

# 2009 APPLICATION FORM

(required for each entry)

Complete this section for (check one):  **Small Project**  **XLarge Project**  
 **Post-Design Solution**  **Off System Project**

Job No. J9P0455 Route 60 County / LPA Howell-Carter

Description (attach separate sheet if necessary) This project consists of grading, paving, and bridges to convert Route 60 from a 2-lane to a 4-lane facility from Willow Springs to Van Buren.

Complete this section for: **Process Improvement**

Process or Product \_\_\_\_\_

Description (attach separate sheet if necessary) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Project Leader Elquin Auala

Key Team Members (include key personnel irrespective of employer-nine individuals maximum)

<u>Mike Carda</u>	<u>Steve Shelton</u>	<u>Jodi Paulsen</u>
<u>Jeni Russell</u>	<u>Wade White</u>	<u>Brad Newberry</u>
<u>Nathan Moss</u>	<u>Melanie Elmore</u>	<u>Lisa Durnell</u>

Project Budget:

Initial Cost / Estimate \$ 240,000,000 Final Cost / Award \$ 108,000,000

What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy? (In layman's terms - 200 words or fewer-attach separate sheet if necessary) \_\_\_\_\_

**See attached sheet**

Send entries to: MoDOT Design Division, ATTN: Joe Jones  
1320 Creek Trail Dr., Jefferson City, Missouri 65109

**ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON DECEMBER 1, 2008**

**The Route 60 Corridor was the poster child for the Cadillac design. The original design as recommended by the Environment Impact Statement consisted of constructing a 4-lane facility from Willow Springs to Van Buren, approximately 52 miles. This design included such features as bypasses around the Fremont and Mountain View communities, replacements of the 2-lane facility with 4 new lanes, and several diamond interchanges. Applying Practical Design to this corridor, we were able to eliminate the bypasses, all the diamond interchanges, and utilize more of the existing 2-lane roadway as part of the facility. We also moved transitions that reduced the amount of right of way needed and installed guardrail which eliminated the need for two (2) transitions. These changes help reduce the project estimate of \$240 million in 2001 to \$108 million actual contract bid price.**

**Practical Design  
2009 Awards for Excellence  
By: MoDOT District 9**

December 09, 2008

Subject: Howell/Shannon/Carter Counties, Route 60  
Job No. J9P0455  
4-Lane Divided Highway Expansion  
Practical Design Entry

**Purpose & Need:**

It is MoDOT's intent to upgrade the U.S. 60 corridor from Springfield to I-55 to a four-lane highway. This section is one of the last pieces of the corridor that currently consists of a two-lane highway. It stretches from Willow Springs to just west of Van Buren, approximately 52 miles.

**Practical Design Implemented:**

The original design as recommended by the Environment Impact Statement consisted of constructing a 4-lane facility from Willow Springs to Van Buren, approximately 52 miles. This design included such features as bypasses around the Fremont and Mountain View communities, replacements of the 2-lane facility with 4 new lanes, and several diamond interchanges. Applying Practical Design to this corridor, we were able to eliminate or reduce the expense of some of these features. Below is a list of items implemented through Practical Design:

- Convert exiting Route 60 through Mountain View to a 5-lane facility. This eliminated the construction of several miles of new 4-lane, three (3) diamond interchanges, and the need for the purchase of right of way.
- Paralleling exiting Route 60 through the Fremont area. This allowed for the utilization of existing lanes instead of building 4 new lanes. It also removed the need for 3 bridges and several thousand yards of excavation and required less right of way.
- Extended and left in-place guardrail in the median to utilize more of the existing 2-lane. It also allowed for 'cleaner' traffic control because the contractor did not have to divert traffic to the new lanes while excavating to existing lanes.

- Installed guardrail and berms in front of MoDOT's maintenance and construction facilities. This eliminated the cost of the two switches, required less right of way, and was safer for the traveling public because construction traffic was no longer crossing the existing lanes in two places.
- Installed guardrail over a triple box culvert in lieu of the span bridge. We were able to build 2:1 slopes and reduce the length of box to make it not only cheaper to construct but reduced future maintenance costs over the span bridge.
- Built 2-lanes around the wildlife vista and utilized the existing 2-lanes as the eastbound direction. By utilizing the existing lanes as one direction, MoDOT reduced the new construction to 2-lanes, reduce the amount of right of way needed, and improve the wildlife vista as the median width went from the 300' minimum to as much as ¼ mile wide.
- Moved the transition from the south side to the north side approximately 2 miles east of the original location. This reduced the amount of right of way impacts and saved approximately \$600,000 in right of way costs with no increase in construction costs.
- Constructed 2 lanes for westbound direction in the Keaster Hill area and utilize the existing lanes as the eastbound direction.

**Practical Design: Cost Savings after the changes**

The project estimate as stated in the E.I.S was \$240 million. This value was base on construction costs prior to 2001. The actual contractor award price is \$99.5 million with \$8.5 million in Right of Way for a total of \$108 million.

**Savings: \$132,000,000**

**Summary:**

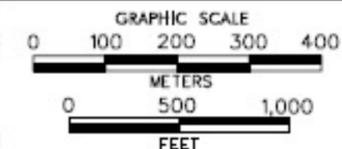
What was once thought unacceptable during the Cadillac mindset has now been re-evaluated and found to be practical and cost effective. With careful consideration of impacts, standards, safety, and accident data, we were able to save approximately \$132 million by incorporating Practical Design into our every day way of thinking. Through implementation of savings like this, we have been able to cut construction costs by 55%.

**BEFORE:** New 4-Lane (Approx. 7 Mile Bypass)  
**AFTER:** Widen Existing 2-Lanes (5-Lane Undivided)

# ROUTE 60 CORRIDOR STUDY

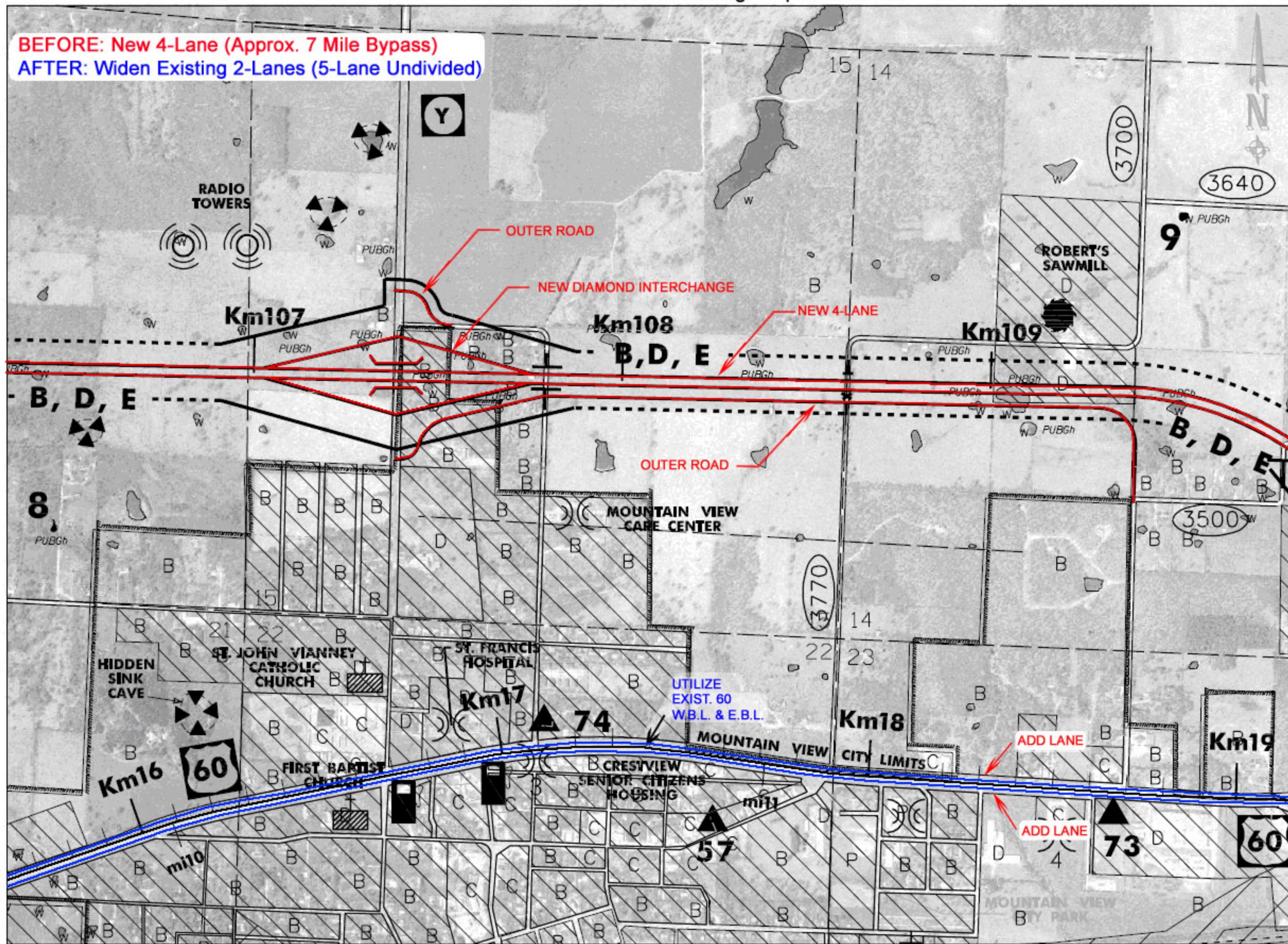
## FIGURE IV-10N ENVIRONMENTAL IMPACTS Km16-Km19

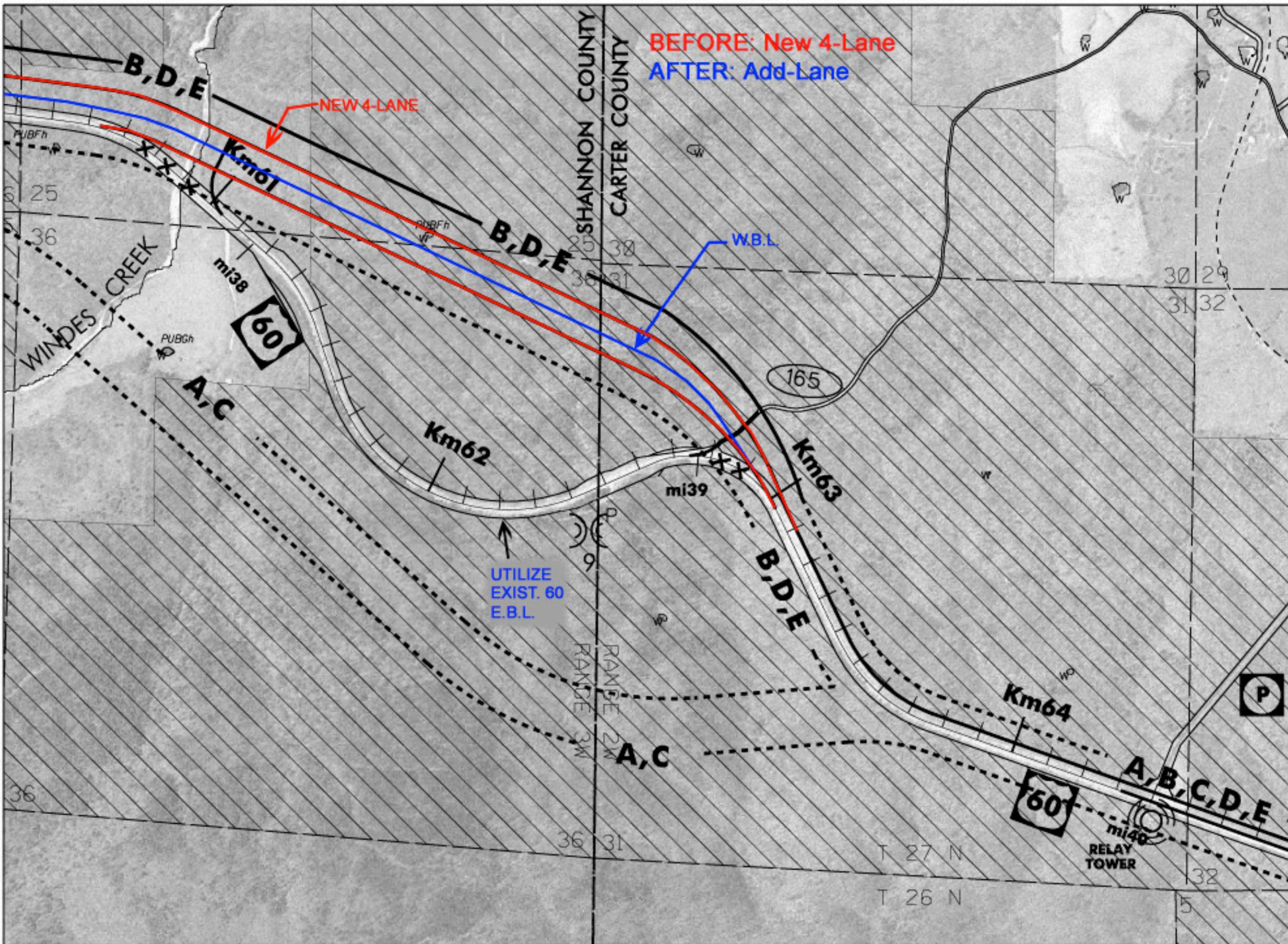
FEBRUARY 1999



**FINAL ENVIRONMENTAL  
IMPACT STATEMENT**

East of Willow Springs to West of Van Buren  
Howell, Shannon, and Carter Counties  
MoDOT JOB NO. J9P0455

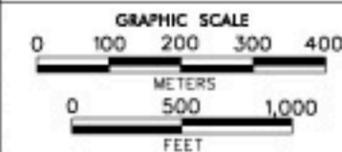




**ROUTE 60  
CORRIDOR  
STUDY**

**FIGURE IV-25  
ENVIRONMENTAL  
IMPACTS  
Km61-Km64**

FEBRUARY 1999

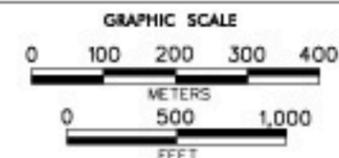


**FINAL ENVIRONMENTAL  
IMPACT STATEMENT**  
East of Willow Springs to West of Van Buren  
Howell, Shannon, and Carter Counties  
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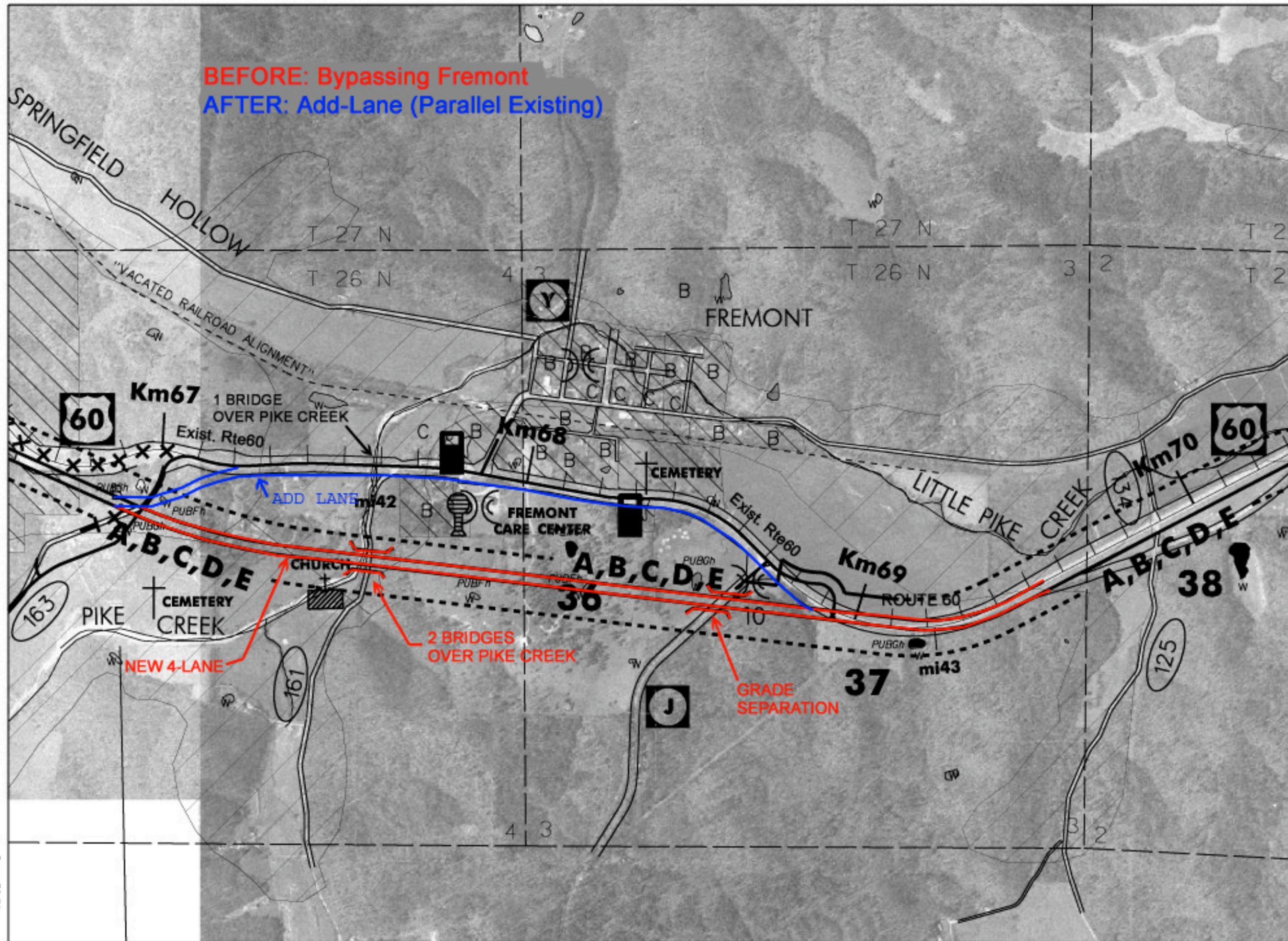
## FIGURE IV-27 ENVIRONMENTAL IMPACTS Km67-Km70

FEBURARY 1999



**FINAL ENVIRONMENTAL IMPACT STATEMENT**

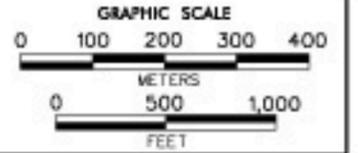
East of Willow Springs to West of Van Buren  
Howell, Shannon, and Carter Counties  
MODOT JOB NO. J9P0455



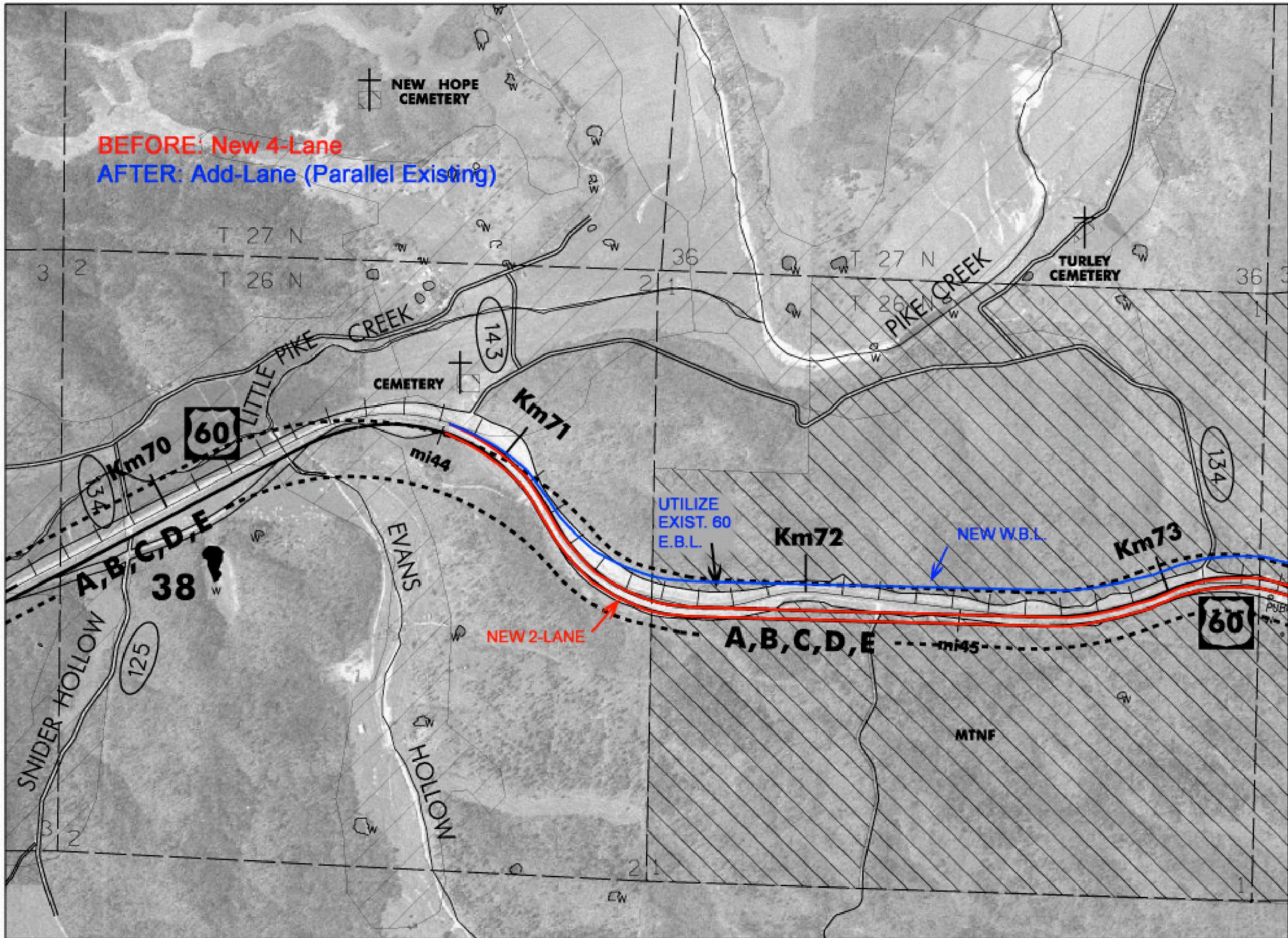
# ROUTE 60 CORRIDOR STUDY

## FIGURE IV-28 ENVIRONMENTAL IMPACTS Km70-Km73

FEBRUARY 1999



**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
 East of Willow Springs to West of Van Buren  
 Howell, Shannon, and Carter Counties  
 MODOT JOB NO. J9P0455



**BEFORE: New 4-Lane**  
**AFTER: Add-Lane (Parallel Existing)**

**NEW 2-LANE**

UTILIZE  
EXIST. 60  
E.B.L.

NEW W.B.L.





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