4.0 ENVIRONMENTAL OVERVIEW

An environmental overview was completed to compile a general summary of the social, economic and environmental framework of the project. The findings were used in evaluating improvement for their potential impact on the environmental resources in the study area. The environmental review included an area 1000 feet each side of the existing centerline of KY 9 within the limits of the study. A detailed Environmental Overview Report dated April 2002, which includes resource agency letters and contacts, has been prepared and was submitted to the Cabinet under separate cover. **Figures 3 and 4** show the locations of potential cultural historic sites and wetlands. A brief summary of each of the issues discussed in that report is included below.

4.1 Socioeconomics

The project area is rural in nature, predominantly farmland, with scattered residences and farming structures located along KY 9. With respect to Environmental Justice considerations, there do not appear to be any identifiable minority or low-income neighborhoods or community units located in the project corridor. That being the case, these types of relocations are expected to be minimal. The number and intensity of relocations is dependent on the alternative chosen, in addition to the design requirements of vertical and horizontal alignments. Total relocation activities would probably be limited to approximately four (4) residents for a partially controlled 4-lane facility but up to 95 residences for a fully controlled, 4-lane facility. More specific information related to Environmental Justice is located in **Appendix E.**

4.2 Air Quality

Located at the northwest edge of the project area, Campbell County is in an air quality non-attainment area for levels of ozone by the Environmental Protection Agency (EPA). Therefore, this section of the project corridor will require specific air quality impact assessments. Pendleton, Bracken and Mason Counties have been designated by the EPA to be in conformity for all transportation related pollutants.

With the exception of the area located in Campbell County, this project is primarily located in an area that will not require transportation control measures. Based on a windshield inspection of the project corridor, no air quality sensitive land uses or susceptible sites were noted.

4.3 Highway Noise

Given the rural context of the area, highway noise levels are not expected to be a major concern on this project. The majority of the adjacent land is undeveloped farmland.

4.4 Aquatic and Terrestrial Ecology

One hundred and sixteen (116) National Wetland Inventory (NWI) sites were mapped within the study area. Ninety-one (91) were diked ponds that are part of farming operations. Wetlands indicated by NWI mapping, and the presence of hydratic soils, need to be field verified in subsequent project phases, if any, to determine their presence or jurisdictional status.

The project falls within the range of several federally listed endangered and threatened species. Suitable habitat for the Indiana bat is scattered along the length of the project corridor. Suitable habitat for Running Buffalo Clover occurs within the project corridor. In addition, the presence of the Bald Eagle has been reported in Bracken County, and an example of its preferred habitat has been located less than 1

mile from the corridor. These issues must be further examined in subsequent project phases, if any, to determine any adverse impacts.

4.5 Cultural Historic Resources Evaluation

A file search of the Kentucky Heritage Council identified seventeen (17) properties located within the project corridor that had been previously documented. Two sites are on the National Register of Historic Places, the Immaculate Conception Catholic Church and Cemetery, and the Walcott Bridge near the KY 1159 intersection. The Walcott Bridge was dismantled in May, 1999. The bridge is currently being relocated approximately 500 feet upstream from its original location, with the original historical abutments remaining in place. A windshield survey of the project corridor located twenty (20) additional potential cultural historic properties. Thirteen (13) of the sites appear to be potentially eligible for inclusion in the National Register of Historic Places. A final determination of eligibility and National Register boundaries was beyond the scope of the current study.

4.6 Archaeological Resources Evaluation

Based on a review of existing and historical documents, eight (8) previously recorded archaeological sites are located within the study area but only four (4) of those sites are located within the area of potential effect. Any unrecorded sites would most likely be prehistoric open habitation sites without mounds on historic farms or properties. Since there have been relatively few archaeological surveys completed in the project area, it is likely that intact historic and prehistoric deposits that will qualify for listing in the National Register are present. Since there is a strong likelihood of encountering significant sites during this project, coordination efforts need to proceed as soon as practicable during future project phases, if any.

4.7 UST/Hazmat Considerations

A search of government records and a preliminary screening/windshield survey was conducted to locate any sites or facilities that may harbor substances or underground storage tanks (UST). No unregistered or abandoned UST locations, illegal waste sites or other suspicious areas that would harbor hazardous materials were observed. No underground storage tank locations or above ground storage/heating oil tanks were encountered during the initial survey of the project corridor. In addition, no significant hazardous materials or underground storage tank issues are anticipated for this project, regardless of the alternate selected.

5.0 GEOTECHNICAL OVERVIEW

The project area is located within the eastern portion of the Eden Shale Belt Subsection and has a characteristic topography of predominantly steep slopes and sinuous ridges separated by closely spaced narrow valleys. Limestone and shale underlie the majority of the soils within the project corridor. The dominant soil association is the Lowell-Faywood-Nicholson that is found on limestone and shale ridges and is composed of soils that are deep to moderately deep, well drained and have clayey sub-soils. Streams in the project area are generally perennial and are either direct tributaries to the Ohio River or the Licking River watershed. These conditions would result in large quantities of cut/fill required for any widening improvement; reductions could be achieved by use of retaining walls where applicable. No geotechnical conditions were found that would preclude the widening of KY 9. A summary of the geotechnical findings is located in **Appendix F**.

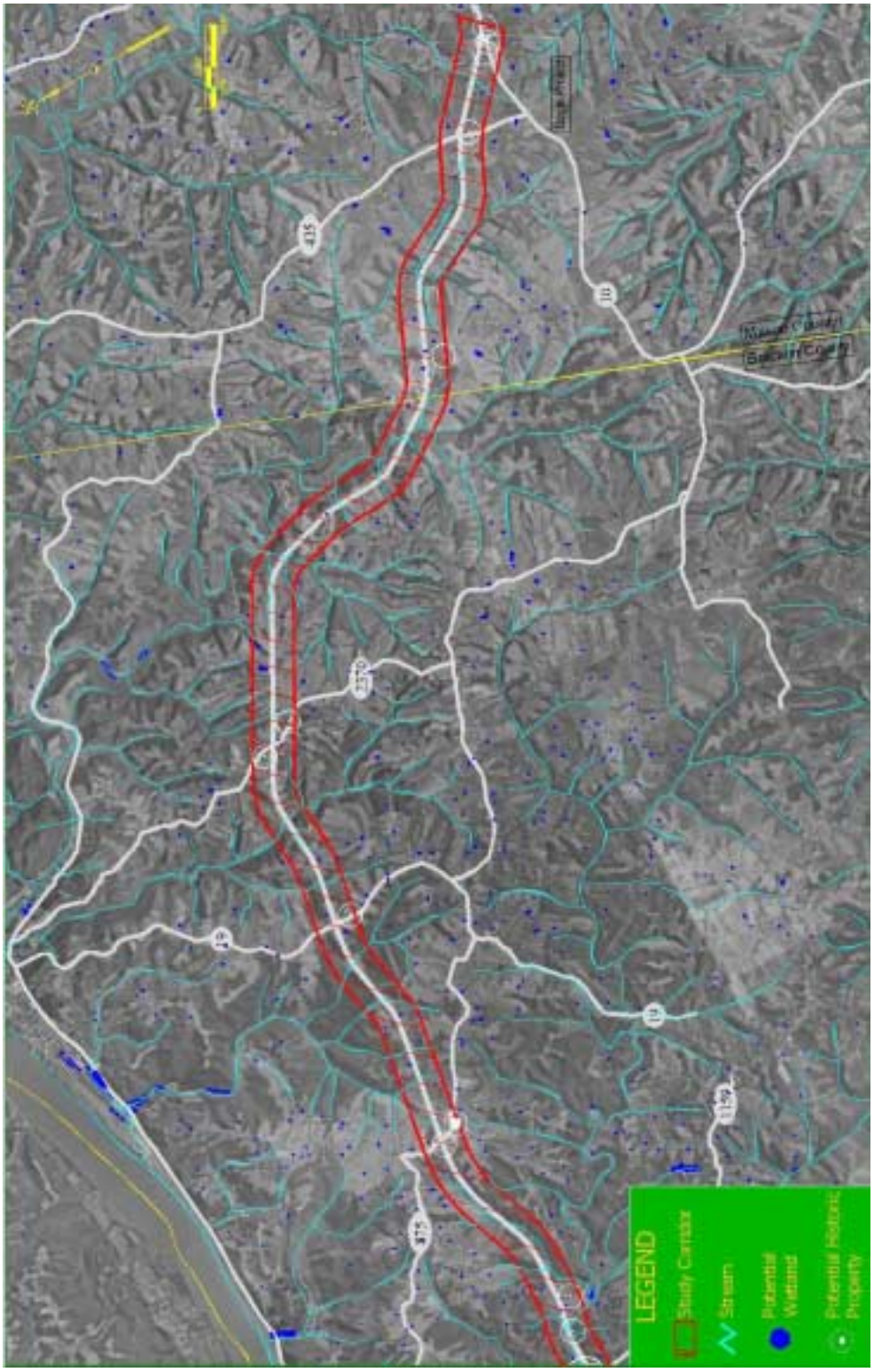

FIGURE 3 – ENVIRONMENTAL OVERVIEW
EAST-SIDE OF CORRIDOR

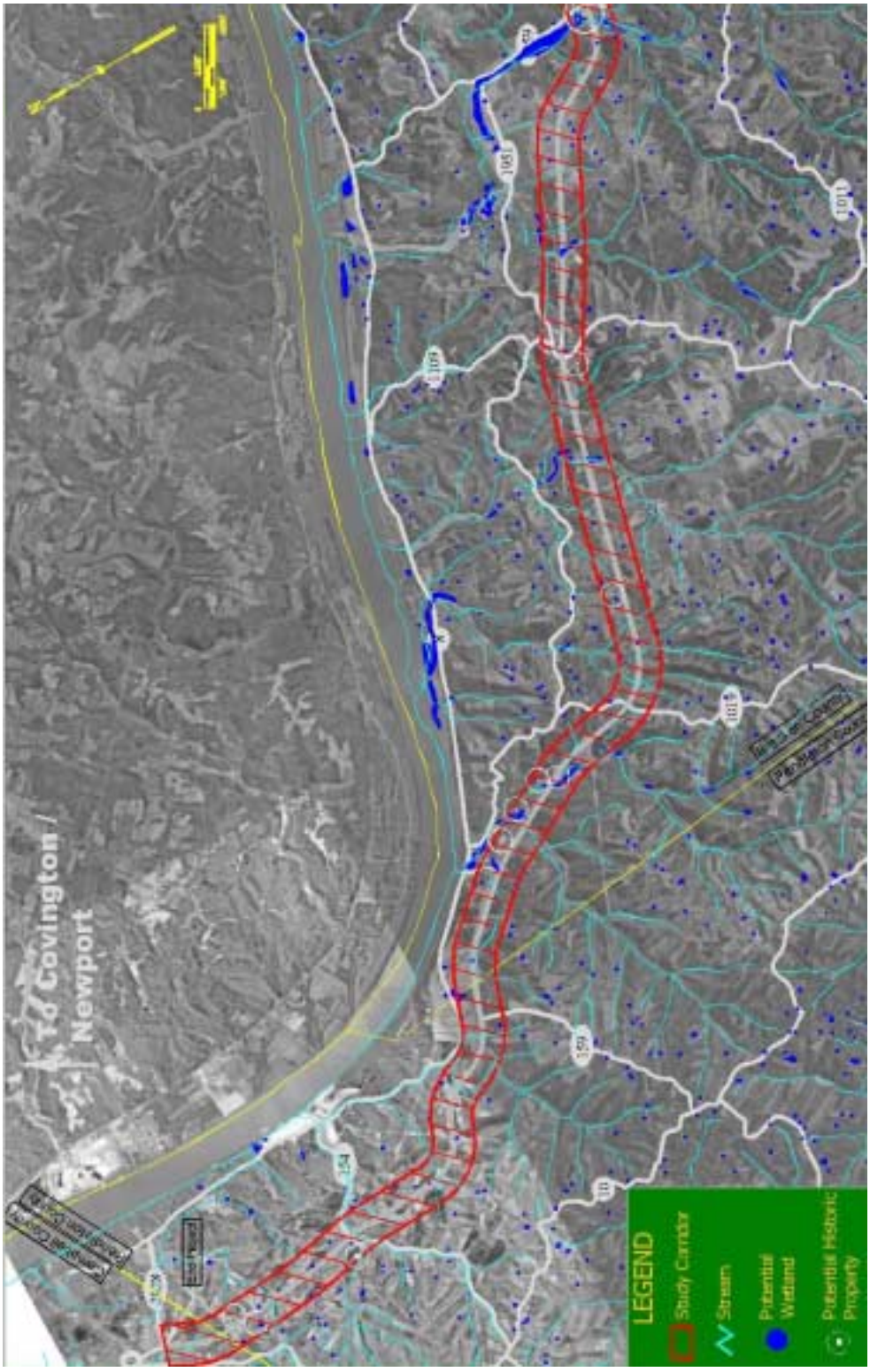

FIGURE 4 – ENVIRONMENTAL OVERVIEW
WEST-SIDE OF CORRIDOR