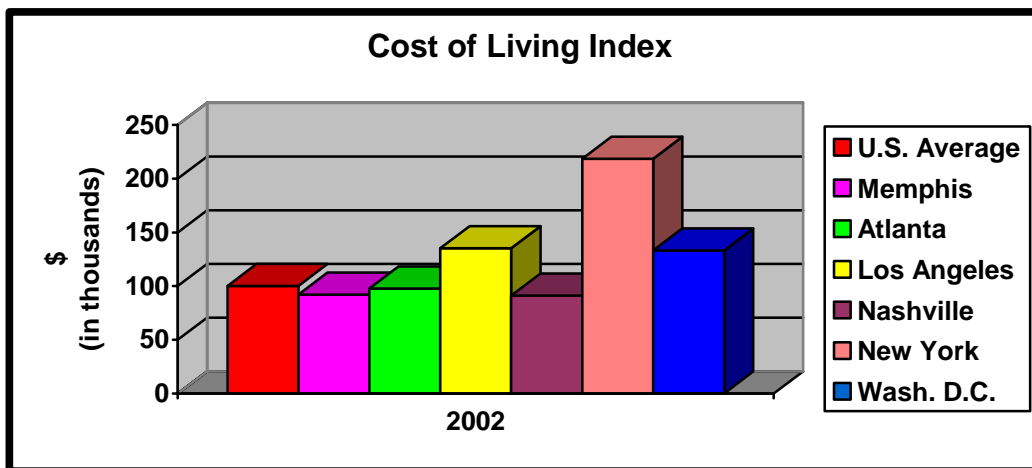
Growth or decline of a city's population can be determined by three factors, births, deaths, and migration. In Memphis, the number of births and deaths has been very stable and predictable over the past several years, yet the Memphis MSA has increased by 9,850 in size from 1992 to 1997. The number of people that have relocated to Memphis and Shelby County each year has fluctuated widely. Domestic in-migration (movement of families from some other part of the U.S.) was as low as 2,519 and as high as 15,159. Migration, and its rates of variation, is a direct function of the attractiveness of Memphis MSA and the perceived unattractiveness of the places people choose to leave (See Table 3.3). This trend is expected to continue to increase due to the attractiveness of the Memphis MSA and the opportunity for future expansion.

Table 3.3. Memphis migration tendencies, 1991-2001



Another factor in migration to the area is the cost of living index. Memphis' index is the second lowest in the compiled city data. Nashville, Tennessee has the lowest cost of living among six selected U.S. cities, while the cost of living in New York City, New York more than doubles that of Memphis (See Table 3.4).

Table 3.4. 2002 Memphis and other national cost of living indices



Expansion Management magazine's 2003 annual list of the "50 hottest cities" for relocating or expanding companies ranked Memphis 5th on this list in a January article. These rankings are based on a survey of consultants who assist businesses locate to new facilities. *Site Selection* magazine also ranked the Memphis MSA 5th for new and expanded facilities in 2002 behind Chicago, Detroit, Cincinnati, and New York. The same issue of *Site Selection* ranked Memphis 6th in investment behind Chicago, New York, Detroit, Washington, DC, and Cincinnati. Source: Conway Data Inc.'s New Plant Database, *Site Selection* magazine, January 2003. Memphis was ranked the 16th least expensive city for corporate headquarters in a January 2004 study. In this study, the Memphis economic development program is a positive factor fueling Memphis' reputation as a prime relocation area, naming it one of the most respected, forward-thinking programs in the country. *Site Selection* magazine ranked the Technicolor Home Entertainment Services expansion in Memphis the nation's

12th largest economic development deal of the year for job creation and the 17th largest for square footage.

III.A.2. Project Area Wages and Income Status

Memphis ranks higher in per capita income than the State of Tennessee and Census Tracts. Per capita personal income in Census Tracts increased 37.1 percent from \$13,243 in 1990 to \$21,064 in 2000. The state experienced an increase 32.5 percent and the U.S. had an increase in per capita of 33.2 percent during the same period. Household income had similar gains over the same period (See Tables 3.5 and 3.6). The City of Memphis more than doubled its household income and did so at a rate much faster than any other area investigated.

Table 3.5. Project area, state, and national per capita incomes, 1993 v. 2002

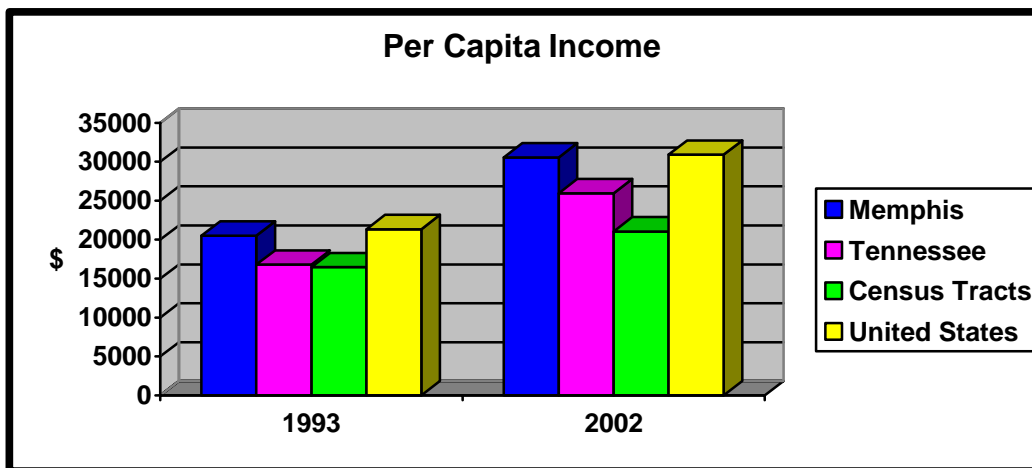
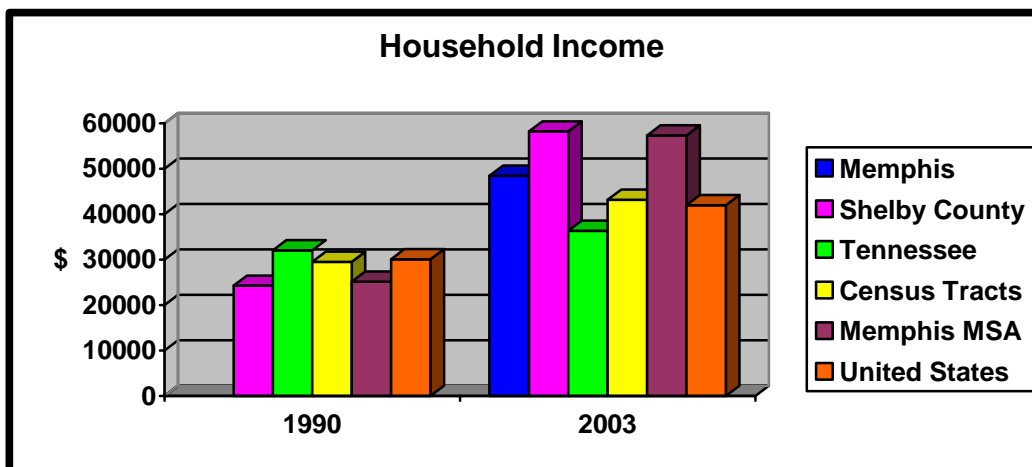
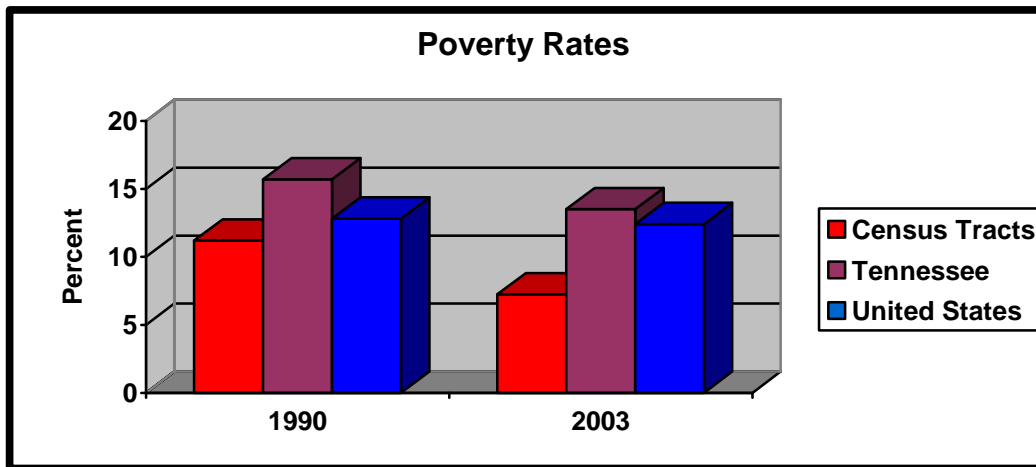


Table 3.6. Project area, state, and national household incomes, 1990 v. 2003



In 2000, Census data showed that 7.25 percent of individuals in the Census Tracts were below the poverty level (See Table 3.7). This represents the smallest percentage in the Memphis MSA, well below that of both Tennessee and United States levels. Poverty rates dropped in all areas considered for comparison.

Table 3.7. Project area, select Tennessee County, and national poverty rates, 1990 v. 2003



Most living in the Memphis MSA work away from the home and reach their employment destinations via personal vehicle. Roughly 72.7 percent of employees travel under thirty minutes and choose to drive alone 78.1 percent of the time. Combined, only 5.7 percent of workers utilize public transportation and/or walk. Table 3.8 outlines mean travel time for commuting to work in 2000.

Table 3.8. Percent method and length of travel to work in Memphis MSA

COMMUTING INFORMATION MEMPHIS MSA	
Method	Percentage
Drives alone	78.1%
Carpools	13.7%
Walks	2.9%
Public transportation	2.8%
Works at home	1.5%
Other	1.0%
Travel Time	Percentage
Under 10 minutes/home	15.9%
10 - 29 minutes	56.8%
30 - 59 minutes	19.9%
60 + minutes	2.5%
Average time:	21 minutes

Source: U.S. Bureau of the Census, 2000

III.A.3. Project Area Age Distribution

In 2003, the largest ten-year age group for the county was 35-44 years (15.1 percent) followed by 25-34 years (14.3 percent). The smallest age groups were the 85+ years with 1.2 percent of the population surveyed, followed by 3.6 percent in the 75-84 years age group. All other ten-year age groups fall between these percentages. Age groups were evenly dispersed with regard to gender (See Table 3.9).

Table 3.9. Percent population by age for Memphis, Shelby County, and Memphis MSA

PERCENT POPULATION BY AGE *			
	Memphis	Shelby County	Memphis MSA
Under 5 Years	7.6%	7.4%	7.4%
5 to 13 Years	13.7%	13.9%	13.9%
14 to 17 Years	6.0%	6.1%	6.1%
18 to 24 Years	10.9%	10.0%	9.9%
25 to 34 Years	14.9%	14.3%	14.0%
35 to 44 Years	14.2%	15.1%	15.2%
45 to 54 Years	13.1%	14.1%	14.1%
55 to 64 Years	8.6%	8.9%	9.1%
65 to 74 Years	5.6%	5.3%	5.5%
75 to 84 Years	4.0%	3.6%	3.5%
85 + Years	1.5%	1.2%	1.2%

Source: ACCRA Demographics Now

*based on 2003 estimates

III.A.4. Project Area Ethnic Composition

According to the 2000 U.S. Census, of the 20,355 people living in the project area Census Tracts, only 24.7 percent were of the Black race. This represents less than half (61.6 percent of the 2003 estimate*) of the Black race living in the City of Memphis. The consistent trend from the 2000 U.S. Census and the 2003 ACCRA estimate reveals more Blacks are migrating towards the city while Whites are migrating away from the city. The majority of the Black population lives in Memphis, more specifically, downtown Memphis, where a more diversified population exists (See Table 3.10). A more detailed account of individual race by percent of total population is presented in Table 3.11.

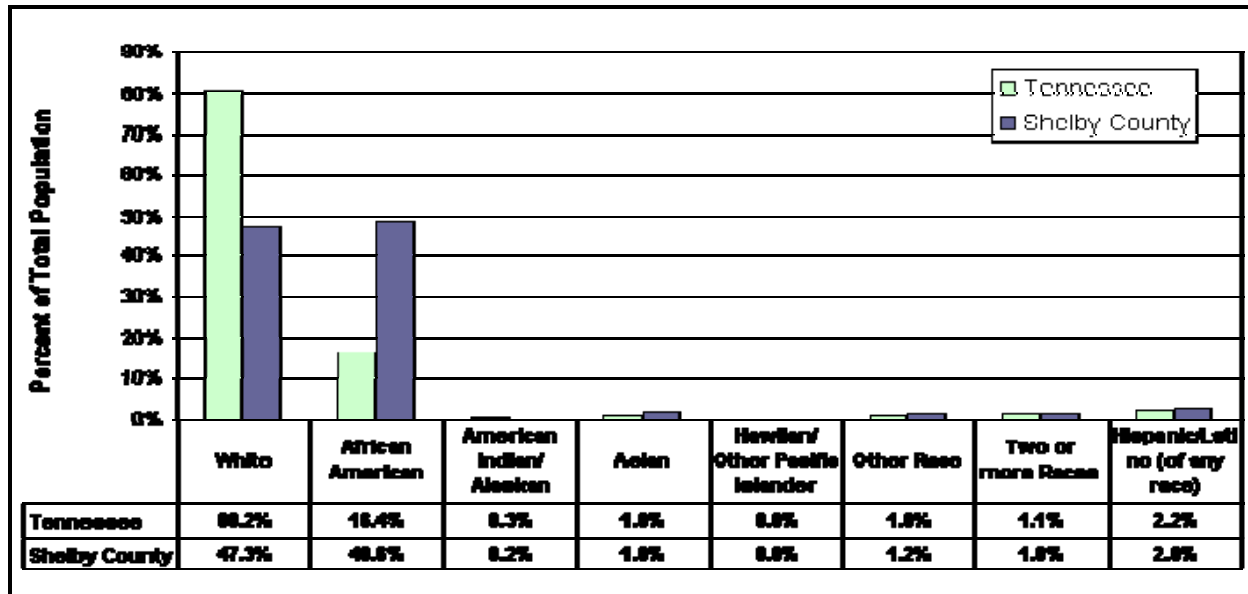
Table 3.10. Race by percent for Memphis, Shelby County, and Memphis MSA

RACE*			
	Memphis	Shelby County	Memphis MSA
White	34.2%	47.0%	53.1%
Black	61.6%	48.9%	43.2%
Asian	1.5%	1.7%	1.4%
Other	2.7%	2.4%	2.3%

Source: ACCRA Demographics Now

*based on 2003 estimates

Table 3.11. Population percentages by race for Shelby County and Tennessee

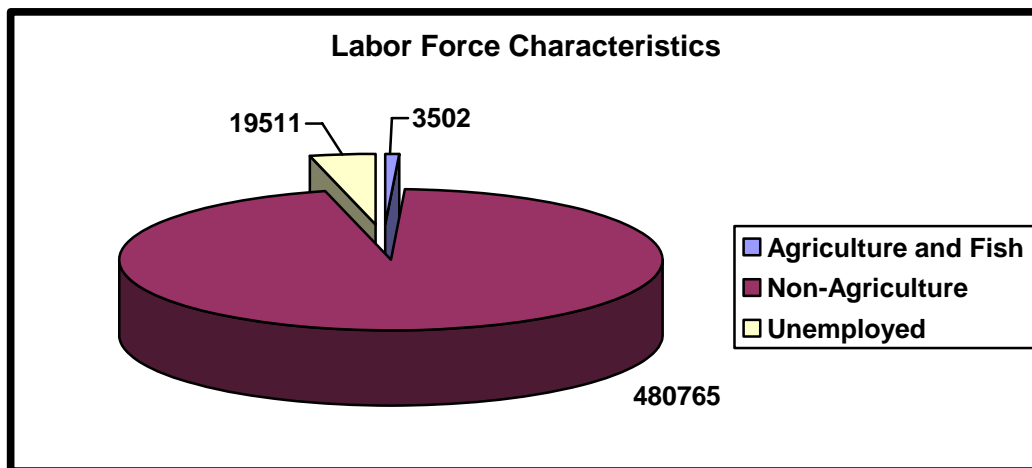


Source: The Tennessee Advisory Commission on Intergovernmental Relations, based on 2000 U.S. Census Data

III.A.5. Project Area Labor Characteristics

The 2000 civilian labor force in Shelby County was 500,276, with an average unemployment rate of 4.5% (December 2001). Rates for Shelby County were the same as the statewide average and lower than the national level of 4.7 percent. Characteristics of the Shelby County labor force are shown in Table 3.12.

Table 3.12. Labor force characteristics for Shelby County, 2000



In 2003, Shelby County's labor market area rate of unemployment was 6.2 percent, while Tennessee's was 5.8 percent (See Table 3.13). The economy in the labor market area is based on the incomes that local residents earn working outside the project area. The area shows a very strong employment status that may have benefited by the increasing migration into the region.

Table 3.13. Local, state, and National unemployment rates, 1996-2003

UNEMPLOYMENT RATES	1996	1997	1998	1999	2000	2001	2002	2003
Memphis MSA	4.4%	4.6%	3.8%	3.7%	3.8%	4.2%	5.2%	6.2%
Shelby County	4.4%	4.7%	3.8%	3.8%	3.9%	4.2%	5.3%	6.4%
Tennessee	5.2%	5.4%	4.2%	4.0%	3.9%	4.4%	5.1%	5.8%
United States	5.4%	4.9%	4.5%	4.2%	4.0%	4.7%	5.8%	6.0%

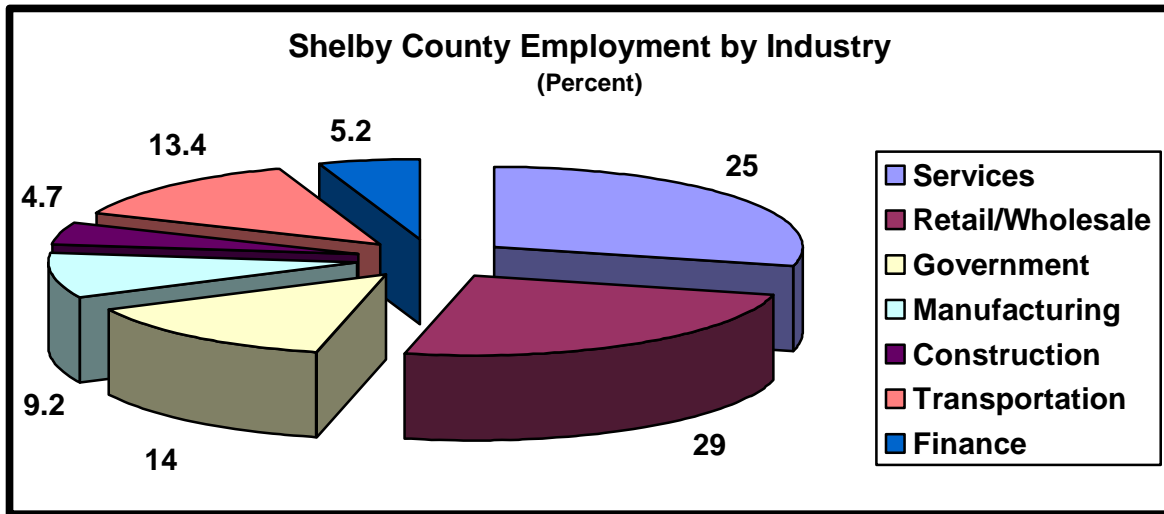
A diversified economy is credited for the stability of local employment and wages. Total county employment in 2000 was 500,276, including self-employed and agricultural workers, up 5 percent from the previous year. Tennessee and Shelby County nearly mirror one another's employment distribution by industry. As illustrated in Table 3.14, roughly 10 percent more individuals are employed in the manufacturing sector at the State level than Shelby County. However, Shelby County has double the transportation, communications, and utilities employment base as does the State of Tennessee.

Table 3.14. Shelby County and Tennessee percent employment by major industry, 2000

Employment by Major Industry	Tennessee	Shelby County
Agriculture, Forestry & Fishing	0.7%	0.7%
Mining	0.1%	0.0%
Construction	4.6%	4.4%
Manufacturing	19.6%	9.2%
Durable Goods	11.4%	4.1%
Non-durable Goods	7.6%	5.1%
Transportation, Communications & Utilities	6.6%	13.4%
Trade	23.4%	24.9%
Wholesale Trade	5.2%	7.5%
Retail Trade	18.2%	17.4%
Finance, Insurance & Real Estate	4.7%	5.2%
Services	25.4%	28.6%
Government	14.7%	13.4%
Federal	2.1%	3.2%
State	3.1%	1.9%
Local	9.6%	8.4%
Total Employment All Industry	2,563,629	500,276

A depiction of Shelby County's employment by industry is located in Table 3.15. Service and retail/wholesale industries make up the majority of private sector employment. Employment through government positions accounts for 14 percent of all of Shelby County opportunities.

Table 3.15. Shelby County percent employment by industry, 2000



III.A.6. Project Area Agriculture

Shelby County ranked 36th out of 95 in the State of Tennessee for total agricultural products sold with \$23,731,000. As of 2002, crop sales accounted for \$21,895,000 of sales, while livestock sales reached only \$1,835,000. Cash receipts shrank 21 percent from \$29,891,000 in 1997. Soybeans and cotton are the top crop items raised in Shelby County. Accompanying the decline in total sales, the number of farms and the County's total farm acreage decreased, 21 percent and 18 percent respectively; however, the average farm size increased slightly from 157 acres to 162 acres. In the study area, corn is grown in addition to soybean and cotton.

III.A.7. Project Area Social and Economic Setting Summary

Since the Environmental Reevaluation of the FEIS was completed in 2001, several new subdivisions have been developed along Whitten Road, including The Crossings, Country Park, Whitten Forest, and Westchester Square. These newly built, single-family dwellings along Whitten Road start from the \$120,000's. Although rapid residential development has occurred in this area, vacant properties and parcels are currently available for relocation.

Many employment opportunities exist within and adjacent to the study area. The Shelby County Corrections Office and Shelby County Roads Department have offices west of Farm Road. In this immediate vicinity, a future emergency call center has been planned for, while development has begun on the Shelby County Humane Society Headquarters. Many people work and/or volunteer at the Shelby Farms Visitors' Center and its surrounding properties. Located west of the proposed parkway, on Walnut Grove Road, a school and a number of commercial buildings housing business offices will become more accessible and travel will become safer upon project completion. Within the next 15 years, the Shelby County Government has planned for an additional employment corridor near Nonconnah Creek, south of Germantown along TN 385.

Shelby Farms provides excellent recreational opportunities for nearby residents, the general public, and passers by. Guests from all walks of life, who make use of the Farms throughout the day, enjoy the approximately 4,500 acres of preserved forest and grasslands, multi-use trails, waters, and gardens. It is physically bounded by the Wolf River, Mullins Station Road, Raleigh LaGrange Road, and Germantown Parkway.



Figure 3.16. Shelby Farms Visitors' Center and one of the many paths available to guests as viewed from Farm Road

III.B. Existing Land Use and Land Cover

The study area contains a varied mix of land uses and land covers, which reflect the needs of the nearby communities. Individual land types are clustered in the study area (see Figure 2.4). Religious centers and residential subdivisions tend to border Whitten Road, north of Mullins Station Road. The majority of governmental and commercial uses can be found to the south of Mullins Station Road and west of Farm Road, while lands to the east of Farm Road are reserved for recreational uses.

In the study area, many of the former agricultural lands are now fallow grasslands or have been converted to other uses, such as recreational, commercial, and/or governmental. The biotic community of western Tennessee has been defined by as a mixed oak-hickory forest characteristic of the upland southeast general region. This includes the earlier designation of mixed mesic and western mesic forests that defined for the area. By the mid nineteenth century, the forests were cut and cleared for cultivation with an emphasis on cotton. Within 100 years, the loess upland soils had become heavily eroded, and cotton cultivation became less successful. The marginal upland soils were abandoned for agriculture and left fallow or converted to pasture. The abandoned fields have started successive growth to a pine forest subclimax, and hardwood species are succeeding the pine forest.

The Friends of Shelby Farms organization officially began protecting Shelby Farms from large development in the early 1970s. Since much of Shelby Farms is grassland and forest cover; recreational trails and activity sites, such as the Lucius E. Burch Natural Area and the Shelby Farms Park Visitors' Center, were added over the years, while bison and longhorn cattle can still be seen grazing in nearby protected pasturelands. The study area has not been void of development. Currently, on the west side of Farm Road, an emergency call center has been planned for and development has begun on the Shelby County Humane Society Headquarters.

The Shelby County Government controls planning for all of Shelby County, including the City of Memphis and the study area. Zoning and planned development recommendations for the study area are made by the Memphis and Shelby County Land Use Control Board in cooperation with the Shelby County Board of Commissioners. In 1999, the Shelby County Government developed a 20-year plan for the County's rural and planned growth areas, particularly in east central Shelby County. In this

Plan, the Shelby County Government and the Metropolitan Planning Organization site the relevance of infrastructure to land use and development. Rapid, high-density development outside the study area, particularly in Bartlett and Germantown, increases the need for infrastructure planning and improvements through Shelby Farms and the residential area of Whitten Road. Within the next five (5) years, many roads, known as “Priority One Roads”, adjacent to the study area will be constructed and/or improved per the Shelby County Growth Plan to absorb increases in commuting.

IV. ENVIRONMENTAL IMPACTS

IV.A. Air Quality

An air quality analysis was performed to determine if the proposed Shelby Farms Parkway in Memphis, Tennessee could contribute to decreased air quality within the project corridor by exceeding National Ambient Air Quality Standards (NAAQS). The level of air quality is determined by the concentrations of air pollutants in the atmosphere. An air pollutant is a contaminant in the air in a large enough concentration to have an adverse affect on public health or welfare. The U.S. Environmental Protection Agency (EPA) has identified seven air pollutants of national concern including carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), sulfur oxides (SO_x), and lead (Pb). FHWA requires the development of an air quality technical base study and the modeling of CO to determine and compare calculated existing and future concentrations with the NAAQS.

Section 107 of the 1990 Clean Air Act Amendments requires the EPA to publish a list of all geographic areas in compliance with the NAAQS, as well as those not in attainment with the NAAQS. Areas not in compliance with the NAAQS are designated nonattainment areas. Areas with insufficient data to make a determination are designated as unclassified areas and are treated as being in attainment areas until proven otherwise. The designation of an area is made on a pollutant-by-pollutant basis. Shelby County, Tennessee is a part of the Metropolitan Memphis Interstate Air Quality Control Region. Currently, Shelby County is a marginal nonattainment area for the eight-hour ozone standard, being designated June 15, 2004; Memphis is a maintenance area for CO. For all other criteria pollutants listed above, Shelby County is designated as in attainment.

IV.A.1. Air Quality Results

For the Shelby Farms Parkway, a hot spot microscale analyses was performed for the Existing Alternative and the No-Build Alternative for the years 2010, 2026, and 2030 and Alternatives L and M for the same years. Alternative Q combines the trumpet interchange of Alternative L and the bifurcated mainline of Alternative M. The air quality conditions for both Alternative L and M were evaluated as separate instances. The combination of these results determines the air impacts for Alternative Q. Areas for analysis incorporate both the maximum traffic volumes and the presence of sensitive receptors, to model worst-case conditions in a free flow scenario. Within the project corridor, Walnut Grove Road in the vicinity of the future intersection with Alternatives L and M, was determined to meet the criteria for calculating maximum one-hour and eight-hour carbon monoxide concentrations. One-hour CO concentrations were obtained directly from the CAL3QHC model runs. Eight-hour CO concentrations were calculated by subtracting the one-hour background concentration of 4.7 ppm from the total one-hour concentrations calculated by the CAL3QHC model. The remainder was then multiplied by a persistence factor of 0.7. To this value, an eight-hour background concentration of 3.1 ppm was added to arrive at the eight-hour concentrations.

For the Existing Alternative, a maximum one-hour CO concentration of 9.9 ppm and a maximum eight-hour CO concentration of 6.8 ppm were calculated at Receptor 1 of Alternative L. For the No-Build Alternative, a maximum one-hour CO concentration of 9.2 ppm and a maximum eight-hour CO concentration of 6.3 ppm were calculated for Receptor 1 of Alternative L when analyzed for the year 2010. For Alternative L, the maximum one-hour and eight-hour CO concentrations of 5.5 ppm and 3.7 ppm, respectively, occur at Receptor 1 for the years 2010, 2026, and 2030. For Alternative M, the maximum one-hour and eight-hour CO concentrations of 6.0 ppm and 4.0 ppm, respectively, occur at Receptor 1 occur at Receptor 1 for the year 2030.

The calculated one-hour and eight-hour CO concentrations are listed in Table 4.1 and 4.2. The analysis shows that carbon monoxide levels for all alternatives in the hot spot analysis are below the one-hour standard of 35.0 ppm and the eight-hour standard of 9.0 ppm. Therefore, carbon monoxide levels within the remainder of the project corridor will also remain below both the one-hour and eight-hour standards.

Table 4.1. Alternative L, current and projected carbon monoxide concentrations

CARBON MONOXIDE CONCENTRATIONS, ppm										
RECEPTOR	2005 Existing		2010 / 2026 / 2030 (same response)		2010 No Build		2026 No Build		2030 No Build	
R1	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr
Located on South ROW of Alt L; 46' and 76' south of Ramps B and B3, respectively	9.6	6.5	5.5	3.7	9.2	6.3	8.0	5.4	8.1	5.5

Table 4.2. Alternative M, current and projected carbon monoxide concentrations

CARBON MONOXIDE CONCENTRATIONS, ppm												
RECEPTOR	2005 Existing		2010 Build		2026 Build		2030 Build		2010 No Build		2026 / 2030 No Build (same response)	
R2	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr	1 hr	8 hr
Located on South ROW of Alt M at Shelby Farms BMX Track; 34' of Humphreys Blvd to Walnut Grove Ramp	6.0	4.0	5.9	3.9	5.8	3.9	6.0	4.0	5.9	3.9	5.6	3.7
Same as or Less than existing levels												

According to the calculated existing microscale emissions of carbon monoxide, the maximum carbon monoxide concentrations in 2005 were 9.9 ppm for one-hour concentrations and 6.8 ppm for eight-hour concentrations. The maximum CO concentrations for 2026 are 8.0 ppm for one-hour concentrations and 5.4 ppm for eight-hour concentrations. The maximum CO concentrations for 2030 are 8.1 for one-hour concentrations and 5.5 ppm for eight-hour concentrations. The analysis shows that carbon monoxide concentrations for all receptors analyzed are below the one-hour standard of 35.0 ppm and the eight-hour standard of 9.0 ppm.

IV.A.2. Air Quality Maintenance

The proposed project is located in an air quality maintenance area effective August 31 1994, with respect to carbon monoxide and a nonattainment area effective June 15, 2004, with respect to ozone. A maintenance area is defined as one, which has been redesignated from a nonattainment area to one, which has attained the national primary ambient air standard for a specific pollutant. A revised State Implementation Plan (SIP) must provide for maintenance of this standard for at least ten years after the redesignation. The project is contained in the September 30, 2005 Transportation Improvement Program (TIP) Fiscal Years 2006 through 2008 for the Memphis Urbanized area; and in the Memphis Metropolitan Area Long Range Transportation Plan for the Year 2026, approved by FHWA and FTA on October 24, 2005. The TIP description is as follows, "widen from Walnut Grove Road to Macon Road to a six-lane parkway from just east of the Wolf River along Walnut Grove to the proposed Walnut Grove/Kirby-Whitten interchange and then northward across Shelby Farms to Whitten Road, and widen Whitten to seven lanes." However, the Shelby Farms Parkway CSS process began after the last LRTP update and Air Quality Conformity Determination. Since that time, the CSS process recommended reducing the roadway to four lanes. It is anticipated that the City of Memphis will request changes to the current project description to reflect the recommendations of the

Shelby Farms Parkway CSS process. The Memphis MPO is currently working on an update of the LRTP and a new TIP; both will be SAFETEA-LU compliant and must be in effect by October 1, 2007. The Record Of Decision cannot be issued until the project, with 4 lanes as proposed, is included in a conforming TIP. As compared to existing conditions, fewer stop conditions and fewer VMT will exist; therefore, no impacts to air quality are expected.

Any increase in particulate matter in the air due to construction activities will be temporary and will not be detrimental to the health and welfare of local residents. Dust pollution during construction may be an unavoidable, minor nuisance and every feasible effort will be made to minimize this problem via standard dust suppression methods (Tennessee Road and Bridge Construction Specifications). Exhaust from construction equipment will have an insignificant effect on the ambient air quality. Any open air burning will be done in compliance with Tennessee state regulations and local laws and ordinances. Care will be taken to insure burning is done only along the right-of-way at the greatest practicable distance from dwellings, highways, and airfields and not when atmospheric conditions are such as to create a hazard or nuisance to the public.

IV.A.3. Indirect and Cumulative Air Quality Impacts

Existing indirect impacts on residential, commercial, and recreational areas along and within the project corridor are expected to continue as future traffic volumes increase with or without the construction of the proposed project. Future indirect impacts are also associated with the construction of the proposed project. Traffic patterns are expected to improve allowing for better transportation and delivery of products from residential and commercial areas in the vicinity of Macon Road to the remainder of the Metropolitan Memphis area.

IV.B. Noise

Federal guidance for handling noise impacts and abatement are contained in 23 Code of Federal Regulations (CFR) Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." Activity Categories B (Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals) and C (exterior of commercial structures and developed lands not included in Category B) are applicable to the receptors on this project. For Category B, the Noise Abatement Criteria (NAC) is 67 dBA L_{eq} . For Category C, the Noise Abatement Criteria (NAC) is 72 dBA L_{eq} .

IV.B.1. Alternative Results

Alternative Q combines the trumpet interchange of Alternative L and the bifurcated mainline of Alternative M. The noise conditions for both Alternative L and M were evaluated as separate instances. The combination of these results determines the noise impacts for Alternative Q. For Alternative L, four noise sensitive receptors were selected for modeling. Of the four receptors selected, one receptor equaled the NAC and two receptors experienced an increase of 5 dBA or less over existing noise levels. For Alternative M, four noise sensitive receptors were also selected for modeling. Of the four receptors selected, one receptor exceeded the NAC, one receptor experienced an increase of 10 dBA over existing levels, and two receptors experienced an increase of 5 dBA or less over existing noise levels.

IV.B.2. Noise Abatement

Because Site 4 experiences a traffic noise impact with the proposed alternatives, the following possible abatement measures will be addressed: traffic management (prohibiting tractor trailer truck

use, traffic control devices, and exclusive lane designations); alteration of horizontal and vertical alignments; installation of noise barriers.

The proposed road will be a four-lane parkway creating a new north-south route, which will assist in improving mobility and reducing congestion on existing facilities within the project corridor. Tractor trailers will not be permitted through Shelby Farms; therefore, the mobility of vehicular traffic moving through the project corridor will increase. A method of enforcement will be implemented: patrol; signage; etc.

The alteration of horizontal and vertical alignment is another noise abatement feature. This option is not feasible as alterations north of Mullins Station Road could create impacts to residential areas while impacting the aesthetics of Shelby Farms Park to the south of Mullins Station Road.

Noise barriers were determined to be the only logical abatement measure to reduce noise levels for the impacted area. Per Sections 2.1 and 2.2 of the Tennessee Department of Transportation Policy on Highway Traffic Noise Abatement, noise barriers must be feasible, obtaining a minimum of 7 dBA with a barrier height generally 20 feet or less and reasonable, i.e. in locations where frequent human use occurs. Site 4, where traffic noise impacts are predicted for both Alternative L and Alternative M, is located at a sports field where exposure to traffic noise impacts will be brief. Additionally, the proposed project calls for the construction of multipurpose walking and bike paths at this location. Therefore, pursuant to Section 2.2.2 of the TDOT Policy on Highway Traffic Noise Abatement, installation of noise barriers for either Alternative L or Alternative M are not considered reasonable and are not recommended for the project. A landscaped berm was considered for Kirby Parkway, but more for visual purposes than for noise abatement. Currently, the project is listed in the TIP and LTP as having 6 lanes from Walnut Grove to Mullins Station and seven (7) lanes from Mullins Station to Macon Road. However, the Memphis MPO is currently working on an update to the TIP and LRTP; both will be SAFETEA-LU compliant and be put into effect by October 1, 2007. With the reduction of lanes, the Resource Team eliminated the landscaped berm in order to maintain aesthetic qualities of Shelby Farms from Kirby Parkway.

Construction procedures shall be governed by the Standard Specifications for Road and Bridge Construction as issued by TDOT and as amended by the most recent applicable supplements. The contractor will be bound by Section 107.01 of the Standard Specifications to observe any noise ordinance in effect within the project limits. Detoured traffic shall be routed during construction so as to cause least practicable noise impacts upon residential and noise sensitive areas.

IV.B.3. Indirect and Cumulative Noise Impacts

Indirect noise impacts occur as a result of other noise producing activities, which may occur due to the construction of the proposed project. An example of this type of impacts would be the land use change from a recreational or residential setting to one of commercial development in the immediate vicinity of the proposed signalized intersections of the Shelby Farms Parkway with the Sycamore View Extension and Mullins Station Road. As the effects of noise decrease quickly with distance, it is expected that the separation between adjacent land uses of different types will prevent indirect noise impacts. Cumulative impacts would result from additional construction either planned or on-going located along I-40 to the north of the project corridor. However, cumulative impacts from this source are not expected due to the distance between the construction area and the project corridor. Traffic volumes are predicted to increase within the project corridor whether or not the proposed project is constructed. These volumes would need to double from predicted levels for the year 2030 in order to produce an increase of 3 dBA in noise levels, which is regarded as a threshold where most people are

able to notice a difference in noise levels when heard sequentially for comparison. Therefore, cumulative impacts with respect to changes in future traffic volumes are not anticipated.

IV.C. Aquatic Ecosystems

IV.C.1. Water Quality

An ecological study was conducted for the reevaluation. Field investigations conducted during summer 2005 found that the water resources in the vicinity of the proposed Kirby Parkway were the Wolf River, several intermittent blueline streams, channelized wet weather conveyances, and small wetland areas. During the water quality assessment, no fisheries were found in the intermittent blueline streams or the wet weather conveyances in the project area. Prior to construction a NPDES permit, a USACE Section 404 and a Water Quality Section 401 permits will be required; a determination of whether intermittent blueline streams and channelized wet weather conveyances are considered waters of the U.S. will be completed. As a part of the permit application, each crossing of a water of the U.S. requires that each impact site (wetland or stream crossing) be considered a single and complete project; this will determine the appropriate type of permit. All water bodies, wetlands, and floodplains are displayed in Figures 2.7 and 2.8.

The project alternatives would impact the Wolf River and all of the intermittent “blueline” streams. The stream impacts for each alternative are shown in Table 4.3. Alternatives Q has the shortest length of stream impact, while Alternative L has the longest. Efforts to minimize stream impact were made during preliminary design which reduced impact from 530 linear feet and 410 linear feet (Alternatives L and M, respectively) to 320 linear feet (Alternative Q). Further efforts will be made to reduce stream impacts from Alternative Q during final design.

Table 4.3. Streams to be relocated

Alternative	Linear Feet of Impact
Q	320
L	530
M	410

Indirect, short-term impacts to aquatic habitats would occur during clearing, site preparation and construction. Sedimentation within the streams and the Wolf River would likely increase due to soil disturbances in the project area tributaries. Stream impacts are expected to be minimal due to relocation or culvert placement in the intermittent streams. Silt control measures during construction will greatly reduce sedimentation. There will likely be short-term impacts to stream fisheries along the Wolf River due to reduced water quality from physical disturbances, such as rechanneling, bridge pier placement, or other in-stream construction operations. Such disturbances often displace larger fish while increasing mortality and impairing reproduction in smaller fish. Larval and youngest fish would be the most adversely affected because of their lessened mobility and narrow range of tolerance to disturbance and pollution. Project construction impacts to fisheries would be less during the months of September through March, and would greatly increase between April and August due to spawning activities and larval fish growth. A long-term impact on the fishery streams would be the loss of habitat from rechanneling, bank clearing, and stream filling, if required for project completion.

In response to the early coordination for the DSEIS, TDEC Division of Solid Waste Management called attention to the ground water monitoring wells located around the landfill and asked that care be taken not to disturb them during construction. (See letter dated April 12, 2000 in the Appendix A).

IV.C.2. Wetlands

Various types of wetlands exist in the study area, particularly in and around the Shelby Farms Grazing Area. National Wetland Inventory maps were analyzed to determine the type and size of these wetlands (see Appendix B). Those present are of the *Palustrine Open Water Permanently Flooded-Diked/Impounded* (POWHh) variety. Also present are *Palustrine Emergent Persistent Temporarily Flooded* (PEM1A) and *Palustrine Scrub-Shrub Broad Leaved Deciduous Temporarily and Seasonally Flooded* (PSS1A and PSS1C) wetlands. Located just south of Mullins Station Road, a wetland area, approximately 60 feet by 80 feet in size (0.11 acre), is associated with an intermittent blueline stream that trends from east to west. In the Wolf River floodplain, there exist several *Palustrine Broad-Leaf Deciduous Temporarily Flooded, Seasonally Flooded, and Semipermanently Flooded* wetlands (PFO1A, PFO1C, and PFO1F). There are approximately four (4) combined acres of *Palustrine Emergent Persistent-Semipermanently Flooded* (PEMIF) wetlands in the vicinity. Implementation of Alternative Q would require a Section 404 nationwide permit. The project area's wetlands can be viewed in the land use map (Figure 2.7). With respect to Alternative Q, the areas wetlands are shown on Figure 2.8.

The wetland field survey for this SDEIS did not include the delineation of potentially affected wetlands. Prior to the application for Section 404 and Section 401 permits, detailed wetland studies will be undertaken for the alternative to be implemented. As a part of the permit application, each crossing of a water of the U.S. requires that each impact site (wetland or stream crossing) be considered a single and complete project; this will determine the appropriate type of permit. Wetland impacts will be difficult to avoid due to the large presence of wetlands in the project area. However, efforts were made to avoid wetlands by shifting the roadway, yet simultaneously examining the level of wetland impact relative to other environmental impacts; where impacts could not be avoided, prudent and feasible efforts were made to minimize wetland impacts. If avoidance or minimization of impacts to wetlands is not possible, then impacts to the area's wetlands will be mitigated. Consultation with the USACE and TDEC will occur during the permitting process to establish mitigation measures. Impacts to wetlands will be mitigated through a wetland mitigation bank. If available, on-site wetland banks should be utilized; however, if not available, a wetland mitigation bank within the Wolf River watershed is capable of holding such an area.

The potential wetland impacts are summarized in Table 4.4. Alternative Q has the potential to affect the largest number of acres of wetlands. Possible wetlands may exist throughout the project area, making total wetland avoidance difficult. The proposed alignment for the section of roadway between Mullins Station Road and Walnut Grove Road was moved to the north to avoid a known wetland. The Resource Team weighed all environmental impacts when deciding on the Preferred Alternative. If wetland impacts were to decrease, other impacts (stream, floodplain, recreational) may increase to the same level, if not greater. For example, stream impacts for Alternative Q are least among alternatives; floodplain impacts for Alternative Q are less than those of Alternative L; Kirby Parkway through the Shelby Farms area was moved as far away from recreational resources to avoid impact. During Final Design, wetland impacts may be further decreased through more detailed and comprehensive design.

Table 4.4. Wetland impacts

Alternative	Acres Affected
Q	1.804
L	1.346
M	1.571

IV.C.3. Floodplains

The project will affect the 100-year floodplain of the Wolf River; floodplain impacts will be minimized during alternative design and selection. The amount of floodplain involvement for Alternatives Q, L, and M is shown in Table 4.5. The Wolf River floodplain can be viewed in the land use map (Figure 2.7)

Table 4.5. Floodplain impacts

Alternative	Linear Feed of Floodplains Crossed	Acres of Floodplains Crossed
Q	2,200	13.60
L	2,450	14.43
M	2,200	12.14

No encroachments of the floodplain are anticipated that would result in a potential for interruption of a transportation facility which is needed for emergency vehicles or provides the community's only evacuation route; a significant risk, including property loss or hazard to life; or a significant adverse impact on the natural and beneficial floodplain values. Floodplain encroachment was avoided largely by designing the roadway as far away from the floodplain as possible while steering clear of the Shelby Farms recreational facilities located to the east; floodplain risk was minimized by designing the roadway at a higher elevation than ground-level (while maintaining at-grade). However, the new roadway location will increase the storm event run-off (creating impervious surfaces and loss of forested areas). Increased flow during storm events must be partially stored on the floodplains to prevent excessive damage to downstream, areas that may result in erosion, substrate scouring and aquatic habitat alterations. Since the preferred Alternative is designed for at-grade construction through Shelby Farms, direct floodplain impacts (short- and long-term) may be greatly reduced by implementing drainage structures, where possible. The project will be completed in accordance with Executive Order 11988. Minimizing impacts to the Wolf River floodplain would be of particular importance to protect the natural area and the aquatic fauna. The Shelby County Forest Management Plan does not include the proposed construction of Kirby Parkway. Minimal clearing of trees and vegetation cover within the floodplains and zero-bank clearing at streams would reduce floodplain and water quality impacts.

Every action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains will be executed. However, regardless of the chosen alternative, floodplain impacts will occur.

V.D. Wildlife

The project is not expected to result in any substantial impacts to wildlife. Alternatives Q, L, and M will use the existing Walnut Grove Crossing of Wolf River. Most new development will take place north of the River where the habitat is predominantly pasture and row crops. These areas generally do not provide substantial cover or shelter for wildlife. As such, any impacts are likely to be minimal and temporary as there is abundant similar type habitat outside the project boundary.

IV.D.1. Endangered Species

For this DSEIS, the US Fish and Wildlife Service (USFWS) was contacted regarding federally listed plant and animal species. The USFWS responded that no records regarding proposed, threatened and/or endangered species of plants and animals exist within the proposed project corridor. (See Appendix A for USFWS letter). Tennessee Department of Environment and Conservation (TDEC) Division of Natural Heritage records indicated that seven (7) state-listed rare species may be near the

project site. The copper iris (*Iris fulva*), bulbous adder's-tongue (*Ophioglossum crotalophoroides*), blue scorpion-weed (*Phacelia ranunculacea*), lark sparrow (*Chondestes grammacus*), barking Treefrog (*Hyla gratiosa*), northern madtom (*Noturus stigmosus*), and common barn owl (*Tyto alba*) were all listed by TDEC with the potential to occur in the area. Preliminary habitat assessments on site visits determined that no state-listed threatened, endangered, or sensitive species will likely be impacted by any of the alternatives under review in this DSEIS.

IV.D.2. Invasive Species

Executive Order 13112 (E.O.), issued in 1999, calls for the prevention and control of invasive species (non-native exotics). The E.O. directs federal agencies to expand and coordinate their efforts to combat the introduction and spread of plants and animals not native the United States. The purpose of the E.O. is to avert the spread of non-native species and prevent them from encroaching upon and altering plant and animal habitat; prevent further loss of our native species; avoid the loss of agricultural and recreational lands; and avoid other detrimental effects caused by these species.

Highways provide opportunities for the unimpeded movement of invasive species. Non-native plant species are of a great concern along roadways. These invasive species can be spread along roadways by automobile and animal traffic; mowing and spraying operations; the importing of dirt, gravel or sod; being planted for erosion control, landscape and wildflower projects; or by the inadvertent spread of their seeds. While some of these factors are beyond anthropogenic control, some measures can be taken to prevent the spread of these invasive species.

Table 4.6 lists Rank 1 species per Tennessee Exotic Pest Plant Council guidelines (Severe Threat: exotic plant species which possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation; includes species which are or could become widespread in Tennessee). Also found in the project area are Crown Vetch (*Coronilla varia*) and Mimosa (*Albizia julibrissin*), listed by Tennessee Exotic Pest Plant Council as a Rank 2 (Significant Threat: exotic plant species which possess some invasive characteristics, but have less impact on native plant communities; may have the capacity to invade natural communities along disturbance corridors, or to spread from stands in disturbed sites into undisturbed areas, but have fewer characteristics of invasive species than Rank 1).

The Tennessee Exotic Pest Plant Council lists White Poplar (*Populus alba*) and Wild Carrot (*Daucus carota*), as Rank 3 invasive species (Lesser Threat: exotic plant species which seem to principally spread and remain in disturbed area, but not readily invade natural areas). The effect that these and other non-native species may have on the proposed project area could be detrimental to native plant populations if allowed to spread. Exotic pest plants can alter ecosystems by displacing native plant species, which may in turn impact native fauna survival.

Table 4.6. Rank One Invasive Species

<i>Ailanthus altissima</i>	Tree of heaven
<i>Albizia julibrissin</i>	Mimosa
<i>Alliaria petiolata</i>	Garlic mustard
<i>Celastrus orbiculata</i>	Asian bittersweet
<i>Dioscorea oppositifolia</i>	Air potato
<i>Elaeagnus umbellata</i>	Autumn olive
<i>Elaeagnus pungens</i>	Thorny olive
<i>Euonymus fortunei</i>	Winter creeper
<i>Hedera helix</i>	English ivy

<i>Lespedeza cuneata</i>	Sericea lespedeza
<i>Ligustrum sinense</i>	Chinese privet
<i>Ligustrum vulgare</i>	January jasmine
<i>Lonicera fragrantissima</i>	Japanese honeysuckle
<i>Lonicera japonica</i>	Amur bush honeysuckle
<i>Lonicera maackii</i>	Morrow's bush honeysuckle
<i>Lonicera morrowii</i>	Tartarian honeysuckle; twin sisters
<i>Lonicera tatarica</i>	Bush honeysuckle
<i>Lonicera x bella</i>	Purple loosestrife
<i>Lythrum salicaria</i>	Nepalgrass; Japanese grass
<i>Microstegium vimineum</i>	Eurasian water milfoil
<i>Myriophyllum spicatum</i>	Princess tree
<i>Paulownia tomentosa</i>	Common reed
<i>Phragmites australis</i>	Japanese knotweed; Japanese bamboo
<i>Ailanthus altissima</i>	Kudzu
<i>Albizia julibrissin</i>	Multiflora rose
<i>Alliaria petiolata</i>	Tropical soda apple
<i>Celastrus orbiculata</i>	Johnson grass
<i>Dioscorea oppositifolia</i>	Japanese spiraea

Alternatives Q, L, and M would be expected to have a minor amount of impact since prior disturbances have already allowed numerous exotics to be established. The following recommendations may help prevent the introduction and spread of invasive species:

- Grasses, shrubs, and trees planted for beautification purposes or to prevent erosion should be native species, and, if possible, naturally occurring at the project locale. Salvaging native plants and/or harvesting native plant seeds in the way of construction will aid in the re-establishment of the natural ecosystem. These native species are adapted to the regional conditions, promote biodiversity, provide food and shelter to native wildlife and, once fully established, will help prevent the introduction and spread of exotics. Other non-invasive species may be used in planting in the absence of native species.
- Fresh disturbances to soil are areas in which exotics tend to invade and establish rapidly. Whenever possible, all disturbed soil should be seeded with non-invasive or temporary annual species (wheat, oats, rye, etc.) to reduce the ability of exotics to become established and reduce erosion potential during rain events.
- Careful consideration should be given to the types and quality of plants at borrow sites where soil will be removed for use in the project area. Borrow material often contains viable plant parts and seeds of exotics that could thrive at new locations once introduced.

IV.D.3. Construction Impacts to Wildlife

The construction impacts and mitigation measures discussed in the FEIS remain valid for the alternatives discussed in this environmental document.

In response to the early coordination conducted for this environmental document, TDEC requested that the project design be developed in consultation with their department. This request was made to ensure that impacts to the natural area are minimal.

With heightened potential for nesting site destruction of two state sensitive bird species, it was suggested that the ROW in the Shelby Farms area be cleared and grubbed between mid-September and March prior to construction.

IV.E. Cultural Resources

IV.E.1. Historic Resources

During the EIS process, a study was undertaken to identify properties listed in or eligible for listing in the National Register of Historic Places (NRHP) and to identify impacts to such resources pursuant to Section 106 of the National Historic Preservation Act (NHPA). The FEIS concluded that no properties in the project area were listed in the NRHP, nor had any been determined to be eligible for listing.

Following the approval of the FEIS and the issuance of the Record of Decision, TDOT and FHWA evaluated the historical significance of the Shelby County Penal Farm as part of another road improvement project. In a letter dated May 27, 1998 (see Appendix A for letter and additional historical documentation), Herbert L. Harper, Deputy Tennessee State Historic Preservation Officer, determined that the Shelby County Penal Farm that was not eligible for listing in the NRHP because it no longer retained sufficient integrity based on the interrelationship of between the prison buildings, farm buildings, and the land. None of the buildings are good examples of a particular style of architecture; however, the Shelby County Hospital Complex retains integrity of design, workmanship, and materials. With additional information, it may be eligible under National Register criterion A. Until then, it is a good example of classical architecture and meets National Register criterion C.

The alternatives chosen for this project will have no indirect or cumulative negative impacts on this historical property. The project would not encroach upon land within the property's NRHP-eligible boundaries. The road improvement will visually be introduced into the setting outside the boundaries of the historical area. Modern buildings have been built within the Shelby Farms project area. The project will allow more traffic and tourism to the area which would provide for positive impacts on historical tourism.

IV.E.2. Archaeological Resources

In March 2001 and again in October 2006, a Phase I Survey of the archaeological area of potential effect (APE) was conducted. These surveys were conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-655), as amended, implementing regulations 36 CFR 800, and the National Environmental Policy Act of 1969 (Public Law 93-291). The purpose of the surveys was to identify archaeological sites in the APE that are listed in, determined eligible, or are considered potentially eligible for the National Register of Historic Places pursuant to criteria set forth in 36 CFR 60.4.

The FEIS, signed August 1991, concluded that there are no archaeological historic properties in the APE. At the time of the Reevaluation in 2001, no coordination was made with the State Historic Preservation Officer regarding the contents of the 2001 PCI report. As a result, no SHPO letter was obtained and the statements presented in the report were not verified. However, the 2001 PCI report concluded that sites 40SY640 and 40SY641 are in the APE, but neither is eligible for National Register of Historic Places (NRHP). Sites 40SY548, 40SY642, and 40SY643 were not assessed because they are either outside the APE or are inside an alternative that is no longer under consideration.

Inadequacies in the 2001 report prompted additional research to further investigate Alternative Q in 2006. The additional research found that no sites are located in the APE of Alternative Q, the

preferred alternative. Based on these results, in a letter dated November 20, 2006 (see Appendix A), the State Historic Preservation Officer found that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

Table 4.7. Cultural resource locations identified

Site #	Components	NRHP Recommendation
40SY640	Late Woodland, Recent historic	Not eligible
40SY641	Early/Middle Woodland	Not eligible
40SY642	Early/Middle Woodland	Not assessed
40SY643	Historic	Not assessed
40SY548	Historic	Potentially eligible

In accordance with 36 CFR 800, the federally recognized tribes that may attach cultural and religious significance to properties in Shelby County were invited to be consulting parties on the project. On December 6, 2006, notices were sent to the Alabama-Quassarte Tribal Town, The Chickasaw Nation, the Choctaw Nation of Oklahoma, the Eastern Shawnee Tribe of Oklahoma, Kialegee Tribal Town, the Muscogee (Creek) Nation, the Quapaw Tribe of Oklahoma, the Shawnee Tribe, Thlophlocco Tribal Town and the United Keetoowah Band of Cherokee Indians. Tribes are allotted thirty days to respond. No responses were received.

IV.F. Land Use

As discussed in Section III.B, minimal changes in land use and land cover are expected to accompany the project's construction. Currently, fallow agriculture and grassland, county government offices, recreational lands, religious centers, and residential subdivisions occupy the project area landscape. An increase in improved traffic flow and accessibility is expected.

By way of the CSS process, mitigation measures were taken to preserve valuable lands and to avoid unnecessary impact. The preferred Alternative Q is located through Shelby Farms property; however, this conversion of land use and land cover is expected to provide improved access to Shelby Farms for recreational uses. Additional recreational opportunities, such as new pedestrian and bicycle trails, are expected to ensue. Kirby Parkway will satisfy a portion of the criteria needed to increase accessibility to the area.

The Shelby Farms area falls under a zoned jurisdiction; planning is carried out by the Shelby County Government and the Shelby County Land Use Control Board. The Friends of Shelby Farms protect land use within their property limits and actively contribute to planning initiatives that may affect the Farms.

IV.G. Community

Several local neighborhoods will be directly impacted during construction. Commuting delays should be anticipated. Also, short-term effects may indirectly affect a certain commuting population outside the project area. Detour routes could alter the adjacent community's daily traffic patterns.

Study area communities could experience indirect and cumulative impacts from increases in daily traffic. The project will not impair access to community services, particularly schools and health care facilities. Also, the mobility of fire/safety vehicles will be maintained. Since no mass transit is feasible or reasonable in the area considering demand, increases in traffic through the corridor may warrant mass transit service.

Currently, no major established businesses exist in the project corridor. Although traffic conditions are expected to improve, the traffic load increase may lead to greater service needs in the area. Therefore, businesses to the west of the project area along Walnut Grove Road and north of the project along Macon Road may be required to fulfill these demands. Community members have been encouraged to voice their opinions and concerns about the project and should be considered before, during, and after the projects completion.

IV.H. Relocations and Displacements

Relocation figures were obtained from 2006 project design team information. Five (5) resident relocations along Whitten Road and partial frontal property removals are anticipated with the construction of Kirby Parkway. The residents are located along the southwest corner of Whitten Road within one-quarter of a mile of the intersection of Mullins Station Road and Whitten Road. Based on information obtained from the Environmental Reevaluation and field surveys, the average family size and owner occupancy information is accurate. It appears family size is approximately two (2) to four (4) persons; the area residents are middle income and own their properties.



Figure 4.1. Sample residences along west side of Whitten Road

There appears to be sufficient, safe, decent, and sanitary replacement housing within the financial means of the residents to be displaced; this was confirmed through multiple windshield surveys, home buying guide consultation, and census data research. During an April 2006 field survey, several homes built in the 1960's to the present along the Whitten Road corridor were noted that appear to be in the same price range as the displaced residences. Additional subdivisions were under construction. Housing costs in the project area typically start in the \$120,000's.

Acquisition and relocation for this project would be conducted in accordance with the *Uniform Relocation Assistance & Real Property Acquisition Act of 1970* as amended. Relocation resources are available to all residents without discrimination. The process would be conducted in accordance with TDOT's relocation process as described in the FEIS.

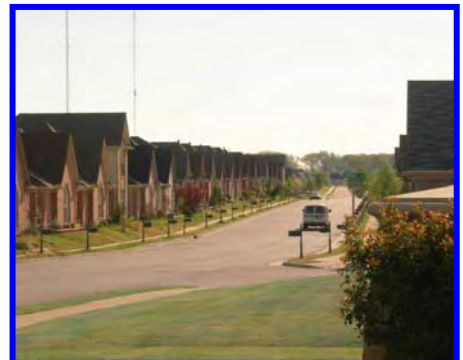


Figure 4.2. Sample housing stock

IV.I. Farmland

Formal consultation with the U.S. Department of Agriculture, Jackson Division Office of the Natural Resources Conservation Service (USDA, NRCS) for compliance with the *Farmland Protection Policy Act of 1981* (FPPA) was completed (see Appendix A). This consultation utilizes the Farmland Conversion Impact Rating process (Form AD-1006) to establish a numerical impact rating for farmland effects. Under this process, total point ratings above 160 indicate that farmland impacts may accrue and could warrant avoidance and mitigation considerations.

Of the 74 acres to be converted to highway right-of-way for Alternative Q, approximately 23 acres are prime farmland. This equated to a rating of 130 out of a possible 260 points. Sites with the highest combined scores above 160 points are regarded as most suitable for protection under these criteria and sites with the lowest scores, as least suitable for protection. Currently, there are no sites with a combined score above 160 points.

IV.J. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (dated February 11, 1994) requires Federal agencies to address environmental justice concerns. This involves the identification of disproportionately high and adverse human health and environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority populations and low-income populations.

A review of census information, accompanied by numerous site visits revealed no concentrations of low income and/or minority population in the project area. Since the Reevaluation completion in 2001, little change concerning the socioeconomic makeup of the project has occurred. The neighborhoods surrounding the Shelby Farms property are moderate- to upper-middle income, with primarily non-minority residents. Conversations with local planners and Shelby County and Memphis officials confirm the social configuration of the neighborhoods in the area. There are no community, medical, or education facilities that are exclusive providers of necessary services to low-income or minority populations.

The recreational facilities in Shelby Farms are available to and used by all populations of residents through Shelby County and beyond. The implementation of the proposed project would not have a disproportionately high and/or adverse impact on any particular population.

Following the approval of this environmental document, all populations will be afforded the opportunity to comment on its contents. Previously, no affected minority and/or low-income population or communities have been identified in the vicinity of the study area based on the fact that no individual appeals were made to representatives of minority and/or low-income populations in Shelby County.

IV.K. Recreational Resources

In order to determine the location of Section 4(f) resources in relation to the proposed project, separate Section 4(f) documentation was completed and is located in Appendix C. It was determined that no Section 4(f) resources are located in the project corridor.

IV.L. Pedestrian and Bicycle Facilities

The Shelby Farms Parkway Advisory Team maintains the importance of pedestrian and bicycle accessibility to the area. Regardless of the chosen alternative design, it was concluded at the August

18, 2005 Advisory Team meeting that the project should include bicycle facilities for commuters as well as recreational cyclists throughout the project area. The addition of multi-use paths and sidewalks/side paths are expected to maintain and/or increase continuity and connectivity of the current bicycle and pedestrian facilities. No design plans regarding exact location, type, and/or length of the additional trails have been established. Bicycle facilities will be developed in conjunction with the ideals expressed in the Shelby County Comprehensive Plan. However, as dictated by the Advisory Team and the CSS process, these facilities are crucial to provide accessible to non-vehicular traffic. Indirectly, the construction of Kirby Parkway will necessitate more opportunities for recreation in the Shelby Farms area due to increased use.

The Advisory Team is aware of issues surrounding the interconnectedness of current and proposed trails and has deferred exploring pedestrian and bicycle facility locations until later in the design process; however, no negative indirect or cumulative impacts are expected to develop at the interface of such systems. The system will be better served once adjoining segments outside the project area are designed and completed. As of October 23, 2006, plans were made to improve accessibility to the Kirby Parkway project area. The Walnut Grove Road improvement project, located adjacent to the west of the proposed Kirby Parkway's southern terminus, team developed a preferred alternative for bicycle and pedestrian facilities with guidance from the Memphis Area Metropolitan Planning Organization's (MPO) Bicycle and Pedestrian Advisory committee (BPAC). In the plans,

“[a]s a part of a separate project, the City of Memphis intends to construct a multi-use path that will connect to the eastern end of the path along the westbound-to-northbound ramp at the interchange of Walnut Grove Road and Humphreys Boulevard and to a location in Shelby Farms. However, funding for this project has not yet been obtained, and the design of the path has not yet begun” (see Appendix A).

This plan is one of the latest implementations of the MPO's 2005 Bicycle and Pedestrian Plan (no updates to the plan since that time). An effort to increase bicycle/pedestrian accessibility to the north of the Kirby Parkway project area began in 2004 will progress as funds become available. The Greater Memphis Greenline (GMG) is a proposed 13-mile multi-use urban park/trail on a former CSX railroad right-of-way from the intersection of Poplar/Walnut Grove/Union in Midtown Memphis to near Houston Levee in the suburbs of Shelby County.

IV.M. Hazardous Waste Materials

In the FEIS, only one hazardous waste site was identified, the closed Shelby County Penal Farm Landfill (SNL 79-0028). A separate UST letter report was completed to address the Hazardous Waste Materials potentially present in the path of the proposed project; this report is located on the accompanying compact disc. The proposed project corridor will avoid this site and the associated ground water monitoring wells located around the facility. No indirect or cumulative impacts are expected to result.

IV.N. Visual

Currently, the existing roadway is not visually pleasing, yet the FEIS described two areas where visual impacts of the project would be more pronounced. The areas along Whitten Road from Mullins Station to I-40, and through Shelby Farms will have some changes to the visual quality. The impacts reiterate those mentioned in the FEIS. The changes to the impacts are that the main road way and the interchange have been redesigned to be more aesthetically pleasing. The roadway will flow with the topography of the land. The medians will be divided and landscaped. Minimal impacts to the visual quality of the State Natural Area and Shelby Farms are expected. Even though the road will be widened between Mullins Station and Macon Road and some yards with large trees will be affected,

the majority of the vegetation along the roadway will remain. Locations facing construction will be re-vegetated.

Not only is Kirby Parkway designed to move traffic more efficiently, it is also designed to benefit the recreational users of the area. No longer will those using the trails and recreational facilities of Shelby Farms be exposed to congestion and busy intersections (no tractor trailer traffic will be permitted on the parkway), but instead may view the area's current facilities differently, inducing positive growth on the surrounding area and Shelby Farms.

IV.O. Construction

Impacts from construction are primarily short-term in duration (i.e., they exist only during construction periods). Some construction inconveniences, such as noise, dust, and/or traffic conflicts are unavoidable at times. Compliance with TDOT's *Standard Specifications for Construction* and the use of Best Management Practices seeks to minimize these impacts.

In order to minimize possible detrimental effects due to siltation, soil erosion, or possible pollution of area watercourses, construction contractors will be required to comply with the special provisions of the *Standard Specifications for Road and Bridge Construction* as issued by TDOT and as amended by the most recent applicable supplements. These provisions implement the requirements of the FHWA's *Federal-Aid Policy Guide, Subchapter G, part 650b*. According to these provisions, contractors will be required to conduct and schedule operations as stated.

Construction procedures will also be governed by Section 107.01 of the *Standard Specifications* to observe any noise ordinance in effect within the project limits. Detoured traffic will be routed during construction so as to cause the least practicable noise impact upon residential and noise sensitive areas.

In addition, disruption to utility services will be minimized since it is the standard policy of TDOT to coordinate all utility relocations with the affected utility companies. Furthermore, TDOT will coordinate with local governments during the construction phase to minimize disruption of communities resulting from any required detouring of traffic.

Any action taken on open burning will be in accordance with *Chapter IV, "Open Burning"*, of the *Tennessee Air Pollution Control Regulations*; specifications regarding air pollution control (Section 107.21) will be followed. Also the regulations on fugitive dust will be in accordance with *Chapter VIII, "Fugitive Dust"*. The general contractor and all asphalt plants, quarry operations, etc. associated with the project will be required to have a valid operation permit from the Tennessee Air Pollution Control Division or to obtain an exception from the regulations through board action.

Solid waste generated by construction activities will be disposed of in accordance with all state rules and regulation concerning solid waste management. Where possible, land debris will be disposed of in a registered sanitary landfill site. If the use of a landfill is not possible, the contractor will dispose of solid waste in a manner that will not create a hazard to public health or become a public nuisance.

IV.P. Indirect and Cumulative Impacts

Indirect impacts are impacts that result from the proposed action occurring later in time or farther removed in distance, although still reasonably foreseeable. These impacts are generally regarded as induced change.

The City of Memphis is developing, particularly in the communities of Bartlett and Germantown. With time, the Shelby Farms area and the environmental resources unique to its landscape may absorb some of the impacts imposed by these growing trends. Increased development surrounding Shelby Farms may result in the conversion of land uses. However, with the development of Kirby Parkway, it is anticipated that water quality will improve, wildlife and wetlands will be protected to a greater extent, and the visual environment will serve as an example for future development. The design will greatly improve the current roadway system's poor drainage; thus, over time, improvements in the area's wetlands and water quality may follow. Less stops for vehicles and tractor trailer traffic restrictions mean improvements in the area's air quality. Future adjacent development may call attention to the roadway's visual assets and plan accordingly.

Cumulative impacts are incremental impacts of a proposed action when added to the other past, present, and reasonably foreseeable actions on the environment, regardless of the agency or person who undertakes such actions within the project area. These impacts can result from individually minor but collectively significant actions taking place over a period of time.

Shelby Farms has accommodated past growth with its current facilities. However, as annual visitation to the area increases, Shelby Farms will exceed its capacity. Kirby Parkway will provide for better access through the area, exposing the area's recreational and natural amenities. As more people discover these unique qualities, cumulative impacts will compound the Shelby Farms area. Therefore, as a foreseeable occurrence, Shelby Farms is currently developing a plan to accommodate more visitors.

Several subdivisions of tight knit houses have developed along Whitten Road within the last ten years. While these subdivisions may appear minor in their overall impact on Memphis' growth, cumulative impacts result from their combination. As more houses are added in the coming years, Kirby Parkway is expected to absorb the addition of traffic coming from these subdivisions.

A project is currently underway to rebuild/widen the bridge over Wolf River. This project will be completed well before construction begins on Kirby Parkway. Therefore, the proposed action in conjunction with this project will not result in construction related cumulative impacts such as construction zone traffic congestion, construction noise, emergency vehicle access, and impacts to air quality. Also, because it will be several years before the proposed action is completed, cumulative impacts, due to the proposed action in conjunction with the Wolf River Bridge project, to the local real estate market will be minimal.

V. COMMENTS, CORRESPONDENCE, AND PUBLIC INVOLVEMENT

V.A. Correspondence

Correspondence with governmental agencies occurred throughout the project development process. Such entities as; the Tennessee Department of Transportation (TDOT); the Federal Highway Administration (FHWA); the Tennessee Department of Environment and Conservation (TDEC); the Natural Resource Conservation Service (NRCS); the United State Army Corp of Engineers (USACE) were contacted for pertinent environmental information concerning the project area. A list of the appropriate agency contacts and several correspondence letters are located in Appendix A

V.B. Public Involvement via Context Sensitive Solutions

The Shelby Farms Parkway Advisory Team acts as a collective body representing opinions of both experts and public stakeholders. The Team's integration throughout the project's development falls under a concept known as Context Sensitive Solutions (CSS). CSS places emphasis on effected parties and acknowledges their contributions to the process.

The Shelby Farms Parkway Advisory Team consists of 17 members whose purpose it is to provide guidance for improvements made to the area's land resources. Table 5.1 lists SFPAT members and their respective affiliations. Resource Team Meetings commenced in early 2005 at regular intervals to the present. Project Team Members from the Shelby County Government, the City of Memphis, Powers Hill Design, and Palmer Engineering assisted in the coordination of these meetings. Figures 5.1 and 5.2 were photographed during Resource Team meetings and project site reconnaissance.

CONTEXT SENSITIVE SOLUTIONS *at work*



Figure 5.1. Brainstorming Session



Figure 5.2. Site Reconnaissance

Citizens of Shelby County have been encouraged to attend the public workshops, take project surveys, ask questions, and be completely engaged in the process. By incorporating CSS, this project has monumental significance to the area which can be attributed to the community's involvement and commitment.

Table 5.1. Shelby Farms Parkway Advisory Team Members and Affiliations

SHELBY FARMS PARKWAY ADVISORY TEAM	
Participants	Stakeholder Group
Laura Adams	Friends of Shelby Farms Park
R. Larry Brown Sr.	County Commission, Shelby Farms Advisory Committee
Brad Corey	Mid-South Trails Association
John Dudas	Memphis Regional Chamber, Major Roads Committee
Gregg Elliott	North Community Representative
Randy Graves	Ducks Unlimited
Richard Hollis	Agricenter
Larry Jensen	Memphis Tomorrow
Dan Johnson	Commuter
Keith Kirkland	Wolf River Conservancy
Marty Lipinski	University of Memphis, Traffic Engineering
Steve Reynolds	Baptist Healthcare
Charlie Rond	Sierra Club
Ritchie Smith	Park Planner/Landscape Architect
Mark Stansbury	Shelby Farms Board
David Stevens	Major Employer (Accredo Health)
Barry White	Briar Neighborhood Association

A partnering meeting was held on February 10, 2005. The meeting included a project history, and discussions of the context sensitive solutions process and project design parameters. The meeting concluded with a “brainstorming session” to define critical project issues. An initial public workshop was conducted on March 24, 2005 to inform interested parties of the proposed project’s purpose, need, and goals. The first initial Team Meeting was held on April 28, 2005. This meeting served to advance past brainstorming sessions whereby design, alternatives, limitations, and other considerations were discussed among the Advisory Team and Project Team Members. Several meetings ensued; August 18, 2005; October 6, 2005; October 31, 2005; January 11, 2006; and February 16, 2006. Through the project development process, design criteria were conceptualized to form specific alternatives presented at these meetings. Summaries of the meetings are as follows:

Partnering Meeting #1 was held on February 10, 2005, and served to introduce the Shelby Farms Parkway Advisory Team (the Team) to each other, to the consultant team, and to the local and state agencies representatives.

The Team was provided information about the Context Sensitive Solutions (CSS) process and given an opportunity to ask questions regarding the scope of the process. The consultant team answered those questions, and then facilitated the process for the Team to develop the following:

1. Project Design Parameters
2. Critical Project Issues
3. Team Goals
4. Project Goals

The Team was split into small groups and participated in break-out sessions to develop the above listed items.

Public Meeting #1 was held on March 24, 2005. Information regarding the history of the project, the CSS process, the Team and the 4 items developed by the Team were presented to the attendees. The consultant team and local government agencies representatives were on hand to answer questions.

Team Meeting #1 was held on April 28, 2005. This meeting included a discussion of the results of the March 24, 2005 Public Workshop. Following discussions of the first Public Workshop, the Team discussed traffic forecasting and similar projects. The Team next engaged in a “brainstorming” session concerning the applicable design criteria and the range of alternatives that were considered appropriate for this project. The discussions included design speed, typical section, intersecting roads, alternative alignments within the corridor, and other considerations or constraints. The meeting concluded with the team breaking into smaller groups and sketching alignments on aerial photographs illustrating their ideas for location of the Shelby Farms Parkway.

Information from the February 10, 2005 and the April 28, 2005 meetings of the Shelby Farms Parkway Advisory Team and the March 24, 2005 Public Workshop were used to develop five alternative design concepts. Alternative design concepts G, H, I, J, and K were developed. These included both four and six lane alternatives, various concepts for median design, four different design speeds, and both grade separated and at-grade intersections.

Team Meeting #2 was held on August 18, 2005. The Memphis Area Travel Forecasting Model was presented to the Team and a summary of activities underway for traffic modeling for this project was presented.

The consultants then presented the five (5) alternatives, G-K, that were developed based on input and comments from the Team breakout session at the last meeting. The Team then addressed the specific design guidelines developed at the last meeting and arrived at the following conclusions:

1. Design Speed: 40 to 45 mph
2. Typical Section: 40 foot variable median with curb and gutter with varying elevation.
3. Number of lanes: 4-lane and 6-lane alternates should be developed

Then, each of the interchanges and intersections were discussed in detail.

Team Meeting #3 was held on October 6, 2005. This meeting began with a walk-thru of the alignments that were discussed in the previous meeting. Alignments M and N were staked through the farms. The participants walked the alignment from the intersection of Whitten Road and Mullins Station Road to the location at which the alignments crossed Farm Road to get a feel for the lay of the land and the topography that the alignment followed. They drove to the various other locations that were staked, ending with the final location where Walnut Grove would be relocated and discussed the alignments.

A summary of the alternatives A through K were presented by the design team, followed by an explanation of how the team arrived at two (2) alternatives, L through M. The presentation also included review of the typical sections for each alternative, and summary of travel times for each alternative. This was followed with presentation of simulations for the two (2) alternatives. The consensus of the Advisory Team was around the independent roadway approach.

It was decided by the team that a six-lane roadway would not be presented at the Public Meeting as long as the proposed intersections could function with a four-lane roadway with potential for the road to be widened to a six-lane, if deemed necessary. The extra lanes were deemed unnecessary. Currently, the road is only planned for four (4) lanes. The potential for the road to be widened to a six-

lane was a proposal and does not apply to the current design or immediate plans. Currently, the road is planned for four (4) lanes. The MPO is in the process of developing a new TIP and updating the Long Range Transportation Plan; both will be SAFETEA-LU compliant and must be in effect by October 1, 2007.

There were some concerns raised regarding the bridge at Farm Road. Some team members wanted to communicate that there was a need for more bike and pedestrian access, more than what will exist at the intersections alone.

Suggestions were made to shift Alternative M to the west more, south of the Sycamore View and Shelby Farms Parkway intersection, for the independent segment of road and to save and maintain trees between the independent roadways. An independent design allows for a bifurcated roadway whereby the north and south lanes are not parallel.

Public Meeting #2 was held on November 15, 2005. Two (2) alternatives, L and M were presented at this Public Meeting. Comments were received at the meeting and during a 10 day comment period.

Team Meeting #4 was held on January 11, 2006 at which time the results of the Questionnaire. The most commonly held issues were the results of the following:

- L vs. M
- Constant width vs. independent roadway
- Trumpet vs. flyover

Refinements to Alternatives and simulations which focused on the following were also presented:

- Opportunities to move interchange further west
- Looked at weaving section
- How do the following items change as a function of weaving distance:
 - 1) Delay
 - 2) Avg. Queuing
 - 3) Max Queuing
- Queue changes drastically from 1,100 feet to 1,000 feet
- Once you get to 950 feet on north side, you can't move the south ramp anymore anyway.

Travel Times for the Alternatives were also presented. The issues he discussed included the following:

- Four-lane with two-lane exit works similarly to a six-lane with two-lane exit ramps. The reason may be that when you have more lanes, the volume increases.
- Level of Service does not change much. So, we are using other sensitivities such as delays, etc. to evaluate.
- Refined alignment for flyover with shifting "bulge" of flyover 180 feet west and maintaining a 1,150 feet weaving section.

The Team was polled for their preference of interchange between L & M, and a draft recommendation using items team established as priorities at the onset of the process will be developed for signatures by the Team members.

Team Meeting #5 was held on February 16, 2006 at which time the Flyover and Trumpet alternatives

were presented to the Team. The Team recommended the “trumpet” configuration for the interchange at Walnut Grove that provides for free-flowing traffic for all movements through the interchange with the following design elements:

- 40 mph design speed
- 4 lanes (12 feet each)
- Curvilinear alignment
- At-grade intersections at Sycamore View Road and at Mullins Station Road
- Grade separation at Walnut Grove Road
- Stabilized grass shoulders where feasible
- Independent roadway concept
- Tractor Trailers will not be permitted

This recommendation was announced at a **Press Conference** held on February 22, 2006.

Future Studies of bicycle and pedestrian facilities at Humphreys Blvd. were to take place in May 2006. At the request of TDOT we looked at possible changes that could be made to the Humphreys Blvd interchange currently under construction. This was done in response to local groups that have objected to what they saw as an unfriendly bicycle and pedestrian design. Since changes made by the Shelby Farms Parkway Advisory Team affected the forecasts for this interchange, we looked at possible modifications to all turning movements with the lower traffic volumes at the Single Point Urban Intersection. A letter report was sent to TDOT on April 26, 2006.

Once the DSEIS has been completed and approved by FHWA, a final Public Hearing will be held to present the recommendations. Any concerns brought forth by the public at the final Public Hearing will be resolved prior to issuance of the SEIS and ROD.

APPENDIX A

CORRESPONDENCE/ SUPPORTING DOCUMENTATION

Evaluation / Comparison Matrix

	<i>Trumpf</i> Alternate L	<i>Flower</i> Alternate M
Walnut Grove to Mullins Station		
Length		
Walnut Grove to Mullins Station	1.9237 miles	1.9642 miles
Walnut Grove to Macon Road	2.9580 miles	2.9678 miles
Travel Time		
Walnut Grove to Macon Road	8.3. minutes	9.8 minutes (8.1 minutes)
Area of Footprint		
Interchange	46.2 acres — 9 acres	36.5 acres (34.5 acres)
Mainline	20.6 acres 37.1 acres	37.1 acres
Area of Bridges		
Interchange	18900 sq ft	19500 sq ft
Environmental		
Archeological Sites	1	1
Stream Impacts	3145 ln ft	3105 ln ft
Wetland Impacts	1.5 acres	2.1 acres
Ponds/Lakes Affected	No Effect	No Effect
Public Preference	31%	69%
Costs		
Right of Way @ Mullins Station & Whitten Road	\$1,000,000	\$1,000,000
Utilities	\$492,000	\$594,000
Interchange	\$4,970,000	\$4,307,000
Mainline	\$7,787,000	\$7,967,000
Engineering (10%)	\$1,257,000	\$1,232,000
Total Estimated Cost	\$15,506,000	\$15,100,000



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

November 20, 2006

Mr. Gerald Kline
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

RE: FHWA, ARCHAEOLOGICAL ASSESSMENT, KIRBY PARKWAY ALTERNATE Q,
UNINCORPORATED, SHELBY COUNTY, TN

Dear Mr. Kline:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we find that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

A handwritten signature in cursive script, reading "Richard G. Tune", is written over the typed name.

Richard G. Tune
Deputy State Historic
Preservation Officer

RGT/jmb



TENNESSEE HISTORICAL COMMISSION

701 BROADWAY, B-30
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0442
(615) 532-1550

August 8, 1994

Mr. Raymond Brisson
Environmental Planning
TDOT, 9th. Floor Polk Bldg
Nashville, Tennessee 37219

RE: FHWA, PENAL FARM/KIRBY PARKWAY PROJECT, UNINCORPORATED, SHELBY COUNTY

Dear Mr. Brisson:

Pursuant to the request of Mr. Chris Fales, representing Memphis Heritage, this office has reviewed documentation relative to the above-referenced undertaking which was submitted to our office for Section 106 review in October, 1984, and our previous determination dated October 16, 1994, and additional documentation submitted by Mr. Fales.

Based on the recently-submitted information from Mr. Fales plus other documentation, we now find that the passage of time warrants a revision in our previous finding of "no cultural resources". We now find that the Kirby Parkway project as currently proposed will adversely affect the Shelby County Penal Farm which has been determined by our office to be eligible for listing in the National Register of Historic Places under Criteria "A" and "C" (please see enclosed letter to Mr. Fales and the accompanying National Register boundary map). Therefore, this office now has an objection to the implementation of this project until such time as you have consulted with us concerning ways in which the project adverse effect caused by the introduction of out-of-character elements and the alteration of the historic property called for in this project may be avoided or minimized. You are now obliged to inform the Advisory Council on Historic Preservation of this adverse effect determination and begin immediate consultation with our office. Please enclose a copy of this determination in your notification to the Council as delineated at 36 CFR Part 800. **Until such time as this office has rendered a final comment on this project, your Section 106 obligation under federal law has not been met.** Questions and comments may be directed to Joe Garrison (615)532-1559. Your cooperation is appreciated.

Sincerely,

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

JWL/jyg

APPENDIX F



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

October 22, 1997

Ms. Rebecca Rogers
Advisory Council on Historic Preservation/Suite 809
1100 Pennsylvania Ave. NW
Washington, DC 20004

RE: FHWA, KIRBY PARKWAY, SHELBY FARMS ELIGIBILITY
DETERMINATION., MEMPHIS, SHELBY COUNTY

Dear Ms. Rogers:

Pursuant to your request, this office has reviewed its record of consultation with the Federal Highways Administration and the Tennessee Department of Transportation concerning the above-referenced undertaking. This review of consultation is a consequence of questions raised by Ms. Lois Kulkin, President of the Friends of Shelby Farms, in a letter to Ms. Catherine Slater, Chairman, Advisory Council on Historic Preservation, dated July 19, 1997. Our consultation in this matter is a requirement of our responsibility under Section 106 of the National Historic Preservation Act for compliance by participating federal agencies and applicants for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (51 FR 31115, September 2, 1986).

On September 11, 1984, the Tennessee Department of Transportation submitted an archaeological/historical survey report to this office for review and comment relative to the Kirby Parkway project. At the time of this survey, Shelby Penal Farm, which is within the undertaking's area of potential effect, had not been identified as a property eligible for listing in the National Register of Historic Places. Therefore, on October 16, 1984, our office concurred with TDOT's finding that there were no historic properties affected by the project.

In late spring 1994, our office became aware that Memphis Heritage, a preservation association based in Memphis, was in the process of evaluating the Shelby Penal Farm for National Register eligibility. Members of our office's National Register staff met on site with Mr. Chris Fales representing Memphis Heritage and concluded that various elements within the expanded boundary of the original Shelby Penal Farm were National Register eligible. In a letter dated July 8, 1994, our office informed Mr. Fales of this determination. We also informed Mr. Fales that since there was a Section 106 case ongoing which would affect this resource, that his documentation of the eligibility of the Penal Farm should be of a level suitable for National Register nomination.

Central to this office's review of Mr. Fales' material would be our desire to establish correct boundaries for the National Register eligible property. This was especially true as there was an ongoing Section 106 case involving the property. We also had reason to believe that archaeological resources potentially eligible for listing in the National Register were located within the Kirby Parkway APE, but subsequent survey by the office of the State Archaeologist proved to us that no such resources existed. After determining that some portion of the Shelby Penal Farm was National Register eligible, our office informed the Tennessee Department of Transportation of this change in our determination of eligibility relative to the Kirby Parkway project.

On August 3, 1994, this office sent correspondence to Mr. Fales following our review of his proposed National Register boundaries for the Penal Farm. We also communicated our findings to TDOT. Throughout our review of this case, the key issue relative to determining correct boundaries for the historic area was traditional versus more modern land use within the original and expanded boundaries of the Shelby Penal Farm. We were aware that since 1946, significant portions of the original penal farm had been converted to other uses, thus forfeiting their National Register integrity. We also were aware that inmate farming at the facility, which was the reason for its institution in the first place, had been discontinued for a number of years. Because of these issues, finalizing correct boundaries proved to be more time consuming than usual.

On March 28, 1995, staff from our office met with a number of persons representing Shelby County and TDOT in an effort to resolve our concerns. Non penal farm use such as parkland, gardens, a college campus, a firing range, maintenance shops, an impound lot, and numerous newer buildings had significantly intruded on the 1946 boundary. After protracted discussion, we determined that because of the loss of integrity of a significant portion of the Shelby Penal Farm, correct boundaries would be somewhat less than the 1946 plat which itself had been a significant increase over the original 1928 boundary. This revised boundary was concurred in by the Tennessee Department of Transportation representing the Federal Highways Administration at the consensus level. We also informed TDOT that the current alignment of the proposed Kirby Parkway would traverse a portion of the area within the eligible boundary and would therefore constitute an adverse effect under 36 CFR Part 800. We are currently awaiting TDOT's determination concerning avoidance, minimization, or mitigation of this effect. Pursuant to requests from Ms. Kulken, we communicated with her on August 26, 1996, discussing

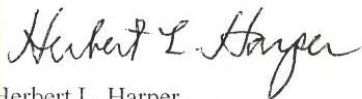
our findings and we forwarded a map indicating the correct boundary of the Shelby Penal Farm to her on April 14, 1997.

Ms. Kulkin's assertion to Ms. Slater of July 19, 1997 that our determination of eligible boundaries for the Shelby Penal Farm was arbitrary and established for the convenience of TDOT is untrue. The boundary determination resulted from a thoughtful evaluation of the integrity of the site and on its face is inconvenient to TDOT because of the adverse effect determination with its obvious Section 4(f) implications. Her further charge that eligibility determinations relative to FHWA projects in Knoxville were also arbitrary is also false. As for her request that the Advisory Council initiate a formal determination of eligibility from the Keeper of the National Register, the Council certainly does have that option under 36 CFR Part 800.4(c)(4). We would, however, recommend that the Council not exercise its option in this case. We have concurred with the federal agency in an appropriate boundary for the Shelby Penal Farm. We have come to this consensus determination after a protracted consultation which has included Ms. Kulkin, Mr. Fales, and representatives of TDOT and Shelby County. We have made a determination which circumscribes that portion of the Shelby Penal Farm which has retained its integrity from the inception of the facility in 1926. We have determined that Kirby Parkway will take a portion of the historic property sufficient to warrant an adverse effect determination. We are now in consultation relative to avoidance, minimization, and mitigation.

Throughout the review of this case, our office has found that TDOT and FHWA have acted in compliance with Section 106 of the National Historic Preservation Act. Contrary to Ms. Kulkin's assertions, there has been no collusion between this office and TDOT to "rig" the Shelby Penal Farm boundary to preclude an adverse effect determination or obviate Section 4(f) review of this project by FHWA. As you are no doubt aware, while this office has no jurisdiction over Section 4(f) review, we do know that such review within the southeast region of the Federal Highways Administration is extremely stringent. We feel that such review will compel TDOT to ensure that the proposed route of Kirby Parkway is prudent and feasible, or if not, to alter the route appropriately.

Thank you for the opportunity to comment on this inquiry. Please direct questions and comments to Joe Garrison (615)532-1559. We appreciate your cooperation.

Sincerely,



Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jyg



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

May 27, 1998

Martha Carver
Historic Preservation Supervisor
Tennessee Department of Transportation
500 Deaderick Street
J.K. Polk Building - Suite 900
Nashville, Tennessee 37243

Dear Ms. Carver:

Thank you for the opportunity to comment on the draft determination of eligibility for the Shelby County Penal Farm. Several members of my staff have reviewed the documentation and/or visited the site. Although our offices agreed in 1994 that the property was eligible for listing, since the initial review of the property, some important changes have occurred on the site. Today, the consensus of the staff is that the Shelby County Penal Farm no longer retains sufficient integrity to be eligible for listing in the National Register.

Your report and site visits by members of my staff have documented that new buildings have been constructed and historic farm buildings have been demolished. Some of the former penal farm land is still used as farm land or still reflects its historic use in appearance. Yet there are other sections of the land that were historically associated with the penal farm which now have new buildings and, as a result of this, new use of the land. Part of the former penal farm is now used as a park and/or as grazing land for bison and Longhorn cattle. My office does not believe that the land used for grazing has lost its integrity. It is merely the animals that have changed, not the land itself. Stating this in the determination of eligibility may weaken the case you are trying to make. If the bison and Longhorn cattle were removed and other farm animals introduced, how would the land be assessed? The animals are a temporary use of the land, not a change in historic landscape.

Much more important to the eligibility of the Shelby County Penal Farm is the fact that a large part of the significance of the farm was based on the interrelationship between the prison buildings, farm buildings and the land. The loss of the farm buildings and introduction of new buildings on the site has diminished the integrity of setting and feeling. The changes in the remaining historic buildings has resulted in a loss of integrity of design, workmanship and materials.

None of the buildings in the Shelby County Penal Farm appear to meet the National Register criteria as good examples of a particular style of architecture. The Shelby

Martha Carver
May 27, 1998
Page 2

County Health Care Center (former Shelby County Hospital) does retain integrity of design, workmanship and materials. It is a good example of classical architecture and meets National Register criterion C. (Additional information could support the eligibility of the hospital as eligible under National Register criterion A.)

If you have any questions about my comments, please contact Claudette Stager.

Sincerely,



Herbert L. Harper
Deputy State Historic Preservation Officer

HLH/cs

pc: Joe Garrison



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

May 7, 1999

Ms. Martha Carver
Environmental Planning
TDOT, 9th. Floor Polk Bldg
Nashville, Tennessee 37219

RE: FHWA, EFFECT DOCUMENTATION, KIRBY PKWY./SYCAMORE VIEW
EXT., WALNUT GROVE ROAD TO NORTH OF MACON ROAD,
UNINCORPORATED, SHELBY COUNTY,

Dear Ms. Carver:

Pursuant to your request, our office has reviewed the above-referenced document in accordance with regulations codified at 36 CFR 800 (51 FR 31115, September 2, 1986). Based on the information provided, we find that the project area contains a cultural resource eligible for listing in the National Register of Historic Places: the Shelby County Health Care Center. We further find that the project as currently proposed will not affect this resource.

Unless project plans change, this office has no objection to the implementation of this project. Should project plans change, please contact this office to determine what additional action, if any, is necessary. Questions and comments may be directed to Joe Garrison (615)742-6720. Your cooperation is appreciated.

Sincerely,

A handwritten signature in blue ink, reading "Herbert L. Harper".

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer



USDA-NRCS
DIVISION 1 OFFICE, JACKSON, TN

FAX

Fax to number: (859) 744-1266

Attention: Mr. KAREL DAY

Date: 01-29-2007

From: CHARLIE DAVIS NRCS P. JACKSON, TN

Number of pages: 2

Additional comments: IF YOU NEED MORE INFO, PLEASE GIVE ME A CALL
@ (731) 668-0700 EXT 102

THANKS
CHARLIE

USDA-NRCS Division 1 Office
235 Oil Well Road
Jackson, TN 38305
901-668-0700 Ext. 101
FAX: 901-668-8510

(MON) 1 29 2007 14:45/ST.14:45/NO.501198998 P. 1

FROM USDA

U.S. DEPARTMENT OF AGRICULTURE Natural Resources Conservation Service		NRCS-CPA-108 (Rev. 1-81)	
FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS			
PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request: <u>29 JAN 07</u> Sheet 1 of <u>1</u>	
1. Name of Project: <u>KIRBY PARKWAY</u>		5. Federal Agency Involved: <u>FWA</u>	
2. Type of Project: <u>RECONSTRUCTION/REALIGNMENT</u>		6. County and State: <u>Shelby Tennessee</u>	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS: <u>01-29-2007</u>	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		2. Person Completing Form: <u>CL DAVIS</u>	
YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated: <u>NA</u> Average Farm Size: <u>188 ac</u>	
5. Major Crops: <u>CORN</u>	6. Farmable Land in Government Jurisdiction Acres: <u>380,470</u> % <u>76%</u>	7. Amount of Farmland As Defined in FPPA Acres: <u>283,300</u> % <u>74%</u>	
8. Name of Land Evaluation System Used: <u>SHRUB CO.</u>	9. Name of Local Site Assessment System: <u>NA</u>	10. Date Land Evaluation Returned by NRCS: <u>01-29-2007</u>	
PART III (To be completed by Federal Agency)		Alternative Corridor For Segment	
		Corridor # L	Corridor # M
A. Total Acres To Be Converted Directly		74	72
B. Total Acres To Be Converted Indirectly, Or To Receive Services		0	0
C. Total Acres In Corridor		74	72
PART IV (To be completed by NRCS) Land Evaluation Information		Corridor # Q	Corridor # D
A. Total Acres Prime And Unique Farmland		74	74
B. Total Acres Statewide And Local Important Farmland		0	0
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.01	0.01
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		79	79
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative Value of Farmland To Be Serviced or Converted (Scale of 0 - 100 Points)		0	0
PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		80	80
Maximum Points			
1. Area In Nonurban Use	15	0	0
2. Perimeter In Nonurban Use	10	0	0
3. Percent Of Corridor Being Farmed	20	15	15
4. Protection Provided By State And Local Government	20	0	0
5. Size Of Present Farm Unit Compared To Average	10	0	0
6. Creation Of Nonfarmable Farmland	25	25	25
7. Availability Of Farm Support Services	5	0	0
8. On-Farm Investments	20	10	10
9. Effects Of Conversion On Farm Support Services	25	0	0
10. Compatibility With Existing Agricultural Use	10	0	0
TOTAL CORRIDOR ASSESSMENT POINTS	180	50	50
PART VII (To be completed by Federal Agency)		0	0
Relative Value Of Farmland (From Part V)		80	80
Total Corridor Assessment (From Part VI above or a local site assessment)		50	50
TOTAL POINTS (Total of above 2 lines)		130	130
1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
5. Reason For Selection:			
Signature of Person Completing this Part: <u>Karri Day</u>		DATE: <u>29 Jan 07</u>	
NOTE: Complete a form for each segment with more than one Alternate Corridor			



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SEP 19 2005

PALMER
ENGINEERING

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Air Pollution Control Division
9th Floor L&C Annex, 401 Church Street
Nashville, TN 37243-1531

September 15, 2005

Gina Morris
Director of Environmental Services
Palmer Engineering
400 Shoppers Drive
P.O. Box 747
Winchester, KY 40392-0747

Subject: Kirby Parkway, Shelby County, Tennessee

Dear Ms. Morris:

The Division of Air Pollution Control has reviewed the information provided on the proposed Kirby Parkway in Memphis. Shelby County is designated as nonattainment for ozone, and maintenance for carbon monoxide, under the Federal National Ambient Air Quality Standards (NAAQS). As per the Transportation Conformity rules in 1200-3-34, the project must ultimately demonstrate Transportation Conformity in the latest Long Range Transportation Plan for the Memphis Area.

This agency's other interests, above what would be addressed through the standard NEPA process, concerns the control of fugitive dust and equipment exhaust emissions during the construction phase. Additionally, our concerns include that any structures requiring demolition are asbestos free, as per the requirements of Chapter 1200-3-11, Hazardous Materials. I would also like to point out that the open burning regulations have changed dramatically. Before the burning any wood waste, please refer to Chapter 1200-3-4; Open Burning Certification Process at <http://state.tn.us/environment/apc/apcregs/>.

We appreciate the chance to comment on the document. If you have any questions or comments, please feel free to call me at (615) 532-0554.

Sincerely,

A handwritten signature in cursive script, reading "Barry R. Stephens".

Barry R. Stephens, P.E.
Director

cc: Dana Coleman

From: Lott, Martha [Martha.Lott@shelbycountyttn.gov]
Sent: Tuesday, January 23, 2007 5:48 PM
To:
Cc:
Subject: RE: FHWA Questions RE: supplemental Draft EIS

:

The Shelby Farms Parkway project began after the last LRTP update and Air Quality Conformity. We are working on the next LRTP update that must be approved by March 2008. As we go through the process of the update it will be up to the City of Memphis to request any changes to the current project. The TIP can not be amended until the LRTP has been updated.

I hope this addresses your questions. Have a nice day!

Martha Lott, Administrator
Memphis MPO Coordinator
1075 Mullins Station Road - Rm 164
Memphis, TN 38134
(901) 379-7860
(901) 379-7865 (fax)
Martha.Lott@shelbycountyttn.gov

-----Original Message-----

From:
Sent: Tuesday, January 23, 2007 9:57 AM
To: Lott, Martha
Cc:
Subject: FHWA Questions RE: supplemental Draft EIS

Hi Martha,

The FHWA has asked some questions about the air quality status of the Shelby Farms Parkway project. They state that "In both the TIP and the /Long Range Plan, the project is listed as having 6 lanes from Walnut Grove to Mullins Station and 7 lanes from Mullins Station to Macon. The proposal is 4 and 5 lanes, respectively. Document transportation conformity for the new sections."

It says here that you are in Air Quality Maintenance status. Are there emissions other than CO that your air quality district is concerned about? I assume that you are in conformity and meet a certain "emissions budget". Can we say that there will be no significant impact based upon the fact that the new parkway proposal has fewer lanes, less traffic, and lower speeds than it had during your earlier model runs which established conformity and that emissions levels should have less of an impact upon the emissions budget?

Have model runs been made contrasting the "before" proposed configuration of the Shelby Farms Parkway and the "after" condition of the parkway with fewer lanes, less traffic and lower speeds?

Have the TIP and the Long Range Plan been amended to reflect these changes or what is the schedule for these amendments?

Thank You for your assistance,



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Heritage
14th Floor L&C Tower
401 Church Street
Nashville, Tennessee 37243-0447
Phone 615/532-0431 Fax 615/532-0231

June 22, 2005

Jeff Schwierjohann
Palmer Engineering
400 Shoppers Drive
Winchester, KY 40392

Subject: DNH 2005-022: Kirby Parkway Project Review

Dear Mr. Schwierjohann:

Thank you for your letter and enclosures regarding the above mentioned project in Shelby County. We have reviewed the information submitted and find that rare species have been documented within a 1-mile radius of the project area. These species are listed below and correspond with the locations of the records documented on the attached map (reference 'Species_ID').

Species_ID	Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
13515	<i>Iris fulva</i>	Copper Iris		T	G5	S2
13173	<i>Iris fulva</i>	Copper Iris		T	G5	S2
4612	<i>Chondestes grammacus</i>	Lark Sparrow		T	G5	S1B
2746	<i>Iris fulva</i>	Copper Iris		T	G5	S2
976	<i>Iris fulva</i>	Copper Iris		T	G5	S2

The Division of Natural Heritage (DNH) requests that these rare species be considered during the planning of this project and every effort made to minimize impacts to these species should they be found in the immediate project area. Where this is not feasible, we ask that TDOT work with the Division of Natural Heritage to mitigate potential impacts. We have also attached a separate list of rare species that have been documented within a 4-mile radius of the project area. Consideration for these species should likewise be given, if suitable habitat exists in the project area for these species.

Regarding potential impacts to public lands, the Lucius Birch, Jr. Designated State Natural Area is located near the southwest section of the study area. It is the understanding of the DNH that the proposed Kirby Parkway would in no way impact this natural area. The DNH respectfully requests to review the final project design prior to construction.

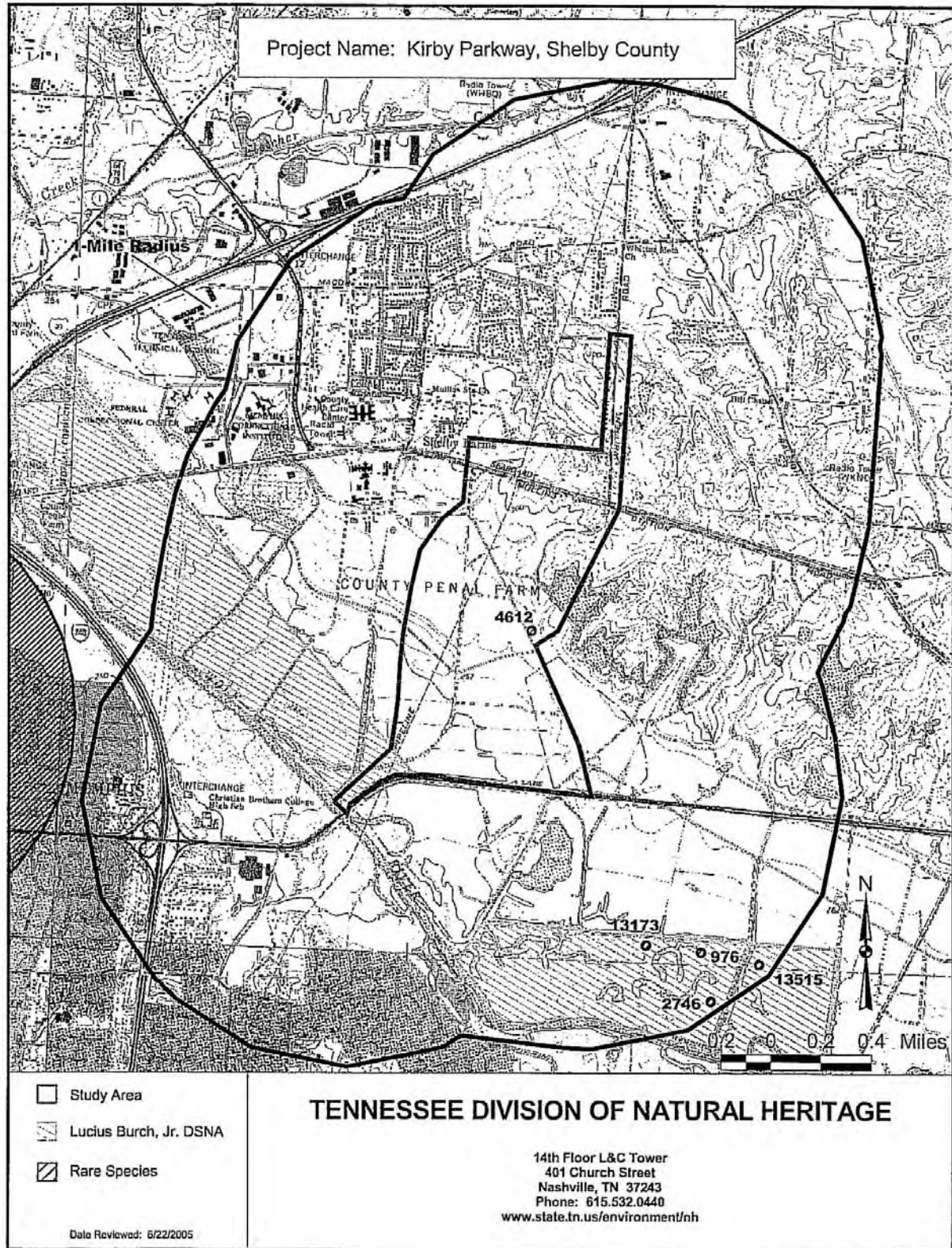
No other natural areas, conservation sites, or scenic rivers were found to be within the project area. Please keep in mind, however, that not all areas of Tennessee have been surveyed and that a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

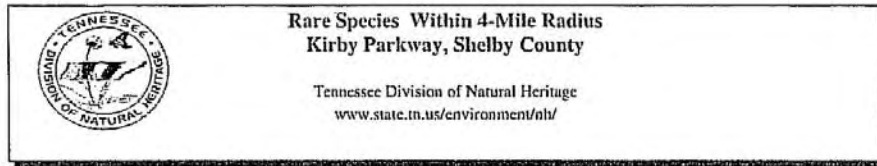
For additional information regarding Tennessee's rare and endangered species or interpretation of Status or Ranks, please visit our website at <http://www.state.tn.us/environment/nh/>.

Thank you for the opportunity to comment on the subject proposal and for considering Tennessee's rare species throughout the planning of this project. Should you have any questions, please do not hesitate to contact me at (615) 532-0440.

Sincerely,

Kirstin Condict, Data Manager





6/22/200

Vascular Plant		<u>Federal Status</u>	<u>State Status</u>	<u>Global Rank</u>	<u>State Rank</u>
<i>Iris fulva</i>	Copper Iris		T	G5	S2
<i>Ophioglossum crotalophoroides</i>	Bulbous Adder's-tongue		S	G5	SH
<i>Phacelia ranunculacea</i>	Blue Scorpion-weed		S	G3G4	S2S3
Vertebrate Animal					
<i>Chondestes grammacus</i>	Lark Sparrow		T	G5	S1B
<i>Hyla gratiosa</i>	Barking Treefrog		D	G5	S3
<i>Noturus stigmosus</i>	Northern Madtom		D	G3	S3
<i>Tyto alba</i>	Common Barn-owl		D	G5	S3

Click on a field and type in your project information. Save a copy to your computer and e-mail the completed form to the Division of Natural Heritage Data Manager. Alternately, you may print the form and mail or fax.

Project Review Form



Data Manager
Division of Natural Heritage
14th Floor L&C Tower
401 Church St.
Nashville, Tennessee 37243-0447
Phone (615) 532-0440 or Fax (615) 532-0231

Contact Information:

Name: Jeff Schwierjohann	Phone: (859) 744-1218	Fax: (859) 744-1266
Company: Palmer Engineering	E-mail: jschwierjohann@palmernet.com	
Address: 400 Shoppers Drive		
City: Winchester	State: KY	Zip: 40392

Project Information:

Project Name: Kirby Parkway	
County Name(s): Shelby	
Quadname(s): Ellendale	
Latitude: 35° 8' 23"	Longitude: -89° 51' 2"
Project Description: Kirby Parkway EIS Re-evaluation of T&E species. Last coordination with your office took place in 2000. In your reply (attached), State and Federally listed species were listed as a concern. However, no specific species or maps were included. In an attempt to ensure all information is up to date, we are again requesting information concerning threatened and endangered species with the potential to occur within the project area. We also ask if your office has any additional concerns (e.g., wetlands, streams, flora and fauna communities) to be addressed by the environmental assessment that were not outlined in your initial letter. Please feel free to e-mail the invoice for this request. Thank you.	

Details:

- In order to assure an accurate review of the project site, please attach a site map with this form and send to the address listed above.
- Upon receipt of your materials, the DNH will e-mail or fax you an invoice based on the following charges:
 - \$100 per project*
 - \$30 for each additional USGS quadrangle covered
 - *additional projects will be invoiced separately*
- Data requests are usually filled within 10 working days and e-mailed or mailed to the receiving entity after payment is received.
- For additional questions, please contact Kirstin Condict at (615)532-0440



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

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JUN 24 2005

PALMER
ENGINEERING

June 21, 2005

Mr. Jeffrey H. Schwierjohann
Senior Environmental Biologist
Palmer Engineering
400 Shoppers Drive
P.O. Box 747
Winchester, Kentucky 40392-0747

Re: FWS #05-1274

Dear Schwierjohann:

Thank you for your correspondence of May 31, 2005, regarding the proposed Kirby Parkway Project in Shelby County, Tennessee. The proposed project entails the construction of approximately 2.6 miles of new highway from Macon Road to Walnut Grove as shown on the attachment to your correspondence. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and we offer the following comments.

Information available to the Service indicates that wetlands exist in the vicinity of the proposed project. Enclosed is a copy of a portion of the National Wetlands Inventory's Ellendale, Tennessee, quadrangle with the referenced wetlands highlighted. This information is provided for your convenience. Our wetlands determination has been made in the absence of a field inspection and does not constitute a wetlands delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers and Tennessee Department of Environment and Conservation should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes.

Since the proposed project will involve construction activities over creeks, we recommend that silt barriers be put in place to prevent runoff of sediment. Perennial streams should be bridged rather than culverted. Construction within or adjacent to the streams should be accomplished during low-flow periods, and the streambanks reseeded with native vegetation beneficial to wildlife immediately following disturbance.

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and

resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 931/528-6481, extension 222.

Sincerely,



Lee A. Barclay, Ph.D.
Field Supervisor

Enclosure



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JUN 20 2005

PALMER
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ENVIRONMENTAL ASSISTANCE CENTER
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SUITE E-645, PERIMETER PARK
2510 MT. MORIAH ROAD
MEMPHIS, TENNESSEE 38115-1520
PHONE (901) 368-7939 STATEWIDE 1-888-891-8332 FAX (901) 368-7979

June 17, 2005

Gina Morris, P.G.
Palmer Engineering
400 Shoppers Drive
P.O. Box 747
Winchester, KY 40392-0747

RE: Kirby Parkway Construction Project
I-240 to Walnut Grove Road
Memphis, Shelby County, Tennessee

Dear Ms. Morris:

Personnel from the Division of Water Pollution Control, Memphis Environmental Field Office, were unable to attend the Resource Agency Re-coordination Meeting that was held on May 25, 2005. Your letter dated May 11, 2005, requested comments on the proposed project.

The Division of Water Pollution Control does not have a direct role in the approval of construction/development projects. However, we do regulate alterations to streams and wetlands through our Aquatic Resource Alteration Permit (ARAP) or the US Army Corps of Engineers 404 Water Quality Certification program. Construction related storm water runoff is regulated through our Construction General Permit (CGP), industrial storm water runoff is regulated through our Tennessee Multi-Sector Permit (TMSP), and point-source discharges to surface waters are regulated through the National Pollutants Discharge Elimination System (NPDES) program.

Road construction projects, which involve the disturbance of greater than one acre of land, will require coverage under the CGP. Also, if any streams or wetlands are impacted or altered due to the activity, an ARAP/404 will also be required.

If you have any questions please contact me at (901) 368-7959.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry R. Templeton".

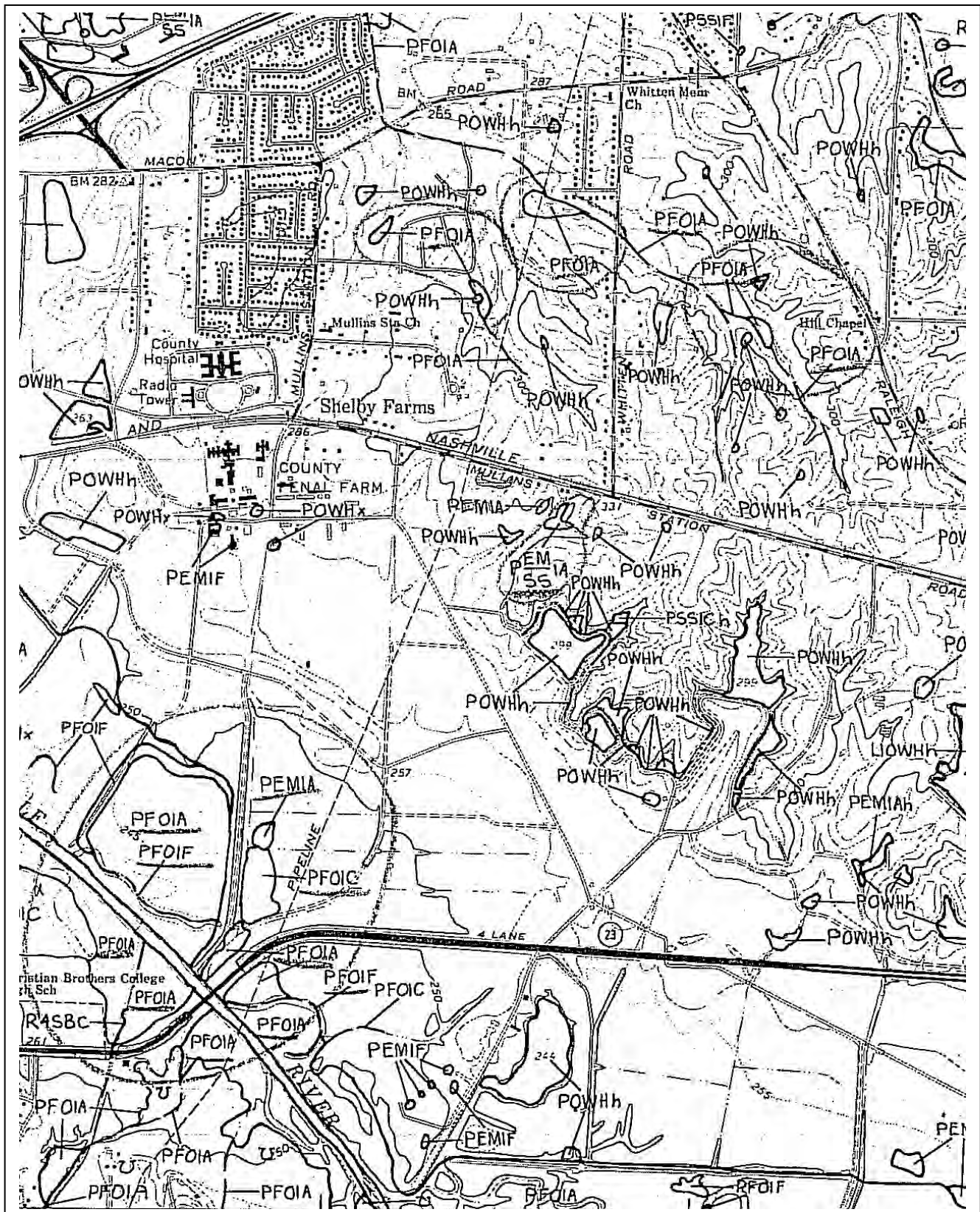
Terry R. Templeton, P.G.
Manager
Division of Water Pollution Control

CC: File

APPENDIX B

NATIONAL WETLAND INVENTORY (NWI)

MAP



APPENDIX C

SECTION 4(f) DOCUMENTATION

Although examined in previous environmental documents, the Draft Supplemental Environmental Impact Statement examines, at a high level, the environmental features contained in the Shelby Farms area. Multiple land uses exist in the Shelby Farms area: recreational; institutional; rangeland; and agricultural. Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966, Section 6009, requires federal-aid projects, as in the case of Kirby Parkway through the Shelby Farms area, to include special efforts to preserve the natural beauty of recreation lands. Due to the evolution of the project from the late 1980s to the present, it was determined necessary to clearly establish the boundaries of Section 4(f) resources in the Shelby Farms area and to confirm that no properties or resources present in the DSEIS study area are subject to Section 4(f). The following points and attached documentation further explain this Section 4(f) determination.

1. Although recreational resources are present in the area known as Shelby Farms, Shelby Farms was determined to be a multiple land use holding by FHWA in 1991; very little documentation exists about why Section 4(f) does not apply to areas in the corridor, except for the FEIS and Reevaluation. Because the project was met with opposition, it was important to evaluate the possibility of Section 4(f) impacts. The following conclusions were made in previous documentation.

The FEIS stated, “(w)hile the Shelby Farms property is publicly owned, its entire area would not be considered as subject to Section 4(f) of the Department of Transportation Act of 1966. This is because there are uses of the property which are not covered by Section 4(f)” (pg. 3-5).

In a letter dated November 6, 1991 (see attached), following FHWA approval of the FEIS, FHWA commented on the selection of the preferred alternative. Many stakeholders and citizens expressed concern during the FEIS comment period about the rich assembly of recreational and natural conditions present in the area and the consequences of Kirby Parkway if it passed through these resources. The FHWA letter confirmed the crossing location (existing Walnut Grove Road Bridge right-of-way) and upheld its basis for selection, to avoid any involvement with the “Natural Area”, a Section 4(f) property. The letter states,

”Concerning Shelby Farms and the application of Section 4(f); after appropriate consultation and on site inspection, the decision was made that Shelby Farms is a multiple land use holding...The mayor of Shelby County, by letter dated June 17, 1991, concurs that the selected alternative does not adversely impact existing or planned use for the Shelby Farms Complex”.

The 2001 Reevaluation discussed alternatives that would impact a Section 4(f) resource; therefore, an additional Section 4(f) evaluation was conducted. The Section 4(f) resources of concern in the Reevaluation included Lucius E. Burch State Natural Area and Wilderness Trail. Wilderness Trail runs from north to south in the SNA and terminates at its southern-most edge, adjacent to Walnut Grove Road. Alternatives B and C were found to not impact Section 4(f) resources, while Alternatives D and E would impact a Section 4(f) resource. Due to the lack of Section 4(f) resources within the study area, as outlined in the DSEIS, the Alternatives discussed in the DSEIS do not cross the boundaries of any current Section 4(f) resource.

2. Several properties subject to Section 4(f) exist in the Shelby Farms area. However, as outlined in the FEIS, Section 4(f) resources that were previously considered to be impacted by the preferred alternative are not included in the DSEIS study area. Since the DSEIS study area stops short of the Walnut Grove Road Bridge, the trail (“Wilderness Trail”) through Lucius E. Burch State Natural Area is not within the study area.

The FEIS established the presence of Section 4(f) resources in the study area:

“There are, however, several areas which would be considered as subject to Section 4(f). They are: (1) the recreational trails along the Wolf River; (2) Shelby Farms Forest Natural Area North; (3) Shelby Farms Forest Natural Area South; (4) the rifle range; (5) the soccer fields; (6) the BMX Track; (7) the Arboretum, which includes the Amphitheater; and (8) Plough Park” (pg. 3-5).

As summarized in the Reevaluation, the Lucius E. Burch Jr. State Natural Area, previously referred to as the Shelby Farms Forest Natural Area, contains the Wilderness Trail, previously referred to as the Shelby Forest Trail. Although the preferred alternative designated in the FEIS, Alternative A, used the existing Wolf River crossing, it required a Section 4(f) use of the trail that passed below the Walnut Grove Road Bridge. “The preferred alternative will be designed so that no right-of-way will be required from any of the Section 4(f) areas in Shelby Farms. However, the project will be built over the recreational trails which will constitute a use of that area” (pg. 3-6). The Walnut Grove Road Bridge is currently under construction as a separate project. The DSEIS begins east of the bridge; therefore, a Section 4(f) use of the trail does not apply. The proposed project in the DSEIS does not impact any of the other Section 4(f) resources previously defined in the FEIS.

3. No new properties have been designated as recreational land uses inside the study area since the approval of the FEIS in 1991 and the approval of the Reevaluation in 2001. Planned non-recreational land uses, such as those for local government, have been added to the Shelby Farms area, and were consistent with land use plans.

In a June 2007 meeting, the Shelby Farms Superintendent confirmed that no new “significant” recreational land uses which could be considered Section 4(f) resources have been added since at least 1991. The rocket launch area, kite-flying fields, and the dirt roads do not represent significant recreational land uses; therefore, they are not provided protection under Section 4(f).

Between the Lucius E. Burch, Jr. SNA and the Shelby Farms recreational areas, lies agricultural land. Alternative Q is confined to this area. Agricenter International leases certain lands, more specifically known as *Farm #783, Section 10, Fields 8, parts of 10 and 12, 17, 18, 19, 20, and parts of 23 and 24*, from Shelby County (see attached exhibit). Additional fallow agricultural lands are owned and managed by Shelby County. According to Ted Fox, Shelby Farms Public Works Director, land deeds show that these specific agricultural areas have been used for farming purposes since the 1920s. In summary, the legal lease description classifies the land as a farm, not a recreational land use.

4. There is no known controversy currently surrounding the project.

Previously, as in the cases of the FEIS and the Reevaluation, public controversy surrounded the project in an effort to preserve the functions and uses of the Shelby Farms area. However, in February 2006, the Shelby Farms Parkway Advisory Team, which acted as a collective body representing the opinions of both experts and public stakeholders, some of which were previously at odds with the project, agreed that the team goals and project goals had been met (see signed agreement). Team goals provided guiding principles for team deliberations and activities throughout the CSS process. Project goals were more specifically related to the characteristics of the proposed roadway and the Team's vision and expectations for the project. One of these goals was to create a road that enhances and embraces the park—those areas used for recreational purposes. The team included 16 representatives of various community groups and resources:

Friends of Shelby Farms Park
County Commission-Shelby Farms Advisory Committee
Mid South Trails Association
Memphis Regional Chamber, Major Roads Committee
North Community Representative
Ducks Unlimited
Agricenter International
Memphis Tomorrow
A Commuter Through Shelby Farms

Wolf River Conservancy
University of Memphis, Traffic Engineering
Baptist Healthcare
Sierra Club
A Park Planner/Landscape Architect
Shelby Farms Park Board
Accredo Health
Brierwood Neighborhood Association

It is the Team's vision that these recommendations advance this project with recognition that access and aesthetic elements will be added later per these recommendations.

5. In January 2007, the County of Shelby, Tennessee and the Shelby County Agricenter Commission ("Grantors") and The Land Trust for Tennessee, Inc. ("Grantee") signed a conservation easement for the purposes of protecting, maintaining, preserving, and enhancing the conservation, natural, scenic, agricultural, scientific, recreational, and parkland resources and values of the Shelby Farms Area ("Property"). The agreement provisions include a moratorium on the "Property".

Within this conservation easement, certain planned projects are stated that allow exceptions to the moratorium. Exhibit A-3, titled Exceptions to Moratorium, divides the exceptions into Tiers I-IV.

Tier I states,

- a. Lucius E. Burch Natural Area Gateway Project, if permitted by the State of Tennessee;
- b. Visitors Center/Plough Park Sewer Extension;
- c. Public Restroom Construction (Plough Park/Gate 12);
- d. Renovation/Expansion of Plough Park for playground equipment; and
- e. Shelby Farms Parkway.

Exhibit A-1, titled Road Right-of-Way Property, excludes the following land from the provisions of the conservation easement:

1. Existing and future widening of designated public roads and rights-of-way including, but not limited to, Walnut Grove Road (160' R.O.W.), Mullins Station Road (108' R.O.W.), and Raleigh-LaGrange Road (108' R.O.W.).
2. Land for proposed "Parkway right-of-way" to be used for the Shelby Farms Parkway (Kirby Parkway) and Walnut Grove Road widening and improvement projects.

It is understood that a Master Plan regarding the Property will be developed. However, the Parkway is permitted to be built before the delivery of said Plan.

"Grantors and Grantees hereby declare that, until the completion of said Master Plan and its adoption by the County, or until December 31, 2008, whichever occurs first, no permanent buildings, structures, or infrastructure shall be constructed or placed upon the Property, and no permanent changes shall be made in the topography of the land, except those specific buildings and structures described in Exhibit A-3, it being the intention of the parties that there be a moratorium on the construction or placement of such buildings, structures, or infrastructure, and on change in the topography of the land, other than those described in Exhibit A-3..."

6. On June 17, 1991, The Mayor of Shelby County signed an agreement stating that Kirby Parkway does not conflict with planned uses of the Shelby Farms complex. Due to the lapse in time, it was suggested that Mr. Ted Fox, Public Works Director for Shelby County, oversee

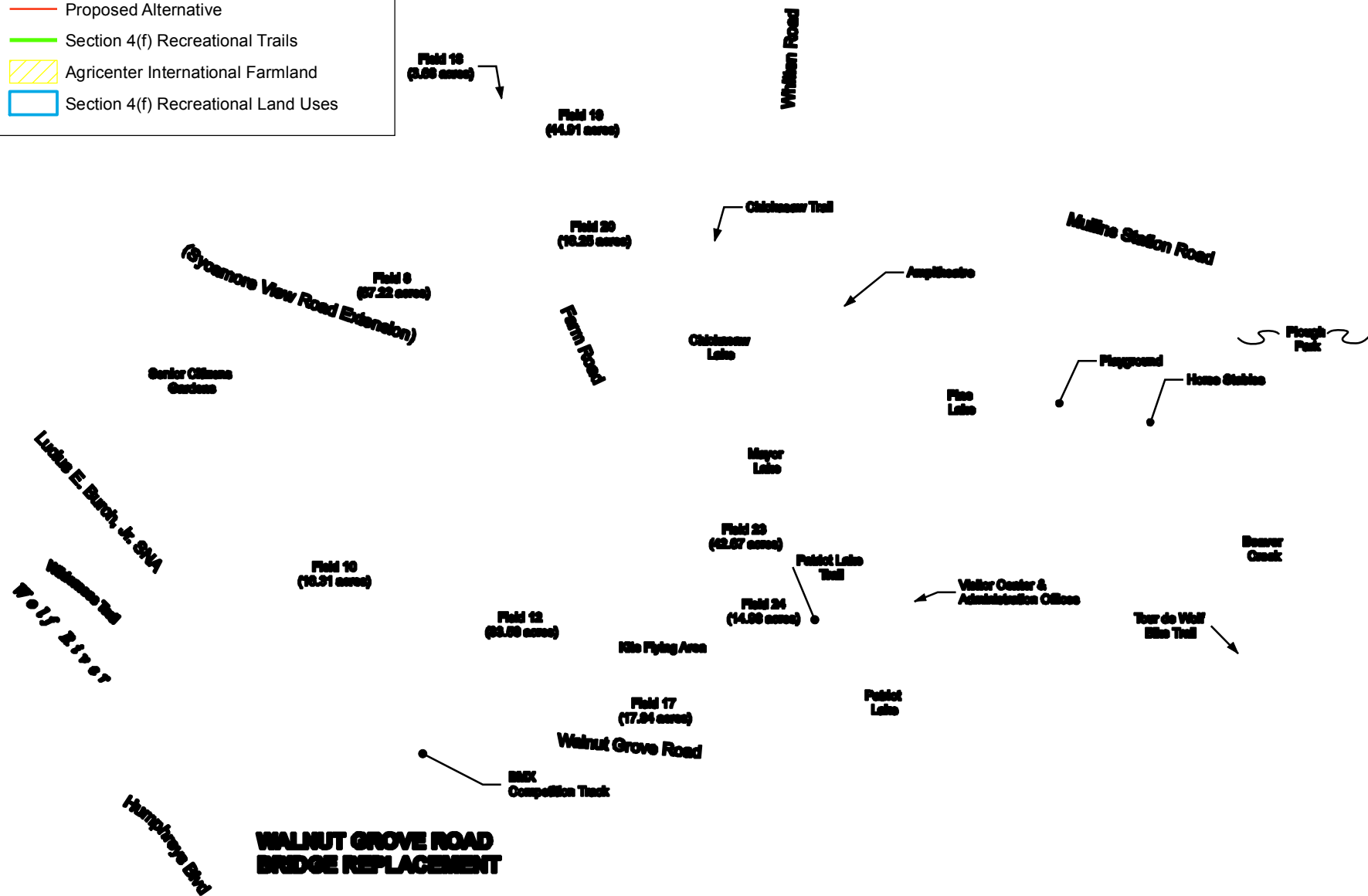
of operations and land management of Shelby Farms under the guidance and direction of the Mayor of Shelby County, sign a similar agreement to confirm the lack of Section 4(f) involvement by alternatives examined in the DSEIS and concur with land use plans for the Shelby Farms Complex. This agreement, signed July 30, 2007, verifies that the Shelby Farms study area as a whole is not considered a park; that the land use in the Shelby Farms study area has not changed to include recreational resources since the ROD was issued in 1991; that the casual and/or incidental land uses (kite flying and rocket launching) can be moved to another location in the area and not impact the activity; and that Alternative Q does not pass through any new Section 4(f) resources not discussed in the FEIS or Reevaluation (see attached letter). The following table summarizes the impacts at the time of each environmental document.

Alternative Impacts	FEIS (1991)	Reevaluation (2001)	DSEIS (2007)
Recreational Resources	SNA, Wilderness Trail	SNA, Wilderness Trail	None
Agricultural Land	Yes	Yes	Yes
Parkland	Yes	None	None
Public Controversy	Yes	Yes	No known

SHELBY FARMS AREA
Memphis, Shelby County, Tennessee

**Section 4(f) Recreational Resources,
Incidental/Non-Section 4(f) Land Uses,
and Leased Farmland**

- Proposed Alternative
- Section 4(f) Recreational Trails
- Agricenter International Farmland
- Section 4(f) Recreational Land Uses





Shelby Farms Parkway Advisory Team

* The Shelby Farms Parkway Advisory Team dedicates their efforts to create a great parkway and environment to the memory of Charlie Rond.

Laura Adams
Friends of Shelby Farms Park

Larry Brown
County Commission, Shelby Farms Advisory Committee

Brad Corey
Mid South Trails Association

John Dudas
Memphis Regional Chamber, Major Roads Committee

Gregg Elliott
North Community Representative

Randy Graves
Ducks Unlimited

Richard Hollis
Agricenter

Larry Jensen
Memphis Tomorrow

Dan Johnson
Commuter Through Shelby Farms

Keith Kirkland
Wolf River Conservancy

Marty Lipinski
University of Memphis, Traffic Engineering

Steve Reynolds
Baptist Healthcare

Charlie Rond (Deceased)*
Don Richardson
Sierra Club

Ritchie Smith
Park Planner / Landscape Architect

Mark Stansbury
Shelby Farms Park Board

David Stevens
Accredo Health

Barry White
Brierwood Neighborhood Association



SHELBY FARMS PARKWAY ADVISORY TEAM
TEAM RECOMMENDATIONS

Team and Project Goals

The goals for the Shelby Farms Parkway Advisory Team were grouped into two categories: Team Goals and Project Goals. Team goals provided guiding principles for team deliberations and activities throughout the CSS process. Project goals were more specifically related to the characteristics of the proposed roadway and the Team’s vision and expectations for the project.

Team Goals

- Achieve Community consensus and build public trust.
- Reach consensus for a context sensitive solution in a timely fashion.
- Adhere to a continuous and responsive public involvement process.
- Maintain the spirit of teamwork throughout the project.
- Create an atmosphere of good communication among the team, government, and the community.

Project Goals

- Create a road that enhances and embraces the park.
- Create a design concept that is socially, economically, and environmentally responsible.
- Create a safe and effective roadway design.
- Reduce corridor congestion.
- Produce an excellent design that enhances the quality of life in the community.
- Create the opportunity for non-vehicular traffic to enter and use the park.
- Create the opportunity for vehicular and non-vehicular crossing of the corridor including access for the physically challenged.



Chronology and Process

Six meetings of the Shelby Farms Parkway Advisory Team were held between February 2005 and February 2006. Two Public Workshops were held during the same time period.

The first team meeting (February 10, 2005) was a partnering meeting that concluded with the development of “Team and Project Goals” and outlining key steps in working toward the first public meeting/workshop.

The first Public Workshop (March 24, 2005) was a “blank page” concept. An aerial photograph of the study area was provided and the public was afforded the opportunity to provide their thoughts and concerns for constructing a north-south road through Shelby Farms.

The Team next met on April 28, 2005 to discuss the results from the Public Workshop. The Team discussed the purpose and need for the project, traffic forecasting activities, and similar projects. They concluded their meeting with a “brainstorming session” relating to design criteria and the range of alternatives to be considered. Team members developed sketches of potential alignments.

The Team met on August 18, 2005 to review and discuss five alternative concepts. Alternatives included 4 and 6 lane alternatives, 35, 40, 45, and 50 mph design speeds, and a range of median widths including an independent roadway design concept. Information from the August 18, 2005 meeting was used to develop two refined alternatives.

The Team met again on October 6, 2006. Following a “field walk through” and additional team discussions, these two alternatives were further refined for presentation at the second Public Workshop on November 15, 2005.

Both alternatives presented at the second Public Workshop were 4 lanes and included a curvilinear alignment along the western boundary of the study area. One was developed on the basis of a 40 mph design speed and the other using criteria for a 45 mph design speed. One alternative included a 40-foot common median and the other involved an independent roadway concept. At grade intersections were proposed at Sycamore View and Mullins Station. Two interchange configurations were proposed at Walnut Grove.

The results of the November 15, 2006 meeting were reviewed at the next meeting of the Shelby Farms Parkway Advisory Team on January 11, 2006. The team discussed further opportunities for refinements to alternatives and discussed the development of “team recommendations.” The Team met again on February 16, 2006. The focus of this meeting was to finalize the Team Recommendations presented herein.

Team Recommendations

Final team recommendations are grouped into three general categories: (1) Design Features, (2) Interchange Configuration at Walnut Grove, and (3) Other Considerations. It is the Team's vision that these recommendations provide a basic framework for advancing this project to final design with recognition that access and aesthetic elements will be added later per these recommendations and that refinements may be appropriate as additional information and engineering data becomes available.

Recommended Design Features

- 40 mph design speed
- 4 lanes (12-foot lane width)
- Stabilized grass shoulders where feasible
- Independent roadway concept
- Curvilinear alignment (recommended "plan view" to right)
- At-grade intersections at Sycamore View and at Mullins Station
- Grade separation at Walnut Grove
- Tractor Trailers will not be permitted



Interchange Configuration at Walnut Grove

- The recommended configuration for the interchange at Walnut Grove is a "trumpet" configuration that provides for free-flowing traffic for all movements through the interchange.
- The interchange will feature a separate dedicated exit lane from southbound Shelby Farms Parkway to westbound Humphreys Boulevard.
- The interchange will include a single lane exit from southbound Shelby Farms Parkway to westbound Walnut Grove in addition to the dedicated exit lane to Humphreys Boulevard.
- Curvature within the interchange will meet 35mph design criteria with the exception of the loop ramp which shall meet 25mph design criteria.
- With additional geotechnical information, shift the location of the interchange further to the south provided that geotechnical analyses indicate that construction of embankment material over the landfill is prudent and feasible.

Other Considerations

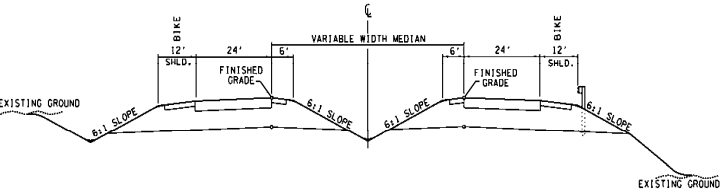
The Shelby County Government is involved in the development of a Master Plan for Shelby Farms. One of this project's goals is to "create a road that enhances and embraces the park." The Team's vision for the Shelby Farms Parkway is a road that blends into the natural and topographic setting of Shelby Farms. The Master Plan for Shelby Farms will provide a fundamental framework for future development and enhancement of Shelby Farms. As such, the Shelby Farms Parkway Advisory Team recognizes that connectivity, access, and aesthetic characteristics of the Shelby Farms Parkway must be consistent with the Master Plan for Shelby Farms and has thus deferred development of recommendations to the Shelby Farms Master Plan. More specific issues that should be considered in the development of the Master Plan include the following:

- Provisions for a "signature" entrance or entrances for Shelby Farms Park, including the bridge over Walnut Grove,
- Provisions for aesthetically appropriate materials (such as stone facing) and landscaping in the construction of the parkway,
- Provisions for safe, easy and convenient connectivity and non-vehicular access to Shelby Farms from surrounding residential areas and greenways on all sides of Shelby Farms,
- Provisions for multi-use paths for walkers, joggers, and recreational bicyclists,
- Provisions for equestrian trails to facilitate movement from one area of Shelby Farms to another,
- Provisions for safe, easy, and convenient connectivity within the park for pedestrians, bicycles and horses,
- Coordination and accommodation for rails to trails and/or future light rail in the vicinity of Mullins Station.
- Provisions for the continued involvement of the SFPAT in the final design,

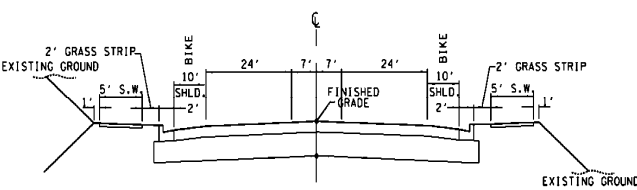
The Team also recommends that authorities from Shelby County, the City of Memphis, and TDOT provide adequate funding for the connectivity, access, and aesthetic features. The Team recommends that design and funding of such features be incorporated into this project included but not limited to access under the Wolf River Bridge north and south.

Typical Sections

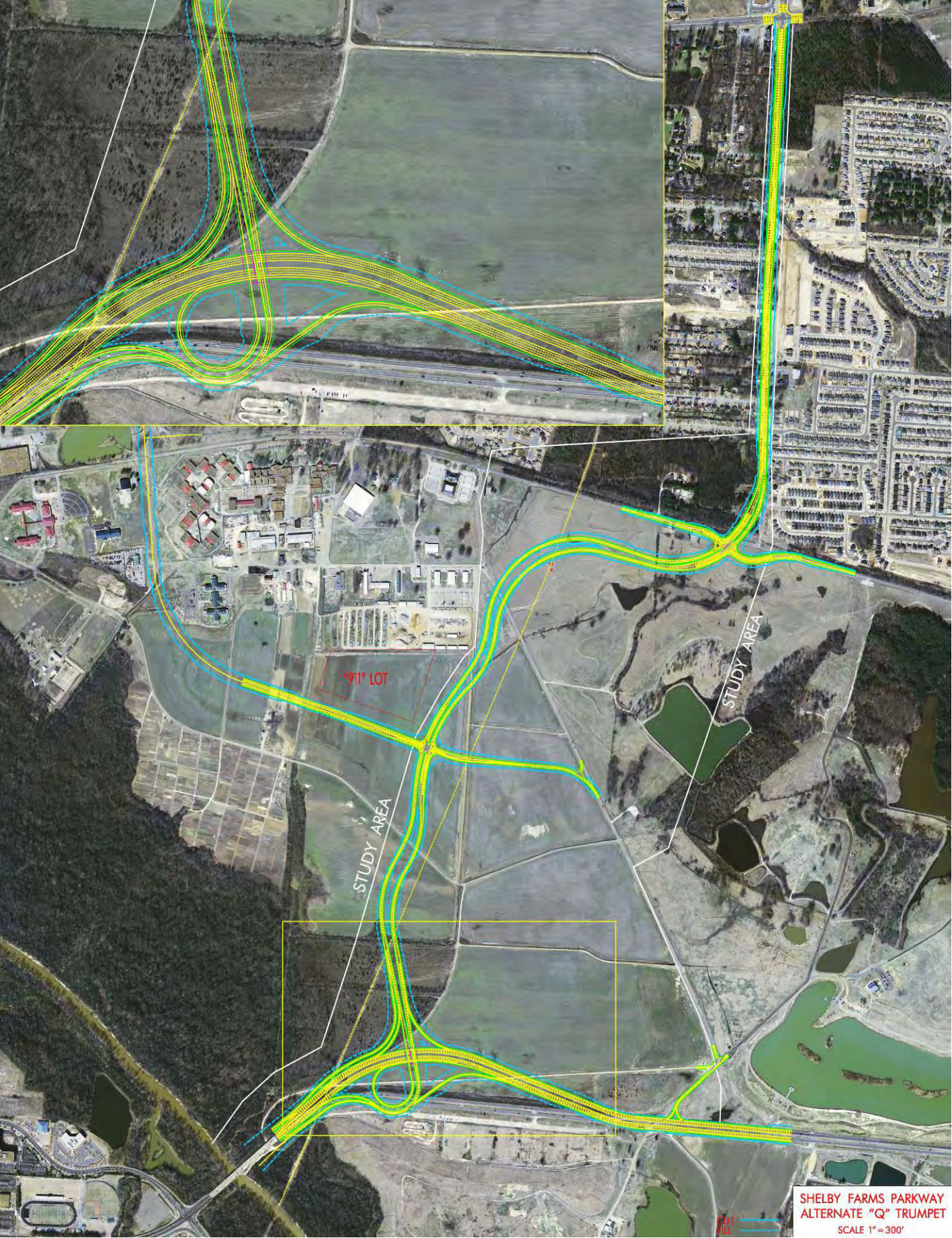
Walnut Grove to Mullins Station



Mullins Station to Macon Road



Plan View



SHELBY FARMS PARKWAY
ALTERNATE "Q" TRUMPET
SCALE 1"=300'



Shelby County Government

A C Wharton, Jr.
Mayor

July 30, 2007

Mr. Gary Fottrell, P.E.
Environmental Program Engineer
Federal Highway Administration
640 Grassmere Park Road, Suite 112
Nashville, TN 37211

RE: Kirby Parkway – Macon Road to Walnut Grove Road
Memphis, Shelby County, Tennessee

Dear Mr. Fottrell,

The proposed Kirby Parkway project from Macon Road to Walnut Grove Road is vital to our citizens and the economic growth of Shelby County. With the support of the Shelby Farms Advisory Team and through information gathered from public comment, Alternative Q was chosen as the preferred alignment through Shelby Farms using the context sensitive process.

As Public Works Director for Shelby County, Shelby Farms falls under my supervision for land management and operational oversight. As such, I work under the guidance and direction of the Mayor of Shelby County.

I understand that Section 4(f) of the U.S. Department of Transportation Act of 1966 affords protection to *significant*, publicly owned and accessible public parks and recreation areas. I would like to provide the following points for your consideration.

- I agree with earlier decisions stating that the Shelby Farms study area as a **whole** is not considered a park. The larger Shelby Farms area is a mixed-use land holding: Shelby County Correctional facilities, Shelby County Road Department, fallow agricultural land used in agricultural pursuits, and casual and/or incidental uses (rifle range, rocket launch, and sport kite field).
- I agree with the Shelby Farms Superintendent that land use in the Shelby Farms study area has not changed to include recreational resources since the Record of Decision for the FEIS was issued in 1991.
- I agree with the Shelby Farms Superintendent that the casual and/or incidental land uses for kite flying and rocket launching can be moved to other locations in

Shelby Farms and not impact the activities. Currently, the area used for the rocket launch is only used between two to three times per year and there are numerous alternative sites for this activity in Shelby Farms. The kite flying area is limited to an area of 1,042 feet along Farm Road and 840 feet along Walnut Grove Road for a total of 20.04 acres. This 20.04 acre parcel is bounded to the west and north by areas under cultivation. The Advisory Team's recommended Alternative Q would not adversely impact the kite area. Therefore, while there are numerous alternative sites for this activity in Shelby Farms, relocation of the kite area will not be necessary because of the distance from recommended Alternative Q.

- I agree that Alternative Q does not pass through any new Section 4(f) recreational resource not discussed in the FEIS or Reevaluation. Therefore, the conclusions made in the FEIS and the Reevaluation (2001) regarding Section 4(f) still remain correct.

In conclusion, through consultation with our Shelby Farms Superintendent, I agree with his findings that the project does not affect any Section 4(f) recreational resources.

Sincerely,

A handwritten signature in black ink, appearing to read 'Theodore C. Fox, III', with a stylized, flowing script.

Theodore C. Fox, III
Director of Public Works
Shelby County Government

cc: Mayor A C Wharton, Jr.
Shelby County

Tom Love, TDOT

SHELBY FARMS MANAGEMENT AGREEMENT

This Shelby Farms Management Agreement ("Agreement") made and entered into this 13 day of JULY, 2007, by and between Shelby Farms Park Conservancy, a Tennessee nonprofit corporation, ("SFPC"), and Shelby County, Tennessee ("County"). The effective date of this Agreement shall be August 1, 2007 (the "Effective Date").

In consideration of their mutual promises and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

ARTICLE 1. DESCRIPTION AND USE OF THE PARK

For purposes of this agreement, Shelby Farms Park ("Park") shall mean those areas which are described by metes and bounds in Exhibit A, which is attached hereto and incorporated by reference. The Park shall at all times be managed, operated and used for the benefit of the citizens of Shelby County, Tennessee, and shall be used in accordance with the Conservation Easement between the County, The Shelby County Agricenter Commission, and the Land Trust for Tennessee, Inc., recorded as instrument number 07021070 in the Shelby County Register's Office in Shelby County, Tennessee on February 1, 2007, which is hereby incorporated by reference. Furthermore, the parties will work together to develop, adopt, and implement a Master Plan for the Park ("Plan"), and SFPC and the County will carry out their responsibilities in accordance with the Plan.

ARTICLE 2. MANAGEMENT

The County hereby appoints SFPC as Manager of that portion of the Park described by metes and bounds in Exhibit B, which is attached hereto and incorporated herein by reference, ("Managed Area"), with the full and exclusive authority and responsibility to manage, operate, lease, rent, preserve, protect, enhance, and develop that Area, to promote the Park, and to carry out all of its other duties as set forth in more detail herein.

ARTICLE 3. TERM

The initial term of this Agreement shall be ten (10) years and will commence upon the Effective Date and end on July 31, 2017. Either party may terminate this agreement on prior written notice given at least one year prior to the expiration of the initial term or any renewal term. This Agreement shall be automatically extended for additional terms of ten (10) years unless, not less than one year prior to the expiration of any term, either party shall give written notice to the other party electing to terminate this Agreement at the expiration of the then current term. Hereinafter, all references to the "term" of this Agreement shall mean the initial term and any extensions or renewals thereof.

ARTICLE 4. COUNTY FUNDS AND SUPPORT

(a) It is the intention and agreement of the parties that the County will continue to provide to Shelby Farms at least the same levels of financial support and in-kind support that it has provided in the past. Attached hereto as Exhibit C are lists of the amounts expended by the County for the management and operation of Shelby Farms, the revenues received by the County from Shelby Farms, and the in-kind goods and services provided by the County to Shelby Farms. The County will continue, throughout the term of this Agreement and any renewal or extension thereof, to provide to SFPC annual funding in the amount of at least \$575,848, to be paid to SFPC in quarterly installments on or before the first day of January, April, July, and October of each year of this agreement. On the Effective Date, the County will pay the first pro-rata quarterly installment to SFPC as adjusted herein. The County will also continue, throughout the term of this Agreement and any renewal or extension thereof, to provide to SFPC the same in-kind goods and services it has provided to Shelby Farms in the past, as described in Exhibit C, including the use of work lines through the Shelby County Correction Center as discussed below. The County represents and warrants that Exhibit C is an accurate and complete description of the financial support and in-kind contributions provided by the County. In addition the County will make all reasonable efforts, at County's cost, to maintain the water level in Patriot Lake at appropriate levels to fully support aquatic and recreational activities.

(b) In accordance with the guidelines provided in County policies and procedures, T.C.A. § 41-2-148 and any other applicable law, the County agrees to continue assignment of two work lines (ranging between six and ten trustees from the Adult Offender Center) to augment and support grounds maintenance operations in the Managed Area through the work week. These services are generally scheduled Monday through Friday from 7:00 a.m. to 5:00 p.m., depending on weather and needs of the park. Additional support for special events may be provided subject to availability of manpower.

(c) The County agrees to coordinate communication with the Memphis City Police Department and/or the Shelby County Sheriff's Department, as appropriate, regarding requests for security for both day-to-day security needs and for large scale events.

(d) SFPC shall reimburse the County the County's cost for all utilities (water, sanitary sewer, electricity, and natural gas) arising from the operation of the Park.

(e) The County, as owner of the Park, including the Managed Area, shall retain responsibility for any environmental conditions on or under the Managed Area, including but not limited to the exclusive responsibility for any necessary monitoring and maintenance of hazardous materials, if any, which may be present under those portions of the Managed Area on the south side of Walnut Grove Road which were previously used as a county landfill, and that additional portion of the Managed Area previously used as a fire arms range, it being understood and agreed that the SFPC shall have no responsibility or authority to investigate, remediate or otherwise deal with any such hazardous materials present anywhere within the Managed Area as of the effective date of this Agreement.

ARTICLE 5. SFPC FUNDS

(a) All revenues generated by or in the Managed Area of the Park, and any activities, facilities, events, or programs in the Managed Area of the Park, by rental, lease, or otherwise, or raised by or donated to or for the SFPC for the Managed Area of the Park, shall be paid to the SFPC for use in carrying out its duties set forth herein.

(b) SFPC will raise and collect, from both private and public sources, all additional funds, (over and above the amounts provided by the County to SFPC as provided in Section 4, above, and the other revenues referred to in elsewhere in this Agreement), necessary to carry out its responsibilities set forth herein, including without limitation the management, operation, protection, enhancement, and development of the Managed Area and the promotion of the Park, the development of the Master Plan for the Park, and the implementation of that Plan.

(c) All funds raised by, or donated to SFPC, or received by it in its role as Manager of the Park, through special events, exhibits, sales of goods or services, memberships, advertising, naming rights, sponsorships, private donations, or otherwise, shall be the sole and exclusive property of SFPC, subject to any restrictions imposed on the use of such funds by the Charter and Bylaws of SFPC and/or the terms of the donation. No such funds will be used in a manner which will cause SFPC to lose its status as a charitable organization under the Internal Revenue Code, and SFPC will engage in no activities which would cause it to lose its status as a charitable organization under the Internal Revenue Code.

ARTICLE 6. AUTHORITY

SFPC intends to operate the Park in a manner that will encourage broad public use of the Park, in accordance with the terms of the Conservation Easement and the Management Agreement. SFPC will have the sole authority to determine what activities, events, programs, projects, concessions, facilities, buildings, construction, improvements, landscaping, and changes therein, shall take place in the Managed Area during the term of this Agreement, and to establish rules and regulations governing same.

ARTICLE 7. FEES

(a) SFPC will have the sole authority to determine the amounts to charge for use of or admission to any facility, event, or activity in the Managed Area and shall have control of all concessions in that Area, with the right to operate any such concessions itself or to contract with independent concessionaires to do so; provided, however, that no fee shall be charged for entrance to the Park.

(b) The County agrees to assign its rights under all existing contracts described in Exhibit D, which is attached hereto and incorporated by reference, to SFPC. SFPC agrees to accept and honor the terms of these contracts. Upon the Effective Date of this Management Agreement,

revenues collected pursuant to the terms of said contracts shall be paid to SFPC regardless of whether the contracts have been assigned to SFPC.

(c) SFPC shall allow the County use of the Managed Area free of charge for one day per year for purposes of holding the annual County picnic, on a date agreed upon by the County and SFPC.

ARTICLE 8. LICENSE TO USE EQUIPMENT; MAINTENANCE

(a) Attached hereto as Exhibit E is a list of Personal Property and Equipment which, at the time of the execution of this Agreement, is used by or in connection with the management, operation, and maintenance of Shelby Farms. The County warrants that this is a complete and accurate list thereof. The County hereby grants and conveys to SFPC licenses to use said Personal Property and Equipment during the term of this Agreement, but ownership of such Personal Property and Equipment shall remain with the County. At the end of the useful life of each piece of equipment, said equipment shall be returned to Shelby County for disposal.

(b) The County shall, during the term of this Agreement, continue to provide maintenance and repair of said Personal Property and Equipment, and shall replace said Personal Property and Equipment, upon the request by SFPC for such replacement, when and if any of it requires replacement due to ordinary wear and tear or for any other reason not the fault of SFPC, its agents or employees to the extent that same is not covered by insurance; provided, that the determination when such replacement is necessary shall be made jointly by SFPC and the County upon a reasonable basis. SFPC shall reimburse the County for any maintenance in accordance with published Fleet Shop rates charged to county agencies and departments within thirty (30) days of invoice.

(c) The County hereby grants a license to SFPC for the term of this agreement for use of the Storage Barn located in Area 10 of the Park and described in greater detail on Exhibit F, which is attached hereto and incorporated by reference, to store the equipment and personal property described herein.

(d) The County hereby grants a license to SFPC for the term of this agreement for use of the structure located at 6489 Mullins Station Road in Area 10 of the Park and described in greater detail on Exhibit F, which is attached hereto and incorporated by reference, to use for office space for park purposes.

(e) SFPC shall be solely responsible for the care and maintenance of the Bison Herd ("livestock"), described on Exhibit G, which is attached hereto and incorporated by reference. SFPC agrees to ensure that said livestock is provided with required veterinary services as well as the appropriate timely disposition of sick or dead animals. The County agrees to provide dead animal pick-up to SFPC on an as-needed basis at no cost to SFPC. SFPC has the authority to carry out appropriate herd management practices to ensure that optimum herd size is maintained for the health and safety of the herd and other animals.

ARTICLE 9. CAPITAL IMPROVEMENTS & MAINTENANCE; SIGNAGE

(a) The Managed Area is and shall remain the property of Shelby County. SFPC shall have the right, at its sole expense, to make such changes in and additions and improvements to the Real Property in the Managed Area as it may deem necessary in order to carry out its duties as Manager; provided, however, that any such changes shall be consistent with the Master Plan and the Conservation Easement. All proposed capital additions to the Real Property in the Managed Area shall be submitted to the County Engineer for review to ensure compliance with applicable state and local regulations relative to public health and safety; provided, however, that approval thereof shall not be unreasonably withheld. All capital additions to the Real Property in the Managed Area paid for in part or in whole by SFPC shall be the property of the County, which accepts ownership of and title to such property.

(b) SFPC shall have the right, at its sole expense, to erect or display, or permit or cause to be erected or displayed, any signs within the Managed Area it may deem appropriate in accordance with the Master Plan, the Conservation Easement, and applicable state and local laws and regulations.

(c) The County agrees to consult and coordinate with SFPC regarding the design and construction of any capital improvements other than those initiated by SFPC as referred to in 9(a).

ARTICLE 10. INTELLECTUAL PROPERTY RIGHTS/SPONSORSHIP AND ADVERTISING

(a) The County hereby grants to SFPC, for the term of this Agreement, an exclusive, worldwide, fully paid up and irrevocable license in and to any and all Intangible Property related to Shelby Farms and owned by the County, including any and all names, trade names, marks, trademarks, and other intellectual property, and all of the goodwill and reputation of Shelby Farms; provided, however, that any use of the name "Shelby County Government" or use of the official seal of Shelby County, Tennessee, requires prior approval of the County. The County agrees to execute and deliver to SFPC such assignments, licenses and other instruments and documents as needed to effectively grant said license in and to all such Intangible Property. SFPC is authorized to grant such sub-licenses in any item of Intangible Property as it deems in the best interest of the Park.

(b) SFPC shall have the right to sell naming rights, sponsorships and advertising relating to the Managed Area or any portion thereof, or facility, activity, or event therein; provided, however, that all any naming rights, sponsorships or advertising relating to tobacco or sexually oriented businesses shall be prohibited and the sale of naming rights related to alcohol shall be prohibited.

ARTICLE 11. PERSONNEL

For a period of no longer than ninety (90) days after the Effective Date (the "Transition Period"), the current County employees assigned to the Park shall continue to be employed by the County but shall be under the joint supervision of the County and SFPC. During the Transition Period, the County shall be responsible for all compensation, benefits and worker's compensation insurance for such employees. The actual amount of such compensation paid during the Transition Period to the County employees assigned to the Park shall be deducted from the quarterly installment(s) to be paid to SFPC during the Transition Period. During the Transition Period, SFPC and the County shall notify the employees who are to be hired by SFPC. SFPC shall have the sole authority, in its sole discretion, to select the persons it chooses to employ and to determine the terms and conditions of their employment, provided however that SFPC shall be an equal opportunity employer and shall not discriminate in its employment practices on the basis of race, sex, age, color, religion, national origin, or disabilities. SFPC shall be solely responsible for all compensation, employee benefits and expenses of its employees after the Transition Period.

ARTICLE 12. COMPLIANCE WITH LAWS

SFPC shall manage the Park in compliance with all applicable laws and regulations.

ARTICLE 13. SUBJECT TO FUNDING

The funding provisions herein are subject to annual appropriation by the County of the funds provided herein. If the County fails to appropriate sufficient funds for the operation of properties, such failure shall not be deemed an event of default but shall entitle SFPC to terminate this Agreement immediately upon notice from the County of the County's failure to appropriate such funds.

ARTICLE 14. CONTRACT AUTHORITY

SFPC shall have full authority to negotiate and execute all contracts, agreements, permits, leases, and licenses as may be necessary for the management and operation of the Managed Area and to carry out its duties as Manager under this Agreement. Such agreements shall include, but not be limited to, contracts, agreements, leases, and licenses, with suppliers, tenants, exhibitors, concessionaires, joint venturers, promoters, advertisers, television and radio media, other media, and other parties.

ARTICLE 15. RELATIONSHIP OF PARTIES

The parties agree that the only relationship created by this Agreement is and shall be that between the County and SFPC and that SFPC is an independent contractor, providing

management, operation, and other services to the County, not an agent, agency, employee, joint venturer, partner, division or department of the County.

ARTICLE 16. INSURANCE

(a) County will continue to carry insurance coverage on existing building structures in the managed area and will carry insurance on future buildings resulting from the implementation of the Master Plan.

(b) As of the Effective Date, SFPC shall purchase and maintain, in a company or companies licensed to do business in the State of Tennessee, such insurance as will protect the parties from claims which may arise out of or result from SFPC's operations under the agreement, whether such operations are performed by SFPC or by anyone directly or indirectly employed by SFPC, or by anyone for whose acts SFPC or subcontractor may be liable. SFPC shall also require insurance coverage as outlined herein of any entity or individual that leases or uses the Managed Area for any event(s).

(c) The insurance required shall be written for not less than any limits of liability specified or required by law, whichever is greater. The County, its elected officials, appointees and employees will be named as additional insured. SFPC will maintain throughout the life of this agreement insurances, through insurers rated A- or better by A.M. Best, in the following minimum requirements:

- Commercial General Liability coverage with minimum limits of \$1,000,000.00 per occurrence/\$2,000,000.00 annual aggregate premises/operations coverage, \$2,000,000.00 annual aggregate products/completed operations.

- Workers Compensation coverage, including coverage for sole proprietors, partners, and officers, regardless of requirement by Tennessee State Statute.

- Commercial Auto Liability with minimum limit of \$1,000,000 for all owned, hired and non-owned autos.

SFPC shall provide County with a current copy of the Certificate of Insurance or other acceptable evidence of insurance as of the Effective Date and shall maintain said insurance during the entire agreement as well as provide renewal copies on each anniversary date of the Effective Date. SFPC shall not be required to provide the Workers Compensation coverage until the expiration of the Transition Period.

Upon termination or cancellation of insurance currently in effect under this agreement, SFPC shall purchase an extended reporting endorsement and furnish evidence of the same to the County.

ARTICLE 17. RECORDS/INSPECTION

(a) SFPC will establish and maintain accurate records and accounts which sufficiently and properly reflect all direct and indirect revenues and expenditures in the performance of this Agreement. Such records and accounts shall conform to generally accepted accounting principles. Upon request by the County, SFPC will make available, at SFPC's principal place of business, for inspection and audit, SFPC's books and records relating to the performance of this Agreement.

(b) Within one-hundred and twenty (120) days of the end of each fiscal year (June 30th), SFPC shall submit to the County financial audited financial statements regarding the SFPC's management and operation of the Park, including, without limitation, a statement of income, expenses and surplus (or deficit) and the results of operation during such year, such financial statement to be certified by an officer of the SFPC as true, accurate, and complete and fairly reflecting the results of operations of the Park.

(c) Pursuant to Resolution Number 37, enacted by the Board of County Commissioners of Shelby County, Tennessee on March 26, 2007, and Exhibit A attached to said resolution and incorporated by reference, the SFPC shall submit quarterly reports to the County Administration, and the County Commission's Committee #9-Conservation, Chickasaw Basin and Shelby Farms detailing the progress of implementing the Master Plan and raising the necessary funds to pay for the improvements and ongoing public policy matters regarding the governance of Shelby Farms Park.

ARTICLE 18. DEFAULT

Anything in this Agreement to the contrary notwithstanding, it is understood and agreed that in the event of a default, the non-defaulting party shall give notice of default and the party in default shall have 30 days after receipt of the notice to cure any monetary default and 60 days after receipt of the notice to cure any non-monetary default, provided that as to a non-monetary default, if such default cannot reasonably be cured within said 60 days, the party in default shall have such additional time as is reasonably necessary to cure the default, provided that the party in default begins curing the default within said 60 days and diligently prosecutes to completion the curing of the default. A party shall not exercise any right or remedy for default unless and until such notice has been given and the opportunity to cure default has expired.

ARTICLE 19. WAIVER

No waiver of any term, condition, default, or breach of this Agreement, or of any document executed pursuant hereto, shall be effective unless in writing and executed by the party making such waiver; and no such waiver shall operate as a waiver of either (a) such term, condition, default, or breach on any other occasion or (b) any other term, condition, default, or breach of this Agreement or of such document. No delay or failure to enforce any provision in this Agreement or in any document executed pursuant hereto shall operate as a waiver of such

provision or any other provision herein or in any document related hereto. The enforcement by any party of any right or remedy it may have under this Agreement or applicable law shall not be deemed an election of remedies or otherwise prevent such party from enforcement of one or more other remedies at any time.

ARTICLE 20. CONSTRUCTION

All words used herein shall be construed according to their proper gender and number, as the context shall require. Unless specifically designated otherwise, a reference to "including" shall mean "including, but not limited to."

ARTICLE 21. ENTIRE AGREEMENT

This Agreement sets forth the entire understanding of the parties, replacing any and all prior agreements relating to the subject matter hereof. This Agreement may be changed, amended, or terminated only by similar written instrument executed by the parties.

ARTICLE 22. SUCCESSORS

All of the terms and provisions of this Agreement shall be binding upon, shall inure to the benefit of, and be enforceable by and against, the parties hereto and their respective heirs, executors, administrators, successors, and permitted assigns.

ARTICLE 23. ASSIGNMENT

No party may assign or delegate its rights or duties under this Agreement without the prior written consent of the other parties in each instance.

ARTICLE 24. SEVERABILITY

If any provision of this Agreement is held to be unlawful, invalid, or unenforceable under any present or future laws, such provision shall be fully severable; and this Agreement shall then be construed and enforced as if such unlawful, invalid, or unenforceable provision had not been a part hereof. The remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by such unlawful, invalid, or unenforceable provision or by its severance herefrom. Furthermore, in lieu of such unlawful, invalid, or unenforceable provision, there shall be added automatically as a part of this Agreement a provision as similar in terms to such unlawful, invalid, or unenforceable provision as may be possible, and be legal, valid, and enforceable.

ARTICLE 25. NOTICES

Any and all notices, requests, communications, or demands required or permitted to be given pursuant hereto (a) shall be in writing, (b) shall be delivered either (i) in person or by electronic facsimile, (ii) by an established overnight delivery service, such as Federal Express, or (iii) mailed by registered or certified mail, return receipt requested, and (c) shall be addressed as follows:

Shelby County

Shelby County Public Works Department
Attn: Ted Fox, Director
160 N. Main Street Suite 801
Memphis, Tennessee 38103

Copy to:

Shelby County Government
Contract Administration
160 N. Main St., Suite 550
Memphis, Tennessee 38103

Shelby Farms Park Conservancy:

Shelby Farms Park Conservancy
130 North Court Avenue
Memphis, Tennessee 38103

Copy to:

Burch, Porter & Johnson, PLLC
130 North Court Avenue
Memphis, Tennessee 38103
Attention: Charles F. Newman, Esq. and
Milton L. Lovell, Esq.

or to such other address or addresses as any party may designate to the others, by notice in writing, given as above provided. Notices delivered in person or by electronic facsimile shall be deemed to have been given on the date of delivery; notices delivered by overnight delivery service shall be deemed to have been given on the business day following the date of deposit with such overnight delivery service; and notices given by mail shall be deemed to have been given three (3) days after the date of mailing.

ARTICLE 26. APPLICABLE LAW

This Agreement has been accepted, executed and delivered, and is intended to be performed, in the State of Tennessee. The rights and duties of the parties, and the validity, construction, enforcement, and interpretation of this Agreement, shall be governed and construed according to the laws of such state.

ARTICLE 27. EXHIBITS

All of the Exhibits attached to this Agreement are a part of this Agreement when so attached, and are incorporated herein by reference as fully as if copied herein verbatim. The County represents and warrants that all such Exhibits are complete and accurate descriptions of the matters referred to therein.

ARTICLE 28. FURTHER ASSURANCES

Each of the parties, at all times and from time to time hereafter, and upon reasonable written request to do so, shall make, do, execute, deliver, or cause to be made, done, executed and delivered, all such further acts, deeds, instruments, assurances, and things as may be required for more effectually implementing and carrying out the true intent and meaning of this Agreement.

(SIGNATURES APPEAR ON THE FOLLOWING PAGE)

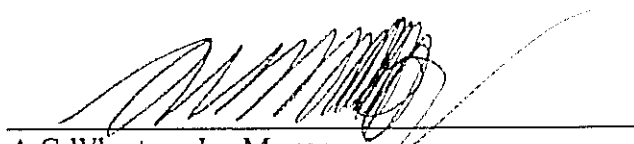
IN WITNESS WHEREOF, the parties hereto have set their signatures for the purposes contained herein, on this 13 day of July, 2007.

APPROVED AS TO FORM
AND LEGALITY:

SHELBY COUNTY GOVERNMENT



Contract Administrator/
Assistant County Attorney



A C Wharton, Jr., Mayor

SHELBY FARMS PARK CONSERVANCY

BY: Calvin Anderson

TITLE: Chairman / PRESIDENT

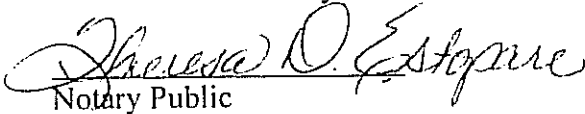
CORPORATE ACKNOWLEDGMENT

STATE OF TENNESSEE

COUNTY OF SHELBY

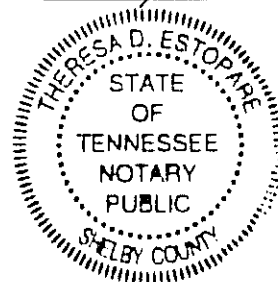
Before me, the undersigned Notary Public, in and for the State and County aforesaid, personally appeared CALVIN ANDERSON with whom I am personally acquainted or proved to me on the basis of satisfactory evidence, and who, upon oath, acknowledged himself/herself to be president or other officer authorized by appropriate Corporate action and/or Resolution to execute the preceding instrument of the SHELBY FARMS PARK CONSERVANCY the within named bargainor, a corporation, and that he as such PRESIDENT, executed the foregoing instrument for the purpose therein contained, by signing the name of the corporation by himself/herself as PRESIDENT.

WITNESS my hand and official seal at office this 6TH day of JULY, 2007.



Notary Public

My Commission Expires: MY COMMISSION EXPIRES:
March 18, 2009



**AGREEMENT BETWEEN
SHELBY COUNTY GOVERNMENT
AND
AGRICENTER INTERNATIONAL**

This Agreement is entered into this 1st day of April, 2006 by and between Shelby County Government, hereinafter referred to as "County" and Agricenter International, hereinafter referred to as "Agricenter."

WHEREAS, the parties hereto acknowledge that certain lands, more specifically known as Farm #783, Section 10, Fields 8, parts of 10 and 12, 17, 18, 19, 20, and parts of 23 and 24, hereinafter referred to as "Lands" and more particularly described on the map attached hereto as Exhibit A, are the property of Shelby County Government and are subject to oversight and control of the Department of Shelby Farms, and;

WHEREAS, the parties hereto are desirous of entering into a relationship to improve the appearance of the Lands and to minimize County's costs of maintaining said property by providing for the production of crops on the Lands.

NOW THEREFORE, in consideration of the mutual covenants stated above, as well as additional consideration, the adequacy and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. SCOPE OF SERVICES

County agrees to grant Agricenter the right to use, maintain and improve the above specified Lands for the production of crops. Said right of use shall include the following:

- A. Notwithstanding subsection C. below, Agricenter shall have the right to plant, maintain and harvest crops and make such improvements to the soil as is generally advisable for the production of agricultural crops.
- B. Agricenter will assume all production costs and responsibility for maintaining the Lands throughout the term of this agreement.
- C. County does not relinquish and hereby expressly retains all rights to control the management of the Lands including, but not limited to, right of access for necessary maintenance of the grounds and existing or proposed roadways or underlying infrastructures and enforcement of necessary and proper rules for the management and operation of same.

GRANT OF CONSERVATION EASEMENT

This Grant of Conservation Easement ("Grant") is made by the County of Shelby, Tennessee ("County") and the Shelby County Agricenter Commission ("Agricenter") (collectively, "Grantors") as of the _____ day of January, 2007, and shall become effective upon being properly recorded in the office of the Shelby County Register ("Effective Date") pursuant to the Conservation Easement Act of 1981, Tenn. Code Ann. 66-9-301 et seq., as amended, and the common law.

Section I - Recitals

Grantors are "public bodies" as defined in Tenn. Code Ann. 66-9-303(5).

County is the owner of the property designated on Exhibit A hereto as "County Property." Agricenter was established by the Tennessee General Assembly, and is the recipient of a grant of the property designated on Exhibit A hereto as "Agricenter Property," said property having been granted to Agricenter pursuant to resolution of the Board of County Commissioners of the County subject to reversion to the County under certain circumstances. All of the property described on Exhibit A, including that designated as "County Property" and that designated as "Agricenter Property," is hereinafter collectively referred to as the "Property."

For purposes of this Grant, four areas of the Property ("Tiers" 1 through 4) have been designated, as reflected and described on Exhibit B hereto.

The Property has significant conservation, natural, scenic, recreational, agricultural, scientific and parkland resources and values in the fields, forests, open spaces, vistas, wetlands, ponds, lakes, and streams on the Property, which resources and values are worthy of protection, maintenance, preservation, and enhancement for the benefit of the people of Tennessee. Grantors deem that it is in the public interest to grant a conservation easement with respect to the Property as herein provided and that the public will gain a substantial benefit by the granting of the conservation easement.

For the purpose of protecting, maintaining, preserving, and enhancing the conservation, natural, scenic, recreational, agricultural, scientific and parkland resources and values of the Property and providing for its use in keeping with such protection, maintenance, preservation and enhancement, Grantors desire to grant a conservation easement with respect to the Property, subject to the terms and conditions hereinafter provided. Grantors acknowledge receipt of good, valuable, and sufficient considerations for this Grant.

The Land Trust for Tennessee, Inc., a Tennessee nonprofit corporation ("Grantee"), has received from the Internal Revenue Service an exemption under 501(c)(3) of the Internal Revenue Code, and is therefore an "exempt organization" as defined in Tennessee Code Ann. 66-9-303(2).

Grantors deem Grantee to be qualified and to be an appropriate entity to receive and enforce the conservation easement herein granted.

Grantee desires to accept this Easement, subject to the terms and conditions hereinafter provided.

Section II - Grant and Agreements

NOW THEREFORE, for the benefit of the people of Tennessee, Grantors agree as follows:

1. Grant. Grantors grant to Grantee a conservation easement ("Easement") on, over, under, and across the Property for the purposes of protecting, maintaining, preserving, and enhancing the conservation, natural, scenic, agricultural, scientific, recreational, and parkland resources and values of the Property, including without limitation the fields, forests, open spaces, vistas, wetlands, lakes, ponds, and streams of the Property, the biological and ecological integrity and value of the Property, and the use of the Property by the public as an urban park, in keeping with such protection, maintenance, preservation, enhancement, and for other purposes incidental, necessary, and appropriate to the foregoing, such grant being subject to the terms and conditions hereinafter provided.

Included in the Property is property designated as the Lucius Burch Natural Area ("LBNA") by the State of Tennessee. The parties agree that any and all use of the LBNA pursuant to the terms of this Easement shall be consistent with T.C.A. 11-14-101 et seq., as it may hereafter be amended, and all rules and regulations promulgated thereunder, that control the use of the LBNA.

Excluded from the provisions of this Easement is the road right of way property as designated on Exhibit A-1.

Also excluded from the provisions of this Easement is property designated as "Area 10," that is to be reserved for governmental and government-related uses pursuant to a plan to be adopted by the Board of County Commissioners of Shelby County, Tennessee. This Area is described on Exhibit A-2 attached hereto.

2. Declaration of Restriction. Grantors and Grantee declare and agree that the uses of the Property shall be restricted and limited to the uses permitted under this Easement. Such restrictions and limitations shall run with the land and apply to any successive owners of the Property, or any portion thereof, and Grantors shall do all things necessary to ensure that this is the case.

3. Master Plan. It is understood and agreed by Grantors and the Grantee that a Master Plan is to be developed, subject to the provisions of Paragraph 18 herein, for the Property through a planning process to be initiated by the County in the future. Grantors and Grantee agree that Grantee shall become a party to the planning process for said Master Plan, which upon completion shall become incorporated into this Easement as though set out fully herein. Grantors and Grantee hereby declare and agree that, until the completion of said Master Plan and its adoption by the County, or until December 31, 2008, whichever occurs first, no permanent buildings, structures, or infrastructure shall be constructed or placed upon the Property, and no permanent changes shall be made in the topography of the land, except those specific buildings and structures described in Exhibit A-3, it being the intention of the parties that there be a

moratorium on the construction or placement of such buildings, structures, or infrastructure, and on change in the topography of the land, other than those described in Exhibit A-3, until said Master Plan has been adopted or such December 31, 2008 deadline occurs. It is understood and agreed that the Master Plan may increase, but may not decrease, the prohibitions and restrictions on the uses permitted under in this Easement.

If during the moratorium period, a party proposes construction which was not anticipated on the date of this Grant, which is not included on Exhibit A-3, and which is in keeping with the uses and purposes of this Grant, said party may propose an amendment to Exhibit A-3 to permit such construction. The parties will in good faith negotiate the amendment, and consent to the amendment will not be unreasonably withheld, conditioned, or delayed.

4. Permitted Uses. The following uses of the Property are permitted, reserved, and retained, subject to the moratorium set forth in the preceding paragraph, and subject to any restrictions or prohibitions set forth in the Master Plan, and to any restrictions or prohibitions set forth in the 1981 Private Act of the Tennessee Legislature creating the Agricenter Commission (Chapter 141 of the Private Acts of 1981), the 1981 Resolution of the Shelby County Commission adopting and approving said Act, and the 1982 Resolution of the Shelby County Commission granting the property to the Agricenter:

- a. pedestrian, bicycle, skating, and equestrian trails and paths, paved and unpaved, and equestrian operations;
- b. nature trails, boardwalks and wildlife observation areas and improvements;
- c. gardens;
- d. recreational sports and uses consistent with the purposes and uses herein provided and in accordance with the approved Master Plan;
- e. pavilions, picnic areas, and playgrounds;
- f. agronomy and horticulture uses, including but not limited to farming, educational, aquaculture, and nursery uses;
- g. scientific purposes, including agricultural, archeological and environmental sciences, which have no material adverse impact on the Property and the uses herein provided and are consistent with the purposes of this grant;
- h. dog exercise and training;
- i. boating activities consistent with the purposes and uses herein provided; only small electric motors or trolling motors are acceptable; gas powered motors, jet skis, etc. are prohibited;
- j. fishing;

- k. development and enhancement of wildlife habitat;
- l. development and enhancement of forests (including without limitation reforestation), fields, vistas, and open spaces;
- m. access by designees of Grantors to the Property at all times in connection with the uses permitted hereunder;
- n. short term events not inconsistent with the uses and purposes herein provided, including without limitation outdoor festivals; collection of fees normally associated with the use of park facilities; special events, educational, agronomy and horticultural uses; and food, drink, and merchandise sales incidental to permitted uses. Permanent concessions of permitted uses may be permitted to have food, drink or merchandise sales but with size or quantification limitation on these types of incidental sales to permanent uses;
- o. animal control as may be necessary to control property damage, to protect the Property, and/or to protect the health, safety, and welfare of the public;
- p. direction, location, and use signs consistent with the purposes and incidental to the uses herein provided;
- q. classes, demonstrations, projects, and other educational uses to promote and teach environmental protection and conservation;
- r. retreat and/or camping facilities that are compatible with the rustic and natural setting of the Property, and in accordance with the Master Plan;
- s. existing and currently planned uses of the Property or in accordance with the approved Master Plan and prior written approval of Grantee; which approval shall not be unreasonably withheld, conditioned or delayed;
- t. maintenance, repair, removal, rearrangement, reconfiguration, renovation, relocation, and reconstruction of existing buildings, structures, facilities, sewer and/or utility lines, and other improvements; and
- u. a carousel or historic rollercoaster, in a location to be mutually approved by Grantors and Grantee.

The following additional uses are permitted in the areas designated as Tier 2, Tier 3 and Tier 4 on Exhibit B, attached hereto, subject to the same conditions set forth above (i.e., the moratorium, the prohibitions or restrictions of the Master Plan, and the restrictions and prohibitions set forth in the Private Act and Resolutions referred to above):

Tier 2: Agricenter Campus Area

- a. Continuation of construction of any buildings now under construction and construction of additional buildings, structures, facilities, sewer and/or utility lines, and other improvements related to agriculture; and
- b. Use, maintenance, repair and replacement of roads and parking areas and construction of new roads.

Tier 3: Agricenter Crop and Recreation Area

- a. Construction of ancillary buildings, barns, silos, storage structures, facilities, sewer and/or utility lines, and other improvements;
- b. Maintenance, repair, and replacement of roads and parking areas and construction of new roads;
- c. A demonstration area for animal husbandry science;
- d. Hiking and biking trails, lakes and ponds, and other recreational uses for the public now existing and further additional recreational uses..

Tier 4: Show Place Arena Area

- a. Restaurant; catering facility;
- b. Showplace arena including indoor arena, enclosed warm-up arena, outdoor covered arena, and outdoor uncovered arena;
- c. Six barns (two of which are located on the Agricenter property);
- d. Parking area; and
- e. Such other commercial uses as may be added as a result of the Master Plan.

Each Grantor reserves the right to adopt rules and regulations with respect to the permitted uses of its property consistent with the uses permitted and purposes provided herein and with respect to protecting the health and safety of the public and consistent with the Master Plan. Each Grantor also reserves and retains the right to move, remove, rearrange, reconfigure, renovate, relocate, and reconstruct facilities, improvements, and features of its property from time to time consistent with uses and purposes herein stated and consistent with the Master Plan.

5. Prohibited Uses. Except as expressly permitted in other Tiers, the following uses of the Property are prohibited:

- a. stadiums; arenas; race tracks for animals or motor vehicles; commercial uses other than those specifically permitted by this Easement, provided

that the existing horse show place arena on the Property may be located elsewhere on the Property as determined by the approved Master Plan;

- b. electromagnetic transmission lines and towers, other than those permitted under existing leases as such leases may be extended or renewed, without adding additional lines or towers; provided that additional antenna may be added to the existing tower and transmission lines for operation of the Property;
- c. use of motorized vehicles on the unpaved paths and trails of the Property except for maintenance and operation of the Property;
- d. commercial, industrial, residential, or other real estate development;
- e. manufacturing and industrial uses, excluding the mulch facility on the County property;
- f. commercial mining activities, except those related to lead recovery and removal on the former firearms range site on Tier 1;
- g. residential uses or hotel/motel uses, excluding temporary shelter in case of emergency or disaster;
- h. subdivision of the Property;
- i. dumping of garbage, trash, or building materials, provided, however, that this prohibition shall not apply to (i) lawful temporary disposal of waste resulting from daily operations of the Property (dumpsters, etc.) or (ii) lawful temporary disposal of products as part of a recycling or recovery operation established for the purpose of environmental preservation and protection (mulch recycling, cardboard recycling, etc.)
- j. public or private facilities except those which implement and facilitate the purposes and uses herein provided;
- k. zoos;
- l. permanent fairgrounds;
- m. billboards;
- n. commercial advertising, except for temporary signs for marketing of special events and concessions and except for the existing signs on the Agricenter property;
- o. schools;
- p. colleges, except for the existing Southwest Tennessee Community College facilities on the Agricenter property;

- q. structures used primarily for exhibitions and performances except for one amphitheater and outdoor exhibition facilities consistent with park purposes and uses herein provided;
- r. roads and parking areas other than existing roads and parking areas and future roads and parking areas permitted by the Master Plan;
- s. activities which cause significant erosion or pollution;
- t. other uses inconsistent with the Master Plan; and
- u. any other activities inconsistent with the purposes and uses herein provided.

6. Right of Entry and Enforcement. Grantee, its agents, and independent contractors shall have the right of entry and access to the Property at all times to make such inspections and investigations as Grantee deems appropriate and to enforce this Grant. Grantee may enforce this Easement by action at law or by injunction or other proceedings in equity. No delay of or forbearance in enforcement of Grantee's rights and remedies under this Easement shall be deemed a waiver of such rights and remedies or preclude Grantee from exercising any of its rights and remedies. Defenses of laches and estoppel based on delay in enforcing rights and remedies are waived. If Grantee is successful in enforcing its rights and remedies under this Easement in a proceeding at law or equity, Grantee shall have the right to recover from the government of Shelby County, Tennessee, its reasonable costs and expenses actually incurred including reasonable attorney's fees, irrespective of whether the need for such enforcement is caused by Grantors or a third party. In the event that Grantee or Grantee's assigns fail to enforce the provisions of this Easement or at the invitation of the Grantee, the Attorney General of the State of Tennessee may enforce the provisions of this Easement by any action at law or in equity.

In the event there is a dispute between Grantor and Grantee whether or not an activity or use is permitted or prohibited, the parties will arbitrate the dispute to a committee of 3 individuals who have significant experience with land use and conservation easements. One individual shall be selected by the Grantor, one individual by the Grantee, and the third selected by those two individuals. The three individuals will determine the dispute by majority vote, following the rules of the American Arbitration Association. The decision of the arbitration committee shall be binding or nonbinding by agreement between Grantee and Grantor prior to selection of the arbitration committee.

7. Duration. The duration of the Conservation Easement herein granted shall be perpetual, provided that Grantors may terminate this Grant to become effective on the date of any fiftieth anniversary of this Grant. Grantors shall give notice as provided in Paragraph 17 herein. This Grant shall run with the land. This Grant shall be binding on the successors and assigns of the parties and shall inure to the benefit of the successors and permitted assigns of the parties.

8. Construction. This Easement shall be liberally construed in favor of protecting, maintaining, preserving, and enhancing the conservation, natural, scenic, recreational, agricultural, scientific and parkland resources and values of the Property. Captions shall not be

used in interpreting this Grant. If any provision of this Easement is found to be ambiguous, an interpretation consistent with the purposes of this Easement and that would render the provision valid shall be favored over any interpretation that would render it invalid.

9. Severability. If any provision of this Easement shall be determined by a court of competent jurisdiction to be invalid or unenforceable, such determination shall not affect the other provisions of this Grant, which other provisions shall be enforced to the full extent permitted by law.

10. Hazardous Materials. Each Grantor agrees that it will comply with all applicable laws with respect to any hazardous or toxic substances, materials, wastes, or other substances regulated by law now located on its property. County will comply with all applicable laws with respect to the landfill and firearms range on the County property. Nothing in this paragraph shall impair Grantors' right to pursue third parties with respect to violations of environmental laws caused by such third parties. Grantee shall have no responsibility with respect to such substances, materials, waste, landfill, and firearms range.

11. Assignment by Grantee. Grantee may assign its rights and interests under this Easement to another organization which is an exempt organization as defined in Tenn. Code Ann. 66-9-303(2), which has the power and authority to hold the conservation easement herein granted subject to the provisions of this Grant, which is a state or nationally recognized conservation organization, or other similar organization accredited to hold conservation easements by the Land Trust Alliance or other successor organization of similar stature, which is approved in writing by Grantors, and which accepts the assignment. If Grantee ceases to be an exempt organization, it will assign its rights and interests under this Easement to an exempt organization approved by Grantors. Grantors will not unreasonably withhold its consent to assignment.

12. Assignment by Grantors. Grantors may assign their rights, privileges, and interests under and as reserved and retained in this Easement (including without limitation all rights of approval, determination, and regulation as to purposes and uses) to an assignee using and operating the Property, provided that such assignment shall be made expressly subject to this Easement, and Grantors agree to take all steps necessary to enforce the provisions of this Easement against any such assignee.

13. Eminent Domain. If any of the Property shall be taken under the power of eminent domain, the entire award shall be the sole property of the County.

14. Maintenance and Insurance. Each Grantor shall continue to maintain its respective property and the improvements thereon in good order, condition, and repair, and in compliance with applicable laws.

As of the date of this Easement, County is self insured as to both casualty and liability insurance with respect to the Property. If and when County shall carry casualty insurance with respect to the improvements, County shall insure the improvements for their full replacement value in accordance with County's insurance standards applicable from time to time to County's facilities. The proceeds of casualty insurance shall be used for repair and restoration of

improvements on the County property. If and when County shall carry public liability insurance with respect to the County property, County shall maintain such insurance in accordance with County's liability insurance standards applicable from time to time to County's facilities, and Grantee and Agricenter shall be named as additional insureds under such liability insurance policies. Grantors will provide Grantee and Agricenter proof of the insurance required by this paragraph.

The Agricenter shall keep the contents of the improvements on Agricenter property insured for their full replacement value. The proceeds of insurance on improvements on the Agricenter Property insured by the County shall be used for repair and restoration of such improvements. The Agricenter shall carry and maintain public liability insurance with respect to the Agricenter property. Initial limits of such liability insurance shall be \$1,000,000.00 per incident, \$2,000,000.00 aggregate, and thereafter the limits shall be in accordance with commercially reasonable business practices. Grantee and County shall be named as additional insureds under such liability insurance policies. Agricenter will provide Grantee and County proof of the insurance required by this paragraph.

15. Default, Right to Cure. If either party shall default under this Grant, the party in default shall have 30 days after receipt of notice of the default to cure the default, or if such default cannot reasonably be cured within said 30 days, the party in default shall have such additional time as is reasonably necessary to cure the default provided that the party in default begins to cure the default within said 30 days and diligently pursues to completion the curing of the default. No remedy shall be exercised with respect to such default unless and until the default is not cured as herein provided.

16. Notices. All notices required or permitted under this Easement shall be in writing and shall be given by hand delivery or by certified mail, return receipt requested, addressed to the parties as follows:

Grantors: Shelby County, Tennessee
160 N. Main Street, Suite 850
Memphis, Tennessee 38103
Attention: Chief Administrative Officer

Shelby County Agricenter Commission
7777 Walnut Grove Road
Memphis, Tennessee 38120
Attention: Chairman of the Commission

with a copy to: County Attorney
160 N. Main Street, Suite 660
Memphis, Tennessee 38103

Grantee: The Land Trust for Tennessee, Inc.
209 10th Avenue South, Suite 530
Nashville, Tennessee 38203
Attention: Executive Director

A party may change its notice address by notice as above provided.

17. Termination. Should circumstances arise that render the purposes of this Grant impossible to accomplish, this Grant may be terminated or extinguished, in whole or in part, by judicial proceedings in a court of competent jurisdiction, subject to the provisions of Paragraph 18 herein. In addition, Grantors reserve the right to terminate this Grant at the end of each fifty-year term, said terms being measured from the Effective Date hereof, and upon notice to the Grantee of intent to terminate no later than ten (10) years before the end of each fifty-year term. Said notice shall be delivered to the Grantee within a one year period beginning on the first day and ending on the last day of such respective fortieth year period. Said notice shall be effective only if in writing and delivered either (i) in person to the parties' respective authorized agent or (ii) by First Class U.S. Mail or (iii) by overnight courier with tracking capabilities to the addresses provided herein, or to such other person or address as either party may designate in writing and deliver as herein provided. Should Grantors fail to provide timely notice of intent to terminate as herein provided, this Grant shall automatically renew for an additional fifty-year term.

18. Interpretation. Nothing in this Grant or the Master Plan shall be interpreted or intended to be utilized to interfere with the rights and duties granted to the Agricenter Commission pursuant to Chapter 141 of the Private Act of 1981, nor shall this Grant, or any provisions herein, be construed or interpreted as in any way modifying or exceeding the provisions of any law with respect to the use of the Property.

IN WITNESS WHEREOF, the parties hereto have caused this Conservation Easement to be duly executed and delivered by their respective officials thereunto duly authorized as of the date first written above.

GRANTEE:

**THE LAND TRUST FOR TENNESSEE,
INC.,** a Tennessee nonprofit corporation

By: J. C. Nelson

Print Name: Jean C. Nelson

Title: President and Executive Director

GRANTORS:

SHELBY COUNTY, TENNESSEE

By: A C Wharton, Jr.
A C Wharton, Jr., County Mayor

SHELBY COUNTY AGRICENTER
COMMISSION

By: W. H. Smythe, III
Hamilton Smythe, III, Chairman.

Approved as to Form:

By: Brian Kuhn
Brian Kuhn, County Attorney

Other County Approvals:

By: Michael Oakes
Michael Oakes, P.E.
County Engineer

By: Bill Goss
Bill Goss
County Real Estate Manager

STATE OF TENNESSEE
COUNTY OF SHELBY

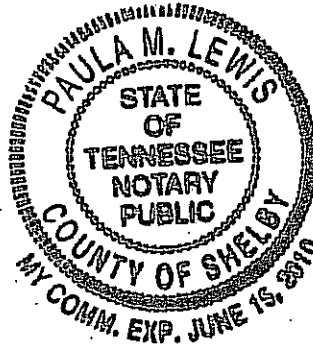
Before me, the undersigned, a Notary Public within and for said State and County, duly commissioned and qualified, personally appeared **HAMILTON SMYTHE, III**, with whom I am personally acquainted, and who upon oath acknowledged himself to be the **Chairman of the Shelby County Agricenter Commission**, the within named bargainor, and that he as such **Chairman**, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the **Shelby County Agricenter Commission** by himself as such **Chairman**.

9th WITNESS my hand and Notarial Seal, at office in Memphis, in the County aforesaid, this
day of January, 2007.

Paula M. Lewis

Notary Public

MY COMMISSION EXPIRES:



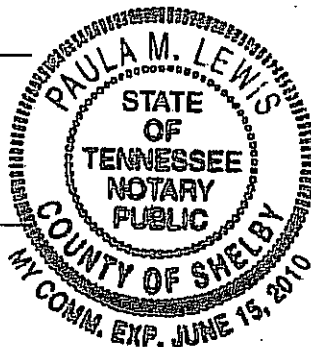
**STATE OF TENNESSEE
COUNTY OF SHELBY**

Before me, the undersigned, a Notary Public within and for said State and County, duly commissioned and qualified, personally appeared **A C WHARTON, JR., Mayor of Shelby County, Tennessee**, with whom I am personally acquainted, and who upon oath acknowledged himself to be the **Mayor of Shelby County, Tennessee**, the within named bargainor, one of the counties of the State of Tennessee, and that he as such Mayor of said county, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of **Shelby County, Tennessee**, by himself as such **Mayor of said Shelby County, Tennessee**.

16 WITNESS my hand and Notarial Seal, at office in Memphis, in the County aforesaid, this day of January, 2007.

Paula M. Lewis
Notary Public

MY COMMISSION EXPIRES:

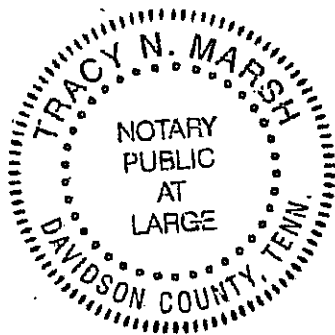


STATE OF TENNESSEE)

COUNTY OF Davidson)

Personally appeared before me, the undersigned, a Notary Public in and for said State and County, Jean C. Nelson, with whom I am personally acquainted, and who acknowledged that She executed the within instrument for the purposes therein contained, and who further acknowledged that She is the President + Exec. Director of the maker, **The Land Trust for Tennessee, Inc.**, and is authorized by the maker to execute this instrument on behalf of the maker.

WITNESS my hand, at Nashville, Tennessee, this 4th day of January, 2007.



Tracy N. Marsh
Notary Public
My Commission Expires My Commission Expires July 21, 2007

EXHIBIT A

PROPERTY DESCRIPTION

"County Property"

BEGINNING at the intersection of the west right-of-way line of Germantown Parkway and the south right-of-way line of Walnut Grove Road; thence south along said west right-of-way line to the north top of bank of the Wolf River; thence with said north and northeasterly top of bank of the Wolf River to a point on the east line of the Brandon Family, LP property (Instrument Number HC 7038); thence N 06°08'17" E along said east line a distance of 529.49 feet to an angle point; thence N 38°15'51" W along said east line a distance of 245.57 feet to an angle point; thence N 46°44'09" E along said east line a distance of 124.00 feet to an angle point; thence N 27°45'51" W along said east line a distance of 83.00 feet to an angle point; thence N 01°29'09" E along said east line a distance of 111.00 feet to an angle point; thence N 31°00'51" W along said east line a distance of 185.00 feet to an angle point; thence N 03°14'09" E along said east line a distance of 175.00 feet to an angle point; thence N 39°45'51" W along said east line a distance of 230.00 feet to an angle point; thence S 69°59'09" W along the north line of said Brandon property a distance of 191.00 feet to a point on the west line; thence S 01°44'09" W along said west line of Brandon property a distance of 241.00 feet to an angle point; thence S 04°44'09" W along said west line a distance of 217.00 feet to an angle point; thence S 18°44'09" W along said west line a distance of 185.00 feet to an angle point; thence S 16°44'09" W along said west line a distance of 127.00 feet to an angle point; thence S 26°44'09" W along said west line a distance of 248.53 feet to a point on the north top of bank of the Wolf River; thence northwestwardly along said top of bank of the wolf river the following courses and distances; N 61°22'43" W a distance of 113.88 feet to a point; N 54°02'51" W a distance of 336.69 feet to a point; N 39°37'53" W a distance of 223.56 feet to a point; N 28°04'22" W a distance of 391.30 feet to a point; thence N 33°32'36" W a distance of 162.98 feet to a point on the east line of the Brandon family property (Instrument Number HC 7038); thence N 35°29'06"E along said east line a distance of 338.46 feet to an angle point; thence N 07°29'06" E along said east line a distance of 250.00 feet to an angle point; thence N 21°00'54" W along said east line a distance of 130.00 feet to an angle point; thence N 76°30'54" W along the north line of said Brandon property a distance of 260.00 feet to an angle point; thence N 60°00'54" W along said north line a distance of 210.00 feet to an angle point; thence S 57°29'06" W along said north line a distance of 408.91 feet to the top of bank of said wolf river; thence N 40°59'52" W a distance of 522.57 feet to an angle point; thence N 41°06'18" W a distance of 406.90 feet to an angle point; thence N 23°49'38" W a distance of 100.55 feet to an angle point; thence N 11°49'27" W a distance of 136.72 feet to an angle point; thence N 01°38'31" W a distance of 142.54 feet to a point on the south line of the CSX Railroad (100 foot ROW); thence N 81°49'23" E along said south line a distance of 670 feet, more or less, to the point; thence N 04°20'02" E crossing said CSX Railroad (100 foot ROW) to a found 1/2" iron pin in the north line of said CSX Railroad, said point also being on the east line of the Brandon family property (Instrument Number HC 7038), said point having Tennessee State Plane Coordinates of N 320530.8667 and E 810031.3384; thence N 04°20'02" E along said east line and along the east line of the Richard Pearce property (Instrument Number DK 6926) a distance of 2072.48 feet to

the northeast corner of said Pearce property; thence N 86°16'39" W along the north line of said Pearce property a distance of 830.34 feet to a point on the said south line of Interstate Highway 40; thence N 44°20'04" E along said south line a distance of 646.52 feet to an angle point; thence N 50°30'38" E along said south line a distance of 493 feet, more or less, to a point in the northwest corner of the federal correctional facility property; thence in a southeastwardly direction along the westerly property line of the federal correctional facility property to a point in the southerly right-of-way line of the said CSX Railroad; thence in an eastwardly direction along said southerly right-of-way line of said CSX Railroad to a point in the southwesterly right-of-way line of Raleigh-LaGrange Road; thence in a southeastwardly direction along the southwesterly right-of-way line of Raleigh-LaGrange Road to its intersection with the west right-of-way line of Germantown Parkway; thence in a southwardly direction along the west right-of-way line of Germantown Parkway to the POINT OF BEGINNING.

Less and Except that portion of the said CSX Railroad (100 foot ROW) contained within this description.

"Agricenter property"

BEGINNING at a point in the south line of Walnut Grove Road (160 feet wide), said point being 1274.81 feet west of the west line of Germantown Parkway (160 feet wide) and said point being the northwest corner of the Shelby Farms Equestrian Center; thence S 16°08'46" E along the west line of the Equestrian Center 727.93 feet to a monument; thence S 02°25'53" W continuing along the west line of the Equestrian Center 1149.38 feet to a monument set in a paved road; thence S 03°17'55" W continuing along the west line of the Equestrian Center along the centerline of said road 518.12 feet to a monument set in the centerline of an intersecting paved road, said point being the southwest corner of the Shelby Farms Equestrian Center; thence S 87°25'42" E along the south line of the Equestrian Center along the centerline of said road 559.09 feet to a monument set in the west line of Germantown Parkway; thence S 14°44'58" W along the west line of Germantown Parkway 2158.85 feet to a monument set in the north line of a power line easement; thence leaving said west line of Germantown Parkway S 60°28'32" W along the north line of said easement 310.02 feet to a monument; thence N 87°25'42" W 5627.20 feet to a monument set on the bank of a drainage ditch; thence N 33°29'14" W 174.81 feet, more or less, to a point in the east line of the 374.5806-acre mature bottomland hardwood/bald cypress forest property designated by the Tennessee General Assembly as the Shelby Farms Forest, known as the Lucius Burch Natural Area (southern forest); thence N 07°00'31" E 2238.00 feet, more or less, to a point, said point being the northeast corner of said Lucius Burch Natural Area; thence N 85°58'13" W along the north line of said Lucius Burch Natural Area 1832.32 feet, more or less, to a point; thence leaving said north line N 33°29'14" W 120.00 feet, more or less, to a monument set in the west edge of a silt levee; thence N 70°58'24" W 3593.12 feet to a monument set in a field; thence N 31°50'38" W 184.46 feet to a point in the east line of the Walnut Grove Landfill; thence along said east line N 04°00'00" E 740.61 feet to an angle point; thence continuing along said east line N 09°00'00" W 450.00 feet to an angle point; thence continuing along said east line N 48°30'00" W 400.00 feet to a point in the north line of said Walnut Grove Landfill; thence along said north line S 81°36'16" W 332.10 feet to a point; thence N 03°55'00" E 246.46 feet to a point in the south line of Walnut Grove Road (160 feet wide); thence with said south line of Walnut Grove Road S 84°13'16" E 11373.52 feet to a point of curvature; thence continuing along said south line on a curve to the right having a radius of

2247.83 feet a distance of 288.35 feet to a monument, said point being the POINT OF BEGINNING.

The Agricenter property includes Tier 2 which is the Agricenter campus and Tier 3 which is the property outside the campus.

The Tiers are shown on the map attached hereto as Exhibit B.

EXHIBIT A-1

ROAD RIGHT-OF- WAY PROPERTY

The following land is **EXCLUDED** from the provisions of this Conservation Easement:

1. Existing and future widening of designated public roads and rights-of-way including, but not limited to, Walnut Grove Road (160' R.O.W.), Mullins Station Road (108' R.O.W.), and Raleigh-LaGrange Road (108' R.O.W.).
2. Land for proposed "Parkway right-of-way" to be used for the Shelby Farms Parkway and Walnut Grove Road widening and improvement projects.

EXHIBIT A-2

AREA 10 PROPERTY DESCRIPTION

The following land is **EXCLUDED** from the provisions of this Conservation Easement:

"Area 10"

BEGINNING at a point in the southerly right-of-way line of the Louisville and Nashville Railroad, said point being located 1500 feet, more or less, west of the centerline of Whitten Road; thence S 13°42'00" W a distance of 710 feet, more or less, to a point; thence S 69°50'04" W a distance of 419.19 feet to a point of curvature; thence along a curve to the left, having a radius of 2710 feet, a distance of 2554.12 feet to a point of tangency; thence S 15°50'04" W a distance of 2119.19 feet to a point; thence N 83°09'56" W a distance of 148.41 feet to a point of curvature; thence along a curve to the right, having a radius of 3000 feet, a distance of 2199.11 feet to a point of tangency, said point being in east line of the 413.7512 acre mature bottomland hardwood/bald cypress forest property designated by the Tennessee General Assembly as the Shelby Farms Forest, known as the Lucius Burch Natural Area (northern forest); thence along said easterly line N 41°09'56" W a distance of 4648.41 feet to a point in the southerly line of the Louisville and Nashville Railroad right-of-way; thence in an eastwardly direction along said southerly line of the Louisville and Nashville Railroad right-of-way to the POINT OF BEGINNING.

EXHIBIT A-3

EXCEPTIONS TO MORATORIUM

On Tier 1:

- a. Lucius Burch Natural Area Gateway Project, if permitted by the State of Tennessee;
- b. Visitors Center/Plough Park Sewer Extension;
- c. Public Restroom Construction (Plough Park/Gate 12)
- d. Renovation/Expansion of Plough Park for playground equipment; and
- e. ~~Shelby Farms Parkway~~

On Tier 2:

Construction of improvements devoted exclusively to agriculture, which may include agricultural trade association offices but may not include manufacturing.

Office Space Expansion to Helena Chemical Co. office space - 7664 Moore Road

Agricenter East Pavilion - Clear span addition to main complex facility - 7777 Walnut Grove Road

Monsanto - storage area for equipment and cotton sample office - 7616 Moore Road

Equipment shed area for farm equipment for research vendors - 7518 Moore Road

TCI Landscape - office building adjacent to Quonset Hut - 7546 Moore Road
Farmers Market tent on south side of RV Park-7777 Walnut Grove Road

Parking area for Wildlife Observation Tower

On Tier 3:

Catch'em Lake Bait Shop, restrooms and pavilion area - 6913 Moore Road

On Tier 4:

Buildings to accommodate shows of horse show associations.

Agricenter Show Place Arena restroom upgrades - 105 S. Germantown Parkway

EXHIBIT B
MAP OF TIERS



Tom Leatherwood

Shelby County Register

As evidenced by the instrument number shown below, this document
has been recorded as a permanent record in the archives of the
Office of the Shelby County Register.


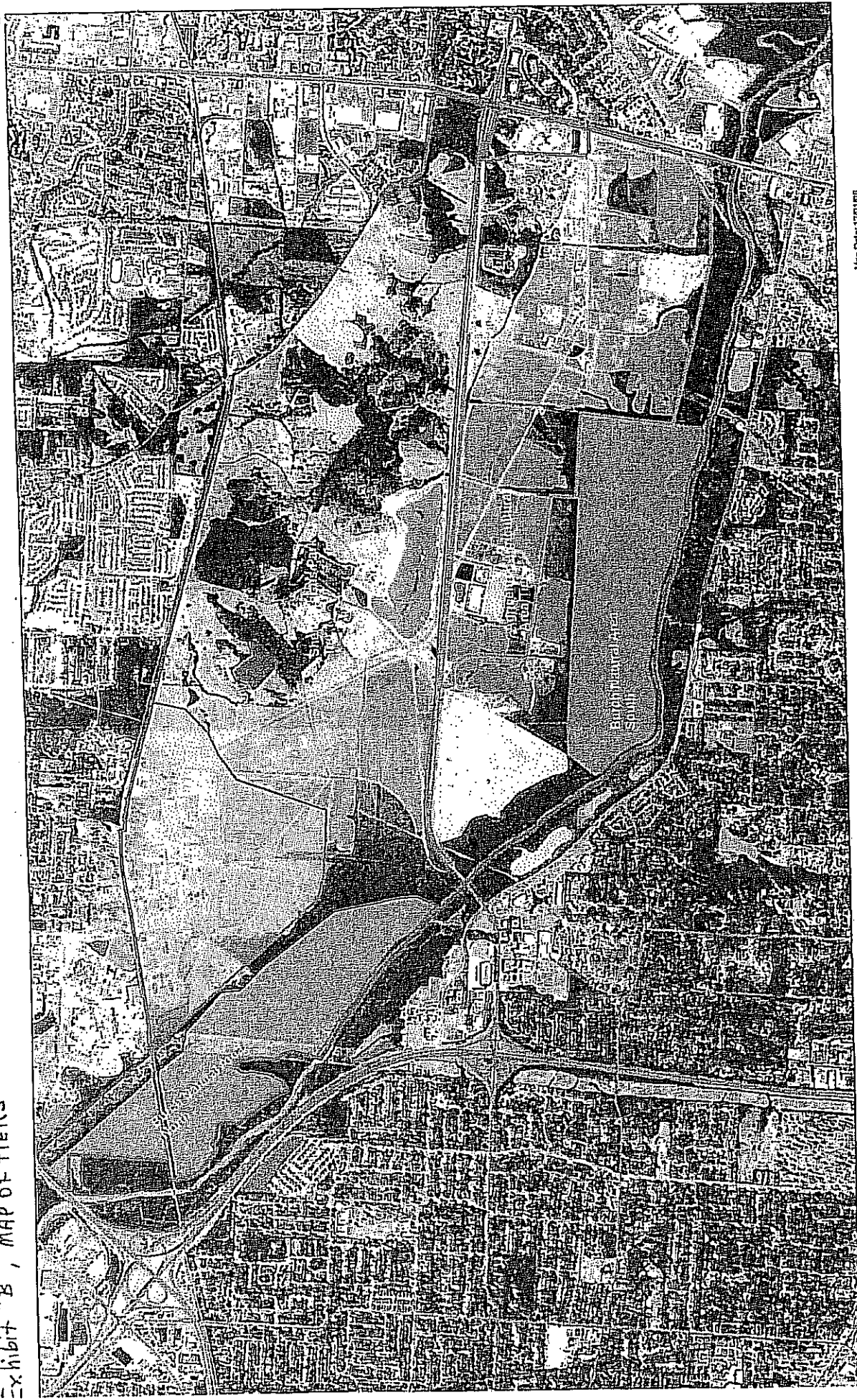
	
07021070	
02/01/2007 - 02:11 PM	
23 PGS : R - BASEMENT	
HERTHA 467561-7021070	
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MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	115.00
DP FEE	2.00
REGISTER'S FEE	0.00
WALK THRU FEE	0.00
TOTAL AMOUNT	117.00
TOM LEATHERWOOD	
REGISTER OF DEEDS SHELBY COUNTY TENNESSEE	

Exhibit "B", MAP OF TIERS



Map Date: 12/01/88
Shelby County, MO
Aerial Photo courtesy of U.S.G.S.
photography date 2005

0 0.16 0.3 0.6 0.6 1.2 Miles

