

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
SECTION 26a APPROVAL FOR PROPOSED STATE ROUTE 437 IMPROVEMENTS
SHELBYVILLE BYPASS
BEDFORD COUNTY, TENNESSEE

Proposed Action and Need

The Tennessee Department of Transportation (TDOT) has submitted to the Tennessee Valley Authority (TVA) an application dated December 5, 2008, for proposed improvements associated with the construction of a 6.486-mile section along a new alignment of State Route (SR) 437, Shelbyville Bypass. The project area described in the application encompasses SR 437 from SR 10 (U.S. Highway [US] 231) to SR 16 (US 41A) in Bedford County, Tennessee. The new construction will consist of two 12-foot lanes, 12-foot paved shoulders, and varied guardrail. The project includes the permanent filling of approximately 0.54 acre of jurisdictional wetlands and the temporary filling of 0.29 acre of wetlands adjacent to Butler Creek, a tributary to Duck River Mile (DRM) 235.6, right bank, for construction/haul roads. The work within the 6.486-mile section also involves stream relocations and encapsulations and three buried utility (water) lines. Specific actions requiring approval under Section 26a of the *TVA Act* along the 6.486-mile section of SR 437 include the permanent filling of the 0.54 acre of jurisdictional wetlands and the mitigation thereof, stream loss in the amount of 51 feet at two locations and the mitigation thereof, and stream encapsulations and associated riprap in the amount of 2,211 feet at the following 19 locations within unnamed tributaries to Little Hurricane and Butler creeks:

1. Site 1 (STR-9), Sta 120+03, 138-foot concrete pipe
2. Site 2 (STR-10), Sta 131+44, 112-foot concrete pipe
3. Site 2 (STR-10), Sta 132+75, 24-foot side drain
4. Site 3 (STR-11), Sta 136+37, 110-foot concrete pipe
5. Site 4 (STR-12), Sta 146+16, 120-foot concrete pipe
6. Site 5 (STR-13), Sta 19+2, 124-foot dual box culverts
7. Site 5 (STR-13), Sta 158+90, 110-foot dual box culverts
8. Site 6 (STR-7), Sta 20+00, 94-foot box culvert
9. Site 7 (STR-14), Sta 210+84, 140-foot concrete pipe
10. Site 8 (STR-1), Sta 224+68, 128-foot concrete pipe
11. Site 9 (STR-2), Sta 231+57, 90-foot dual box culverts
12. Site 9 (STR-2), Sta 20+82, 52-foot dual box culverts
13. Site 11 (STR-16), Sta 238+91, 128-foot concrete pipe
14. Site 13 (STR-4), Sta 240+75, 128-foot box culvert
15. Site 14 (STR-5), Sta 250+04, 102-foot concrete pipe
16. Site 15 (STR-5B), Sta 261+20, 172-foot dual box culverts
17. Site 16 (STR-6), Sta 296+05, 196-foot dual box culverts
18. Site 17 (STR-2), Sta 323+28, 118-foot box culvert
19. Site 18 (STR-17), Sta 372+03, 125-foot box culvert

The above-described 6.486-mile section is part of a larger highway improvement plan for 12.6 miles of SR 437 between SR 64 and SR 16 (US 41A) (the Shelbyville Bypass) in Bedford County, Tennessee. TDOT plans to build this new roadway for the following purposes: to

lessen traffic in the Shelbyville central business district, to provide a safer and less congested route to bypass the Shelbyville business district, and to improve access to outlying areas around Shelbyville for possible economic development. The bypass would act as a connector for six major radial highways in the Shelbyville area. The improvements would address long-range traffic needs and support the findings of local transportation studies for needed highways. The proposed SR 437 highway would be a two-lane rural highway on a new location. The proposed typical section has two 12-foot lanes, 12-foot shoulders, and a 150-foot right-of-way. The design speed for a typical segment is 60 miles per hour. Intersections with other state routes would include turn lanes and would be two-way stops or would be signaled. A new bridge across the Duck River (DRM 215.4) between Sims Road and Warner Bridge Road would be reviewed in a future 26a approval request.

The Federal Highway Administration (FHWA) and TDOT jointly prepared an environmental assessment (EA) dated December 28, 1998, for the entire 12.6-mile improvement project, and FHWA issued a finding of no significant impact (FONSI) for the entire length on February 27, 2004. TVA requested cooperator status in a letter dated August 22, 1997. Five minor alignment changes have occurred since approval of the EA in 1998. These changes are discussed on pages 6 and 7 of the FHWA FONSI and resulted in additional archaeological studies and ecological studies as well as additional agency review and approval (discussed on pages 7 through 9 of the FHWA FONSI).

TVA has reviewed the FHWA/TDOT EA, the FHWA FONSI, and additional technical studies prepared for the entire 12.6-mile improvement project and the current proposed action involving the 6.486-mile section of SR 437 improvements. When Section 26a applications are received from TDOT for additional highway sections, TVA will review the EA and FONSI to determine if impacts in these sections are adequately assessed, and complete any appropriate additional environmental review.

Alternatives

During early planning, five alternative routes were examined for the 12.6-mile new road construction in the Shelbyville planning area. Alternative E was selected because it would provide better traffic service due to its shorter length and closer proximity to the developed area of Shelbyville and to several other major outlying traffic generators. This alternative with slight changes in alignment was developed into the sole "Build" Alternative in the FHWA/TDOT EA. Under the "No Action" Alternative, no improvements to the highways or local streets in the project area, other than normal maintenance and repair, would occur, and the purpose and need of the project would not be met.

Impacts Assessment

Predominate land uses within the 12.6-mile project area are agricultural and some residential. Agricultural property is primarily pasture (161 acres) within the project right-of-way. Prime or unique farmland comprises 18.2 acres out of a total 247.2-acre project area. A prime farmland evaluation rating of 140 was determined in accordance with the *Farmland Protection Policy Act of 1981* evaluation guidelines. A rating score that exceeds 160 requires that other alternatives be considered.

Some negative impacts would be associated with the loss of agricultural lands and other natural systems; however, the new highway construction would likely induce growth by the spread of residential, commercial, and other economic development in an area formerly undeveloped. This growth and development is consistent with the land planning by the City of Shelbyville, and

the highway could stimulate a rise in property values in the area and the associated new tax revenues and employment opportunities.

The 12.6-mile new highway construction would require the displacement of five or six residences and the disruption of three businesses. Relocation resources are available, and as a result, the impacts would be short term in duration. Owners of property to be acquired would be offered and would be paid fair market value for their property. The project is on the rural edge of Shelbyville and will not split neighborhoods or separate residences from community facilities. Displaced families should be able to relocate to similar areas. There would be no disproportionate impact to low-income or minority populations.

While there would be a short-term increase in air pollution during construction and minimal localized increase when the roadway is complete, the 12.6-mile project will have no substantial impact on the air quality of the area, and the carbon monoxide levels of the project will be well below the National Ambient Air Quality Standards. A localized increase in noise impacts will occur at some locations. Noise abatement methods were evaluated and determined to be economically unreasonable.

The construction of a new 12.6-mile roadway will cause a loss of wildlife habitat through a reduction of pasture and forest areas, although no unique habitats are located in the project area. Wildlife will be displaced during highway construction, and the new road corridor will temporarily impede mobility and foraging of some wildlife. No federally listed plants or animals or critical habitat were observed in the project area. A TDOT evaluation of glade habitat determined that the habitat is degraded and would not support state-listed plant species.

TDOT has indicated that measures to prevent the spread of invasive species on construction sites would include the following requirements: (1) equipment must be washed before entering construction sites to avoid the introduction and spread of invasive species and (2) if equipment is moved outside of the project area limits during construction, it must be washed before reentering the construction site. TVA deems these measures adequate to comply with invasive species' management objectives.

There are 12 streams/rivers considered perennial in the 12.6-mile project area. Seven of the 12 are unnamed tributaries; the five named waterways are Davis Branch, Rabbit Branch, Little Hurricane Creek, Butler Creek, and the Duck River. Impacts associated with placing pipes, culverts, and bridges to construct the new highway would include construction-related impacts during building the highway, such as increases in turbidity and sedimentation and possible long-term roadway pollution from highway runoff. Best management practices (BMPs) would be utilized during construction to reduce stream turbidity due to soil erosion. Future residential and other development following the construction of SR 437 may also contribute to increases in water quality impacts. Several stream tributaries would have sections requiring piping or culverts that would reduce the quality of aquatic habitat. Disturbance of riparian vegetation along the stream channel would be kept to a minimum, only removing what is needed to install the piping and culverts. On-site, in-kind stream relocations at some sites would cause temporary stream impacts but would be mitigated through new channel design that mimic the current channel characteristics and planting of trees along the new stream channel.

Within the 6.486-mile section of SR 437 improvements currently under review, stream loss in the amount of 51 feet at two locations, in-kind replacement for 585 feet of stream relocation, and stream encapsulations in the amount of 2,211 feet are proposed. With the proposed on-site stream relocation, tree plantings, and the mitigation proposed for the stream loss, impacts to

aquatic resources are expected to be insignificant. No state- or federally listed aquatic species were found in the 6.486-mile project area currently under review, but suitable habitat was found in several other locations within the 12.6-mile corridor, particularly in the Duck River. These other habitat areas will be reviewed when future 26a approvals are requested.

Four potential jurisdictional wetlands totaling 1.25 acres were identified for the 12.6-mile project during field survey, but less than 1.0 acre of wetland is within the proposed project right-of-way. These wetlands are classified as emergent and appear as isolated systems, common in Bedford County. Livestock have impacted all of the wetlands to some degree, and their functional values are relatively low. Rerouting the highway to avoid the wetland within the project right-of-way would require the additional relocation of 500-1,000 feet of Butler Creek and, therefore, was considered to have a more damaging environmental consequence. Within the 6.486-mile project area, impacts to 0.54 acre of jurisdictional wetlands would be mitigated in the Coffee County Wetland Mitigation Bank. Wetland areas impacted by the temporarily filling of 0.29 acre for construction haul roads would be restored to preconstruction contours and planted with the appropriate trees upon completion of construction activities.

The proposed 12.6-mile new roadway construction will encroach upon the 100-year floodplain at DRMs 215.4 and 217. Approximately 3.44 acres of floodplain will be affected at the Duck River crossing at DRM 215.4, and SR 437 would be located within the periphery of the floodplain at DRM 217. There is no practicable alternative to accomplishing the project objectives without encroaching on the floodplain. The project would be designed, to the extent practicable, not to interfere with the existing and projected drainage patterns and needs for the area. TDOT has determined that the project would not increase the preproject flood elevations by more than 1 foot, and TVA has concluded that the design of the roadway system is in compliance with floodplain guidelines for implementing Executive Order 11988.

Visual impacts from the 12.6-mile new roadway construction would occur, as construction of a new SR 437 would replace the existing woods, farmland, and pastures. As previously stated, five or six houses and three businesses would be removed to build the roadway. Segments of some existing roads would be removed, and interchanges and crossovers would be added to others. More automobiles and added trucks would likely travel the new SR 437, but less traffic may occur on the existing roadways.

Archaeological investigations of the project area identified 12 archaeological sites adjacent to the proposed 12.6-mile project corridor, representing a variety of resource types, from indeterminate prehistoric lithic scatters to Civil War earthworks and entrenchments, and a "pauper cemetery." Three of these 12 sites were recommended for Phase II testing to assess their eligibility for the National Register of Historic Places (NRHP). Thirty-one properties were inventoried for historic impacts within the 12.6-mile project area. None of the properties qualified for the NRHP. The Spencer Eakin House was the only NRHP-listed property within 1 mile of the project area. TDOT has stated there would be no effect to any NRHP-listed or NRHP-eligible property.

Public and Intergovernmental Review

Several public meetings were held concerning the SR 437 12.6-mile highway project, including an "open house" format meeting on May 22, 1997, a corridor public hearing on March 18, 1999, and a project design public hearing on April 2, 2002. Copies of the EA were made available to the public for review. Comments were received from the City of Shelbyville, Bedford County, the local planning commission, and individuals. The public comments were classified for later disposition.

Two federal agencies, the U.S. Army Corps of Engineers (USACE) and TVA, requested cooperater status on the FHWA/TDOT EA. TVA provided comments on the draft EA in letters dated March 9, 1998, and March 25, 1999.

An alignment shift necessitated a restudy of a portion of the corridor. Both an ecological study and a biological assessment were completed, and a Section 7 concurrence letter from the U.S. Fish and Wildlife Service (USFWS) was received on May 15, 1998. A letter from the USFWS dated October 20, 1999, stated that no significant adverse impact to federally listed as endangered or threatened species is anticipated. In a letter dated March 16, 2007, the Tennessee Department of Environment and Conservation (TDEC) indicated that, according to its Division of Natural Areas database, the coppercheek darter (*Etheostma aquali*) might occur in the project area.

TDOT conducted a Phase I archaeological survey and a historical records survey on the 12.6-mile proposed corridor. Initial Phase I archaeological studies were completed, and the Tennessee State Historic Preservation Officer (SHPO) concurred with additional Phase II testing for three sites in letters received on March 31, 1997, and April 15, 1997. Seven other sites were not eligible for listing in the NRHP. The Spencer Eakin Farm was the only NRHP-listed property within 1 mile of the project area, and the SHPO stated by letter dated January 10, 1997, that the project as proposed will not affect the historic property. Two alignment shifts resulted in additional Phase 1 archaeological study. The additional Phase I and Phase II results were provided by letter dated August 21, 2002, to the SHPO. In a letter dated August 28, 2002, the SHPO concurred that the 6.486-mile section contains no archaeological resources eligible for listing in the NRHP. A final alignment shift on the eastern half of the roadway necessitated a third archaeological study by TDOT (see March 6, 2003, letter in FHWA FONSI) concluding there were no archaeological resources within the area of potential effect. The SHPO concurred in a letter dated March 10, 2003, that the realigned portion of the eastern half of the project area contains no archaeological resources eligible for listing in the NRHP (see Appendix B to FHWA FONSI). TVA concurs with these determinations.

For the pending 6.486-mile section of improvements, the USACE issued Public Notice (PN) 08-84 on December 19, 2008. An amended PN (08-84A) was issued on December 31, 2008, containing a revised map of the project area. The comment period for both USACE PNs ended on January 19, 2009. The Tennessee SHPO responded to the PN by letter dated January 12, 2009, stating that no properties eligible for or listed in the NRHP would be affected by the undertaking. USFWS also responded (by letter dated January 16, 2009) that no federally listed or proposed endangered or threatened species occur within this impact area and that the requirements of Section 7 of the *Endangered Species Act of 1973* are fulfilled.

TDEC issued a PN for permit application NRS 08.302 for the 6.486-mile Shelbyville Bypass section on February 10, 2009. TDEC issued an Aquatic Resources Alteration Permit on March 30, 2009.

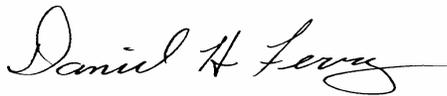
Mitigation

TDOT proposes to mitigate permanent wetland impacts by debiting at a 2:1 ratio 1.08 acres from available wetland credits at the Coffee County Wetland Mitigation Bank. As mitigation for the 285 feet of stream impacts, a total payment of \$57,000 is proposed to the In-Lieu Fee Stream Mitigation Program. The on-site, in-kind stream relocations for 585 feet of stream will be planted with streamside vegetation and trees. TVA has not identified the need for additional mitigation.

Conclusion and Findings

TVA has independently reviewed the impacts assessed in the FHWA/TDOT EA and additional technical studies and determined that the scope, considerations of alternatives, and contents are appropriate and that the impacts on the environment have been adequately assessed. Based on this review, there are no significant adverse impacts, individually or cumulatively, on the project impact area or its environment. TVA has evaluated the project for compliance with Executive Order 11988 on Floodplain Management and has determined that no practicable alternative to locating the new road within the floodplain is available. No archaeological resources will be affected by the current undertaking. No threatened or endangered species have been identified in the 6.486-mile section of proposed highway improvements under review. TVA has decided to adopt the FHWA/TDOT EA. The FHWA FONSI incorporates environmental commitments (pages 12 and 13) that when implemented should reduce environmental impacts to insignificant levels. The FHWA/TDOT EA and FHWA FONSI are attached and incorporated by reference.

Based on the FHWA/TDOT EA, we conclude that the issuance of a Section 26a approval for stream loss/mitigation, and stream encapsulations described in the 6.486-mile section of SR 437 proposed in the December 5, 2008, application would not be a major federal action significantly affecting the environment. The FONSI is contingent upon successful implementation of TDOT's proposed wetland and stream impacts mitigation, including debiting 1.08 acres in the Coffee County Wetland Mitigation Bank and purchase of credit in the In-Lieu Stream Mitigation Program, tree plantings on site adjacent to relocated streams, TDOT's provisions for sediment and erosion control, and TVA Section 26a standard conditions for water quality protection.



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Date Signed