TDOT Alternatives Analysis September 11, 2008

Proposed Water and Telephone Line Relocations
SR-840
From 0.30 Mile West of Bending Chestnut Road
To 0.70 Mile East of Thompson's Station Road
Williamson County, Tennessee
Project # 94840-1203-04
PIN 101435.01
PIN 101435.03
PIN 101435.05

Utility Relocation Process and Alternatives

The selected SR-840 alignment requires the relocation and realignment of several rural roads that provide access throughout this portion of Williamson County. The following roads all require some realignment: Beard, Robinson, Boston-Theta, Leipers Creek, Carters Creek, Mobley's Cut, Johnson Hollow, Davis Hollow, Garrison, and Bending Chestnut. The realignments of these roads were developed using the same CSD approach used for the SR-840 alignment selected. There was a concerted effort to minimize the impacts upon the natural and human environment with a focus on water resources such as streams and wetlands. The project will also require the relocation and realignment of telephone and water utility lines that exist along the current alignment of those roads. Their relocation will be required due to the lines and manholes being covered by the footprint and fill/excavation activities required for the construction of SR-840.

The individual utility companies are responsible for the utility relocation designs, but actual relocations of telephone and water lines will be included in TDOT's construction contracts. The existing telephone and water utility lines generally follow the existing alignments of the roads noted above, and provide service to the residences that are scattered along the roads. Since the roads were relocated and designed to minimize impacts to water resources and maintain access to the surrounding residences, the utilities can also be relocated with a similar sensitivity if they are relocated in close proximity to the roads. Most of the affected utility lines are underground. The relocation of these lines was coordinated with the realignment of the roads noted above, and the utility companies provided their relocation design plans to TDOT for their review and approval. The end points for the relocated water and telephone lines were determined by the right of way and disturbance created by the SR-840 alignment and the resulting realignment of the local roads. Almost all of the proposed utility relocations are parallel to the relocated roads in order to minimize the overall impacts on the natural environment and use areas disturbed by SR-840 construction activities. It was determined by TDOT that this is the optimum location for providing utility service to the surrounding residences and maintaining the operational efficiencies of the utility service since the utility lines will not be located substantial distances from their former locations. As a result the water quality related impacts for the relocated utilities have been minimized.

There are nine sites located along the roads noted above where the relocation of utilities requires the crossing of streams and/or wetlands. Only one of the crossings will involve mitigation. Wetland WTL-B3 is impacted by roadway fill of SR-840 and the realignment of Leipers Creek Road and will be mitigated as a result of that action as discussed in our June 3, 2008 permit application.

The proposed utility line crossings should have a negligible effect on the overall water temperature of the streams impacted. Due to the type of impact, (installation and removal of utility line) the habitat conditions should not be limited and there will be minimal or no impact on the overall stream habit, available substrate and movement of aquatic life within the stream channels. The habitat score for the each stream impacted can be found in Form "G" of the ecology report. For additional details concerning aquatic life, for selected streams, see the previously submitted pre-construction benthic and pre-construction fishery surveys and Form "G". Once construction is completed post-construction benthic and post-construction fishery surveys, for selected streams, will be submitted to TDEC for their review.

Based on the General Aquatic Resource Alteration Permits criteria from TDEC, this crossing should meet the requirements of the General Permit for Utility Line Crossings. Therefore TDOT feels that the proposed culvert would result in no net loss of resource value to the watershed.