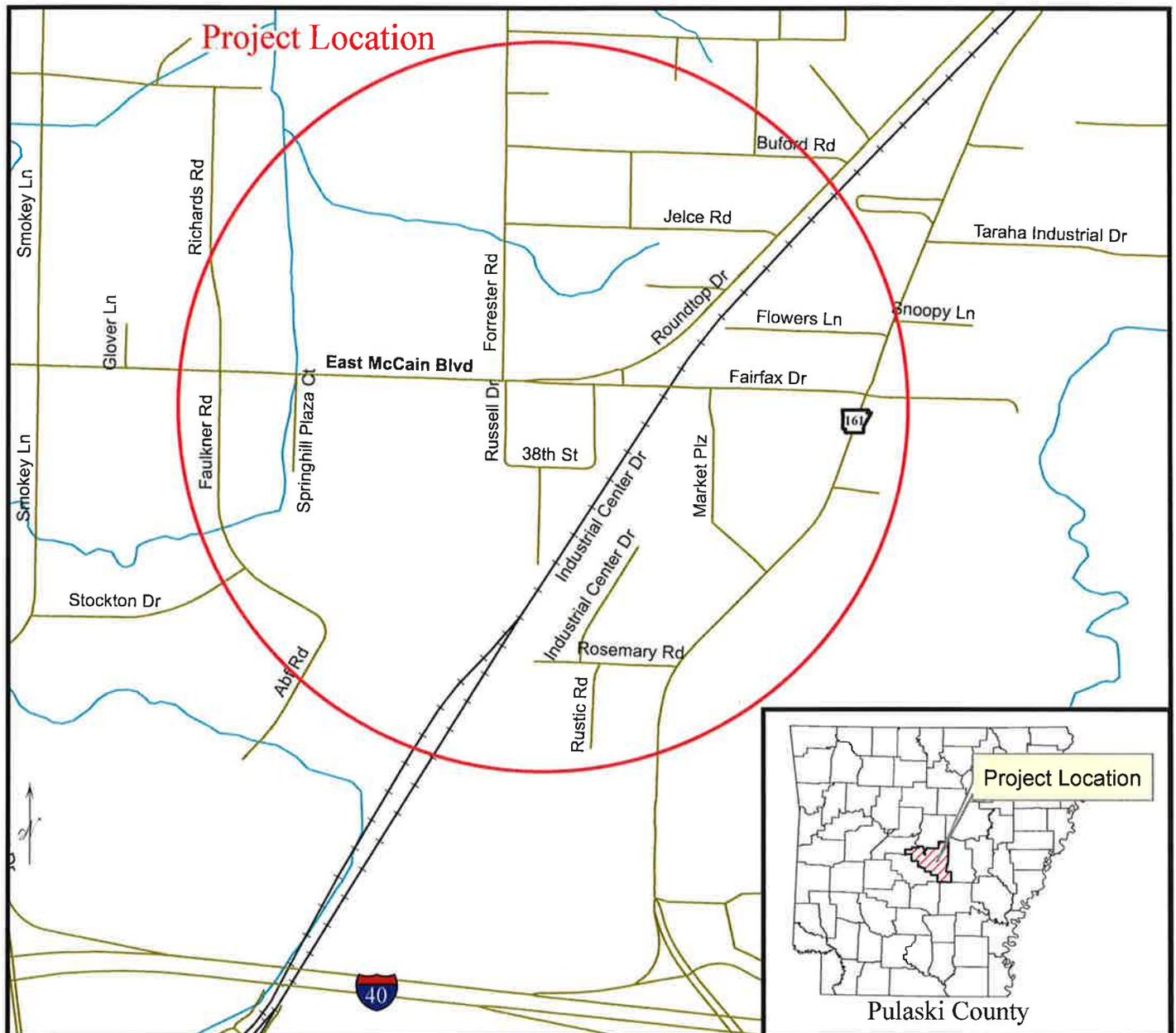


# ENVIRONMENTAL ASSESSMENT OF EAST MCCAIN RAILROAD OVERPASS

Pulaski County  
AHTD Job No. 061294  
FAP number STPU-9315-(35)

Submitted By: The City of North Little Rock  
Engineer: Marlar Engineering CO.,Inc.



**ENVIRONMENTAL ASSESSMENT**  
**OF**  
**EAST MCCAIN RAILROAD OVERPASS**

**AHTD JOB NUMBER 061294**  
**FAP NUMBER STPU-9315-(35)**  
**East McCain Boulevard (North Little Rock)**  
**Pulaski County, Arkansas**

Submitted Pursuant to 42 U.S.C. 4332(2)

By the

U.S. Department of Transportation  
Federal Highway Administration

And the

Arkansas State Highway and Transportation Department

Prepared by

Marlar Engineering Company, Inc.

June 5, 2012

June 7, 2012

Date of Approval



Randal Looney  
Environmental Specialist  
Federal Highway Administration

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## **Description of the Proposed Project**

The City of North Little Rock, in cooperation with the Arkansas Highway and Transportation Department (AHTD) and the Federal Highway Administration (FHWA), is proposing the construction of a railroad overpass and the widening of East McCain Boulevard and Fairfax Drive in North Little Rock, Pulaski County, Arkansas. The proposed overpass will be a grade separation that will separate traffic on East McCain Boulevard from rail traffic on the Union Pacific (UPRR) tracks. Figure 1 illustrates the project location.

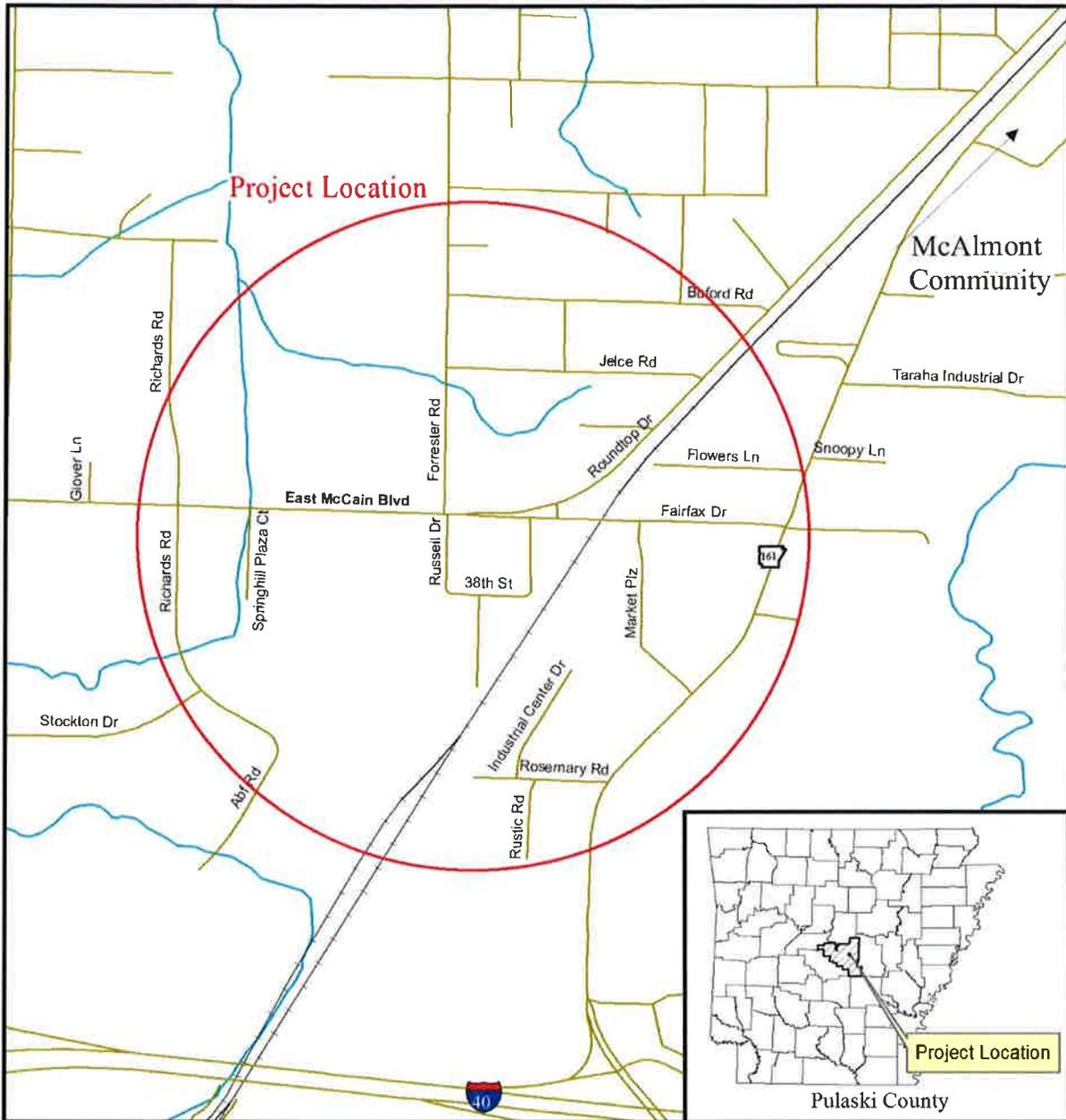


Figure 1  
 Project Location  
 Job 061294  
 East McCain Grade Separation  
 North Little Rock, Arkansas

## Purpose and Need

East McCain Boulevard and Fairfax Drive is a minor arterial road located in North Little Rock and one of the City of North Little Rock's busiest commercial corridors with Interstate 67-167 located one mile west of the project and connecting to State Highway 161 to the east. The UPRR crossing occurs where East McCain Boulevard currently ends and continues east as Fairfax Drive to Highway 161. For the purposes of this report, East McCain Boulevard and Fairfax Drive will be referred to as McCain/Fairfax. The City of North Little Rock plans to change the name of the road to East McCain Boulevard. McCain/Fairfax traffic exits Interstate 40 at Prothro Junction to State Highway 161 and uses this corridor. The purpose of the project is to reduce congestion, eliminate delays, increase traffic capacity and safety by eliminating the existing McCain/Fairfax UPRR at-grade crossing, providing a railroad overpass, and widening McCain/Fairfax to four lanes. When a train occupies the crossing, traffic on McCain/Fairfax is affected. Additionally, stopped traffic waiting to turn from Highway 161 onto McCain/Fairfax is limited as traffic backs up. The proposed railroad overpass would provide access across the UPRR main line for traffic on McCain/Fairfax at a location that would eliminate delays created at the existing crossing. McCain/Fairfax has experienced significant commercial development over the past 20 years which, in turn has increased traffic congestion and the need for an overpass at this location. The City of North Little Rock's Master Street Plan identifies the future extension of McCain/Fairfax east from the current intersection of McCain/Fairfax and Highway 161 to Interstate 440 along the south side of East 46<sup>th</sup> Street. The Master Street Plan is shown in Figure 2. A grade separation at the current railroad crossing is needed to better maintain traffic without delays due to rail traffic and to improve traffic flow. This would provide better vehicular, pedestrian and commercial access to facilities along the current route of McCain/Fairfax.

### *Traffic Analysis*

The average daily traffic (ADT) at the McCain/Fairfax UPRR crossing in 2011 was 5,600 vehicles per day (vpd). Currently, highway traffic crossing the UPRR main line at this location utilizes an at-grade crossing protected by crossbuck signs. The trains crossing Fairfax cause substantial delays on one of the city's busiest commercial corridors. Existing and future projected average daily traffic (ADT) data for McCain/Fairfax was provided by Metroplan, the local Metropolitan Planning Organization for the central Arkansas region, and was used in determining the operations of the project area roadway segments. Table 1 shows the ADT data for McCain/Fairfax in the vicinity of the project area between Forrester Road and Highway 161. The data shows that traffic volume east of the railroad is approximately half the volume west of the railroad. This is attributed to the significant volume of vehicles accessing McCain/Fairfax from Interstate 40 at the Springhill exit rather than the Highway 161/Prothro Junction exit and significant traffic that routes away from the east side of the railroad when trains are crossing.

**Table 1 Existing and Projected Average Daily Traffic w/o Grade Separation**

Description	Existing ADT (2010)	Projected ADT (2030)
McCain/Fairfax East of railroad	6,200	8,000 - 10,000
McCain/Fairfax West of railroad	13,000	15,000 - 17,000

Data Source: Metroplan

The area surrounding McCain/Fairfax. is a mixed use community with both residential and commercial type land uses. Existing McCain/Fairfax is a two lane roadway section east of the railroad that widens into a four-lane section at Roundtop Drive, about three hundred feet west of the railroad tracks.

One measure of a facility's operational condition is Level of Service, or LOS. The LOS is a qualitative measure that describes operational conditions within a traffic stream based on service measures such as speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience. Six LOS's are defined, and are given letter designations from "A" to "F", with a LOS "A" representing the best and a LOS "F" representing the worst. The capacity analyses for the two and four-lane roadway sections were performed using the latest version of the Highway Capacity Software (HCS+). The Highway Capacity Software is based on concepts and guidelines outlined in the Highway Capacity Manual (HCM) developed by the Transportation Research Board (TRB) to determine the capacity and quality of service of various roadway facilities that carry both vehicular and non-vehicular traffic. The HCM is a result of a multi-agency effort including TRB, AASHTO and FHWA and is a widely used reference for traffic and transportation engineering practice.

The following default and observed values were used in performing the capacity analysis:

Two-Lane ("No Action" Alternative):

K-Factor (peak hour percent of the ADT) - 10%

Peak Hour Factor - 0.92

% Trucks - 2%

Directional Distribution - 60% / 40%

Percent No-Passing Zones - 20%

Highway Type - Class III

Lane Width - 11 ft

Free Flow Speed - 35 mph

Multi-Lane (Alternatives 1, 2, 3):

K-Factor (peak hour percent of the ADT) - 10%

Peak Hour Factor - 0.92

% Trucks - 5%

Directional Distribution - 60% / 40%  
 Lane Width - 12 ft  
 Free Flow Speed - 45 mph

*Railroad Crossing Safety Analysis*

The high volume of UPRR rail traffic through the area creates many crossing closures and delays throughout the day for traffic at the McCain/Fairfax UPRR crossing. UPRR representatives estimate that currently 44 trains per day cross at this location and contribute to traffic delays. The accident history for this crossing includes two (2) train/vehicle accidents since 1975 (one occurred in 2009 and one in 2010). The proposed railroad overpass would greatly reduce the delays for both through and local traffic currently being detained at the at-grade crossing. This crossing is currently protected by flashing lights, gates, bells and crossbuck signs. Using 2010 ADT of 6200, a daily train count of 44 trains per day, two main line tracks, one siding track, and 2 crashes (fatality in 2009 and property damage only in 2010) provides a hazard rating of 38.95. This crossing's hazard rating is # 12 out of all 2605 at-grade crossings in the state and # 10 out of 512 at-grades with gates and lights. Maximum Train speed is 75 mph. Average speed ranges from 25 to 70 mph. Train traffic is two-way with prominent direction northbound: 60/40. AMTRAK also uses the crossing.

A railroad crossing delay study was conducted at the McCain/Fairfax crossing on May 2 and 3, 2012. Information from the study is shown in Tables 2 and 3. The study identifies the number of vehicles crossing the UPRR, number of trains crossing McCain/Fairfax, vehicle stoppages and delay information.

**Table 2 Railroad Crossing Information**

	Fairfax EB	Fairfax WB	TOTAL	Estimated Daily Totals
Total No. of Vehicles	121	115	236	700.0
Total No. of Trains	9	9	9	
No. of Vehicle minutes	318.7	263.2	582	1726.3
Minutes delay per vehicle	2.6	2.2	2.4	
Number of false alarms	2	2	2	5.9
Total Vehicle Stoppages	11	11	11	32.6
Vehicles leaving the crossing	6	11	18	53.4
Number of Emergency Vehicles Stopped	0	0	0	0.0
Vehicles Driven around dropped Gate or Ignoring flashing light	3	5	8	23.7

**Table 3 Vehicles Delayed at Railroad Crossing**

Time	# EB Veh Delayed	# WB Veh Delayed	Total Delayed Traffic	Total Vehicles Crossing	% Veh delayed
3-4 PM	31	41	72	519	0.14
4-5 PM	24	9	33	539	0.06
5-6 PM	9	14	23	482	0.05
7-8 AM	26	14	40	216	0.19
8-9 AM	18	17	35	358	0.10
9-10AM	13	20	33	403	0.08
Total	121	115	236	2517	0.09

*Summary*

The high volume of UPRR rail traffic through the area creates numerous crossing delays throughout the day for highway traffic on McCain/Fairfax. The proposed railroad overpass over the UPRR main line would greatly reduce the delays for both through and local traffic currently being detained at the McCain/Fairfax crossing and at the Highway 161 intersection, and at nearby streets that become blocked by that traffic.

**Alternatives**

*No Action Alternative*

This alternative consists of no improvements to the existing road and would continue to provide only routine maintenance. This alternative would not alleviate traffic congestion and safety problems within the project area. Delays would continue to occur and likely increase as the ADT increases.

*Proposed Construction Alternatives*

Four build alternatives are under consideration. The cross section for the proposed overpass will be similar to the cross section for the remainder of the route except that sidewalks will be directly beside the roadway. The remainder of the route will consist of four 11-foot wide travel lanes with curb and gutter and 5-foot wide sidewalks. For more details regarding the cross section, see Figure 8. The proposed design speed would be 40 mph. All proposed alternatives will have a grade separated structure at the UPRR crossing, with Alternative 1 including an alignment shift to the north, Alternative 2 including widening of the existing alignment, and Alternative 3 including an alignment shift to the south. Alternative 4 is similar to Alternative 2, except that it is located 50’ south of the current alignment.

### *Alternative 1*

This alternative would provide a railroad overpass over the UPRR main line and would include widening McCain/Fairfax from Forester Road to Highway 161, but would curve northerly from Forester to Flowers Road. The Railroad Overpass would be in a curve as it crosses the railroad. The McCain/Fairfax at-grade crossing would be eliminated and the Roundtop Road connection to McCain/Fairfax would be relocated as shown. No significant changes in traffic patterns is expected other than the relocation of the current intersection with Highway 161. Alternative 1 is 0.41 miles long with a 450 foot overpass of the UPRR main line. The total estimated cost is approximately \$ 10.2 million. This alignment would require the signal at the Highway 161 intersection to be relocated to the new location.

### *Alternative 2*

This alternative would provide a railroad overpass over the UPRR main line and would include widening McCain/Fairfax from Forester Road to Highway 161 along the current alignment. The McCain/Fairfax at-grade crossing would be eliminated and the Roundtop Road connection to McCain/Fairfax would be relocated as shown on the plan. Traffic currently using McCain/Fairfax would continue to utilize the proposed Alternative 2 to cross the railroad, access local businesses and intersect with Highway 161. Alternative 2 is 0.38 miles long with a 310 foot overpass of the UPRR main line. The total estimated cost is approximately \$ 9.7 million.

### *Alternative 3*

This alternative relocates the proposed alignment about 2,000 feet south of the existing McCain/Fairfax, following along Faulkner Road and Rosemary Road, and intersecting with Highway 161 at Rosemary Road. This alternative would provide a railroad overpass over the UPRR main line and would include widening Faulkner Road and Rosemary Road to four lanes from McCain/Fairfax to Highway 161 south of McCain/Fairfax. The McCain/Fairfax at-grade crossing would be eliminated and Rustic Drive would have to be relocated as shown on the plan. It is highly likely that any of the existing traffic going east along McCain/Fairfax to travel north on Highway 161 would redistribute and use Roundtop Drive and Trammel Road to access Highway 161, instead of traveling further south of their intended destination to use Alternative 3. This will result in underutilization of the proposed roadway. However, future traffic demand along Roundtop Drive will increase affecting traffic operations and number of gaps available for passing traffic. Local traffic accessing the businesses east of the railroad will also be inconvenienced, experiencing a slight increase in their travel distance and travel time. Alternative 3 is 0.54 miles long with a 530 foot overpass of the UPRR main line. The overpass would need to extend beyond the existing building on the south side of Rosemary Road. The total estimated cost is approximately \$ 10.4 million.

#### *Alternative 4*

This alternative would be similar to Alternative 2, providing a railroad overpass over the UPRR main line and would include widening McCain/Fairfax from Forester Road to Highway 161, approximately 50 feet south of the current alignment. This alternative was studied to determine if fewer relocations could be realized by moving the alignment south. It was determined that this alternative would not result in the reduction of relocations on the north side of McCain/Fairfax. The McCain/Fairfax at-grade crossing would be eliminated and the Roundtop Road connection to McCain/Fairfax would be relocated as shown on the plan. Alternative 4 is 0.38 miles long with a 320 foot overpass of the UPRR main line. The total estimated cost is approximately \$ 9.8 million.

#### *Conformance with Local Plans*

This City's Master Street Plan is shown in Figure 2 and shows McCain/Fairfax continuing east from the current intersection at Highway 161 to Interstate 440 along a route just south of East 46<sup>th</sup> Street. Continuing McCain/Fairfax east from this location would encounter less environmental restraints than would be encountered south of this location. Significant wetlands along Ink Bayou would be encountered if the intersection were moved further south. Alternatives 2 and 4 would continue traffic flow along the same route as is currently experienced and would comply with the Master Street Plan. Alternatives 1 and 3 would change current traffic flow by necessitating the intersection of McCain/Fairfax and Highway 161 to be relocated and would result in the current at-grade crossing to be closed to thru traffic. Alternative 3 would not comply with the City's current Master Street Plan.

#### *Traffic*

Table 2 shows the results of the operational analysis under the existing and proposed geometry conditions. It can be seen that all roadway sections of the project area continue to operate at acceptable LOS A or B under the 2030 projected demand, except for McCain/Fairfax east of the railroad with the No Action Alternative. Under the proposed build alternatives, the roadway section east of the railroad improves from a LOS C to a LOS A.

**Table 4: Existing and Projected Level of Service under the No Action and Build Alternatives**

<b>Description</b>	<b>No Action (2010)</b>	<b>No Action (2030)</b>	<b>Alternative 1 (2030)</b>	<b>Alternative 2, 4 (2030)</b>	<b>Alternative 3 (2030)</b>
McCain/Fairfax East of Railroad	B	C	A	A	A
McCain/Fairfax West of Railroad	A	B	B	B	B

# City of North Little Rock Master Street Plan 2009

**Legend**

- Proposed Interchange
- County Boundary

**citylimits**

**CITY**

- ALEXANDER
- CAMMACK VILLAGE
- JACKSONVILLE
- LITTLE ROCK
- MAUMELLE
- NORTH LITTLE ROCK
- SHERWOOD
- WRIGHTSVILLE
- Planning Area Boundary

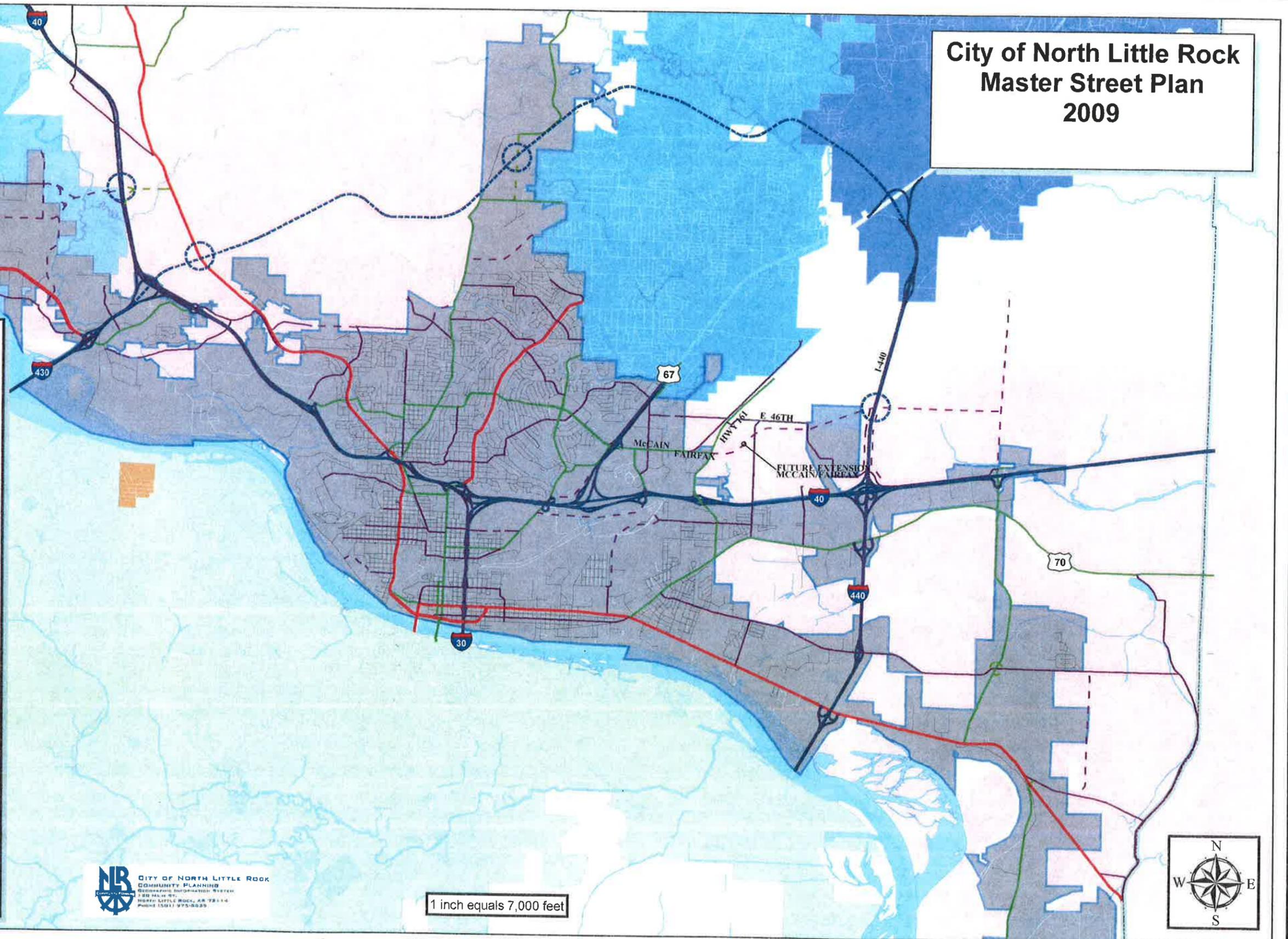
**Streets**

<all other values>

**NLRMSP**

- Interstate-Freeway
- Principal Arterial
- Minor Arterial
- Collector
- Local
- Proposed Interstate-Freeway
- Proposed Minor Arterial
- Proposed Collector

MWD

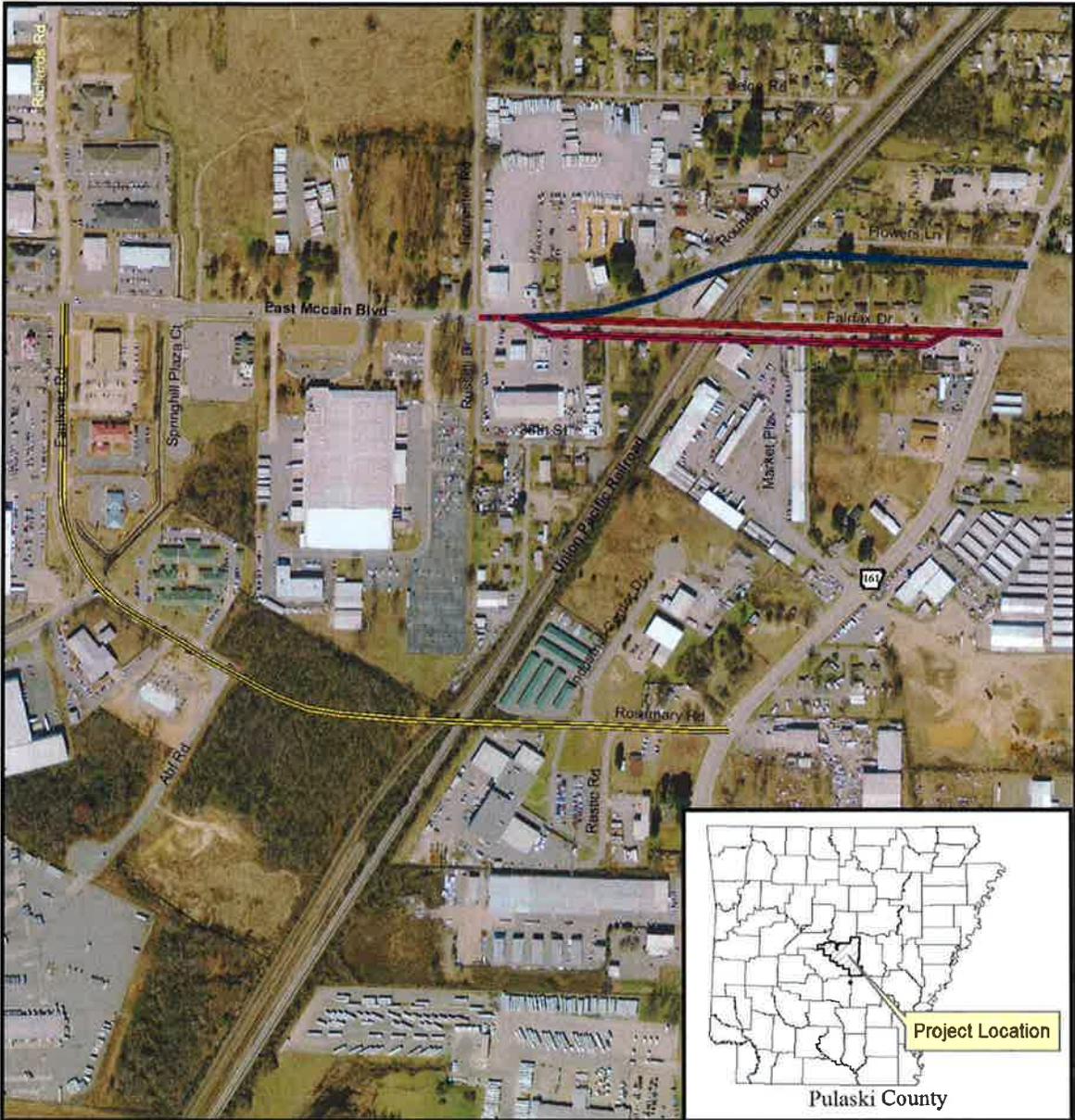


**CITY OF NORTH LITTLE ROCK**  
COMMUNITY PLANNING  
GEOGRAPHIC INFORMATION SYSTEM  
1225 MAIN ST.  
NORTH LITTLE ROCK, AR 72114  
PHONE 501.975.8225



0 7,000 14,000 28,000 Feet

Thursday, June 18, 2009 2:08:04 PM  
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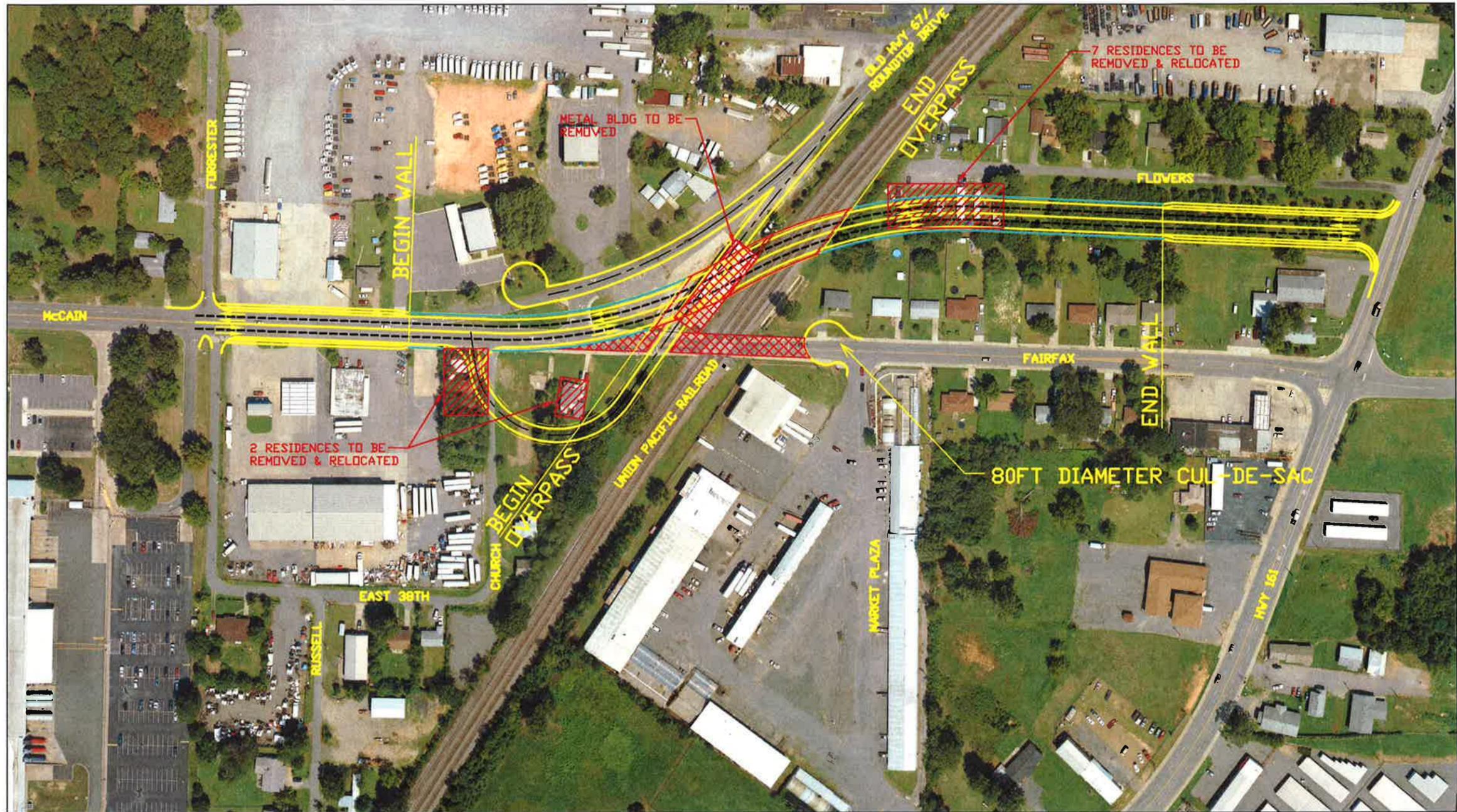


**Figure 3**  
**Alternatives Map**  
**Job 061294**  
**East McCain Grade Separation**  
**North Little Rock, Arkansas**

0 250 500 1,000  
Feet

**Alternatives**

- 1
- 2
- 3
- 4



**LEGEND**

- RESIDENTIAL RELOCATION
- TO BE REMOVED

**TYPICAL SECTION**

McCain/Fairfax: NUMBER OF LANES: 4  
 LANE WIDTH: 11'  
 CURB & GUTTER: 18"  
 SIDEWALKS: 5'

ROUNDTOP: NUMBER OF LANES: 2  
 LANE WIDTH: 11'  
 CURB & GUTTER: 18"  
 SHOULDER: 6'(WHERE APPLICABLE)  
 SIDEWALKS: N/A

**ADVANTAGES**

- THE ALIGNMENT IS NEAR THE CURRENT ALIGNMENT OF MCCAIN/FAIRFAX & THE CONNECTION TO HWY 161.
- PROVIDES BETTER CONNECTIVITY TO THE RESIDENTIAL NEIGHBORHOOD IN THE MCALMONT COMMUNITY TO THE COMMERCIAL DISTRICT. CURRENTLY, SOME RESIDENTS WALK TO COMMERCIAL FACILITIES ON THE WEST SIDE OF THE RAILROAD FROM THE NEIGHBORHOOD.
- SOMEWHAT CONSISTENT WITH MASTER STREET PLAN WITH SOME MODIFICATIONS.
- BETTER FOR FUTURE BUSINESS & ECONOMIC DEVELOPMENT AS ACCESS TO THE COMMERCIAL DISTRICT IS IMPROVED.

POTENTIAL RESIDENTIAL RELOCATEES=9

**DISADVANTAGES**

- WOULD RESULT IN RESIDENTIAL RELOCATIONS.
- HAS POTENTIAL FOR ENVIRONMENTAL JUSTICE & COMMUNITY IMPACT.

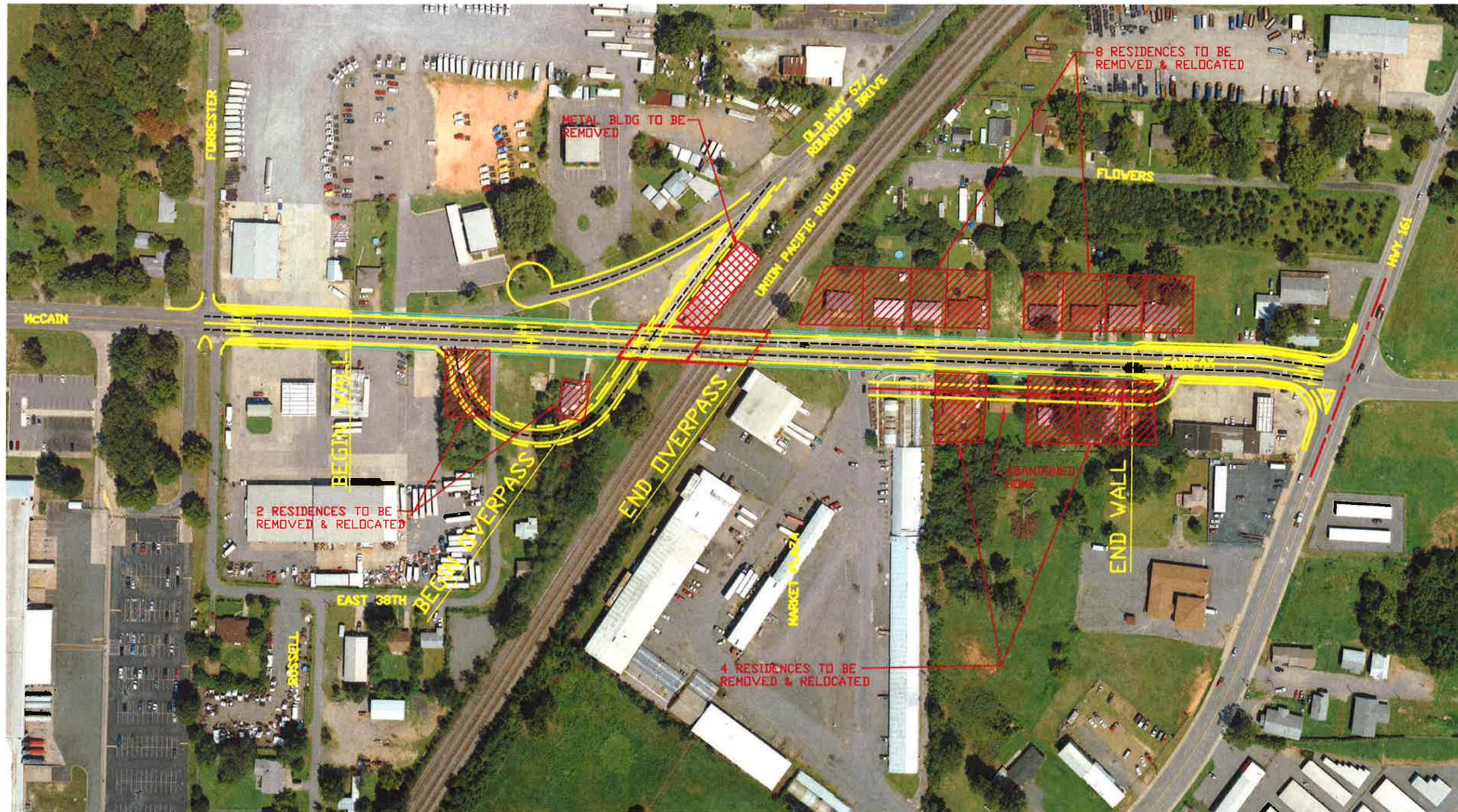


Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	JGB	BY
1	3-13-12	LANE STRIPING		
Project No.: 061294		Date: SEPTEMBER, 2011		
Drawn By: JGB		Scale: 1" = 100'		
Approved By: MPM		Sheet No.:		

Project: CITY OF NORTH LITTLE ROCK  
 MCCAIN BLVD - JOB 061294  
 Drawing Title: ALTERNATIVE 1  
 NORTHERLY ALIGNMENT  
 SHT: C1





**LEGEND**

- RESIDENTIAL RELOCATION
- TO BE REMOVED

**TYPICAL SECTION**

MCCAIN/FAIRFAX:  
 NUMBER OF LANES: 4  
 LANE WIDTH: 11'  
 CURB & GUTTER: 18"  
 SIDEWALKS: 5'

ROUNDTOP:  
 NUMBER OF LANES: 2  
 LANE WIDTH: 11'  
 CURB & GUTTER: 18"  
 SHOULDER: 6' (WHERE APPLICABLE)  
 SIDEWALKS: N/A

**ADVANTAGES**

- CONFORMS TO THE MASTER STREET PLAN.
- MAINTAINS THE CURRENT ALIGNMENT OF MCCAIN/FAIRFAX & THE CONNECTION TO HWY 161.
- MORE ECONOMICAL (LEAST COSTLY ALTERNATIVE)
- MAINTAINS THE CONNECTION OF THE RESIDENTIAL NEIGHBORHOOD IN THE MCALMONT COMMUNITY TO THE COMMERCIAL DISTRICT. CURRENTLY, SOME RESIDENTS WALK TO COMMERCIAL FACILITIES ON THE WEST SIDE OF THE RAILROAD FROM THE NEIGHBORHOOD.
- BETTER FOR FUTURE BUSINESS & ECONOMIC DEVELOPMENT AS ACCESS TO THE COMMERCIAL DISTRICT IS IMPROVED.

**DISADVANTAGES**

- CAUSES RESIDENTIAL RELOCATIONS.
- HAS POTENTIAL FOR ENVIRONMENTAL JUSTICE & COMMUNITY IMPACT

POTENTIAL RESIDENTIAL RELOCATEES=14

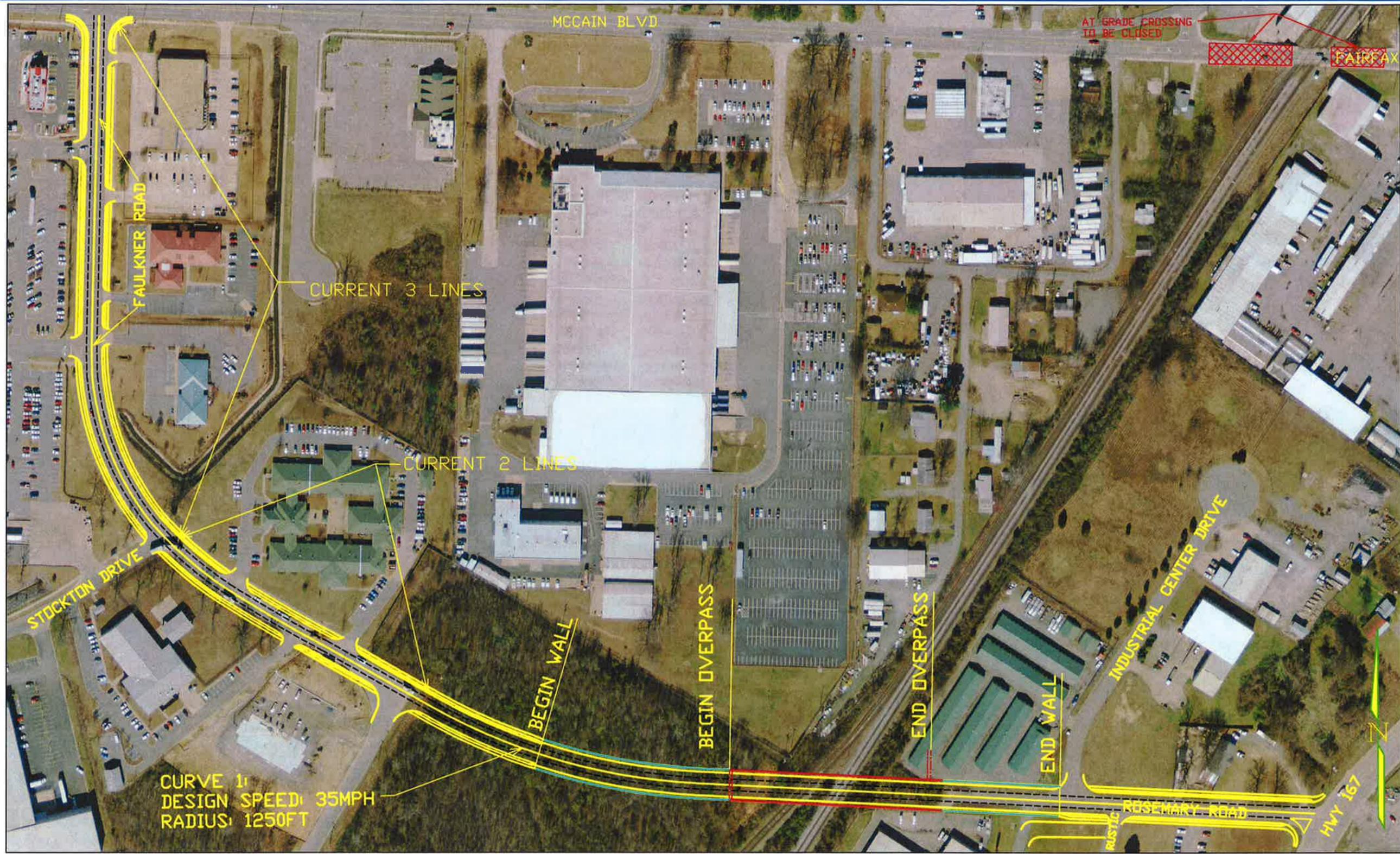


Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY
Project No.: 061294	Date: SEPTEMBER, 2011		
Drawn By: JGB	Scale: 1" = 100'		
Approved By: MPM	Sheet No.:		

Project: CITY OF NORTH LITTLE ROCK  
 MCCAIN BLVD - JOB 061294  
 Drawing Title: ALTERNATIVE 2  
 MAINTAIN CURRENT ALIGNMENT  
 SHT: C2





CURVE 1:  
DESIGN SPEED: 35MPH  
RADIUS: 1250FT

POTENTIAL RESIDENTIAL RELOCATEES=0

**TYPICAL SECTION**

FAULKNER/ROSEMARY:  
NUMBER OF LANES: 4  
LANE WIDTH: 11'  
CURB & GUTTER: 18'  
SIDEWALKS: 5'



**ADVANTAGES:**  
• NO RESIDENTIAL RELOCATION

**DISADVANTAGES:**

- INTERSECTION WITH HWY 161 WOULD BE FURTHER FROM RESIDENTIAL NEIGHBORHOODS & THE EXISTING MCCAIN/FAIRFAX CROSSING WOULD BE CLOSED RESULTING IN INDIRECTION FOR VEHICULAR & PEDESTRIAN TRAFFIC TO ACCESS THE COMMERCIAL DISTRICT.
- DOES NOT CONFORM MASTER STREET PLAN.
- LESS ECONDMICAL (MOST COSTLY ALTERNATIVE).
- TRANSPORTATION & TRAFFIC FLOW ON MCCAIN EAST OF FAULKNER ROAD WOULD EXPERIENCE INCREASED INDIRECTION. THIS COULD BE DETRIMENTAL TO BUSINESSES & ECONDMIC DEVELOPMENT ON MCCAIN/FAIRFAX EAST OF FAULKNER ROAD.
- DIFFICULTY EXTENDING MCCAIN/FAIRFAX EAST TO INTERSTATE I-440 IN THE FUTURE DUE TO ENVIRONMENTAL CONSTRAINTS EAST OF HWY 161 NEAR THIS LOCATION.
- LIMITS ABILITY FOR THE CITY OF NORTH LITTLE ROCK TO PROVIDE IMPROVED ACCESS FOR DEVELOPMENT NORTH OF INTERSTATE I-40.



Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY
Project No.:	061294	Date:	SEPTEMBER, 2011
Drawn By:	JGB	Scale:	1" = 100'
Approved By:	MPM	Sheet No.:	of

**Project:** CITY OF NORTH LITTLE ROCK  
MCCAIN BLVD - JOB 061294  
**Drawing Title:** ALTERNATIVE 3  
SOUTHERLY ALIGNMENT

C3





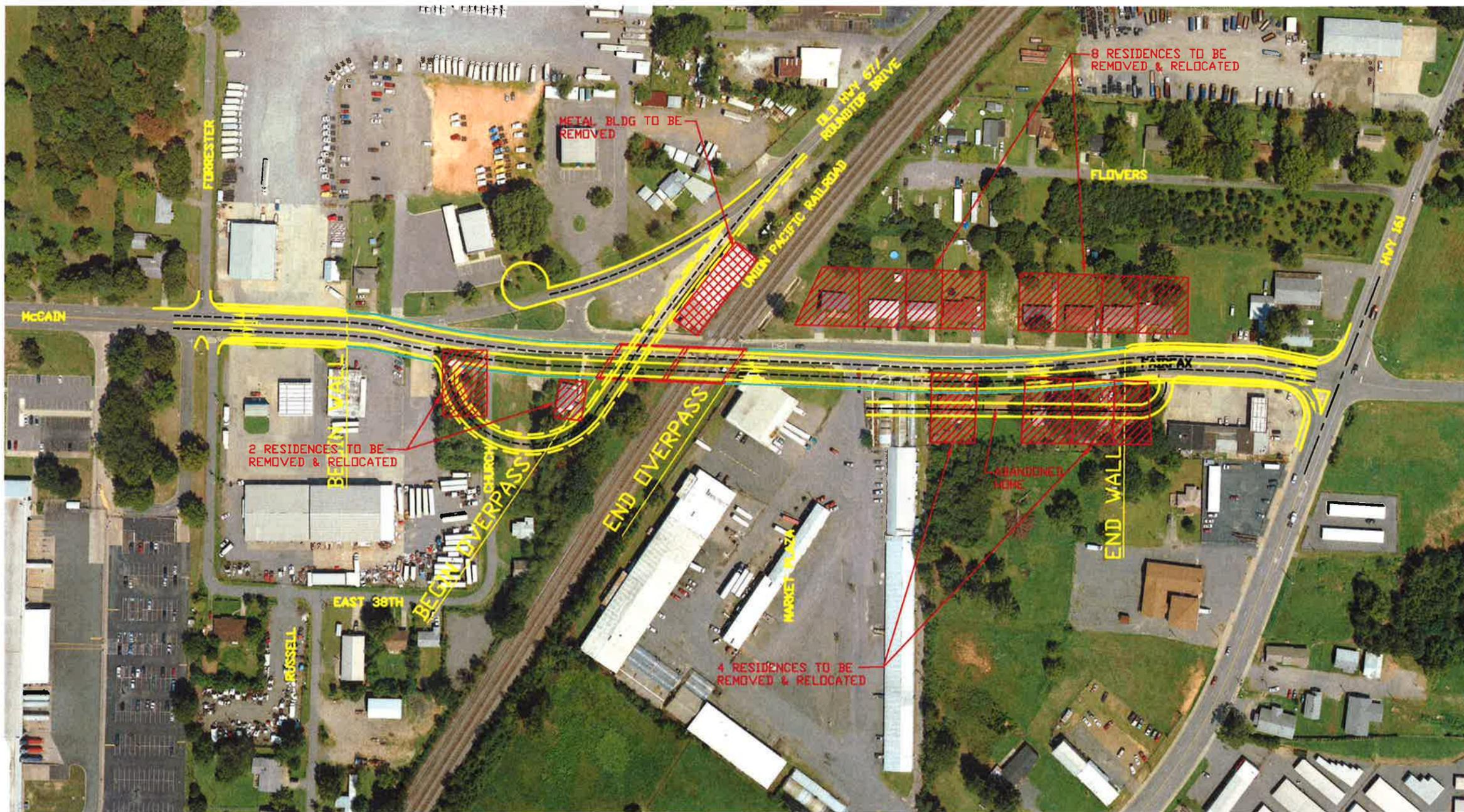
Prepared for:  
CITY OF NORTH LITTLE ROCK

REV.	DATE	DESCRIPTION	BY
Project No.:	061294	Date:	SEPTEMBER, 2011
Drawn By:	JGB	Scale:	1" = 100'
Approved By:	MPM	Street No.:	of

Project:  
CITY OF NORTH LITTLE ROCK  
McCain Blvd - Job 061294

Drawing Title:  
ALTERNATIVE 4

SHT:



**LEGEND**

POTENTIAL RESIDENTIAL RELOCATEES=14

- RESIDENTIAL RELOCATION
- TO BE REMOVED

**TYPICAL SECTION**

McCain/Fairfax:	ROUNDTOP:
NUMBER OF LANES: 4	NUMBER OF LANES: 2
LANE WIDTH: 11'	LANE WIDTH: 11'
CURB & GUTTER: 18"	CURB & GUTTER: 18"
SIDEWALKS: 5'	SHOULDER: 6'(WHERE APPLICABLE)
	SIDEWALKS: N/A

**ADVANTAGES**

- CONFORMS TO THE CITY OF NLR MASTER STREET PLAN.
- MAINTAINS THE CURRENT ALIGNMENT & CONNECTION TO HWY 161.
- MAINTAINS CONNECTION OF THE RESIDENTIAL NEIGHBORHOOD IN THE MCALMONT COMMUNITY TO THE COMMERCIAL DISTRICT. CURRENTLY, SOME RESIDENTS WALK TO COMMERCIAL FACILITIES ON THE WEST SIDE OF THE RAILROAD.
- BETTER FOR FUTURE BUSINESS & ECONOMIC DEVELOPMENT AS ACCESS TO THE COMMERCIAL DISTRICT IS IMPROVED.

**DISADVANTAGES**

- CAUSES RESIDENTIAL RELOCATIONS.
- MORE COSTLY THAN ALTERNATIVE 2.
- GREATER ENCROACHMENT INTO THE FARMERS MARKET PROPERTY
- HAS POTENTIAL FOR ENVIRONMENTAL JUSTICE & COMMUNITY IMPACT.



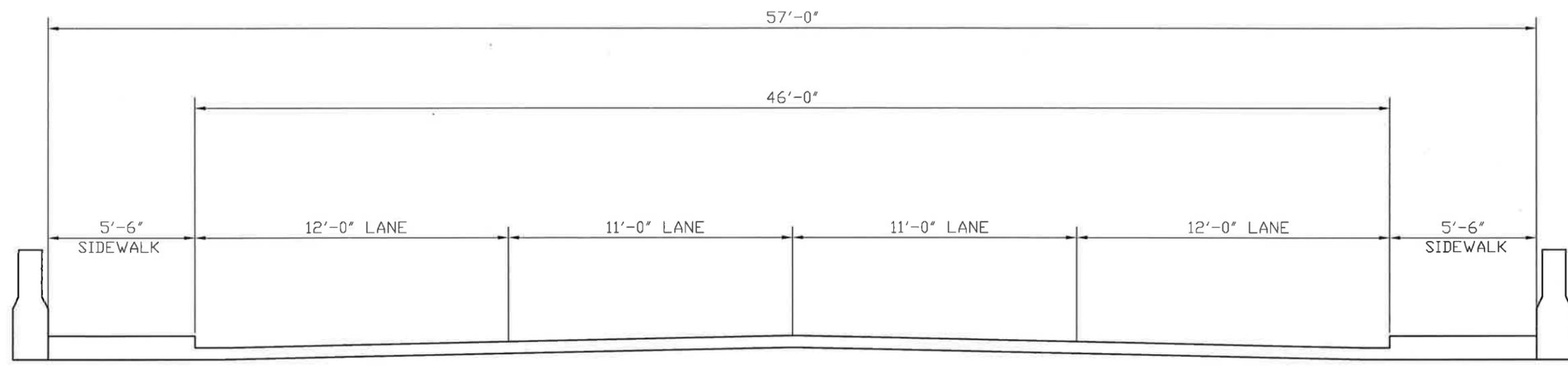
Prepared for:  
CITY OF NORTH LITTLE ROCK

REV.	DATE	DESCRIPTION	BY
Project No.: 061294	Date: SEPTEMBER, 2011	Scale: NOT TO SCALE	Sheet No.: of
Drawn By: JGB	Approved By: MPM		

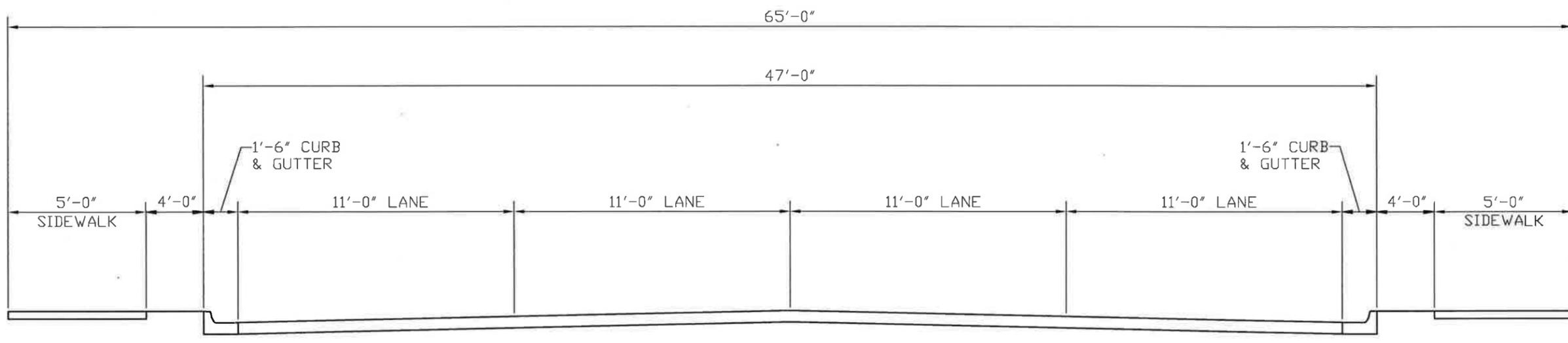
Project:  
CITY OF NORTH LITTLE ROCK  
MCCAIN BLVD - JOB 061294

Drawing Title:  
BRIDGE & ROAD DETAIL

SHT: C4



**SECTION - BRIDGE**  
NTS



**SECTION - ROAD WIDENING**  
NTS

## **Potential Impacts**

### *Landuse*

The land use in the project area is shown in Figure 9. Land use in the immediate project area is generally urban or suburban with both commercial and residential use. Residential homes, businesses, restaurants and churches are typical of the facilities located in the project area. Traffic flow would be consistent with the current alignment for alternatives 2 and 4. Traffic flow would be changed for alternatives 1 and 3 and is discussed in the following section. No cropland was noted in the area. No impacts to land use are expected from any of the proposed alternatives.

### *Social and Community Impacts*

The proposed project passes through an area that is primarily residential and commercial. The demographics of this area consist of mostly African-American families. The proposed project will sever an urban neighborhood. Construction of a railroad overpass will ensure improved access to commercial and residential areas on both sides of the railroad. This project has the potential to impact the cohesion of the community for each alternative. Alternatives 2 and 4 would necessitate residential relocations due to the widening of McCain/Fairfax, but would continue traffic flow along the same route as is currently experienced. Alternatives 2 and 4 maintain the current Highway 161 intersection and would provide better connectivity to the residential neighborhoods in the McAlmont community to the commercial facilities on the west side of the railroad. Alternative 3 would move the intersection with Highway 161 further from residential neighborhoods and would cause increased indirection of vehicular, pedestrian and commercial traffic to the commercial areas along McCain/Fairfax.

### *Relocations*

Relocations occur when residential, business, or non-profit structures fall within the proposed right of way limits of a project. Similar housing is available in the community for potential relocatees. Until an alternative is selected and the final design has been established, relocation quantities are estimated. Estimated right of way widths were used in determining potential structures to be relocated. Cost estimates and a Conceptual Stage Relocation Inventory are included in Appendix A. Results for the Conceptual Stage Relocation Inventory are summarized for each Alternative in Table 5.

**Table 5 Summary of Relocation Inventory**

Alternative	Residential Owners	Commercial Structures	Disable Person Households	Elderly Households	Minority Households	Low Income Households
No Action	0	0	0	0	0	0
1	9	1	1	3	4	7
2	14	1	1	5	8	10
3	0	0	0	0	0	0
4	14	1	1	5	8	10

The No-Action Alternative would not require the relocation of any residential or commercial properties. Of the estimated residential relocatees on Alternative 1, four are considered to be minorities, one is considered to be a disabled, three are considered to be elderly households and seven are considered to be low income households. Of the estimated residential relocatees on Alternative 2, eight are considered to be minorities, one is considered to be disabled, five are considered to be elderly households and ten are considered to be low income households. Alternative 3 would not displace any residences. Of the estimated residential relocatees on Alternative 4, eight are considered to be minorities, one is considered disabled, five are considered to be elderly households and ten are considered to be low income households.

*Environmental Justice and Title VI*

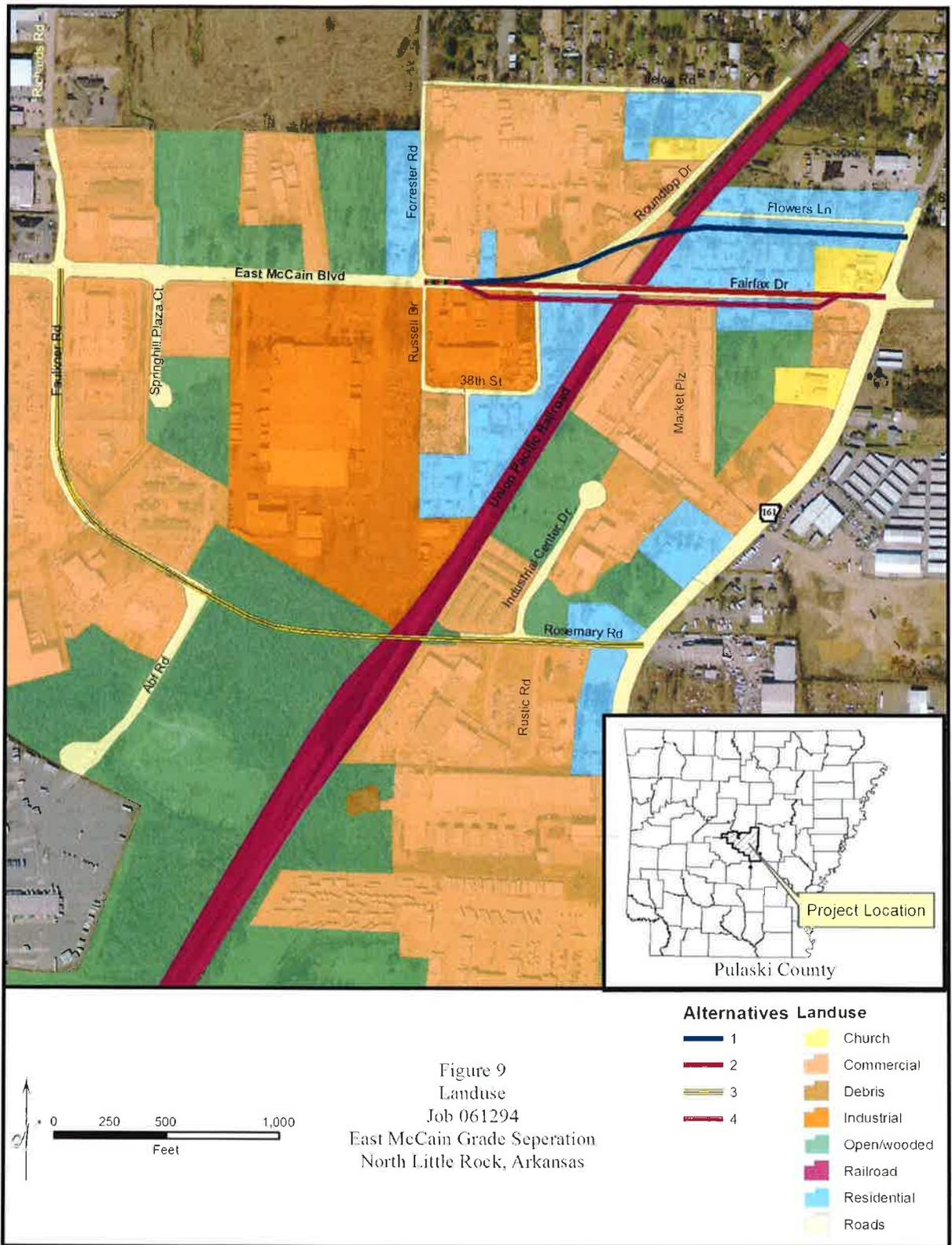
This proposed project is in compliance with Title VI and Executive Order 12898. The Public Involvement Process did not exclude any individuals due to income, race, color, religion, national origin, sex, age, or disability. A review of the 2010 U.S. Census Data, Conceptual Stage Relocation Inventory, results of a public involvement meeting, and field observations were utilized to determine that the Alternatives 1, 2 and 4 will have a greater potential for adverse or disproportionate impact on minorities, elderly and low income populations as compared to Alternative 3. However, Alternative 3 would cause access to McCain/Fairfax to be more difficult for residences in the community as compared to Alternatives 1, 2 and 4 as the intersection at Highway 161 would be located further from residential neighborhoods. Further steps to minimize impacts will be considered during the final design phase; where avoidance is not possible, the acquisition / relocation will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

*Public Lands*

There are no public parks, recreational lands, or wildlife/waterfowl refuges impacted by this project, nor any associated Section 4(f) or Section 6(f) issues.

*Wild and Scenic Rivers*

No components of the Wild and Scenic Rivers System or streams listed on the Nationwide Rivers Inventory are located in the proximity of the project study area.



### *Endangered and Threatened Species*

A records check of the Arkansas Natural Heritage Commission's Natural Diversity Database indicates no federally endangered, threatened or other sensitive species are located in the project area. The U.S. Fish and Wildlife Service provided documentation in Appendix D that no documented federally listed threatened or endangered species occurrences are within the project area.

### *Prime Farmland*

Documentation in Appendix D from the Natural Resources Conservation Service states that the project area is not considered Prime Farmland or Farmland of Statewide Importance.

### *Hazardous Wastes*

A corridor assessment was performed to determine if any hazardous materials are located in the project vicinity. Visual reconnaissance and government databases identified no areas of concern. If any hazardous wastes area discovered during the development or construction of the project, they will be avoided, remedied, or abated as discussed in the Commitments Section.

### *Floodplains*

There are no identified special flood hazard areas within the project limits. FEMA FIRM Map Panel 050179-0312, dated July 16, 1996 is included in the Appendix D.

### *Wetlands and Stream Crossings*

No wetlands or stream crossings will be impacted by the proposed project for alternatives 1, 2 and 4. A stream is crossed in alternative 3. A drainage structure is currently in place at that crossing and would be extended if alternative 3 were implemented. Estimated impacts to waters of U.S. at this crossing would be <0.1 acre.

### *Water Quality*

This project will comply with all requirements of the Clean Water Act, as Amended, for the construction of the project. This includes Section 401; Water Quality Certification, Section 402; National Pollutant Discharge Elimination Permit (NPDES), and Section 404; Permits for dredged or fill material. The NPDES Permit requires the preparation and implementation of Storm water Pollution Prevention Plan (SWPPP). The SWPPP will include all specifications and best management practices (BMPs) needed for control of erosion and sedimentation. This will be prepared when the roadway design work has been completed in order to best integrate the BMPs with the project design.

### *Public / Private Water Supplies*

The project area is not within a public drinking water system's Wellhead Protection Area. No impacts to public drinking water supplies are anticipated due to this project. If any permanent impacts to private drinking water sources occur due to this project, the City of North Little Rock

will take appropriate action to mitigate these impacts. Impacts to private water sources due to Contractor neglect or misconduct are the responsibility of the Contractor.

### *Cultural Resources*

A preliminary cultural resources assessment of the project area has been conducted in an attempt to identify any potentially significant archeological sites or historic resources that may be affected by the undertaking. The survey consisted of a records check and pedestrian survey of the alternatives. The survey failed to identify any archeological resources. The State Historic Preservation Officer was contacted regarding this project and responded by commenting that no known historic properties will be affected by this undertaking. If any cultural resources are discovered during the development of the project, they will be avoided or properly mitigated as required. There are no residential homes located along Alternative 3 and the commercial structures are less than 50 years old. Native American coordination was conducted with the United Keetoowah Band of Cherokee Indians, Caddo Nation, Cherokee Nation of Oklahoma, Choctaw Nation of Oklahoma, Osage Nation, Quapaw Tribe of Oklahoma and is included in Appendix B.

### *Noise Analysis*

A noise assessment has been conducted for this project utilizing the Federal Highway Administration's Traffic Noise Model (TNM 2.5) procedures, existing and proposed roadway information, existing traffic data, and traffic projections. This assessment is based on the design year Leq Noise Abatement Criteria (NAC) level of 67 dBA, which has been established by the FHWA as the impact level for noise receptors associated with highway projects. This level, or any exceedance of this level, is considered a noise impact. Any excessive project noise, due to construction operations, should be of short duration and have a minimum adverse effect on land uses or activities associated with this project area. The Traffic Noise Analysis is included in Appendix E.

In compliance with Federal guidelines, a copy of this analysis will be transmitted to the Central Arkansas Planning and Development District (APDD) for possible use in present and future land use planning.

### *Air Quality*

Air quality analysis has been conducted for carbon monoxide on similar projects, using Mobile 5.0a Model (Mobile Source Emission Factor Model) and CALINE 3 dispersion model. In this analysis, carbon monoxide levels for the design year were estimated using traffic volumes, weather conditions, vehicle mix, and vehicle operating speeds.

These computer analysis indicated that carbon monoxide concentration of less than one part per million (ppm) will be generated in the mixing cell for a project of this type. Combination of this estimated concentration with an estimated ambient level of 1.0 ppm would result in a carbon

monoxide concentration of less than 2.0 ppm, which is well below the national standards of 8.0 ppm for carbon monoxide.

The proposed project is located in an area that is designated as attainment for all pollutants related to transportation. Therefore, the conformity procedures of the Clean Air Act, as amended, do not apply.

#### *Natural and Visual Environment*

The project located near the convergence of the Mississippi River Alluvial Plain, Ouachita Mountains and West Gulf Coastal Plain physiographic regions of Arkansas, but falls more closely within the Mississippi River Alluvial Plain Region. The immediate project area is relatively flat, varying only about 10 feet. The visual environment in the area consists of commercial businesses and a few residential homes. The natural and visual environment would be impacted in that an overpass over the UPRR would be visible for a significant distance.

#### *Impact Summary*

The primary purpose of the project is to reduce congestion, eliminate delays, increase traffic capacity and safety by eliminating the existing McCain/Fairfax UPRR at-grade crossing and widening McCain/Fairfax to four lanes.

The following is a summary of the advantages and disadvantages of the impacts of each alternative. Table 6 summarizes other impacts for each alternative.

#### Alternative 1 (North Alignment)

##### Advantages:

- The alignment is near the current alignment of McCain/Fairfax and the connection to Highway 161.
- Provides better connectivity to the residential neighborhood in the McAlmont Community to the commercial district. Currently, some residents walk to commercial facilities on the west side of the railroad from the neighborhood.
- Somewhat consistent with Master Street Plan with some modifications.
- Better for future business and economic development as access to the commercial district is improved.

##### Disadvantages:

- Would result in residential relocations.
- Has potential for environmental justice and community impact.

## Alternative 2: (Maintain Current Alignment)

### Advantages

- Conforms to the Master Street Plan.
- Maintains the current alignment of McCain/Fairfax and the connection to Highway 161.
- More economical (least costly alternative).
- Maintains the connection of the residential neighborhood in the McAlmont Community to the commercial district. Currently, some residents walk to commercial facilities on the west side of the railroad from the neighborhood.
- Better for future business and economic development as access to the commercial district is improved.

### Disadvantages:

- Causes residential relocations.
- Has potential for environmental justice and community impact.

## Alternative 3: (South Alignment)

### Advantages

- No residential relocations

### Disadvantages

- Intersection with Highway 161 would be further from residential neighborhoods and the existing McCain/Fairfax crossing would be closed resulting in indirection for vehicular and pedestrian traffic to access the commercial district.
- Does not conform to Master Street Plan.
- Less economical (most costly alternative).
- Transportation and traffic flow on McCain/Fairfax east of Faulkner Road would experience increased indirection. This could be detrimental to businesses and economic development on McCain/Fairfax east of Faulkner Road.
- Difficulty extending McCain/Fairfax east to Interstate I-440 in the future due to environmental constraints east of Highway 161 near this location.
- Limits ability for the City of North Little Rock to provide improved access for development north of Interstate I-40.

#### Alternative 4: (Alignment 50' South of Current Alignment)

##### Advantages

- Conforms to the City of NLR Master Street Plan.
- Maintains the current alignment and connection to Highway 161.
- Maintains connection of the residential neighborhood in the McAlmont Community to the commercial district. Currently, some residents walk to commercial facilities on the west side of the railroad.
- Better for future business and economic development as access to the commercial district is improved.

##### Disadvantages:

- Causes residential relocations.
- More costly than Alternative 2.
- Greater encroachment into the Farmers Market Property.
- Has potential for environmental justice and community impact.

**Table 6 - Impact Summary**

<b>Alternative</b>	<b>Est. Cost Million \$</b>	<b>Est. Length Miles</b>	<b>Design Speed mph</b>	<b>Relocations</b>	<b>Stream Crossings</b>	<b>Wetland Impact</b>	<b>Cultural Resources</b>	<b>Noise Receptors</b>
No Action	n/a	n/a	40	None	None	None	None	n/a
1	9.76	0.42	40	9	None	None	None	9
2	9.53	0.38	40	14	None	None	None	4
3	10.39	0.67	40	0	1	None	None	4
4	9.93	0.38	40	14	None	None	None	4

## **Comments and Coordination**

Public input opportunity was provided. On October 27, 2011, a Public Involvement Meeting was held at the St. Mark Missionary Baptist Church in North Little Rock. The overall response to the project by the public was positive. A copy of the Public Involvement Meeting Synopsis is located in Appendix C.

The project is being coordinated with the Arkansas Natural Heritage Commission, Union Pacific Railroad, the City of North Little Rock and the State Historic Preservation Commission. The United Keetoowah Band of Cherokee Indians has reviewed the project and has no objections or comments at this time.

## **Commitments**

Standard commitments associated with relocation procedures, hazardous waste abatement, control of water quality impacts, assessment and mitigation of cultural resources impacts, and access provisions for severed roadways have been made in association with this project. They are as follows:

- See relocation procedures in Appendix A.
- If hazardous materials are identified, observed or accidentally uncovered by any personnel, contracting company or state regulatory agency, it will be the responsibility of the Owner (City of North Little Rock) to determine the type, size and extent of contamination. The Owner will identify the type of contaminant, develop a remediation plan and coordinate disposal methods to be employed for the particular type of contamination. All remediation work will be conducted in conformance with the Arkansas Department of Environmental Quality (ADEQ), Environmental Protection Agency and Occupational Safety and Health Administration (OSHA) regulations.
- All requirements of the Clean Water Act will be complied with.
- If any cultural resources are discovered during the development or construction of this project, they will be avoided or properly mitigated by the State Historic Preservation Officer.

## **Summary**

Analysis of the proposed project did not identify any significant impacts to the natural or man-made environment. The final selection of an alternative will not be made until the Location and Design Public Hearing has been held and comments received on the Environmental Assessment have been fully evaluated. The Public will be notified of the preferred alternative by press release in the Arkansas Democrat Gazette and local newspapers.



**IMAGE 1: VIEW TOWARD RAILROAD CROSSING FROM FORRESTER DOWN FAIRFAX**



**IMAGE 2: 4806 FAIRFAX DR**

**Figure 10 Photographs of Properties**



IMAGE 3: ROADROAD CROSSING AT FAIRFAX (EAST SIDE)



IMAGE 4: GREENHOUSE ALONG FAIRFAX DR AT MARKET PLAZA

**Figure 11 Photographs of Properties**



**IMAGE 5: 5409 FAIRFAX DR**



**IMAGE 6: GAS STATION AT END OF FAIRFAX DR AND HIGHWAY 161 (2)**

**Figure 12: Photographs of Properties**



**IMAGE 7: 3901 HIGHWAY 161N, FULL GOSPEL SHURCH**

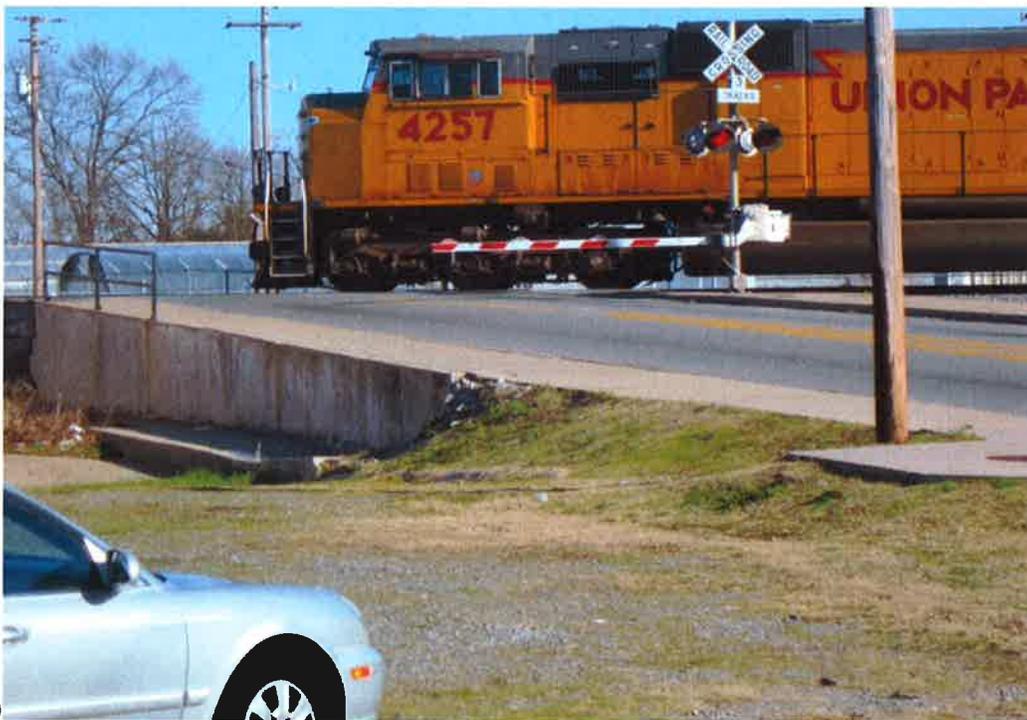


**IMAGE 8: MOBILE HOMES ALONG FLOWERS (420,416,412 FLOWERS)**

**Figure 13: Photographs of Properties**



**IMAGE 9: VIEW OF INTERSECTION OF ROUNDTOP AND FAIRFAX DR**



9

**IMAGE 10: VIEW OF TRAIN PASSING THROUGH CROSSING AT FAIRFAX DR**

**Figure 14: Photographs of Properties**



**IMAGE 11: VIEW DOWN FAIRFAX DR FROM MIDDLE OF RAILROAD CROSSING**



**IMAGE 12: VIEW OF FAIRFAX DR CONTINUING TO EAST MCCAIN BLVD FROM INTERSECTION AT HIGHWAY 161**

**Figure 15: Photographs of Properties**

# **APPENDIX A**

## **Conceptual Stage Relocation Analysis**

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
RIGHT OF WAY DIVISION                      RELOCATION SECTION**

**DATE:**            April 20, 2012  
**SUBJECT:**        Job 061294 McCain Grade Separation

**CONCEPTUAL STAGE RELOCATION STATEMENT**

---

**GENERAL STATEMENT OF RELOCATION PROCEDURE**

Persons displaced as a direct result of acquisition for the subject project will be eligible for relocation assistance in accordance with Public Law 91-646, Uniform Relocation Assistance Act of 1970. The Relocation Program provides advisory assistance and payments to minimize the adverse impact and hardship of displacement upon such persons. No lawful occupant shall be required to move without receiving a minimum of 90 days advance written notice. All displaced persons: residential, business, farm, nonprofit organization, and personal property occupants are eligible for reimbursement for actual reasonable moving costs.

Construction of the project will not begin until decent, safe, and sanitary replacement housing is in place and offered to all residential occupants. It is the Department's Policy that adequate replacement housing will be made available, built if necessary, before any person is required to move from their dwelling. All replacement housing must be fair housing and offered to all affected persons regardless of race, color, religion, sex, or national origin.

There are two basic types of residential relocation payments: (1) Replacement Housing Payments and (2) Moving Expense Payments. Replacement housing payments are made to qualified owners and tenants. An owner may receive a price differential payment of up to \$22,500.00 for the increased cost of a replacement dwelling. A tenant may receive a rental assistance payment of up to \$5,250.00 for the increased cost of a replacement dwelling. The eligible amount for a replacement housing payment is determined by a study of comparable replacement dwellings currently available on the market. Owners may also be eligible for payments to compensate them for the increased interest cost for a new mortgage and the incidental expenses incurred in connection with the purchase of a replacement dwelling. Tenants may elect to purchase a replacement dwelling and receive a downpayment assistance payment up to the amount of their rental assistance eligibility. Replacement Housing Payments are made in addition to Moving Expense Payments.

Businesses, farms, and nonprofit organizations are eligible for Reestablishment Payments, not to exceed \$10,000.00. Reestablishment Expense Payments are made in addition to Moving Expense Payments. A business farm or nonprofit organization may be eligible for a fixed payment in lieu of the moving costs and reestablishment costs if relocation cannot be accomplished without a substantial loss of existing patronage. The fixed payment will be computed in accordance with the Code of Federal Regulations and cannot exceed \$20,000.00.

If the displaced person is not satisfied with the amounts offered as relocation payments, they will be provided a form to assist in filing a formal appeal. A hearing will be arranged at a time and place convenient for the displaced person, and the facts of the case will be promptly and carefully reviewed.

Relocation services will be provided until all persons are relocated or their relocation eligibility expires. The Relocation Office will have listings of available replacement housing and commercial properties. Information is also maintained concerning other Federal and State Programs offering assistance to displaced persons.

Based on an aerial photograph including the four alternatives and the corresponding estimated construction limits and an on-site project review, it is estimated that the alternatives for the subject project could cause the following displacements and costs:

**Alternative 1**

5 Residential Owners	\$26,250
Tenants	0
Services	
<b>Total</b>	<b>\$ 26,250</b>

**Alternative 2**

12 Residential Owners	\$270,000
Services	63,000
<b>Total</b>	<b>\$333,000</b>

**Alternative 4**

12 Residential Owners	\$270,000
Services	63,000
<b>Total</b>	<b>\$333,000</b>

Available housing will be identified that is within the financial means of the displaced persons and is fair housing open to all persons regardless of race, color, sex, religion, or national origin consistent with the requirements of 49 CFR, Subpart A, Section 24.2 and Title VIII of the Civil Rights Act of 1968. Appropriate measures will be taken to ensure that each displaced person is fully aware of their benefits, entitlements, and available courses of action.

All displaced persons will be offered relocation assistance under provisions in the applicable FHWA regulations. At the time of displacement another inventory of available housing in the subject area will be obtained and an analysis of the market made to ensure that there are dwellings adequate to meet the needs of all displaced residential occupants. Also, special relocation advisory services and assistance will be administered commensurate with displaced persons' needs, when necessary. Examples of these include, but are not limited to, Housing of Last Resort as previously mentioned and consultation with local officials, social and federal agencies and community groups.

There are no other identified unusual conditions involved with this project.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONCEPTUAL STAGE RELOCATION INVENTORY

Job Name: McCain Grade Separation

Job No. 061294

Date: April, 2012

ALTERNATIVE 1	Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled		Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
					Person Households	Households				
	Residential Owners	5	\$ 80,000 - \$ 150,000	0	0	0	4	1	0	
	Residential Tenants		\$ 300 - \$ 400							
	Businesses	1	\$200,000							1
	Landlord Businesses	0								
	Nonprofit Organizations	0								
	Personal Properties									
	Totals	6	N/A	0	0	0	4	1	1	1

ALTERNATIVE 2	Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled		Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
					Person Households	Households				
	Residential Owners	12	\$ 80,000 - \$ 150,000	0	0	0	9	1	0	
	Residential Tenants		\$ 300 - \$ 400							
	Businesses	1	\$200,000							
	Landlord Businesses	0								
	Nonprofit Organizations	0								
	Personal Properties									
	Totals	13	N/A	0	0	0	9	1	1	1

ALTERNATIVE 3	Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled		Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
					Person Households	Households				
	Residential Owners	0	\$ 80,000 - \$ 150,000	0	0	0	0	0	0	
	Residential Tenants		\$ 300 - \$ 400							
	Businesses	0	\$200,000							
	Landlord Businesses	0								
	Nonprofit Organizations	0								
	Personal Properties									
	Totals	0	N/A	0	0	0	0	0	0	0

ALTERNATIVE 4		Residential Property Values or		Disabled			Employees		
Type Relocation	Number	Rental Rates	Large Family Households	Person Households	Minority Households	Elderly Households	Low Income Households	Affected (Range)	
Residential Owners	12	\$ 80,000 - \$ 150,000	0	0	0	1	0		
Residential Tenants		\$ 300 - \$ 400							
Businesses	1	\$200,000							
Landlord Businesses	0								
Nonprofit Organizations	0								
Personal Properties									
Totals	13	N/A	0	0	0	1	1		

# **APPENDIX B**

## **Native American Consultation**



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Ms. Lisa Larue  
Historic Preservation Coordinator  
United Keetoowah Band of Cherokee Indians  
P.O. Box 746  
Talequah, OK 74465

Dear Ms. Larue:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Mr. Robert Cast  
Tribal Historic Preservation Officer  
Caddo Nation  
P.O. Box 487  
Binger, OK 73009

Dear Mr. <sup>Robert</sup> ~~Cast~~:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Dr. Richard Allen  
Cherokee Nation of Oklahoma  
P.O. Box 948  
Tahlequah, OK 74465

Dear Dr. Allen:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Mr. Terry Cole  
Tribal Historic Preservation Officer & NAGPRA Program Coordinator  
Choctaw Nation of Oklahoma  
P.O. Box 1210  
Durant, OK 74465

Dear Mr. Cole:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Dr. Andrea A. Hunter  
Director, Tribal Historic Preservation Officer  
Osage Nation  
P.O. Box 779  
Pawhuska, OK 74056

Dear Dr. Hunter:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Arkansas Division**

March 14, 2012

700 West Capitol Ave  
Suite 3130  
Little Rock AR 72201  
(501) 324-6430

In Reply Refer To:  
AHTD Job 061294  
NLR Rail Grade Separation  
Pulaski County  
HDA-AR

Ms. Jean Ann Lambert  
Tribal Historic Preservation Officer  
Quapaw Tribe of Oklahoma (O-Gah-Pah)  
P.O. Box 765  
Quapaw, OK 74363-0765

Dear Ms. Lambert:

In order to initiate consultation regarding the noted project, we are submitting for your review a copy of a project area map and State Historic Preservation Office (SHPO) correspondence from September 2011. The project will construct a railroad overpass in a highly disturbed industrial/commercial area within the city limits of North Little Rock. As always, we appreciate your review of our projects and if you have concerns or require additional information, please contact me at (501) 324 -6430 or via email at [randal.looney@dot.gov](mailto:randal.looney@dot.gov).

Sincerely,

Randal Looney  
Environmental Coordinator

Enclosure



**MARLAR ENGINEERING CO., INC.**  
*Consulting Civil Engineers & Land Surveyors*  
 5318 John F. Kennedy Boulevard  
 North Little Rock, Arkansas 72116

Forrest C. Marlar, PE, PLS  
 Michael P. Marlar, PE, PLS  
 Walt C. Catlett, PE  
 L. David Jones Jr., PLS  
 Jack Flemming, Biologist

September 12, 2011

78617  
 FHWA

Mr. George McCluskey  
 Section 106 Review Coordinator  
 The Department of Arkansas Heritage  
 1500 Tower Building  
 323 Center Street  
 Little Rock, Arkansas 72201

AHPP  
 SEP 15 2011

Re: North Little Rock Rail Grade Separation Job No. 061294  
 Federal Aid Project No. STPU-9315(35)

Dear Mr. McCluskey:

In response to your letter dated August 31, 2011 (attached), we are transmitting photographs of houses and addresses that potentially may be abandoned and removed as a result of this project. These houses are approximately 40 – 50 years old. There were no structures over 50 years old other than the houses in the photographs identified.

Please contact us if you have any questions.

Sincerely,  
 Marlar Engineering Co., Inc.

*Michael P. Marlar*

Michael P. Marlar, PE  
 President

CC: Mike Smith, City Engineer

Date 9.14.11  
 No known historic properties will be affected by this undertaking. This effect determination could change should new information come to light.  
*Francis McSwain*  
 Francis McSwain, Deputy State Historic Preservation Officer



# **APPENDIX C**

## **Public Involvement Synopsis**

**MEMORANDUM**

**Public Involvement Meeting Synopsis**

**DATE:** February 14, 2012

**TO:** Lynn Malbrough, Division Head, Environmental Division

**FROM:** Marlar Engineering Co, Inc.  
5318 JFK BLVD, NLR, AR

**SUBJECT:** Public Involvement Synopsis  
AHTD Job Number 061264, FAP STPU-9315-(35)  
McCain Rail Grade Separation  
Pulaski County

An open forum public involvement meeting for the subject was held on October 27, 2011 at the St. Mark Missionary Baptist Church in North Little Rock. AHTD Environmental, Right of Way, and North Little Rock officials participated in the meeting. Layouts with the proposed alternatives were available for viewing.

Approximately 60 citizens visited the session. Eighteen (18) written comments were received at the meeting.

**The following are responses received from our questionnaire and comment forms:**

1. Do you feel there is a need for the proposed widening of McCain Boulevard from Forrester to HWY 161 with a railroad overpass?

Yes	No	Blank
14	3	1

2. Do you know of any historical sites, family cemeteries, or archaeological sites in the project area?

Yes	No	Blank
0	18	0

3. Do you know of any environmental constraints such as endangered species, hazardous waste sites, existing or proposed landfills, or parks and public lands in the vicinity of the project?

Yes	No	Blank
0	18	0

4. Do you feel the proposed project will have impacts ( \_\_ Beneficial or \_\_ Adverse) on your property and/or community (economic, environmental, social, etc?)?

Beneficial	Adverse	Yes	No	Blank
6	4	10	4	4

5. Do you have a suggestion that would make this proposed project better serve the needs of the community?

Yes	No	Blank
9	7	2

6. Which alternative alignment would you consider to be your preferred alternative for the proposed improvements of McCain Boulevard and Railroad overpass?

Option 1	Option 2	Option 3	Option 4	No build option
4	6	8	0	1

**Comments were as follows:**

- 1 comment stated that straightest option looks least expensive.
- 1 comment stated to maintain route as it is now.
- 1 comment stated that Fairfax drive named after long standing African American resident
- 1 comment stated adverse effects on their property and neighbors, lives will be interrupted if they have to relocate.
- 3 comments for option 1 because it is undeveloped space and affect the fewest residents and property involved.
- 2 comments for option 3 because it had the least impact on residents.
- 1 comment stated that it would be beneficial because it benefits the area socially and will make a new environment over "here".
- 1 comment stated option 1 route would allow less traffic on Fairfax.
- 3 comments stated why not use the expressway if the [widening] takes up most of their property without a full refund.
- 1 comment mourned the loss of their trees and flowers that they planted because the expressway can be used.
- 1 comment stated they were sad about losing their childhood home.
- 1 comment said to not build because it would leave them with less yard and extra noise.
- 1 comment stated to not build because it would allow property value of their home to remain the same.
- 2 comments said it would be beneficial because it would increase property values and access to highway 161.
- 2 comments preferred the off ramp with option 1
- 2 comments stated they were concerned about losing access to their business.
- 1 comment stated the need for the overpass due to heavy traffic times such as rush hour or school traffic.
- 1 comment suggested that it would allow easier access to the mall and returning home.

- 1 comment stated to take all houses and make it better for [traveling].
- 3 comments stated that it would have adverse effects due to lower property values.
- 1 comment suggested a cul-de-sac at the end of Fairfax to ease all congestion problems.
- 4 comments suggested to move all residents or take project someplace else, not to nibble at property.
- 2 comments discussed the loss of inheritance to their kids with the loss of their home.
- 1 comment suggested to not end McCain because it is an old road and should not be ended as in option 3.
- 1 comment was concerned about losing business if the road is moved away from its current course.
- 1 comment stated a straight road would be easier to have access to Wal-Mart, post office and restaurants.

**CITIZEN COMMENT FORM**

**AHTD Job No. 061294**

**McCain Rail Grade Separation Project**

**North Little Rock, AR**

Location: St. Mark Missionary Baptist Church, 3725 Hwy 161 North, North Little Rock, AR

Time: 4:00 – 7:00 p.m.

Date: Thursday, October 27, 2011

Make your comments on this form and leave it with Marlar Engineering Personnel at the meeting or mail it within 15 days to: Marlar Engineering Co., Inc., 5318 John F. Kennedy Boulevard, North Little Rock, AR 72116, Attn: Mike Marlar.

Yes    No    Do you feel there is a need for the proposed widening of McCain Boulevard from  
\_\_\_    \_\_\_    Forrester to Hwy 161 with a Railroad overpass? Comment (optional) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yes    No    Do you know of any historical sites, family cemeteries, or archaeological sites in the  
\_\_\_    \_\_\_    project area? Please note and discuss with staff. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yes    No    Do you know of any environmental constraints, such as endangered species, hazardous  
\_\_\_    \_\_\_    waste sites, existing or proposed landfills, or parks and public lands in the vicinity of the  
project? Please note and discuss with  
staff. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yes    No    Do you feel the proposed project will have any impacts (\_\_\_ Beneficial or \_\_\_ Adverse)  
\_\_\_    \_\_\_    on your property and/or community (economic, environmental, social, etc.)?  
Please explain. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yes    No    Do you have a suggestion that would make this proposed project better serve the needs of the community? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Which Alternative Alignment would you consider to be your preferred alternative for the proposed improvements of McCain Boulevard and Railroad Overpass?

- \_\_\_ Option 1 – Northerly alignment (North of Fairfax)
- \_\_\_ Option 2 – Maintain current alignment along McCain and Fairfax
- \_\_\_ Option 3 – Southerly alignment along Faulkner and Rosemary Roads
- \_\_\_ Option 4 – Current alignment 50 feet south of McCain and Fairfax
- \_\_\_ NO BUILD Option

Why is that your preference? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

It is often necessary to contact property owners along the potential routes. If you are a property owner along or adjacent to the proposed alternatives under consideration, please provide information below. Thank you.

Name: \_\_\_\_\_ (Please Print)

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Email: \_\_\_\_\_

Please make additional comments here. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



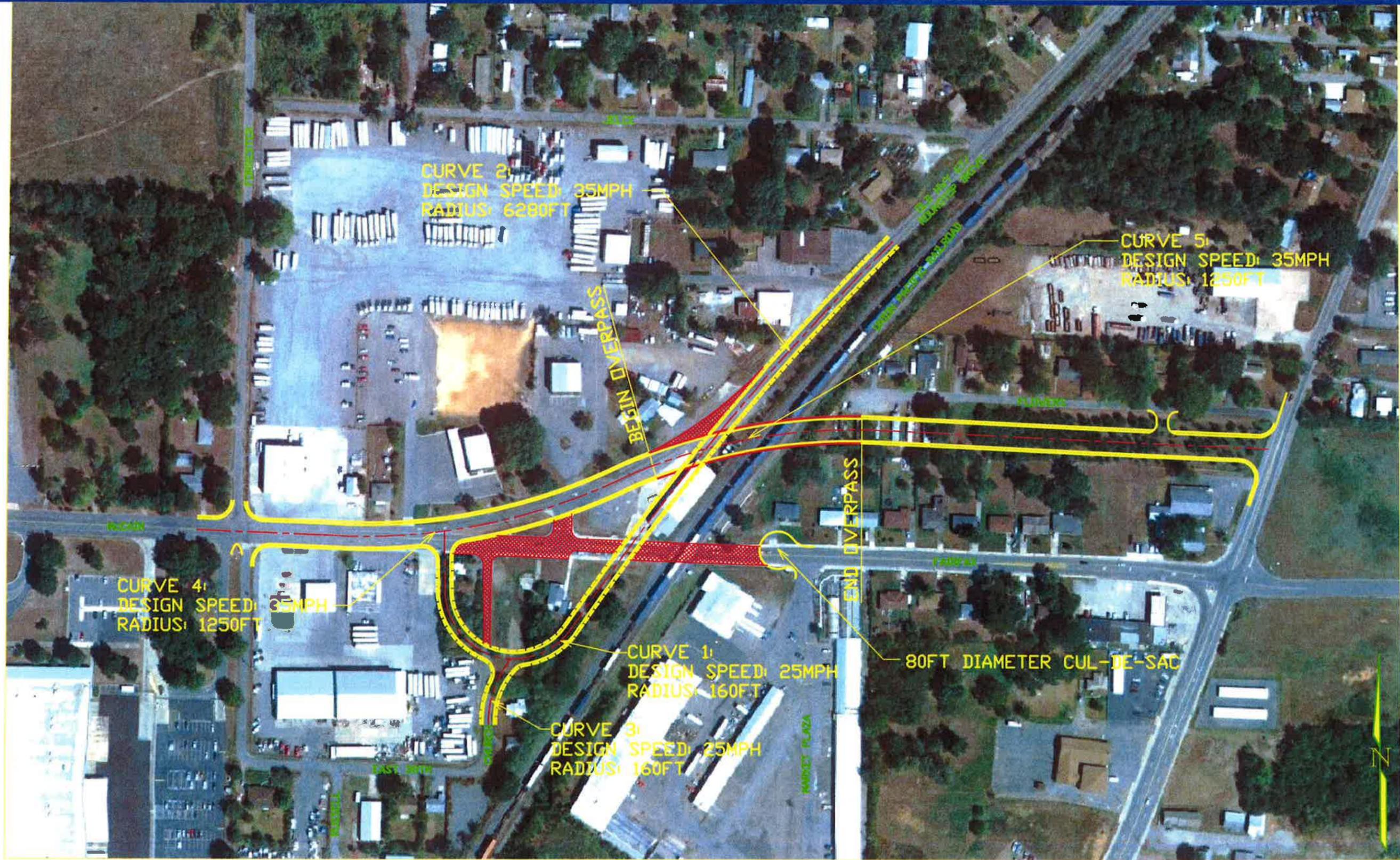
Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY
Project No.:	061294	Date:	SEPTEMBER, 2011
Drawn By:	JGB	Scale:	1" = 100'
Approved By:	MPM	Sheet No.:	of

Project:  
**CITY OF NORTH LITTLE ROCK  
 MCCAIN BLVD - JOB 061294**

Drawing Title:  
**OPTION 1  
 NORTHERLY ALIGNMENT**

SHT: **C1**



**TYPICAL SECTION**

**MCCAIN/FAIRFAX:**  
 NUMBER OF LANES: 4  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18'  
 SIDEWALKS: 6'

**ROUNDTOP:**  
 NUMBER OF LANES: 2  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18'  
 SHOULDER: 6'(WHERE APPLICABLE)  
 SIDEWALKS: N/A





**TYPICAL SECTION**

McCain/FAIRFAX:  
 NUMBER OF LANES: 4  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18"  
 SIDEWALKS: 6'

**ROUNDTOP:**

NUMBER OF LANES: 2  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18"  
 SHOULDER: 6'(WHERE APPLICABLE)  
 SIDEWALKS: N/A



Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY

Project No.: 061294 Date: SEPTEMBER, 2011  
 Drawn By: JGB Scale: 1" = 100'  
 Approved By: MPM Sheet No.: of

Project: CITY OF NORTH LITTLE ROCK  
 McCain Blvd - Job 061294  
 Drawing Title: OPTION 2  
 MAINTAIN CURRENT ALIGNMENT

SHT: C2





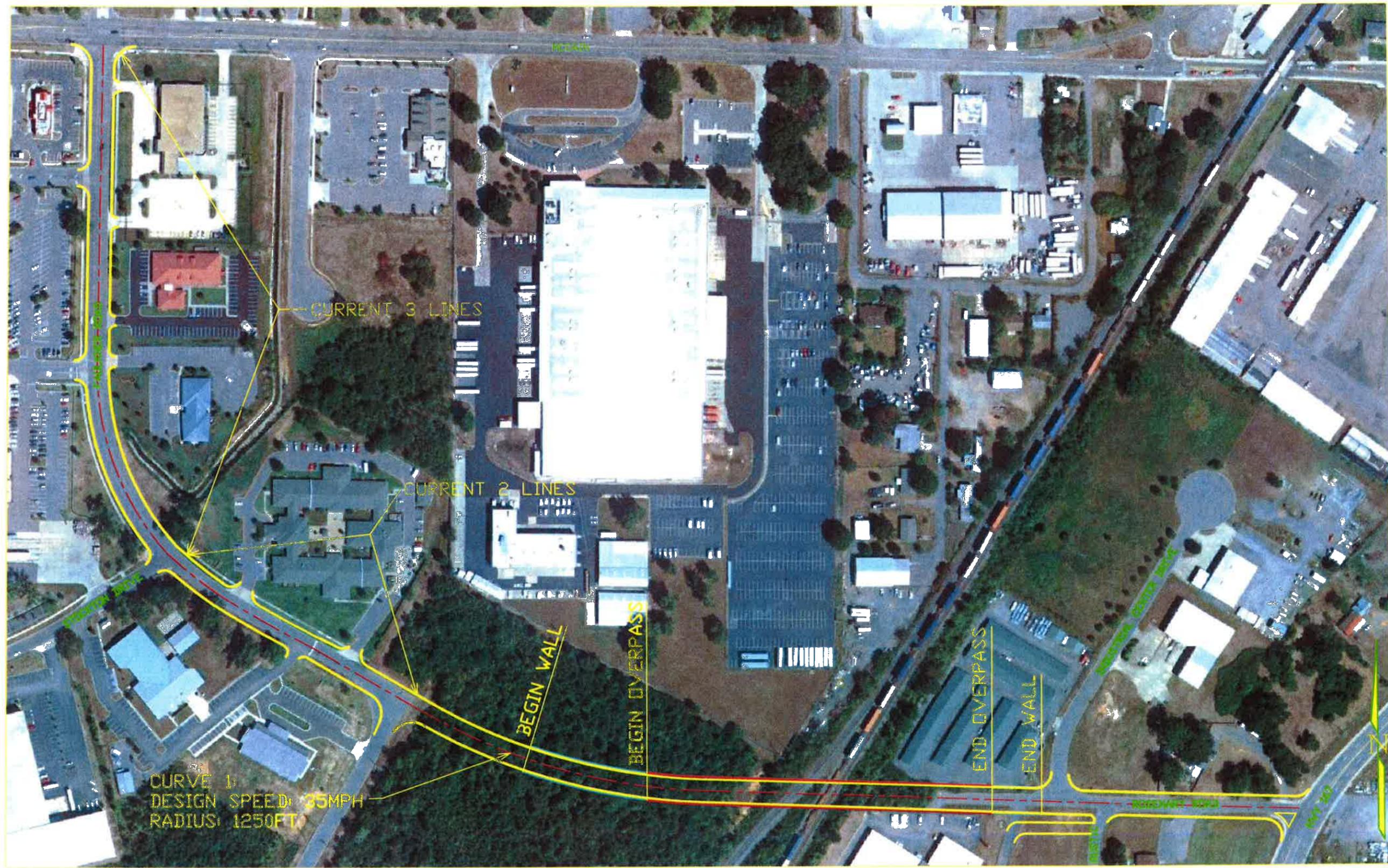
Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY
Project No.:	061294	Date:	SEPTEMBER, 2011
Drawn By:	JGB	Scale:	1" = 100'
Approved By:	MPM	Sheet No.:	of

Project:  
**CITY OF NORTH LITTLE ROCK  
 MCCAIN BLVD - JOB 061294**

Drawing Title:  
**OPTION 3  
 SOUTHERLY ALIGNMENT**

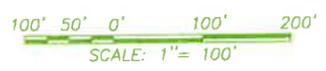
SHT: **C3**



CURVE 1  
 DESIGN SPEED: 35MPH  
 RADIUS: 1250FT

**TYPICAL SECTION**

FAULKNER/ROSEMARY:  
 NUMBER OF LANES: 4  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18"  
 SIDEWALKS: 6'





**TYPICAL SECTION**

McCain/Fairfax:  
 NUMBER OF LANES: 4  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18'  
 SIDEWALKS: 6'

**ROUNDTOP:**

NUMBER OF LANES: 2  
 LANE WIDTH: 12'  
 CURB & GUTTER: 18'  
 SHOULDER: 6'(WHERE APPLICABLE)  
 SIDEWALKS: N/A



Prepared for:  
**CITY OF NORTH LITTLE ROCK**

REV.	DATE	DESCRIPTION	BY
Project No.:	061294	Date:	SEPTEMBER, 2011
Drawn By:	JGB	Scale:	1" = 100'
Approved By:	MPM	Sheet No.:	of

Project:  
**CITY OF NORTH LITTLE ROCK  
 MCCAIN BLVD - JOB 061294**

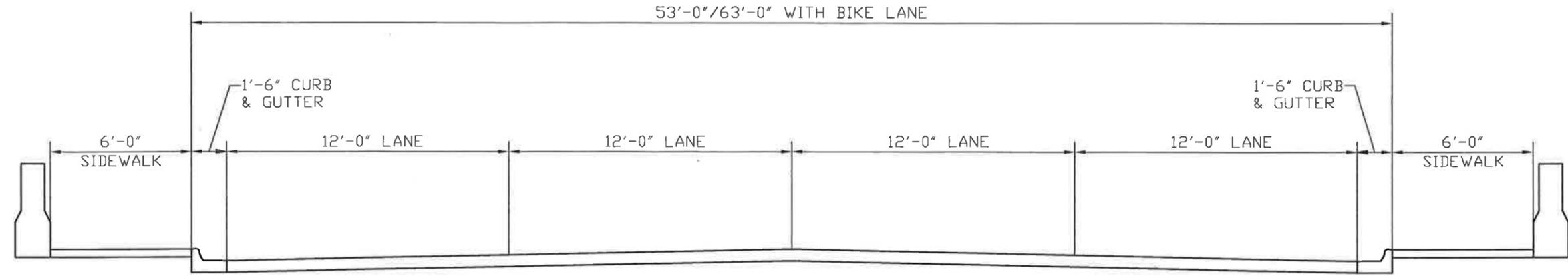
Drawing Title:  
**OPTION 4**

SHT:

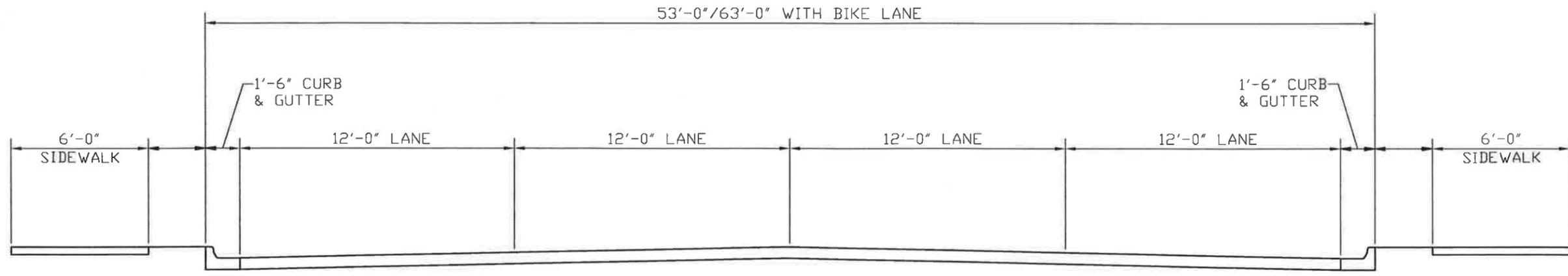




Prepared for:  
**CITY OF NORTH LITTLE ROCK**



**SECTION - BRIDGE**  
NTS



**SECTION - ROAD WIDENING**  
NTS

REV.	DATE	DESCRIPTION	BY

Project No.: 061294 Date: SEPTEMBER, 2011  
 Drawn By: JGB Scale: NOT TO SCALE  
 Approved By: MPM Sheet No.: of

Project: CITY OF NORTH LITTLE ROCK  
MCCAIN BLVD - JOB 061294

Drawing Title:  
**BRIDGE & ROAD DETAIL**

SHT: C4



# **APPENDIX D**

## **Environmental Agency Review**



**MARLAR ENGINEERING CO., INC.**  
*Consulting Civil Engineers & Land Surveyors*

5318 John F. Kennedy Boulevard  
North Little Rock, Arkansas 72116

Forrest C. Marlar, PE, PLS  
Michael P. Marlar, PE, PLS  
Walt C. Catlett, PE  
L. David Jones Jr., PLS  
Jack Flemming, Biologist

September 12, 2011

78617  
FHWA

Mr. George McCluskey  
Section 106 Review Coordinator  
The Department of Arkansas Heritage  
1500 Tower Building  
323 Center Street  
Little Rock, Arkansas 72201

AHPP  
SEP 15 2011

Re: North Little Rock Rail Grade Separation Job No. 061294  
Federal Aid Project No. STPU-9315(35)

Dear Mr. McCluskey:

In response to your letter dated August 31, 2011 (attached), we are transmitting photographs of houses and addresses that potentially may be abandoned and removed as a result of this project. These houses are approximately 40 – 50 years old. There were no structures over 50 years old other than the houses in the photographs identified.

Please contact us if you have any questions.

Sincerely,  
Marlar Engineering Co., Inc.

*Michael P. Marlar*

Michael P. Marlar, PE  
President

CC: Mike Smith, City Engineer

Date 9.14.11  
No known historic properties will be affected by this undertaking. This effect determination could change should new information comes to light.  
*Frances McSwain*  
Frances McSwain, Deputy State Historic Preservation Officer





**MARLAR ENGINEERING CO., INC.**  
*Consulting Civil Engineers & Land Surveyors*

5318 John F. Kennedy Boulevard  
North Little Rock, Arkansas 72116

Forrest C. Marlar, PE, PLS  
Michael P. Marlar, PE, PLS  
Walt C. Catlett, PE  
L. David Jones Jr., PLS  
Jack Flemming, Biologist

August 26, 2011

Ms. Frances McSwain  
Deputy State Historic Preservation Officer  
The Department of Arkansas Heritage  
1500 Tower Building  
323 Center Street  
Little Rock, Arkansas 72201

Re: North Little Rock Rail Grade Separation

Dear Ms. McSwain:

The City of North Little Rock is planning to widen a section of East McCain Boulevard from Forrester to Highway 161 with a bridge over the Union Pacific Railroad. We have attached a site map indicating the location of these improvements and are transmitting this letter requesting your review for State Historic Preservation clearance.

We appreciate your consideration in this matter.

Sincerely,  
Marlar Engineering Co., Inc.

*Michael P. Marlar*

Michael P. Marlar, PE  
President

CC: Mike Smith, City Engineer





**MARLAR ENGINEERING CO., INC.**

*Consulting Civil Engineers & Land Surveyors*

5318 John F. Kennedy Boulevard  
North Little Rock, Arkansas 72116

Forrest C. Marlar, PE, PLS  
Michael P. Marlar, PE, PLS  
Walt C. Catlett, PE  
L. David Jones Jr., PLS  
Jack Flemming, Biologist

September 12, 2011

Mr. George McCluskey  
Section 106 Review Coordinator  
The Department of Arkansas Heritage  
1500 Tower Building  
323 Center Street  
Little Rock, Arkansas 72201

Re: North Little Rock Rail Grade Separation Job No. 061294  
Federal Aid Project No. STPU-9315(35)

Dear Mr. McCluskey:

In response to your letter dated August 31, 2011 (attached), we are transmitting photographs of houses and addresses that potentially may be abandoned and removed as a result of this project. These houses are approximately 40 – 50 years old. There were no structures over 50 years old other than the houses in the photographs identified.

Please contact us if you have any questions.

Sincerely,  
Marlar Engineering Co., Inc.

*Michael P. Marlar*

Michael P. Marlar, PE  
President

CC: Mike Smith, City Engineer





The Department of Arkansas Heritage

Mike Beebe Governor

Cathie Matthews Director

Arkansas Arts Council

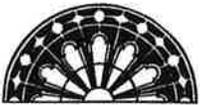
Arkansas Natural Heritage Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars Cultural Center

Old State House Museum



Arkansas Historic Preservation Program

1500 Tower Building 323 Center Street

Little Rock, AR 72201

(501) 324-9880

fax: (501) 324-9184

tdd: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.com

August 31, 2011

Mr. Michael P. Marlar, PE President Marlar Engineering Co., Inc. 5318 John F. Kennedy Boulevard North Little Rock, Arkansas 72116

RE: Pulaski County - North Little Rock Section 106 Review - FHWA; AHPP Tracking#78617 Proposed East McCain Blvd./Rail Grade Separation/Road Widening Project

Dear Mr. Marlar:

This letter is written in response to your inquiry, regarding properties of architectural, historical, or archeological significance in the area of the proposed referenced project.

In order for the Arkansas Historic Preservation Program (AHPP) to complete its review of the proposed project, we will need the additional information checked below:

\_\_\_ a 7.5 minute 1:24,000 scale U.S.G.S. topographic map clearly delineating the project area;

\_\_\_ a project description detailing all aspects of the proposed project;

✓ the location, age, and photographs of structures (if any) to be renovated, removed, demolished, or abandoned as a result of this project;

✓ photographs of any structures 50 years old or older on property directly adjacent to the project area.

Once we have received the above information, we will complete our review as expeditiously as possible. If you have any questions, please contact me at (501) 324-9880.

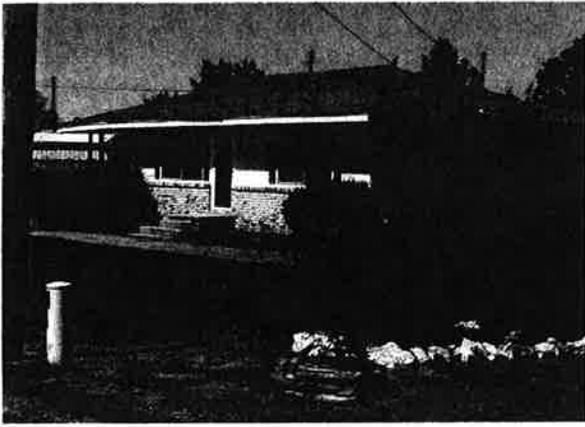
Sincerely,

George McCluskey (handwritten signature)

George McCluskey Section 106 Review Coordinator

An Equal Opportunity Employer





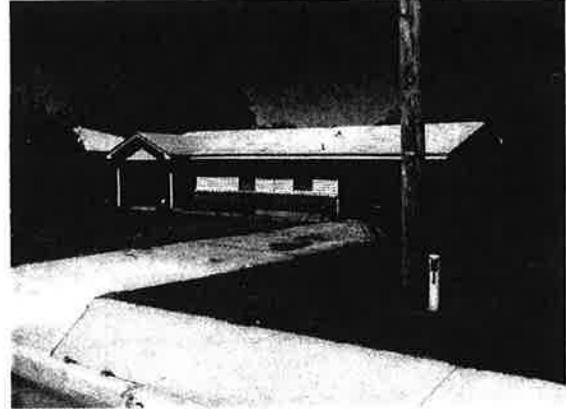
5219 Fairfax Drive



5511 Fairfax Drive



5507 Fairfax Drive



5405 Fairfax Drive



5501 Fairfax Drive



5505 Fairfax Drive



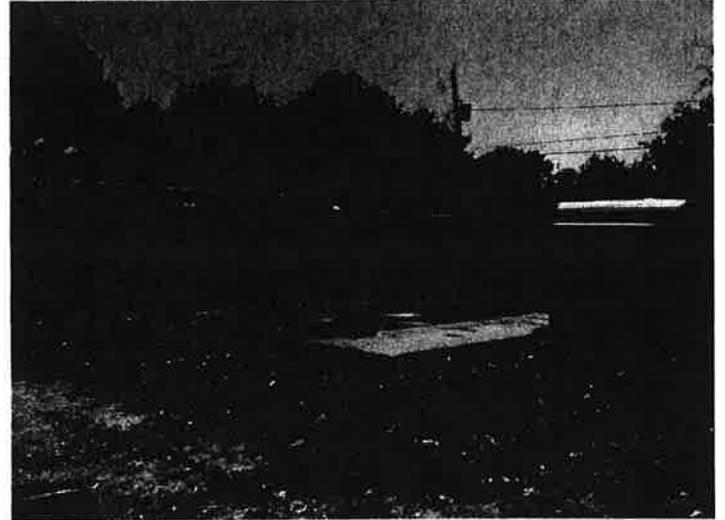
5409 Fairfax Drive



5403 Fairfax Drive



420 Flowers Ln, 416 Flowers Ln, 412 Flowers Ln



412 Flowers Ln

410 Flowers Ln



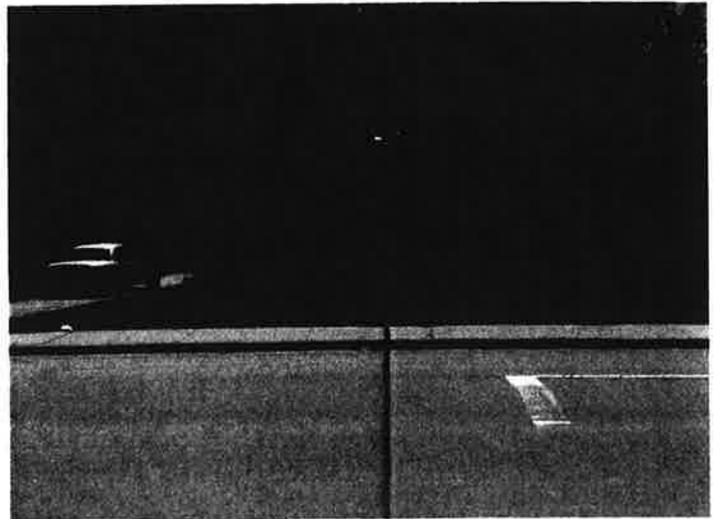
3901 Hwy 161



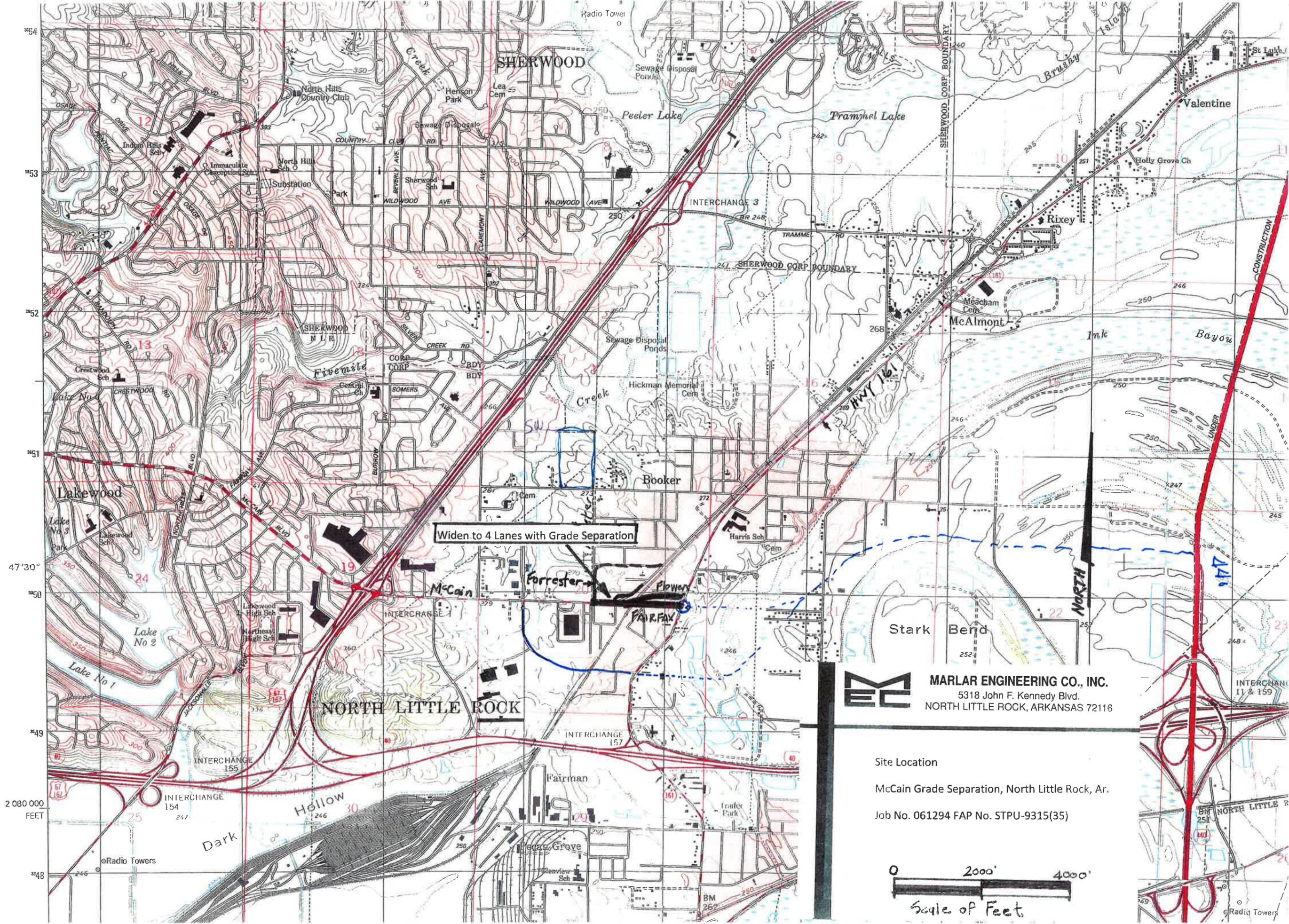
3901 Hwy 161



100 Fairfax Drive ( Metal Storage Bldg



5208 Fairfax Drive

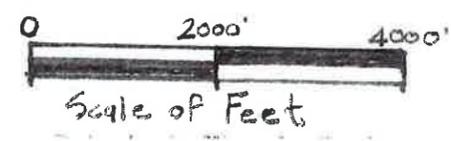


Widen to 4 Lanes with Grade Separation



**MARLAR ENGINEERING CO., INC.**  
 5318 John F. Kennedy Blvd.  
 NORTH LITTLE ROCK, ARKANSAS 72116

Site Location  
 McCain Grade Separation, North Little Rock, Ar.  
 Job No. 061294 FAP No. STPU-9315(35)



United States Department of Agriculture



Natural Resources Conservation Service  
Room 3416, Federal Building  
700 West Capitol Avenue  
Little Rock, Arkansas 72201-3215

---

OCT 03 2011

Michael P. Marlar  
President  
Marlar Engineering Co., Inc  
5318 John F. Kennedy Boulevard  
North Little Rock, AR 72086

Dear Mr. Marlar:

This letter is in response to your request for information related to Prime Farmland and Farmland of Statewide Importance for the proposed widen a section of East McCain Boulevard to four lanes from Forrester to Highway 161 for the City of North Little Rock, Arkansas. This area is not considered Prime Farmland or Farmland of Statewide Importance.

Should you have any questions or need additional information, please call me at (501) 301-3172 or email at [nelson.rolong@ar.usda.gov](mailto:nelson.rolong@ar.usda.gov).

Sincerely,

A handwritten signature in black ink that reads "Nelson A. Rolong".

NELSON A. ROLONG Ph. D.  
Assistant State Soil Scientist

Enclosure

cc:

Luis Hernandez, Soil Survey Region 16 Leader/State Soil Scientist, NRCS, Little Rock, AR

*Helping People Help the Land*

An Equal Opportunity Provider and Employer



**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request <b>9/18/11</b>	4. Sheet 1 of _____
1. Name of Project <b>East McCain Boulevard, North little Rock</b>	5. Federal Agency Involved <b>Federal Highway Admonistration</b>		
2. Type of Project <b>Road improvements</b>	6. County and State <b>Pulaski County, AR</b>		
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS <b>9/22/11</b>	2. Person Completing Form <b>Nelson A. Rolong</b>
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		4. Acres Irrigated   Average Farm Size	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %		7. Amount of Farmland As Defined in FPPA Acres: _____ %
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

<b>PART III (To be completed by Federal Agency)</b>	Alternative Corridor For Segment _____			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

**PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)**

<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
1. Area in Nonurban Use	<b>15</b>				
2. Perimeter in Nonurban Use	<b>10</b>				
3. Percent Of Corridor Being Farmed	<b>20</b>				
4. Protection Provided By State And Local Government	<b>20</b>				
5. Size of Present Farm Unit Compared To Average	<b>10</b>				
6. Creation Of Nonfarmable Farmland	<b>25</b>				
7. Availability Of Farm Support Services	<b>5</b>				
8. On-Farm Investments	<b>20</b>				
9. Effects Of Conversion On Farm Support Services	<b>25</b>				
10. Compatibility With Existing Agricultural Use	<b>10</b>				
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>	<b>160</b>				

<b>PART VII (To be completed by Federal Agency)</b>	Corridor A	Corridor B	Corridor C	Corridor D
Relative Value Of Farmland (From Part V)	<b>100</b>			
Total Corridor Assessment (From Part VI above or a local site assessment)	<b>160</b>			
<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
5. Reason For Selection:			

Signature of Person Completing this Part: \_\_\_\_\_ DATE \_\_\_\_\_

**NOTE: Complete a form for each segment with more than one Alternate Corridor**



IN REPLY REFER TO:

## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

110 South Amity Road, Suite 300  
Conway, Arkansas 72032  
Tel.: 501/513-4470 Fax: 501/513-4480  
October 25, 2011

Mr. Michael Marlar, P.E.  
Marlar Engineering Co., Inc.  
5318 John F. Kennedy Boulevard  
North Little Rock, AR 72116

Subject: North Little Rock Rail Grade Separation and East McCain Blvd. upgrade, Pulaski County, Arkansas

Dear Mr. Marlar:

This responds to your letter dated September 19, 2011 (received October 18, 2011), soliciting U.S. Fish and Wildlife Service (Service) comments on the above referenced project. Our comments are submitted in accordance with the Endangered Species Act of 1973 (87 stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The proposed project includes plans to widen East McCain Boulevard to four lanes from Forrester Street to Highway 161 in North Little Rock, Arkansas. Alternatives under consideration include a grade separation (bridge) over the railroad on the current alignment, locating a new bridge north of the current alignment, or constructing a tunnel under the railroad.

A review of the urban project area revealed no documented federally listed threatened or endangered species occurrences within the project action area. Numerous species of migratory birds protected under the Migratory Bird Treaty Act occur in the area and may be nesting on bridges, culverts or other structures to be replaced or upgraded. Surveys should be conducted prior to initiation of construction and special consideration given to the times and dates of construction to avoid impacts to these species which typically nest in Arkansas from March to September.

The Service recommends development of a stormwater management plan for both construction and post construction of the proposed project to avoid detrimental effects to nearby wetlands associated with Ink Bayou and Stark Bend. Construction of a permanent stormwater detention basin capable of capturing runoff from the development can greatly reduce effects of contaminants on surrounding landscapes and wildlife. This basin can be rough initially, then refined once construction is complete and the site stabilized. Detention basins should be designed and constructed to capture the first one inch of a climatic event from the entire site proposed for development. The basin should not be constructed in a stream drainage or wetland, but may be constructed adjacent to these environmental features. A spillway (or vegetated swale) should be established to allow for precipitation events in excess of one inch to be discharged based on state permitting.

Thank you for allowing our agency the opportunity to comment on the proposed project. For future correspondence on this matter, please contact Mitch Wine of this office at 501-513-4488.

Sincerely,  
  
James F. Boggs  
Field Supervisor

cc:

Randal Looney, Federal Highway Administration  
John Fleming, Arkansas Highway and Transportation Department  
Robert Leonard, Arkansas Game and Fish Commission

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The Department of Arkansas Heritage

Mike Beebe Governor

Cathie Matthews Director

Arkansas Arts Council

Arkansas Natural Heritage Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars Cultural Center

Old State House Museum



Arkansas Historic Preservation Program

1500 Tower Building
323 Center Street
Little Rock, AR 72201
(501) 324-9880
fax: (501) 324-9184
tdd: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.com

An Equal Opportunity Employer



August 31, 2011

Mr. Michael P. Marlar, PE
President
Marlar Engineering Co., Inc.
5318 John F. Kennedy Boulevard
North Little Rock, Arkansas 72116

RE: Pulaski County - North Little Rock
Section 106 Review - FHWA; AHPP Tracking#78617
Proposed East McCain Blvd./Rail Grade
Separation/Road Widening Project

Dear Mr. Marlar:

This letter is written in response to your inquiry, regarding properties of architectural, historical, or archeological significance in the area of the proposed referenced project.

In order for the Arkansas Historic Preservation Program (AHPP) to complete its review of the proposed project, we will need the additional information checked below:

\_\_\_ a 7.5 minute 1:24,000 scale U.S.G.S. topographic map clearly delineating the project area;

\_\_\_ a project description detailing all aspects of the proposed project;

[check] the location, age, and photographs of structures (if any) to be renovated, removed, demolished, or abandoned as a result of this project;

[check] photographs of any structures 50 years old or older on property directly adjacent to the project area.

Once we have received the above information, we will complete our review as expeditiously as possible. If you have any questions, please contact me at (501) 324-9880.

Sincerely,

Handwritten signature of George McCluskey

George McCluskey
Section 106 Review Coordinator

Tamara  
Ballou  
420

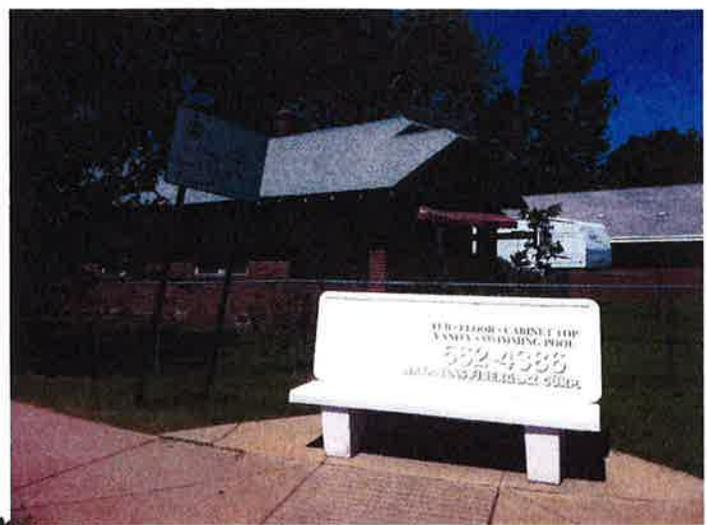
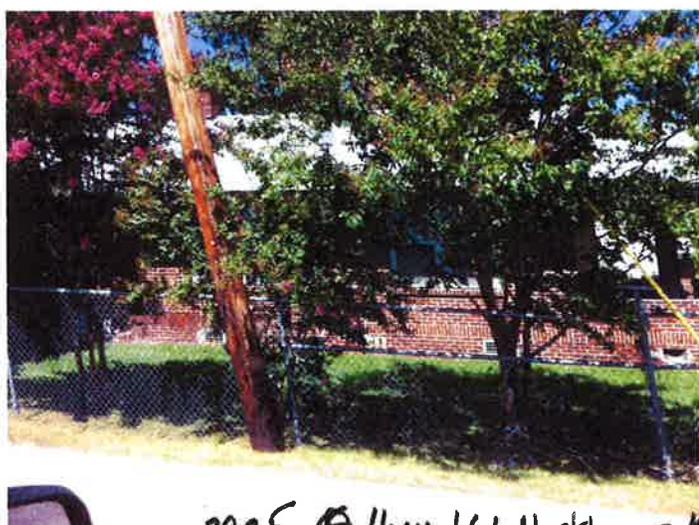
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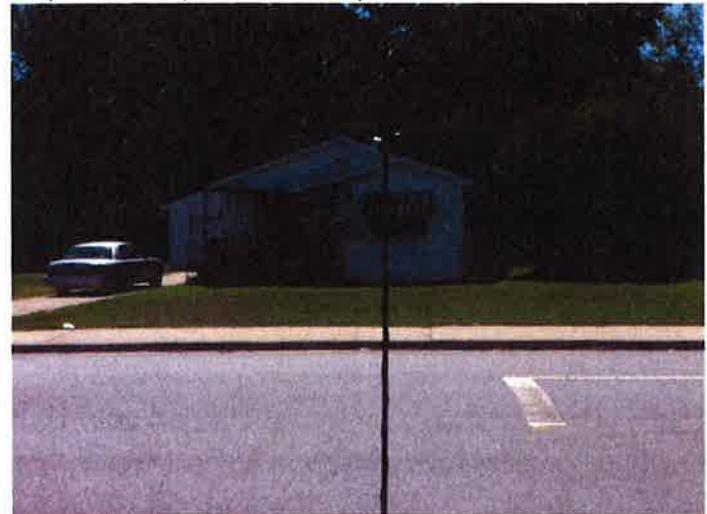
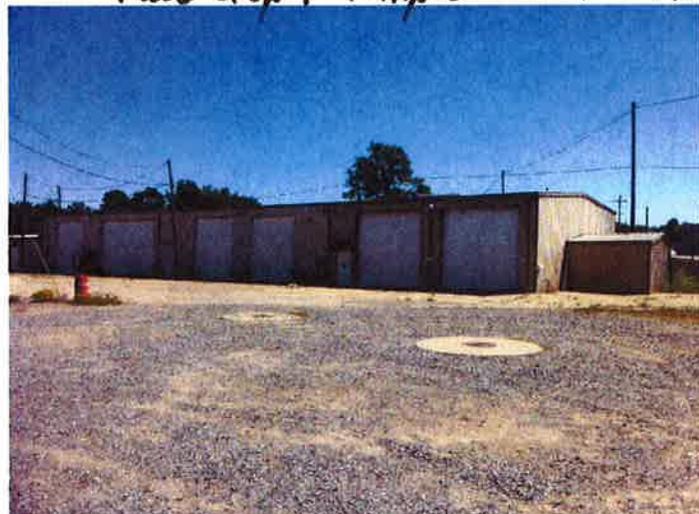
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Arnold  
Perckett  
409  
#1

410  
420 Flowers Ln  
413 George  
Carrie  
411-577-9442



3905 Hwy 161 North  
Full Gospel Temple - Kenneth Mullen 945-1314 72117



100 Fairfax

5208

Salman & Sons  
Cross Street Services



5319



5511



~~5508~~ 5507



5405



5501



5505



5409



5403



# CENTRAL ARKANSAS

Planning & Development District, Inc.

Serving The  
Counties of:  
❖ FAULKNER  
❖ LONOKE  
❖ MONROE  
❖ PRAIRIE  
❖ PULASKI  
❖ SALINE

September 23, 2011

Mr. Michael Marler  
Marlar Engineering Co., Inc.  
5318 John F. Kennedy Blvd.  
North Little Rock, AR 72116

RE: North Little Rock Rail Grade Separation Job No. 061294  
Federal Aid Project No. STPU-9315(35)

Dear Mr. Marler:

Pursuant to the State of Arkansas Project Notification and Review System, the technical staff of the Central Arkansas Planning and Development District has provided technical assistance and/or reviewed the above project, pursuant to Executive Order # 12372.

A copy of your application must also be forwarded to the State Planning and Development Clearinghouse.

When you receive notification of funding, please fill in the enclosed form, showing the actual amount of funding awarded, and return the form to this office. Your cooperation in returning the form is greatly appreciated.

Please do not hesitate to call us if further information or assistance is needed.

Sincerely,

Libby Fort  
Director of Community Services

Enclosure

cc: State Clearinghouse  
File

# AREA CLEARINGHOUSE

K:/Management Services/Grant Admn/General/A95/Award

Upon notification from  
funding agency, please  
return form to:  
Attn: Libby Fort

**CAPDD**  
902 North Center Street  
Post Office Box 300  
Lonoke, AR 72086-0300

Phone 501-676-2721  
FAX 501-676-5020

## Grant Award Notification

*PLEASE COMPLETE AND RETURN  
ONLY WHEN YOUR PROJECT HAS BEEN APPROVED FOR FUNDING*

Applicant: City of North Little Rock *Project* City of North Little Rock, Pulaski  
*Location:* County, AR

Project --- Name & Description:

Description of Project: Funding is being requested to provide funds to widen a section of East McCain Blvd. to four lanes from Forrester to Highway 161.

Grant I D Number. \_\_\_\_\_  
(only state agency)

Number assigned by Clearinghouse: AR \_\_\_\_\_

Contact person Mr. Michael Marlar Phone: 501-753-1987

Funding Agency AHTD

Project Starting Date \_\_\_\_\_ Local Clearinghouse File # \_\_\_\_\_

Check One:  Grant  Loan  Both

Check One:  New  Continuation  Revision

### FUNDING REQUEST

### APPROVED FUNDING

Federal \_\_\_\_\_  
State \_\_\_\_\_  
Local \_\_\_\_\_  
Other \_\_\_\_\_

Federal \_\_\_\_\_  
State \_\_\_\_\_  
Local \_\_\_\_\_  
Other \_\_\_\_\_

**Total** \_\_\_\_\_

Total Project Cost \_\_\_\_\_

Name: \_\_\_\_\_  
Signature

Title: \_\_\_\_\_ Date of Award \_\_\_\_\_

# **APPENDIX E**

## **Traffic Noise Assessment Report**

**TRAFFIC NOISE ASSESSMENT REPORT  
McCain GRADE SEPARATION PROJECT  
NORTH LITTLE ROCK, ARKANSAS  
AHTD Job No. 061294  
FAP No. STPU-9315(35)**

**Prepared for:  
Arkansas Highway and Transportation Department  
10324 Interstate 30  
Little Rock, AR 72203**

**Submitted by:  
SAIC Energy, Environment & Infrastructure, LLC  
1701 Centerview, Suite 207  
Little Rock, AR 72211  
501.228.4420**

**May 2012**

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**ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT  
McCAIN GRADE SEPARATION PROJECT  
TRAFFIC NOISE ASSESSMENT REPORT  
May 2012**

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## 1.0 INTRODUCTION

SAIC Energy, Infrastructure & Environment (SAIC) performed a traffic noise analysis (Analysis) for the Arkansas Highway and Transportation Department (AHTD) as part of the "McCain Grade Separation Project" environmental assessment (EA). This Traffic Noise Assessment Report investigates the noise impacts that could result from the proposed construction of a new 4-lane facility along McCain Avenue and associated Union Pacific Railroad overpass in North Little Rock, Arkansas. Four Build Alternatives for this project were considered for comparison with a No-Action Alternative. Option 1 is a new 4-lane facility located on new alignment which involves widening McCain Avenue from Forester Road to Highway 161, but would curve northerly from Forester to Flowers Lane. Option 2 consists of widening the existing 2-lane McCain Avenue to a new 4-lane facility located symmetrically along existing roadway. Option 3 consists of widening Faulkner Road and Rosemary Road to 4 lanes from McCain to Highway 161 south of McCain and Fairfax. Option 4 is similar to Option 2, and includes widening McCain Avenue from Forester Road to Highway 161, approximately 50 feet south of the current alignment. Option 4 was not assessed separately for noise due to its close proximity to Option 2. The results from the noise analysis for Option 2 would apply to Option 4. Therefore, for the remainder of the report, only Options 1, 2, and 3 are discussed. **Figure 1** presents the project location and the four Build Alternatives.

The purpose of this document is to evaluate the noise impacts from this project, and the possible mitigation of these impacts. This report identifies locations where noise impacts are predicted to occur and evaluates abatement measures for reducing the noise impacts. This evaluation was based upon aerial photographs, preliminary design, field measurements, windshield surveys, existing and historic traffic data provided by AHTD, design traffic data provided by Metroplan in collaboration with AHTD, and computer modeling of future noise levels. This noise analysis has been conducted using the Federal Highway Administration's (FHWA) computer model Traffic Noise Model (TNM) version 2.5 in accordance with the FHWA 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and complies with AHTD's *Policy on Highway Traffic Noise Abatement* dated July 13, 2011.

## 2.0 TERMINOLOGY AND SOUND THEORY

Noise is defined as unwanted or excessive sound. Criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. Known impacts of noise include speech interference, sleep interference, physiological responses, hearing loss and

annoyance. Highway traffic noise is a major contributor to overall transportation noise and is considered to be a line source of energy from which the energy levels dissipate vertically and laterally from the roadway. Traffic noise is not constant. It varies as each vehicle passes a point. The time-varying characteristics of environmental noise are analyzed statistically to determine the duration and intensity of noise exposure. Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels (dB) and are logarithmic units, as opposed to the more common linear units such as that of temperature. Research indicates that, to an average listener, a 10 dB increase is perceived as twice as loud. One dBA is the smallest change in sound that an average person can detect. Usually an observer cannot perceive an increase in noise of three to four-dB if the increase takes place over several years.

This analysis will discuss the noise levels as  $L_{eq}(h)$ .  $L_{eq}(h)$  is defined as the steady-state sound level which, in a stated period of time, contains the same acoustic energy as the time-varying sound level during the same period.  $L_{eq}(h)$  is the hourly value of  $L_{eq}$ .  $L_{eq}(h)$  is based on the more commonly known decibel (dB) and the "A-weighted" decibel unit (dBA). Sound comprises different frequencies, each of which is perceived differently by the human ear. Since human hearing is not sensitive to low and very high frequencies, the A-weighted scale is used to approximate the response of the human ear by compensating for high and low end frequency insensitivity and renders noise level readings more meaningful. The A-weighted decibel (dBA) unit measures perceptible sound energy and factors out the fringe frequencies.

### 3.0 METHODOLOGY

Traffic noise analysis consists of a comparison of physically measured or modeled noise levels for existing conditions with projected noise levels for future conditions. FHWA's software, TNM 2.5, was used to model noise levels based on traffic data, roadway geometry, and receiver site locations. A receiver is a location, usually representing a dwelling unit, where exterior human activity occurs. For those noise sensitive receptors where no frequent exterior human activity area is identifiable, then interior noise levels can be determined using adjustment factors and compared to the NAC in determining impacts in accordance with the AHTD Noise Policy. The chosen receiver is modeled for noise levels and evaluated for noise impacts.

The FHWA has seven noise activity categories based on land use and sound levels, each of which has its own Noise Abatement Criteria (NAC). The NAC categories are listed in **Table 1**. If a project would result in higher  $Leq(h)$  values than the NAC values for a given location, then noise abatement or mitigation measures must be evaluated. For noise sensitive receptors where no frequent exterior human activity area is identifiable, then interior noise levels can be determined using adjustment factors and compared to the NAC in determining impacts in accordance with the AHTD Noise Policy.

For a given receptor, an impact occurs when future noise levels approach by one dB(A), meet or exceed the FHWA NAC for its activity category. An impact also occurs when there is a substantial increase in future noise levels that exceed existing noise levels by 10 dB(A) at a given receptor. Once an impact is identified, then noise abatement is considered for the impacted area. Only those areas for which mitigation is determined to be feasible and reasonable as defined by AHTD's Noise Policy will be recommended.

<b>Table 1: FHWA Noise Abatement Criteria (NAC)</b> Hourly A-Weighted Sound Level, decibels dB(A)		
Activity Category	Activity Criteria <sup>1</sup> Leq (h) <sup>2</sup>	Activity Description
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B <sup>3</sup>	67 (Exterior)	Residential
C <sup>3</sup>	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E <sup>3</sup>	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

<sup>1</sup> The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

<sup>2</sup> The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with Leq(h) being the hourly value of Leq.

<sup>3</sup> Includes undeveloped lands permitted for this activity category.

## 4.0 TRAFFIC DATA

The existing traffic data used to model noise levels in this analysis is based on traffic data provided by AHTD, and the projected traffic data for the design year was generated by Metroplan in collaboration with AHTD. Traffic noise levels for the existing year 2010 and future design year 2030 were calculated using the FHWA TNM 2.5 model. The unit of measure for roadway traffic is the average annual daily traffic (AADT), which is defined as the estimate of traffic volumes in vehicles per day on a roadway, averaged from the seven annual average days of the week, for a calendar year. TNM utilizes the design hourly traffic volume (DHV) to determine the existing traffic noise levels and calculates the predicted noise levels which occur when the highest volume for an hour is combined with the highest speeds and considered as the “worst hour for noise.” DHV data is based on the percentage of hourly vehicular traffic present on the facility at the design capacity consisting of cars, medium trucks and heavy trucks. **Table 2** depicts the DHV values utilized in the modeling. The modeling assumed all vehicles were traveling at 30 mph for the existing condition and 45 mph for the future conditions. Traffic volumes were the same for all options.

<b>Table 2: Noise Model Traffic Volumes (Two-Directional)</b>					
	<b>AADT</b>	<b>DHV</b>	<b>Cars</b>	<b>Medium Trucks</b>	<b>Heavy Trucks</b>
Existing (2010) East of Railroad	6,200	619	601	7	11
Future (2030) East of Railroad	10,000	1,000	950	17	33
Existing (2010) West of Railroad	13,000	1,300	1,261	16	23
Future (2030) West of Railroad	17,000	1,700	1,615	28	57

## 5.0 IDENTIFICATION OF RECEIVERS

The project extent was examined to identify areas that may be affected by traffic noise. Using aerial photographs and a field reconnaissance conducted in March 2012, noise receptors were identified and noise measurements were conducted. Scattered residential dwellings and businesses are currently located along McCain Avenue. Overall land use is described as developed with residential and commercial. There are no tracts of undeveloped land within the project corridor. The residences were identified as noise sensitive and classified as NAC Category B. The two places of worship (CH-1 and CH-2), community support center (C-4), and one nursing home (C-5) located in the corridor are classified as NAC Category C. Several office buildings and two restaurants are located in the corridor are classified as NAC Category E. Other commercial and industrial areas (i.e., NAC Category F) facilities do exist, but in accordance with the AHTD Noise Policy there are no impact criteria for the land use facilities in this activity category and no analysis of noise impacts is required. It was determined that no NAC Category A land use areas exist within the project corridor. Twenty-two

(22) residences (representing 30 dwelling units), two places of worship, and fourteen commercial properties were modeled. Each receiver is depicted on the aerial maps provided as Figures 2-1 through 2-3.

## 6.0 MODEL VALIDATION

For purposes in validating the noise model, noise measurements were performed using a Metrosonics dB 3100 Noise Meter. Noise readings were conducted on March 26, 2012 and collected for 15 minutes at two locations. **Figure 3** depicts the location of the field measurement sites. A traffic count, by vehicle type, was collected simultaneously. The existing roadway and collected traffic data were inputted into TNM 2.5. The modeled noise levels were then compared with the field recorded noise levels to determine the accuracy of the model (**Table 3**). The model is considered validated when the difference between the field-measured and model-predicted noise levels are within +/- 3 dB(A) of each other. Based on the field measurements, both sites were within +/-3 dB(A) of the predicted noise levels and, therefore, the TNM 2.5 model is considered validated. The field data, sound meter calibration certificate and the modeling results are on file with the AHTD Environmental Division and available upon request.

<b>Table 3: Noise Model Validation</b>			
	<b>Field Recorded Noise Level (dB)A Leq(h)</b>	<b>TNM Predicted Noise Level (dB)A Leq(h)</b>	<b>Difference (dB)A Leq(h)</b>
Field Measurement 1	65.3	62.5	-2.8
Field Measurement 2	63.3	62.0	-1.3

## 7.0 NOISE ANALYSIS RESULTS

Existing Noise Levels: Using the 2010 traffic data and existing roadway features, the existing noise levels were modeled for each receiver. **Tables 4, 5, and 6** summarize the existing noise levels of each receiver. No receivers currently approach or exceed the 67 dBA Leq(h) criteria for NAC Categories B or C. Additionally, no receivers currently meet or exceed the 72 dBA Leq(h) for NAC Category E. The TNM 2.5 input/output data for the existing condition is on file with the AHTD Environmental Division and available upon request.

Future Noise Levels: Using the 2030 predicted traffic data and the proposed roadway design, future noise levels were modeled for the same selected receivers. The future noise levels for impacted receivers along the Option 1, 2, and 3 alignments are shown in **Tables 4, 5, and 6** respectively. Option 1 requires the displacement of 6 residences and, therefore, future noise levels for these residences were not modeled. For Option 1, one (1) residence is predicted to approach or exceed

the 67 dB(A) Leq(h) for NAC Activity Category B. Further, the future noise levels range from -4.7 to 19.9 dB over current noise levels, with seven (7) residences (representing 9 dwelling units) and one (1) place of worship experiencing a substantial (10 dB) increase in sound levels. Option 2 requires the displacement of 1 residence and, therefore, future noise levels for this residence was not modeled. For Option 2, four (4) residences (representing 6 dwelling units) are predicted to approach or exceed the 67 dB(A) Leq(h) for NAC Activity Category B. The future noise levels for Option 2 range from -0.2 to 8.3 dB over current noise levels, with no receivers experiencing a substantial (10 dB) increase in sound levels. Option 3 involves no residences. For Option 3 no commercial receivers are projected meet or exceed the 72 dBA Leq(h) for NAC Category E. The future noise levels for Option 3 range from 4.2 to 8.4 over current noise levels, with no receivers experiencing a substantial (10 dB) increase in sound levels.

The future No-Action Alternative was also modeled, with the result of zero receivers predicted to experience noise impacts. The complete TNM results for all receivers are on file with the AHTD Environmental Division and available upon request.

<b>Modeled Receiver</b>	<b>Description</b>	<b>Dwelling Units</b>	<b>Existing</b>	<b>Predicted</b>	<b>Change (+/-)</b>	<b>Noise Impact</b>
C-1	Pat Salmon & Sons Office Bldg	N/A	62.6	68.8	+6.2	No
C-2	Progressive Insurance Office Bldg	N/A	55.9	63.5	+7.6	No
R-1	Residence	1	62.1	68.4	+6.3	Yes
R-2	Residence	1	62.5	64.6	+2.2	No
R-3	Residence	2	60.1	56.2	-3.9	No
R-4	Residence	2	58.7	55.4	-3.3	No
R-5	Residence	1	58.5	55.0	-3.5	No
*R-6b	Residence	1	54.5	61.0	+6.5	No
*R-7b	Residence	3	54.7	59.4	+4.7	No
*R-8b	Residence	3	54.8	61.1	+6.3	No
*R-9b	Residence	1	54.5	62.6	+8.1	No
R-10	Residence	1	62.2	57.5	-4.7	No
R-11	Residence	1	45.6	60.0	+14.4	Yes
R-12	Residence	1	45.5	60.4	+14.9	Yes
R-13	Residence	1	45.3	61.4	+16.1	Yes
R-14	Residence	1	45.2	63.0	+17.8	Yes
R-15	Residence	3	44.7	62.5	+17.8	Yes
R-16	Residence	1	43.4	63.3	+19.9	Yes
R-17	Residence	1	42.0	60.0	+18.0	Yes
CH-1	In Your Hands Ministries, Inc	N/A	57.9	59.5	+1.6	No

Modeled Receiver	Description	Dwelling Units	Existing	Predicted	Change (+/-)	Noise Impact
CH-2	Full Gospel Temple	N/A	50.6	64.6	+14.0	Yes

Notes: \* indicates receptor location in Back Yard for Option 1; nomenclature "b".  
For Option 1, residences R-18 through R-22 are proposed to be displaced and were not modeled. However, noise levels for these residences were modeled for Option 2 and appear in Table 5.

Modeled Receiver	Description	Dwelling Units	Existing	Predicted	Change (+/-)	Noise Impact
C-1	Pat Salmon & Sons Office Bldg	N/A	62.6	68.9	+6.3	No
C-2	Progressive Insurance Office Bldg	N/A	55.9	61.1	+5.2	No
R-1	Residence	1	62.1	68.3	+6.2	Yes
R-2	Residence	1	62.5	62.3	-0.2	No
R-3	Residence	2	60.1	63.7	+3.6	No
R-4	Residence	2	58.7	65.7	+7.0	No
R-5	Residence	1	58.5	65.9	+7.4	No
*R-6f	Residence	1	58.8	60.0	+1.2	No
*R-7f	Residence	3	59.9	62.1	+2.2	No
*R-8f	Residence	3	59.7	67.1	+7.4	Yes
*R-9f	Residence	1	59.2	66.5	+7.3	Yes
R-10	Residence	1	62.2	70.1	+7.9	Yes
R-11	Residence	1	45.6	53.6	+8.0	No
R-12	Residence	1	45.5	53.9	+8.4	No
R-13	Residence	1	45.3	53.8	+8.5	No
R-14	Residence	1	45.2	54.0	+8.8	No
R-15	Residence	3	44.7	53.1	+8.4	No
R-16	Residence	1	43.4	52.1	+8.7	No
R-17	Residence	1	42.0	51.0	+9.0	No
R-18	Residence	1	48.4	55.9	+7.5	No
R-19	Residence	1	48.8	56.2	+7.4	No
R-20	Residence	1	48.2	56.1	+7.9	No
R-21	Residence	1	48.1	56.1	+8.0	No
R-22	Residence	1	48.0	56.5	+8.5	No
CH-1	In Your Hands Ministries, Inc	N/A	57.9	65.6	+7.7	No
CH-2	Full Gospel Temple	N/A	50.6	58.0	+7.4	No

Notes: \* indicates receptor location in Front Yard for Option 2; nomenclature "f".  
Noise levels for residences R-18 through R-22 were modeled for Option 2 only and do not appear in Table 4.

<b>Modeled Receiver</b>	<b>Description</b>	<b>Dwelling Units</b>	<b>Existing</b>	<b>Predicted</b>	<b>Change (+/-)</b>	<b>Noise Impact</b>
C-3	Professional Counseling Associates (Office)	N/A	55.3	62.4	7.1	No
C-4	Professional Counseling Associates (Community Support Center)	N/A	53.5	60.4	6.9	No
C-5	Premier Health and Rehab (Nursing Home)	N/A	55.9	62.3	6.4	No
C-6	State of Arkansas Gas Board (Office)	N/A	57.4	63.4	6.0	No
C-7	Arkansas Activities Association (Office)	N/A	59.9	65.7	5.8	No
C-8	State Farm Insurance (Office)	N/A	60.3	65.8	5.5	No
C-9	Arby's Restaurant	N/A	61.2	65.4	4.2	No
C-10	Rally's Restaurant	N/A	52.8	58.9	6.1	No
C-11	Arkansas Metal Buildings General Contractors (Office)	N/A	57.5	62.2	4.7	No
C-12	Advantage Steel Buildings Inc (Office)	N/A	55.1	59.3	4.2	No
C-13	SBC Service Center (Office)	N/A	45.7	54.0	8.3	No
C-14	Shaw Material Handling (Office)	N/A	43.8	52.2	8.4	No

Notes: Noise levels for Residences were modeled for Options 1 and 2 only and do not appear in Table 6.

## 8.0 CONSIDERATION OF ABATEMENT

Noise mitigation measures have been considered for noise-impacted areas. Also, those noise-impacted areas for which there is no apparent solution have also been identified. Noise abatement measures must be both feasible and reasonable.

“Feasibility” refers primarily to the acoustical and engineering considerations of the project and whether a substantial noise reduction can be achieved. In order for the noise abatement feature to be acoustically feasible a minimum of a 9 dBA reduction must be achieved for at least one residence in the study location for the design year when compared to the design year without mitigation. Some factors which may limit the ability to achieve noise reduction include topography, access requirements of frontage roads, cross streets or drives, and other noise sources in the area.

If the “feasibility” requirement is met, the area is then studied for compliance with the “reasonableness” criteria. “Reasonableness” involves an examination of costs, public support, and whether a certain amount of noise reduction can be achieved. Three reasonableness factors must all be met, at a minimum, for a noise abatement measure to be considered reasonable. The following are the three specific reasonableness criteria specified in the AHTD Noise Policy:

1. *The majority (51%) of benefitted residences desire a noise abatement measure.*
2. *The cost of the noise abatement measure is no more than \$36,000 per residence benefitted (benefitted is defined as a minimum decrease in noise levels of 5 dBA  $L_{eq(h)}$ ).*

3. *Noise reduction design goal of a minimum of 9 dBA  $L_{eq(h)}$  reduction in design year highway traffic noise levels for at least one impacted receptor.*

AHTD's Noise Policy presents the above requirements with ranges that result in a yes or a no for each category. The corresponding values are then placed in a checklist to determine the final feasibility and reasonableness for noise abatement (see **Appendix A**). All these reasonableness criteria will be used to evaluate the reasonableness of mitigation. No single factor would guarantee or deny mitigation absolutely, but all would be considered by the Department to determine if mitigation is reasonable.

The AHTD Noise Policy was used as the traffic-noise impact guideline for this analysis. This policy states that predicted noise levels attributed to roadway modifications resulting in increased traffic levels require an evaluation of measured noise impact and possible mitigation measures. Results of the analysis for the future condition for Option 1 indicate eight residential receptors (R-1, R-11, R-12, R-13, R-14, R-15, R-16 and R-17) and one place of worship (CH-2) would either approach the NAC criteria for Categories B and C or have a substantial (10dB) increase in sound levels. Noise mitigation in the form of a free standing noise wall is considered the most appropriate form of noise abatement measure for these impacted receptors. R-1 has direct driveway access to McCain Avenue and the gap that would be required for the driveway connection would make noise abatement measures ineffective; therefore, noise mitigation would not prove feasible.

However, the other seven impacted residential receptors (R-11, R-12, R-13, R-14, R-15, R-16 and R-17) represent 9 dwelling units and are located along Flowers Lane. A noise barrier (Barrier 1) was modeled along the north side of Option 1 at 2.5 feet inside the right-of-way line at various heights. Based on preliminary calculations, a noise barrier 775 feet in length with an average height of 14 feet will reduce noise levels for 8 of the 9 first-row residential dwelling units by at least 5 dB(A) at a total cost of \$273,720 or \$34,215 per benefitted dwelling unit. The area is fully developed and there is no potential for change in land use toward the less noise sensitive commercial or industrial use. Based on these factors, the proposed noise barrier benefitting these receptors is recommended for design and construction as depicted in **Figure 4**. Noise levels with mitigation and the insertion loss provided by the barrier are summarized in **Table 7**. Any subsequent project design changes may require a reevaluation of this proposal. The barrier analysis results and other related computations are on file with the AHTD Environmental Division and available upon request.

<b>Table 7: Future Noise Levels with Mitigation Option 1, Barrier 1 along Flowers Lane</b>				
<b>Modeled Receiver</b>	<b>Future Level, dBA Leq(h) No Barrier</b>	<b>Future Level, dBA Leq(h) With Noise Barrier</b>	<b>Reduction of Noise Levels due to Barrier (Insertion Loss)</b>	<b>Number of Benefitted Receptors</b>
R-11	60.0	57.4	-2.6	-
R-12	60.5	55.5	-5.0	1
R-13	61.5	54.0	-7.5	1
R-14	63.1	54.8	-8.3	1
R-15	62.5	54.8	-7.7	3
R-16	63.3	54.3	-9.0	1
R-17	60.0	53.7	-6.3	1
			<b>Total</b>	<b>8</b>

A second barrier analysis (Barrier 2) was modeled for the impacted place of worship (CH-2). The barrier was modeled along the south side of Option 1 at 2.5 feet inside the right-of-way line at various heights. The barrier analysis indicated that a noise barrier with a total length of 248 feet with an average height of 11 feet will reduce the future noise levels by 9 dB. However, the cost was calculated at \$67,205 which exceeds the reasonable cost allowed under the AHTD Noise Policy and, therefore, noise mitigation is not recommended for this receiver.

Results of the analysis for the future condition for Option 2 indicate four residential receptors (R-1, R-8f, R-9f, and R-10), representing 6 dwelling units, would approach the NAC criteria for Category B. Noise mitigation in the form of a free standing noise wall is considered the most appropriate form of noise abatement measure for these impacted receptors. All of the above receptors have direct driveway access to McCain Avenue and the gap that would be required for the driveway connection would make noise abatement measures ineffective; therefore, noise mitigation would not prove feasible.

## **9.0 INFORMATION FOR LOCAL OFFICIALS**

To aid in noise compatible land use planning, the average distances from the centerline of the median or roadway to the future 66 dBA sound level is 48' and the distance to the future 71 dBA sound level is 15'. Residential land use is discouraged within the 66 dBA impact zones, and the distances should be used as minimum offset distances. Commercial development within the 71 dBA impact zone should be determined at the discretion of the planning officials and the offset distances are provided for information only. These offset distances should be considered as general guidelines and not as specific rules since the noise levels vary over the course of the alignment due to changing roadway grades, topographical features, and various other noise impacting contributors.

## 10.0 CONSTRUCTION NOISE

Construction noise for this project is considered short term and temporary. While the construction noise will impact NAC Category B receivers on the project, there are no NAC Category A receivers within the project limits that would require special construction noise mitigation measures. Common construction practices to mitigate noise to the residential areas should be used by the contractor. Reasonable work hours and scheduling should be established to minimize noise impacts during sensitive times of the day. Additionally, noise should be considered by the contractor as a factor in the planning of haul routes, and any staging areas for loud stationary equipment should be located away from the sensitive receivers.

## 11.0 CONCLUSIONS

A Traffic Noise Assessment was prepared to investigate the noise impacts that could result from the proposed construction of a new 4-lane facility along McCain Avenue and associated Union Pacific Railroad overpass in North Little Rock, Arkansas. Four options are being considered as viable alternates for the alignment location of the proposed roadway. Noise studies were performed for Options 1, 2, and 3. Option 4 is in close proximity to Option 2 and therefore is assumed to have the same noise results as Option 2. Option 1 involves widening McCain Avenue from Forester Road to Highway 161, and would involve a new 4-lane facility on new alignment curving northerly from Forester to Flowers Lane. Option 2 consists of widening the existing 2-lane roadway to a new 4-lane facility located symmetrically along existing McCain Avenue. Option 3 consists of widening Faulkner Road and Rosemary Road to four lanes from McCain to Highway 161 south of McCain and Fairfax. Under current 2010 conditions, there are no receivers exceeding the FHWA NAC criteria. For Option 1, eight residential receptors and one place of worship were considered impacted. Mitigation for seven of the eight residential receptors is recommended for Option 1. No mitigation measures are recommended for the impacted place of worship due to high cost. For Option 2, four (4) residential receptors were considered impacted. Mitigation for the residential receptors is not recommended due to their having direct driveway access to McCain Avenue and the gap that would be required for the driveway connection would make noise abatement measures ineffective. No receivers are projected to be impacted for Option 3.

For Option 1, along the north side of Flowers Lane, seven (7) impacted residential receptors (representing 9 dwelling units) are considered "significantly" impacted based upon AHTD criteria, with an average increase over current conditions of 13.2 dB(A) per dwelling unit. Noise mitigation measures in the form of a free-standing noise barrier are determined feasible and reasonable for these impacted receivers based upon the AHTD Noise Policy criteria. Based on preliminary calculations, a noise barrier 775 feet in length with an average height of 14 feet will reduce noise levels for 1 dwelling unit by at least 9 dB(A), and 7 dwelling units by at least 5 dBA. Based upon a preliminary cost value of \$25 per square foot of sound wall, a total cost of \$273,720, or \$34,215 per

benefitted dwelling unit was calculated. The final decision to construct the proposed noise barrier will be made upon completion of the final project design and the public involvement process.

In compliance with Federal guidelines, a copy of this analysis will be provided to the Central Arkansas Planning and Development District for potential use in current and future land use planning.

## FIGURES

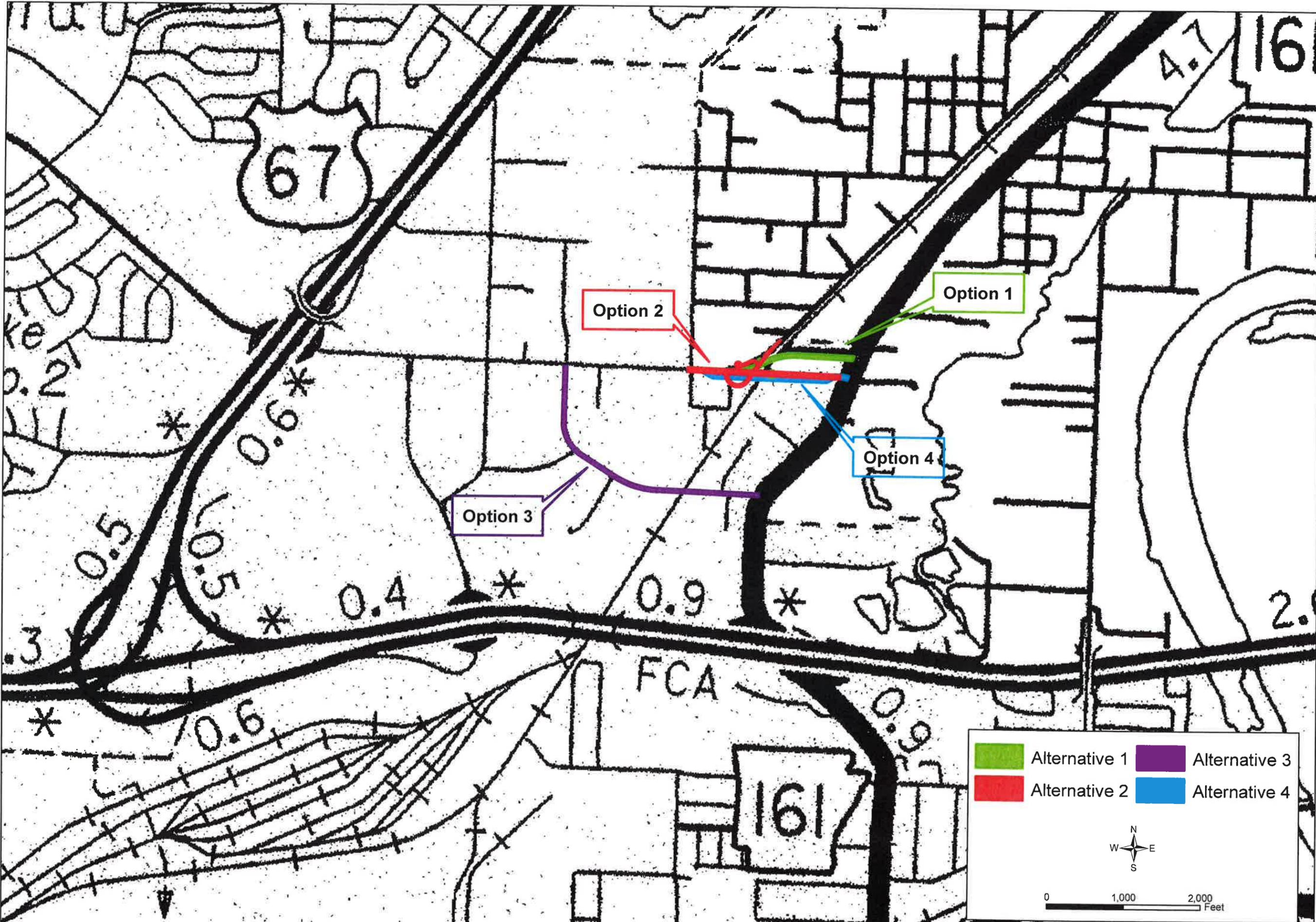


Figure Title  
Project Location for McCain Avenue (Options 1 - 4)

Document Title  
McCain Grade Separation Project Noise Analysis

Client  
AHTD

Location  
North Little Rock, Pulaski County, Arkansas

Date	05/17/2012
Scale	As Shown
Designed By	CML
Approved By	RE
Drawn By	CML

Project Number	2553113000
Figure Number	

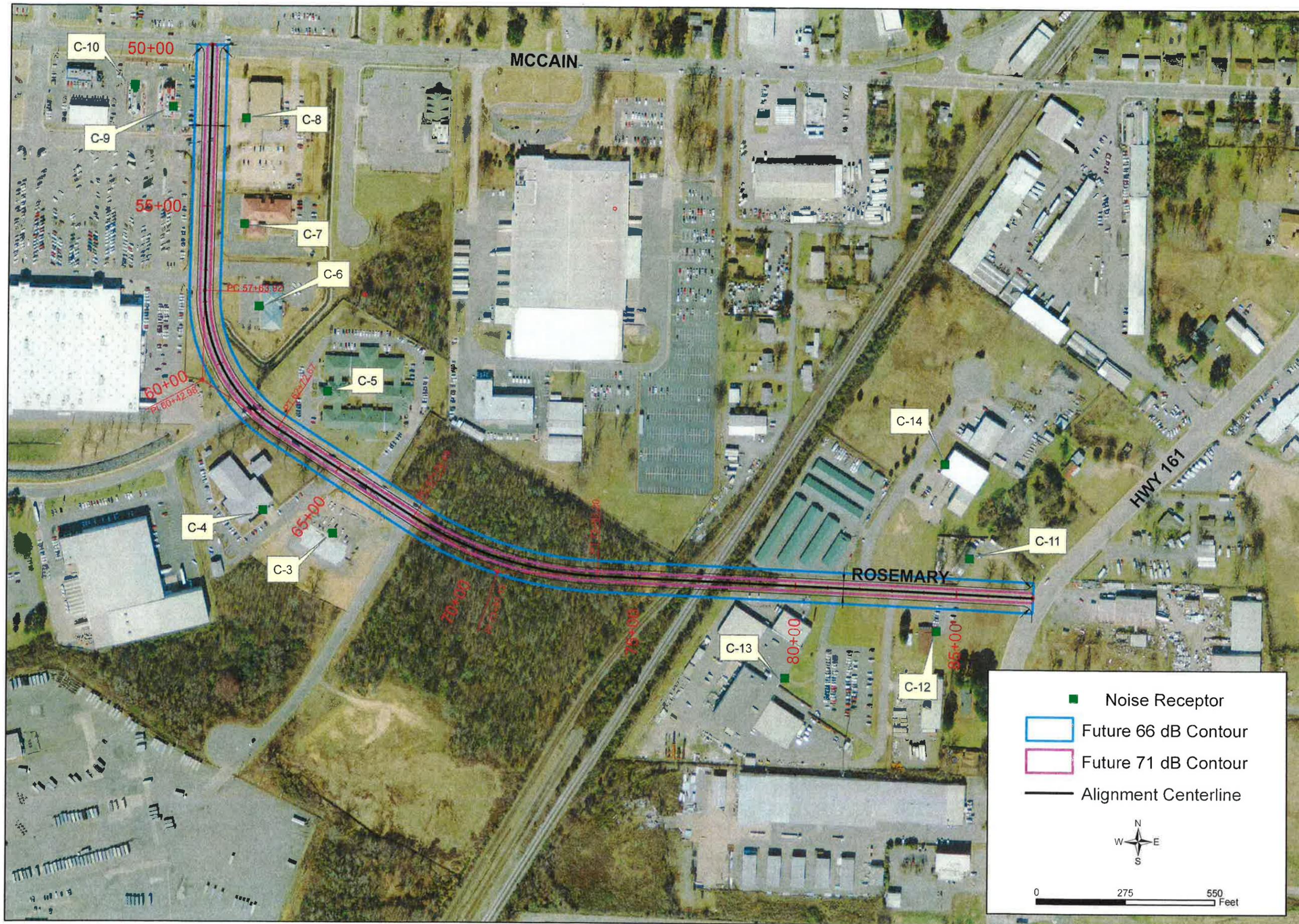


Figure Title	Receivers for Option 3 McCain Avenue
Document Title	McCain Grade Separation Project Noise Analysis
Client	AHTD
Location	North Little Rock, Pulaski County, Arkansas

Date	05/17/2012
Scale	As Shown
Designed By	CML
Approved By	RE
Drawn By	CML

Project Number	2553113000
Figure Number	2-3



■ Noise Receptor  
X Proposed Displacement

N  
 W — + — E  
 S

0                      175                      350  
 Feet

Figure Title	Receivers for Option 1 McCain Avenue
Document Title	McCain Grade Separation Project Noise Analysis
Client	AHTD
Location	North Little Rock, Pulaski County, Arkansas

Date	03/20/2012
Scale	As Shown
Designed By	CML
Approved By	RE
Drawn By	CML

Project Number	2553113000
Figure Number	

2-1

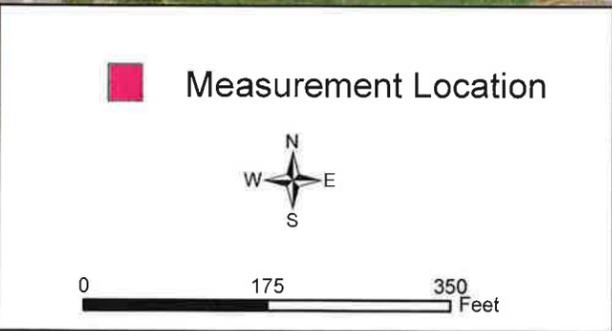


Figure Title	McCain Avenue Field Measurement Sites
Document Title	McCain Grade Separation Project Noise Analysis
Client	AHTD
Location	North Little Rock, Pulaski County, Arkansas

Date	04/02/2012
Scale	As Shown
Designed By	CML
Approved By	RE
Drawn By	CML

Project Number	2553113000
Figure Number	3



■ Noise Receptor  
— Proposed Noise Barrier  
X Proposed Displacement

N  
 W — + — E  
 S

0                      175                      350  
 Feet

Figure Title	Proposed Barrier Location for Option 1 McCain Avenue
Document Title	McCain Grade Separation Project Noise Analysis
Client	AHTD
Location	North Little Rock, Pulaski County, Arkansas

Date	04/02/2012
Scale	As Shown
Designed By	CML
Approved By	RE
Drawn By	CML

Project Number	2553113000
Figure Number	

**APPENDIX A**  
**AHTD NOISE ABATEMENT RECOMMENDATION WORKSHEETS**

**AHTD Noise Abatement Worksheet,  
Option 1, Barrier 1 along Flowers Lane**

<b>FEASIBILITY</b>		
	Yes	No
Can a 9 dB(A) Leq(h) noise reduction be achieved for at least 1 impacted receptor?	X	
<b>REASONABLENESS</b>		
Reasonableness Factors	Yes	No
Cost/Residence	X	
*Resident's Desires	X	
Additional Considerations	---	---
<b>DECISION</b>		
	Yes	No
Are noise abatement measures feasible?	X	
Are noise abatement measures reasonable?	X	
Will a noise barrier be constructed at this site?	X	

\*Assumed

Source: AHTD, *Policy on Highway Traffic Noise Abatement – Appendix B -Noise Abatement Recommendation Worksheet*

REASONS FOR DECISION: Cost of \$34,215 per dwelling unit.

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<b>AHTD Noise Abatement Worksheet, Option 1, Barrier 2 along Flowers Lane</b>		
<b>FEASIBILITY</b>	Yes	No
Can a 9 dB(A) Leq(h) noise reduction be achieved for at least 1 impacted receptor?	X	
<b>REASONABLENESS</b>	Yes	No
Reasonableness Factors		
Cost/Residence		X
*Resident's Desires	X	
Additional Considerations	---	---
<b>DECISION</b>	Yes	No
Are noise abatement measures feasible?	X	
Are noise abatement measures reasonable?		X
Will a noise barrier be constructed at this site?		X

\*Assumed

Source: AHTD, *Policy on Highway Traffic Noise Abatement – Appendix B -Noise Abatement Recommendation Worksheet*

REASONS FOR DECISION: Cost of \$67,205 for one benefitted receptor (CH-2).

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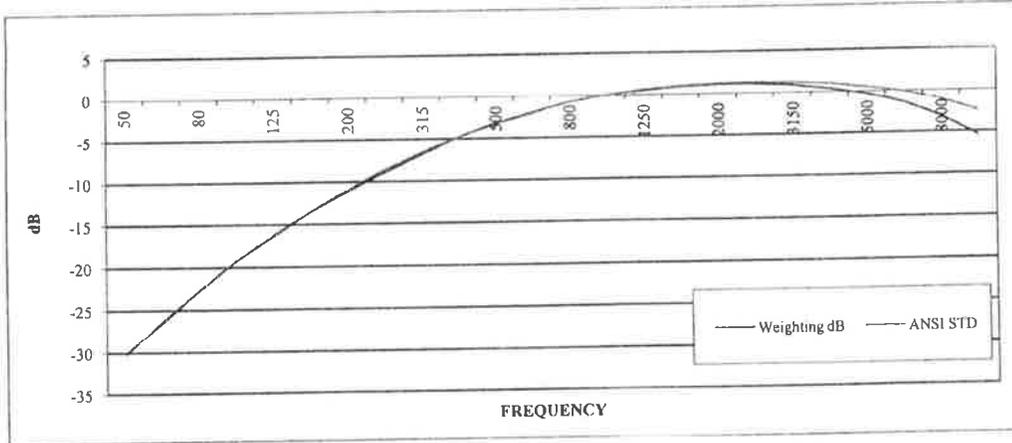
# CERTIFICATE OF CALIBRATION

## Noise Dosimeter

**Manufacturer:** Metrosonics  
**Model Number:** DB-3100  
**Serial Number:** 3195  
**Service Order:** 10027  
**Reference Number:** 10027-DB3100-3195

**Calibration Date:** November 10, 2011  
**Date Due:** November 10, 2012  
**Temperature:** 75.7 °F  
**Relative Humidity:** 51 %  
**Barometric Pressure:** 29.91

Frequency (HZ)	Meter Actual Display (dB)	Meter Weighting dB	ANSI STD	Tolerance	Relative Difference
50	72.0	-30.0	-30.2	± 2	0.2
63	75.6	-26.4	-26.2	± 2	-0.2
80	79.4	-22.6	-22.5	± 2	-0.1
100	82.8	-19.2	-19.1	± 1.5	-0.1
125	85.7	-16.3	-16.1	± 1.5	-0.2
160	88.5	-13.5	-13.4	± 1.5	-0.1
200	90.9	-11.1	-10.9	± 1.5	-0.2
250	93.1	-8.9	-8.6	± 1.5	-0.3
315	95.2	-6.8	-6.6	± 1.5	-0.2
400	97.2	-4.8	-4.8	± 1.5	0.0
500	98.7	-3.3	-3.2	± 1.5	-0.1
630	100.0	-2.0	-1.9	± 1.5	-0.1
800	101.2	-0.8	-0.8	± 1.5	0.0
1000	102.0	0.0	0.0	± 1.5	0.0
1250	102.5	0.5	0.6	± 1.5	-0.1
1600	102.9	0.9	1.0	± 2	-0.1
2000	103.1	1.1	1.2	± 2	-0.1
2500	103.1	1.1	1.3	± 2.5	-0.2
3150	102.9	0.9	1.2	± 2.5	-0.3
4000	102.4	0.4	1.0	± 3	-0.6
5000	101.7	-0.3	0.5	± 3.5	-0.8
6300	100.6	-1.4	-0.1	± 4.5	-1.3
8000	98.9	-3.1	-1.1	± 5	-2.0
10000	96.6	-5.4	-2.5	+ 5 to -μ	-2.9



CIHE Calibration Laboratory certifies that the instrument specified above meets the manufacturer's specifications and was calibrated using standards and instruments listed below where the accuracy is traceable to National Institute of Standards and Technology (NIST), and the calibration systems and records are in compliance to ANSI S1.25- 1991.

### STANDARDS

Manufacturer	Description	Model No.	Serial No.	Certificate No.	Due Date
Quest	Sound Calibrator	CA-22	J7110005	18120-2	3/4/2012
Stanford Research	Function Generator	DS360	33001	A797607	9/8/2012
Fluke	Multimeter	8840A/AF	AF407041	A797616	9/8/2012
GRAS	Microphone	40AE	18833	18120-3	3/4/2012
LinearX	RTA Analyzer	PCRTA	159383	N/A	1/28/2012

Calibrated By: *Thomas D. [Signature]* Date: 11/10/11



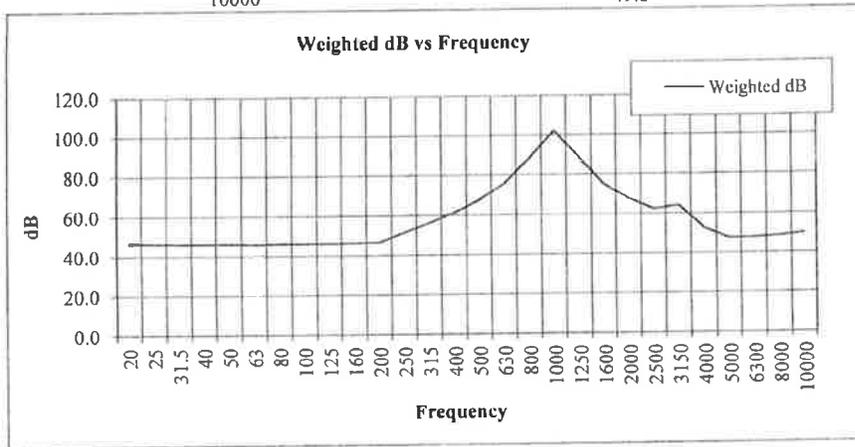
# CERTIFICATE OF CALIBRATION

## Acoustical Calibrator

**Manufacturer:** Metrosonics  
**Model Number:** CL-304  
**Serial Number:** 4214  
**Service Order:** 10027  
**Reference Number:** 10027-CL304-4214

**Calibration Date:** November 10, 2011  
**Date Due:** November 10, 2012  
**Temperature:** 75.4 °F  
**Relative Humidity:** 51 %  
**Barometric Pressure:** 29.88

Frequency (HZ)	Weighting dB
20	46.6
25	46.3
31.5	46.2
40	46.1
50	46.2
63	45.8
80	46.1
100	46.2
125	46.1
160	46.3
200	46.7
250	51.6
315	56.2
400	61.4
500	67.7
630	75.5
800	88.3
1000	102.0
1250	88.3
1600	74.7
2000	67.6
2500	62.4
3150	64.1
4000	52.7
5000	47.4
6300	47.7
8000	48.4
10000	49.8



CIHE Calibration Laboratory certifies that the instrument specified above meets the manufacturer's specifications and was calibrated using standards and instruments listed below where the accuracy is traceable to National Institute of Standards and Technology (NIST), and the calibration systems and records are in compliance to ANSI S1.40-1984

### STANDARDS

Manufacturer	Description	Model No.	Serial No.	Certificate No.	Due Date
Quest	Sound Calibrator	CA-22	J7110005	18120-2	3/4/2012
Stanford Research	Function Generator	DS360	33001	A797607	9/8/2012
Fluke	Multimeter	8840A/AF	AF407041	A797616	9/8/2012
GRAS	Microphone	40AE	18833	18120-3	3/4/2012
LinearX	RTA Analyzer	PCRTA	159383	N/A	1/28/2012

Calibrated By: *[Signature]* Date: 11/10/11

<<< TABULAR TIME HISTORY REPORT FROM FILE 310035 >>>

Test Location.....McCain Road  
Employee Name.....Little Rock, ARK  
Employee Number...  
Department.....  
Comment.....

Calibrator Type & Serial #...MS CL304 S/N 4214  
Calibrator Calibration Date..11/10/2011

METROSONICS db-3100 SN 3195 V1.7  
REPORT PRINTED 03/26/12 AT 20:15:22  
# OF PERIODS: 119 MODE: CONTINUOUS  
PERIOD LENGTH: 0:01:00  
TIME HISTORY CUTOFF: NONE  
Ln(1): 10.0% Ln(2): 99.9%

DATE:	3/26/12					
INT	TIME	Lav	Lmx	Lpk	L1	L2
1	15:36:02	63.6	70.5	UNR	67	57
2	15:37:02	67.9	76.9	UNR	71	59
3	15:38:02	70.7	78.0	UNR	75	53
4	15:39:02	64.9	72.1	UNR	68	52
5	15:40:02	63.5	69.1	UNR	66	55
6	15:41:02	61.6	68.5	UNR	66	46
7	15:42:02	63.8	71.4	UNR	67	48
8	15:43:02	62.8	69.4	UNR	66	49
9	15:44:02	64.5	71.3	UNR	68	49
10	15:45:02	64.9	77.3	UNR	68	47
11	15:46:02	62.5	66.4	UNR	65	47
12	15:47:02	63.6	70.5	UNR	66	52
13	15:48:02	65.0	73.2	UNR	68	54
14	15:49:02	73.1	86.0	UNR	76	57
15	15:50:02	64.8	70.8	UNR	68	52
16	15:51:02	62.6	72.2	UNR	66	54
17	15:52:02	81.1	87.3	UNR	85	62
18	15:53:02	69.5	76.7	UNR	74	57
19	15:54:02	64.1	76.1	UNR	66	55
20	15:55:02	60.6	63.0	UNR	61	57
21	15:56:02	65.3	71.4	UNR	69	55
22	15:57:02	67.1	76.9	UNR	70	56
23	15:58:02	64.2	70.9	UNR	68	50
24	15:59:02	75.0	89.3	115.3	73	53
25	16:00:02	62.1	68.0	UNR	66	48
26	16:01:02	63.7	72.8	UNR	69	48
27	16:02:02	62.5	70.7	UNR	65	45
28	16:03:02	64.5	72.9	UNR	69	46
29	16:04:02	68.9	78.8	UNR	74	54
30	16:05:02	61.3	67.5	UNR	66	48
31	16:06:02	70.9	83.3	UNR	72	50
32	16:07:02	66.1	74.2	UNR	69	51
33	16:08:02	60.1	66.1	UNR	65	48
34	16:09:02	64.5	71.4	UNR	67	49
35	16:10:02	63.6	69.1	UNR	67	54
36	16:11:02	62.4	68.8	UNR	66	50
37	16:12:02	64.0	73.2	UNR	68	48
38	16:13:02	65.5	72.5	UNR	69	52
39	16:14:02	64.4	72.5	UNR	68	53
40	16:15:02	66.3	70.3	UNR	69	64

Measurement 1

DATE:	3/26/12					
INT	TIME	Lav	Lmx	Lpk	L1	L2
41	16:24:44	58.4	68.1	UNR	64	43
42	16:25:44	57.7	68.1	UNR	63	44
43	16:26:44	61.2	69.4	UNR	66	44
44	16:27:44	62.1	69.0	UNR	67	44
45	16:28:44	60.5	68.3	UNR	64	43
46	16:29:44	63.1	69.5	UNR	67	43
47	16:30:44	64.3	73.4	UNR	69	43
48	16:31:44	69.5	80.6	UNR	75	50
49	16:32:44	60.1	67.1	UNR	65	45
50	16:33:44	58.7	66.7	UNR	63	43
51	16:34:44	62.2	69.3	UNR	66	45

Measurement 2

52	16:35:44	62.5	70.9	UNR	67	44
53	16:36:44	63.5	68.9	UNR	66	50
54	16:37:44	62.0	69.2	UNR	66	45
55	16:38:44	61.8	67.9	UNR	66	48
56	16:39:44	63.7	74.0	UNR	67	46
57	16:40:44	62.0	68.2	UNR	66	48
58	16:41:44	60.7	68.2	UNR	65	43
59	16:42:44	65.1	73.6	UNR	68	47
60	16:43:44	65.6	73.6	UNR	69	51
61	16:44:44	64.6	71.6	UNR	69	50
62	16:45:44	65.1	72.7	UNR	69	47

Measurement 2

DATE: 3/26/12

INT	TIME	Lav	Lmx	Lpk	L1	L2
63	16:55:17	64.4	74.6	UNR	67	52
64	16:56:17	65.6	72.9	UNR	70	47
65	16:57:17	68.3	82.5	UNR	70	45
66	16:58:17	64.8	73.4	UNR	68	48
67	16:59:17	59.2	67.3	UNR	62	51
68	17:00:17	65.2	74.0	UNR	70	51
69	17:01:17	62.5	72.0	UNR	66	49
70	17:02:17	60.4	67.6	UNR	64	50
71	17:03:17	63.1	67.6	UNR	65	55
72	17:04:17	59.6	68.3	UNR	62	52
73	17:05:17	68.0	78.0	UNR	72	54
74	17:06:17	62.4	69.5	UNR	66	50
75	17:07:17	62.3	71.1	UNR	67	49
76	17:08:17	61.2	66.2	UNR	65	52
77	17:09:17	60.9	68.8	UNR	64	50
78	17:10:17	61.4	67.2	UNR	65	52
79	17:11:17	63.6	71.8	UNR	67	54
80	17:12:17	62.3	68.3	UNR	65	53
81	17:13:17	64.0	70.4	UNR	67	52
82	17:14:17	60.3	67.5	UNR	64	51
83	17:15:17	63.1	69.9	UNR	66	48
84	17:16:17	64.5	73.5	UNR	69	51
85	17:17:17	59.1	66.3	UNR	62	50
86	17:18:17	65.7	70.2	UNR	68	52

DATE: 3/26/12

INT	TIME	Lav	Lmx	Lpk	L1	L2
87	17:42:35	66.3	74.0	UNR	71	51
88	17:43:35	54.1	61.4	UNR	58	47
89	17:44:35	56.4	63.5	UNR	59	51
90	17:45:35	63.5	67.7	UNR	65	56
91	17:46:35	60.7	66.0	UNR	63	57
92	17:47:35	66.1	73.0	UNR	69	60
93	17:48:35	61.9	70.1	UNR	65	57
94	17:49:35	66.3	72.2	UNR	70	58
95	17:50:35	89.8	98.7	113.4	96	69
96	17:51:35	77.6	94.2	UNR	76	65
97	17:52:35	63.5	67.9	UNR	65	59
98	17:53:35	63.4	66.7	UNR	65	59
99	17:54:35	65.7	69.3	UNR	68	62
100	17:55:35	65.7	71.7	UNR	69	61
101	17:56:35	65.0	73.4	UNR	69	55
102	17:57:35	65.3	73.9	UNR	68	55
103	17:58:35	64.6	71.6	UNR	67	53
104	17:59:35	58.7	67.5	UNR	62	50
105	18:00:35	60.8	66.5	UNR	65	49
106	18:01:35	61.8	68.2	UNR	65	52
107	18:02:35	62.8	68.3	UNR	66	50
108	18:03:35	60.7	67.2	UNR	63	51
109	18:04:35	62.4	70.0	UNR	66	52
110	18:05:35	58.3	66.7	UNR	62	46
111	18:06:35	63.0	72.7	UNR	66	51
112	18:07:35	63.6	73.4	UNR	68	48
113	18:08:35	62.5	71.0	UNR	68	46
114	18:09:35	61.5	67.9	UNR	64	46
115	18:10:35	62.3	67.3	UNR	66	49
116	18:11:35	61.3	68.3	UNR	64	53
117	18:12:35	63.0	69.2	UNR	66	51
118	18:13:35	71.3	78.9	UNR	76	51
119	18:14:35	70.4	73.5	UNR	72	64

# **APPENDIX F**

Probable Cost Per Alternative

<b>McCain Grade Separation - Opinion of Probable Costs - Alternative 1 (Northerly Route)</b>									
ROADWAY									
LENGTH (FT)	LENGTH (MI)	TYPE IMPROVEMENT COST USED	DESCRIPTION	COST/MILE OR UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
1720	0.33	WIDEN EXISTING ROAD	2 LANES TO 4 LANES	\$ 4,450,000.00	\$ 1,449,621.21	\$ 217,443.18	\$ 1,667,064.39		
1350	0.26	IMPROVE ROUNDTOP ROAD	2 LANE COLLECTOR	\$ 1,825,000.00	\$ 474,500.00	\$ 71,175.00	\$ 545,675.00		
4194	0.79	SIDEWALKS (UNIT = LF)	SIDEWALKS	\$ 18.00	\$ 75,492.00	\$ 11,323.80	\$ 86,815.80		
4194	0.79	18" CURB & GUTTER (UNIT = LF)		\$ 12.82	\$ 53,767.08	\$ 8,065.06	\$ 61,832.14		
STRUCTURES									
LENGTH (FT)	AREA (SF)	TYPE IMPROVEMENT COST USED		COST/MILE	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
450	28350	NEW BRIDGE		\$ 106.00	\$ 3,005,100.00	\$ 450,765.00	\$ 3,455,865.00		
OTHER									
	UNIT	DESCRIPTION		COST/UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
30700	SF	MSE RETAINING WALL		\$ 42.00	\$ 1,289,400.00	\$ 193,410.00	\$ 1,482,810.00		
58100	CU.YDS.	COMPACTED EMBANKMENT		\$ 6.00	\$ 348,600.00	\$ 52,290.00	\$ 400,890.00		
58100	CU.YDS.	BORROW		\$ 9.00	\$ 522,900.00	\$ 78,435.00	\$ 601,335.00		
43400	SF	RIGHT OF WAY PURCHASE		\$ 1.00	\$ 43,400.00		\$ 43,400.00		
10	LS	PROBABLE PARCEL ACQUISITION		\$ 110,000.00	\$ 1,100,000.00		\$ 1,100,000.00		
1	LS	UTILITY RELOCATION		\$ 750,000.00	\$ 750,000.00		\$ 750,000.00		
						TOTAL		\$	\$ 10,195,687.34

McCain Grade Separation - Opinion of Probable Costs - Alternative 2 (Maintain Current Route along Fairfax)									
ROADWAY									
LENGTH (FT)	LENGTH (MI)	TYPE IMPROVEMENT COST USED	DESCRIPTION	COST/MILE OR UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
1690	0.32	WIDEN EXISTING ROAD	2 LANES TO 4 LANES	\$ 4,450,000.00	\$ 1,424,337.12	\$ 213,650.57	\$ 1,637,987.69		
1350	0.26	IMPROVE ROUNDTOP ROAD	2 LANE COLLECTOR	\$ 1,825,000.00	\$ 466,619.32	\$ 69,992.90	\$ 536,612.22		
4194	0.79	SIDEWALKS (UNIT = LF)	SIDEWALKS	\$ 18.00	\$ 75,492.00	\$ 11,323.80	\$ 86,815.80		
4194	0.79	18" CURB & GUTTER (UNIT = LF)		\$ 12.82	\$ 53,767.08	\$ 8,065.06	\$ 61,832.14		
STRUCTURES									
LENGTH (FT)	AREA (SF)	TYPE IMPROVEMENT COST USED		COST/MILE	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
310	19530	NEW BRIDGE		\$ 106.00	\$ 2,070,180.00	\$ 310,527.00	\$ 2,380,707.00		
OTHER									
	UNIT	DESCRIPTION		COST/UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
32500	SF	MSE RETAINING WALL		\$ 42.00	\$ 1,365,000.00	\$ 204,750.00	\$ 1,569,750.00		
59824	CU.YDS.	COMPACTED EMBANKMENT		\$ 6.00	\$ 358,944.00	\$ 53,841.60	\$ 412,785.60		
59824	CU.YDS.	BORROW		\$ 9.00	\$ 538,416.00	\$ 80,762.40	\$ 619,178.40		
40400	SF	RIGHT OF WAY PURCHASE		\$ 1.00	\$ 40,400.00		\$ 40,400.00		
15	LS	PROBABLE PARCEL ACQUISITION		\$ 110,000.00	\$ 1,650,000.00		\$ 1,650,000.00		
1	LS	UTILITY RELOCATION		\$ 750,000.00	\$ 750,000.00		\$ 750,000.00		
						TOTAL		\$	\$ 9,746,068.85

**McCain Grade Separation - Opinion of Probable Costs - Alternative 3 (Southerly Route along Faulkner Road)**

ROADWAY									
LENGTH (FT)	LENGTH (MI)	TYPE IMPROVEMENT COST USED	DESCRIPTION	COST/MILE OR UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
2300	0.44	WIDEN EXISTING ROAD	2 LANES TO 4 LANES	\$ 4,450,000.00	\$ 1,938,446.97	\$ 290,767.05	\$ 2,229,214.02		
700	0.13	NEW 4 LANE ROAD	4 LANES	\$ 5,525,000.00	\$ 732,481.06	\$ 109,872.16	\$ 842,353.22		
180	0.03	IMPROVE RUSTIC ROAD	2 LANE COLLECTOR	\$ 1,825,000.00	\$ 62,215.91	\$ 9,332.39	\$ 71,548.30		
4818	0.91	SIDEWALKS (UNIT = LF)	SIDEWALKS	\$ 18.00	\$ 86,724.00	\$ 13,008.60	\$ 99,732.60		
4818	0.91	18" CURB & GUTTER (UNIT = LF)		\$ 12.82	\$ 61,766.76	\$ 9,265.01	\$ 71,031.77		
STRUCTURES									
LENGTH (FT)	AREA (SF)	TYPE IMPROVEMENT COST USED		COST/MILE	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
530	33390	NEW BRIDGE		\$ 106.00	\$ 3,539,340.00	\$ 530,901.00	\$ 4,070,241.00		
OTHER									
	UNIT	DESCRIPTION		COST/UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
23500	SF	MSE RETAINING WALL		\$ 42.00	\$ 987,000.00	\$ 148,050.00	\$ 1,135,050.00		
61138	CU.YDS.	COMPACTED EMBANKMENT		\$ 6.00	\$ 366,828.00	\$ 55,024.20	\$ 421,852.20		
61138	CU.YDS.	BORROW		\$ 9.00	\$ 550,242.00	\$ 82,536.30	\$ 632,778.30		
70600	SF	RIGHT OF WAY PURCHASE		\$ 1.00	\$ 70,600.00		\$ 70,600.00		
0	LS	PROBABLE PARCEL ACQUISITION		\$ 125,000.00	\$ -		\$ -		
1	LS	UTILITY RELOCATION		\$ 750,000.00	\$ 750,000.00		\$ 750,000.00		
TOTAL							\$ 10,394,401.40		

McCain Grade Separation - Opinion of Probable Costs - Alternative 4 (Approximately 50' South of Current Route)									
ROADWAY									
LENGTH (FT)	LENGTH (MI)	TYPE IMPROVEMENT COST USED	DESCRIPTION	COST/MILE OR UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
1690	0.32	WIDEN EXISTING ROAD	2 LANES TO 4 LANES	\$ 4,450,000.00	\$ 1,424,337.12	\$ 213,650.57	\$ 1,637,987.69		
1350	0.26	IMPROVE ROUNDTOP ROAD	2 LANE COLLECTOR	\$ 1,825,000.00	\$ 466,619.32	\$ 69,992.90	\$ 536,612.22		
4194	0.79	SIDEWALKS (UNIT = LF)	SIDEWALKS	\$ 18.00	\$ 75,492.00	\$ 11,323.80	\$ 86,815.80		
4194	0.79	18" CURB & GUTTER (UNIT = LF)		\$ 12.82	\$ 53,767.08	\$ 8,065.06	\$ 61,832.14		
STRUCTURES									
LENGTH (FT)	AREA (SF)	TYPE IMPROVEMENT COST USED		COST/MILE	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
320	20160	NEW BRIDGE		\$ 106.00	\$ 2,136,960.00	\$ 320,544.00	\$ 2,457,504.00		
OTHER									
	UNIT	DESCRIPTION		COST/UNIT	CONSTRUCTION COST	INSPECTION COST	SUBTOTAL		
32500	SF	MSE RETAINING WALL		\$ 42.00	\$ 1,365,000.00	\$ 204,750.00	\$ 1,569,750.00		
59824	CU.YDS.	COMPACTED EMBANKMENT		\$ 6.00	\$ 358,944.00	\$ 53,841.60	\$ 412,785.60		
59824	CU.YDS.	BORROW		\$ 9.00	\$ 538,416.00	\$ 80,762.40	\$ 619,178.40		
40400	SF	RIGHT OF WAY PURCHASE		\$ 1.00	\$ 40,400.00		\$ 40,400.00		
15	LS	PROBABLE PARCEL ACQUISITION		\$ 110,000.00	\$ 1,650,000.00		\$ 1,650,000.00		
1	LS	UTILITY RELOCATION		\$ 750,000.00	\$ 750,000.00		\$ 750,000.00		
						TOTAL	\$ 9,822,865.85		