

**Practical Design
2008 Awards for Excellence
By: MoDOT District 9**

December 13, 2007

MoDOT Design Division, ATTN: Jay Bestgen
1320 Creek Trail Dr.
Jefferson City, Missouri 65109

Subject: Carter County, Route 60
Job No. J9P0359B
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.

Practical Design Implemented:

Original design (E.I.S.) was to construct numerous, new 4-lane sections to include a bypass around Fremont. The existing Route 60 lanes were not to be utilized as part of the 4-lane divided highway due to substandard geometrics and/or avoidance of right of way through Fremont. With careful consideration we chose to utilize the existing lanes in several areas as part of the 4-lane facility. We made design exceptions, implemented an acceleration lane and bought right of way in areas we initially thought to avoid. We were able to eliminate 5.8 miles of new 4-lane construction as well as three new bridges.

Practical Design



2008 Awards for Excellence



ACEC
Missouri

AMERICAN COUNCIL OF ENGINEERING
COMPANIES of Missouri

Practical Design

2008 Awards for Excellence

In the face of today's market volatility, increasing public demand and decreasing revenue, state DOTs must deliver the transportation system better, faster and cheaper than ever before. MoDOT's Practical Design effort accomplishes that goal by building "good" projects everywhere instead of "perfect" projects somewhere.

Innovation and creativity are the keys to accomplishing Practical Design. MoDOT, partnering with the American Council of Engineering Companies of Missouri (ACEC-MO), recognizes project teams that challenge traditional engineering standards to efficiently solve today's transportation needs.

The *2008 Awards for Excellence in Practical Design* provide an opportunity for MoDOT Districts, Central Office Bridge and consultant firms to compete head-to-head for state recognition for MoDOT projects. Cities, counties and consultant firms will compete for off-system projects. All MoDOT divisions will be able to compete for non-project best practices.

RECOGNITION

Winners will be recognized during a general session of the annual TEAM Conference in St. Louis. Additionally, individual submittals will have the opportunity to be 'showcased' at the meeting.

ELIGIBILITY

- MoDOT Districts, CO Bridge and any consultant engineering firm (may or may not be a ACEC/MO or ACEC member) having designs completed or started after January 1, 2005 may compete in the MoDOT project categories. Cities, counties and their consulting firms having designs completed or started after January 1, 2005 may compete in the Off-System category. Any MoDOT division with practical design initiatives implemented after January 1, 2005 may compete in the Non-Project category.
- In general, projects must have been awarded prior to the submittal deadline. The exception to this would be the Conceptual Project category where projects would not have been awarded.
- Projects that won in 2007 are not eligible.

GENERAL CRITERIA

1. Entries must be submitted in accordance with the rules and requirements in this brochure.
2. Each MoDOT District and Division will be allowed to submit a maximum of two projects.
3. Each City and County will be allowed to submit a maximum of one project.
4. Each Consultant Firm will be allowed to submit a maximum of one MoDOT project and one Off-System project.
5. Submittal must be a Missouri project.
6. Entry forms shall not designate the category of interest.
7. **Categories** will consist of the following, but more (or fewer) categories may be created at the discretion of the judges:
 - Best Bridge Project (small & large)
 - Best Rehabilitation Project (small & large)
 - Best New Construction (small & large)
 - Most Innovative Solution (small & large)
 - Best Conceptual Project
 - Best Off-System Project
 - Best Non-Project Practice
8. **Submittal:** Six copies and one CD of the following: (a page is defined as one side of an 8½"x11" sheet). Do not bind or staple the submittals.
 - Cover Letter/Summary – Two pages
 - Backup, plans, etc. – Five pages maximum
 - 'Before' and 'During and/or After' pictures of the project
 - Completed 2008 application form
 - All information submitted should be project specific and not general firm information.
9. **Judges:**
 - 1-ACEC Member
 - 3-MoDOT Officials
 - 1-FHWA Official
 - 1-City or County Official
 - 1-Contractor Professional
10. **Publicity:** All winners will be highlighted in MoDOT's *Connections* monthly newspaper and on MoDOT's Web site, ACEC's newsletters and Web site, on the TEAM Web site, and through various news releases following the TEAM meeting. Further benefits may be gained through features presented in firms' brochures, newsletters or other print or broadcast media.
11. The *2008 Awards for Excellence in Practical Design* Committee reserves the right to determine the eligibility and category classification for all entries.
12. **Awards:** Will be presented at the 2008 TEAM Conference.

All entries must be received no later than close of business on December 15, 2007.

RATING GUIDELINES

Entries will be judged on the basis of practical design across several categories. (Judges may modify categories based on entries received).

A. Project Submittal (10 percent)

- Does the entry demonstrate a thorough summary of the difference between pre-practical design and current practical design? (i.e. How would the design have looked if practical design didn't exist, and why does the current design look the way it does?)
- Is the entry easy to understand and logical?
- *Was the public engaged in the 'new' scope?

B. Purpose and Need (20 percent)

- Does the entry adequately meet or deliver the purpose and need without unnecessarily going beyond?
- Why does the current design represent the most appropriate, efficient, effective and reasonably safe design?
- Did the submittal go far enough with practical design ... is it as lean as it can get?

C. Cost Savings (50 percent)

- ***Projects** -Total cost savings must be thoroughly documented. This will vary based on the project and the project stage, but must include detailed information to substantiate the savings being claimed. This may include information on the conceptual estimate, VE savings, initial STIP estimate and final STIP estimate and award amount.
- **Non-Projects** – Difference in cost between previous and new practice must be thoroughly documented.
- Discuss if the practical design concept has an impact, positive or negative, on future maintenance.
- *Discuss if the practical design concept has an impact, positive or negative, on the cost of right of way or utilities for the project.
- Was the pre-practical design condition being used for comparison appropriate or did it contain elements that were later removed for reasons other than practical design?

E. Roadway user expectations (10 percent)

- *Does the design minimize traffic delays during construction?
- Does the design accelerate the overall construction time and reduce impacts to the traveling public?

F. Miscellaneous (10 percent)

- To be used at the discretion of the judges.

**ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS
ON DECEMBER 15, 2007.**

**MoDOT PROJECTS
2008 APPLICATION FORM**
(required for each entry)

Job No. J9P0359B **Route** 60 **County** CARTER

STIP Description (Scoping or Construction, state which STIP) _____

Grading, paving and bridges to add lanes for divided highway from Rte. DD in Shannon County to 3.1 miles east of Rte. J in Carter County. Relates to 9P0359C and 9P0359. Amendment 3 new major project.

Is the submittal for the entire project or just a portion of the project? Please explain: _____

Entire.

Project Manager (could have both) **MoDOT** Elquin Auala **Consultant** _____

Key core team members as approved by the MoDOT PM (may include consultants) (limit of 9)

Mike Wake Ed Hess Wade White

Audie Pulliam Henry Haggard Steve Shelton

Mike Carda Jeni Russell Elquin Auala

Project Contacts: **District** Mike Wake **Consultant** _____

Project Budget:

Conceptual budget \$ 43,769,000 **Initial STIP Budget** \$ 28,214,000

Final STIP budget \$ 24,997,000 **Award amount** \$ 24,921,181

Other : _____

Value Engineering study during design? yes no (if yes) **Project Stage** Currently being constructed.

Total VE savings implemented \$ N/A **VE Contact Person** N/A

Construction-stage VE (VECP)? yes no (if yes) **Explain** _____

Total VECP savings \$ N/A **VECP Contact Person** N/A

What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy? (In layman's terms - 100 words or fewer) _____

Original design (E.I.S.) was to construct numerous, new 4-lane sections to include a bypass around Fremont. The existing Route 60 lanes, were not be utilized as part of the 4-lane divided highway due to its substandard geometrics and/or avoidance of right of way through Fremont. With careful consideration we chose to utilize the existing lanes in several areas as part of the 4-lane facility. We made design exceptions, implemented an acceleration lane, bought right of way in areas we initially thought to avoid. We reduced the cost of this 9.8-mile project by \$15.5 million.

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

DESIGN DESIGNATION

A.D.T. - 2008 = 4650
 A.D.T. - 2028 = 6800
 D.H.V. = 7.55%
 T = 36.3%
 V = 60 M.P.H.

FUNCTIONAL CLASSIFICATION - PRINCIPAL ARTERIAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

SHANNON - CARTER COUNTIES

ROUTE 60	STATE MO	DISTRICT 9	SHEET NO. 1	"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."
JOB NO. J9P0359B				
CONTRACT ID.				
PROJECT NO.				
COUNTY SHANNON-CARTER				DATE _____

CONTROLLED ACCESS HIGHWAY

THIS SHALL BE A CONTROLLED ACCESS HIGHWAY, BETWEEN STA. 1286+00 AND 1801+41.20 EXCEPT AT LOCATIONS AND AS OTHERWISE SPECIFICALLY SHOWN ON THESE PLANS. NO ABUTTER'S RIGHTS IN OR OF DIRECT ACCESS TO, FROM, OR ACROSS THE HIGHWAY OR ITS RIGHT-OF-WAY SHALL ATTACH OR BELONG TO ANY PROPERTY ABUTTING ON SAID SECTION OF HIGHWAY, OR TO ANY PERSON MERELY BECAUSE OF OWNERSHIP OF SUCH ABUTTING PROPERTY. THERE SHALL BE THE USUAL RIGHT OF ACCESS OVER ANY LOCATION SHOWN ON THESE PLANS EITHER AS (1) AN ENTRANCE OR (2) A PRIVATE UNDERPASS. WHEREVER AN ADJACENT OUTER ROADWAY OR SERVICE ROAD IS SHOWN, THERE SHALL BE THE USUAL RIGHT OF DIRECT ACCESS BETWEEN THE ABUTTING PROPERTY AND SUCH OUTER ROADWAY OR SERVICE ROAD (EXCEPT WHERE ACCESS IS SPECIFICALLY PROHIBITED BY THE SPECIAL SYMBOL DENOTING NO RIGHT OF ACCESS) AND ALONG IT TO AND FROM THE NEAREST LANE OF THE THROUGHWAY OF A PUBLIC HIGHWAY. OUTER ROADWAYS AND SERVICE ROADS, AS THE CASE MAY BE, ARE SO DESIGNATED ON THE PLANS.

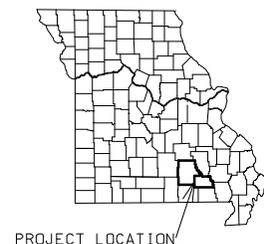
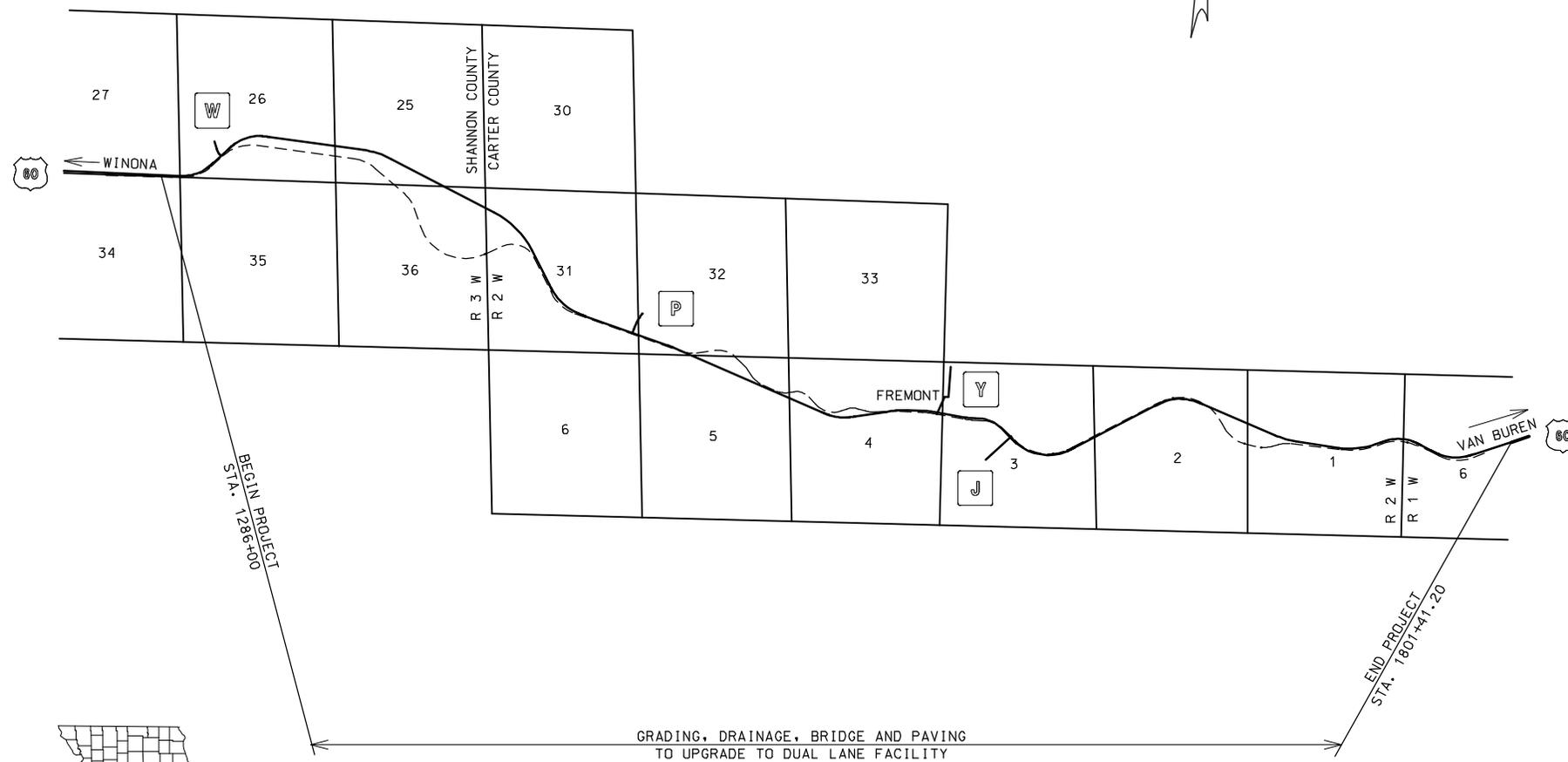
- BEGINNING AND ENDING OF CONTROLLED ACCESS
- CONTROLLED ACCESS
- NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.

CONVENTIONAL SYMBOLS

(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS		
OVERHEAD TELEPHONE		
UNDERGROUND TELEPHONE		
OVERHEAD POWER		
UNDERGROUND POWER		
GAS		
WATER		
MANHOLE		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES



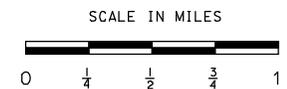
GRADING, DRAINAGE, BRIDGE AND PAVING
TO UPGRADE TO DUAL LANE FACILITY

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (2 SHEETS)---	2
QUANTITIES (QU) (17 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4-32
RIGHT OF WAY (RW)-----	33
REFERENCE POINTS (RP)-----	34-36
COORDINATE POINTS (CP)-----	37-40
SPECIAL SHEETS (SS)-----	41-55
TRAFFIC CONTROL SHEETS (TC)-----	56-67
EROSION CONTROL SHEETS (EC)-----	68-78
LIGHTING (LT)-----	79-95
SIGNALS (SG)-----	1-11
SIGNING (SN)-----	1- 5
PAVEMENT MARKING (PM)-----	1-28
CULVERT SECTIONS (CS)-----	1-15
BRIDGE DRAWINGS (B)	1-442
A39691-----	1-11
A39701-----	1- 5
A7383-----	1-28
A7385-----	1-15
CROSS SECTIONS (XS)-----	1-442

LENGTH OF PROJECT

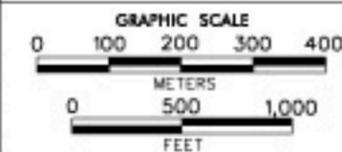
BEGINNING OF PROJECT	STA. 1286 + 00.00
END OF PROJECT	STA. 1801 + 41.20
APPARENT LENGTH	51,541.20 FEET
EQUATIONS AND EXCEPTIONS:	
TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	51,541.20 FEET
STATE LENGTH	9.762 MILES



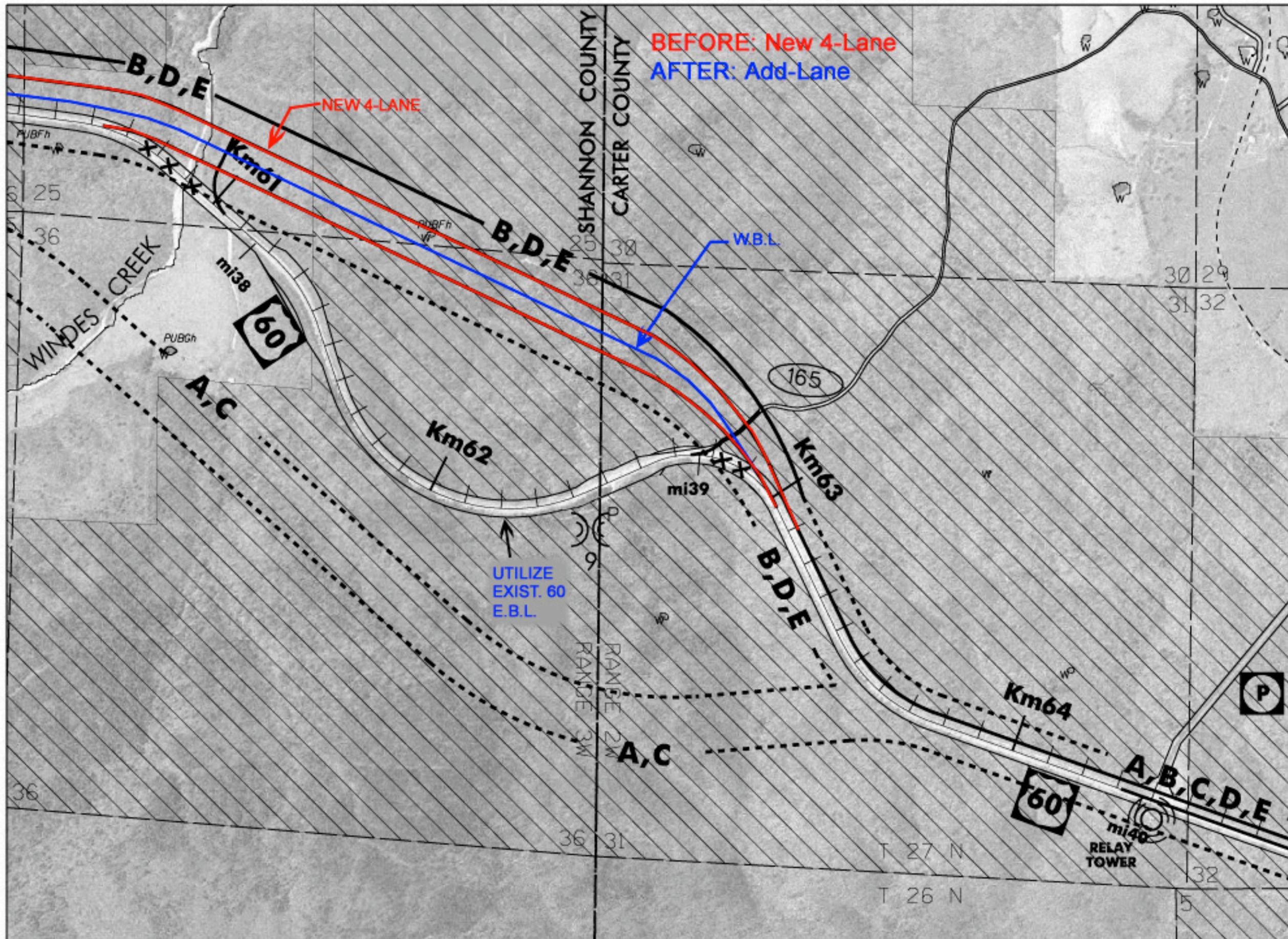
ROUTE 60 CORRIDOR STUDY

FIGURE IV-25 ENVIRONMENTAL IMPACTS Km61-Km64

FEBRUARY 1999



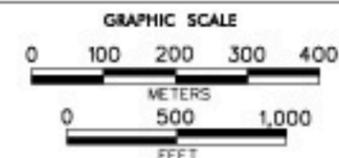
FINAL ENVIRONMENTAL IMPACT STATEMENT
 East of Willow Springs to West of Van Buren
 Howell, Shannon, and Carter Counties
 MoDOT JOB NO. J9P0455



ROUTE 60 CORRIDOR STUDY

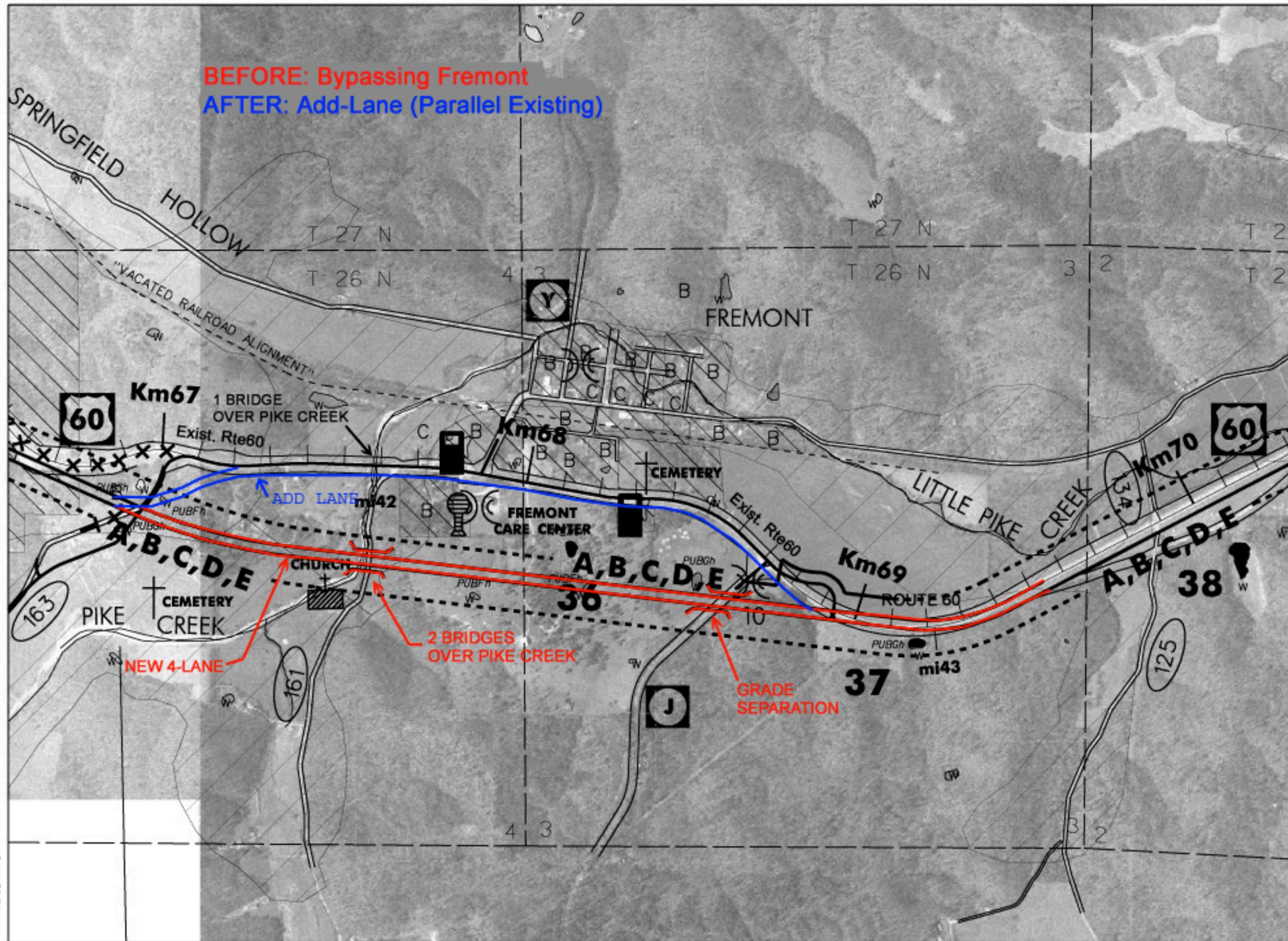
FIGURE IV-27 ENVIRONMENTAL IMPACTS Km67-Km70

FEBURARY 1999



FINAL ENVIRONMENTAL IMPACT STATEMENT

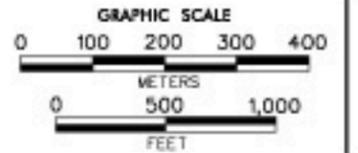
East of Willow Springs to West of Van Buren
Howell, Shannon, and Carter Counties
MODOT JOB NO. J9P0455



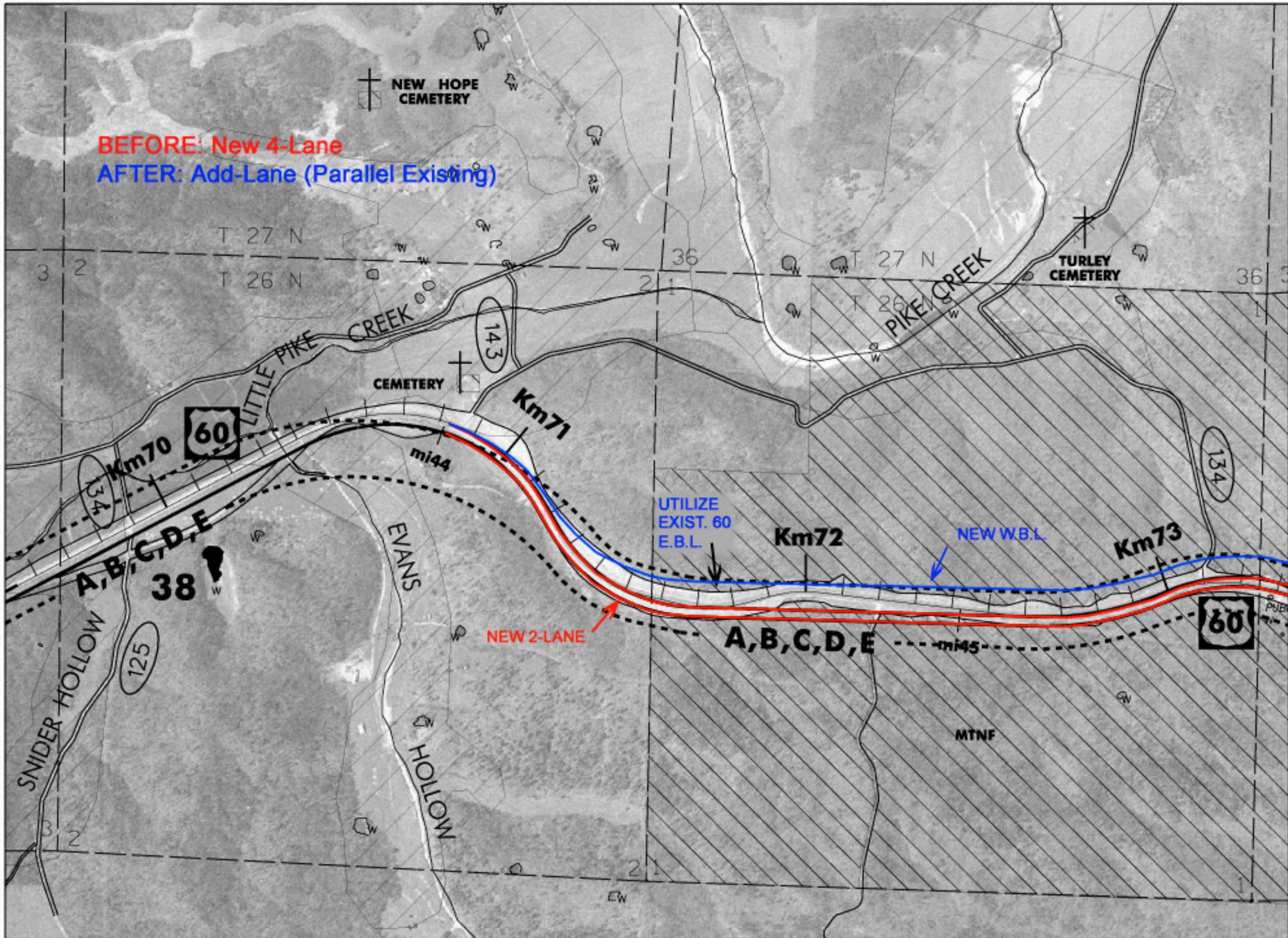
ROUTE 60 CORRIDOR STUDY

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.

