



KY 53
Improvements
From KY 22 at
Ballardsville
to I-71



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July 26, 2011

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Kentucky Transportation Cabinet
Department of Highways
District 5 Office
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Subject: Reconstruction/Relocation of KY 53 (Ballardsville/LaGrange Rd)
From KY 22 at Ballardsville to I-71
Oldham County
Item No. 5-388.00

Dear Mr. Thompson:

To help finalize the preliminary design stage for the KY 53 reconstruction project in Oldham County, we have assembled the attached Preliminary Alternatives Report. In this report, we have included the displays and comment form that were used at the Public Meeting and aerial imagery with the Preferred Alternative selected at the Preliminary Line and Grade Meeting displayed. We have also summarized the description of each alternative that was included in the Design Executive Summary, the selection process for the preferred alignment, and the costs associated with each alternative, including right-of-way acquisition, utility relocation, and construction.

As this project is currently without funding, the primary purpose of the Phase I design was to develop cost estimates that could be used by the local elected officials to lobby the State Legislature for design and construction funding in the future. The project was also broken up into separate construction sections that may be built as funds become available. Given that it may be years until funding is available to move the project forward, there may be additional development in the corridor that will cause the decision-making process to be revisited once Phase II design is ready to begin.

Mr. Travis Thompson, P.E.

July 26, 2011

Page 2

I have included fifteen copies of the Preliminary Alternatives Report for your use and distribution to the Oldham County elected officials and members of the Project Team. At the latest public officials meeting held in La Grange on June 9, 2011, aerial imagery showing the Preferred Alternative with the proposed right of way width and typical section visualizations were given to Oldham County's Planning and Development agency. The aerial imagery was given at 1" = 200' scale for the whole project and individual 1" = 100' scale sheets showing the separate construction sections. Hopefully, they will use the aerial imagery to help keep the future roadway unobstructed when proposed developments are submitted in the project corridor.

We have enjoyed working with you and the District 5 staff on this project. We hope to continue this successful working relationship as this project moves forward and with other District 5 projects as well. Please contact me if you need any additional information.

Sincerely,

Stephen J. McDevitt, P.E.

Project Manager

Reconstruction/Relocation of KY 53 (Ballardsville - La Grange Road)
From KY 22 at Ballardsville to I-71
Oldham County
Item No. 5-388.00
Preliminary Alternatives Report

Typical Section

(3-D Renderings of the proposed roadway typical sections, typical section plan sheets and Exhibit A from the Design Executive Summary (DES) have been included in this report.)

Division of Planning classified the new KY 53 (Ballardsville – La Grange Road) as a Rural Arterial Highway. For the rural typical section, the Geometric Design Criteria indicate a design speed of 55 mph for a Rural Arterial roadway in rolling terrain with year 2030 Average Daily Traffic of 7,020 to 39,400. The 5-lane rural typical section will include four 12-foot lanes, a 14-foot paved median, and 10-foot wide shoulders, of which 8-feet will be paved. The 3-lane initial / 5-lane ultimate section will include two 12-foot lanes, a 14-foot paved median, and 10-foot wide shoulders, of which 8-feet will be paved. The 2-lane rural typical section will include two 12-foot lanes and 10-foot wide shoulders, of which 8-feet will be paved. The access to the new KY 53 road will be by permit.

For the urban section, the typical section will include four 11-foot lanes, a 13-foot paved median, and a 2-foot curb and gutter section. The urban typical section will also include a 3-foot utility strip, a 5-foot sidewalk, and a 6-foot berm area behind the sidewalk. A 10-foot shared use path will be used instead of the sidewalk and berm area on one side of the road (side to be determined in Phase II). The access to the new KY 53 road will be by permit.

Traffic

(Exhibit D from the DES showing LOS at each of the major intersections along KY 53 has been included in this report.)

Existing traffic volumes along the KY 53 are expected to increase significantly by 2030. Rapidly growing residential communities along with the OCEDA development will double traffic volumes along the corridor. Capacity analysis was conducted for the KY 53 corridor. This analysis included the 2008 Existing Condition, the 2030 No-Build Condition, the 2030 Short-Term Condition and the 2030 Full-Build Condition.

Alignment Alternatives

(The display presented at the public meeting showing the corridors for each of the alternatives and an Alternatives Comparison Table have been included in this report).

For each of the following alternatives, both a rural and an urban option were explored. The urban option utilizes an urban template along the entire length of the project. The rural option utilized a rural template south of Cherry Creek Road and an urban template north of Cherry Creek Road.

ALTERNATIVE #1 – WESTERN ALTERNATIVE (RED)

Alternative #1 is a 3.85 mile new cross-country alignment that bypasses Ballardsville to the west. This alternative begins at the intersection of KY 53 and KY 1315, extending in a northwesterly direction away from K5 1315 and intersecting the Proposed KY 22 approximately 1000 feet west of the existing intersection of KY 53 and KY 22 West. As part of this alternative, KY 22 is realigned to connect KY 22 East and KY 22 West to one continuous movement to the north of Ballardsville. The length of this KY 22 realignment is 1.11 miles.

After the intersection with KY 22, Alternative #1 continues in a northwesterly direction crossing the existing KY 53 alignment twice, first 1600 feet south of Clarke Pointe Drive, then again 540 feet north of Clarke Pointe Drive. The alignment then veers in a more northerly direction crossing the existing roadway again near Sunset Drive. The alignment then stays on the east side of existing KY 53, following at a sixty-foot offset from the existing centerline until Zhale Smith Road. From Zhale Smith Road to New Moody Lane, the centerline for the proposed alignment follows the existing roadway centerline.

The horizontal and vertical alignments were designed for 45 mph. For the rural option, a 2-lane rural section is used from KY 1315 to KY 22 West. A 5-lane rural typical section begins at KY 22 West and ends at Cherry Creek Road. From Cherry Creek Road to I-71, a 5-lane urban typical section is used.

For the rural option, ninety-eight properties are affected, with eight residences being taken by this alignment. For the urban option, ninety-five properties are affected, with seven residences being taken. For both options, four of the residences being acquired are located along the KY 22 realignment. This alternative also crosses three blue line streams, requiring three box culverts. Also, an 800-foot channel change is needed for a tributary of Floyds Fork. The channel change is located between KY 1315 and KY 22 West.

ALTERNATIVE #2 - EASTERN ALTERNATIVE (GREEN)

Alternative #2 is a 3.13 mile alignment that follows the east side of Existing KY 53 throughout much of its length. The alternative begins approximately 300 feet south of the intersection of KY 53 and KY 22 West near the Ballardsville Fire Department. This alignment avoids impacting the parking lot of the Ballardsville Baptist Church, but it disturbs several of the ponds on the Crystal Bridge Fish Farm located across from the church property. Alternative #2 acts as a cross-country alignment from Grand Dell Drive to Clarke Pointe Drive. It crosses the existing KY 53 roadway just north of Clarke Pointe Drive and again near Sunset Drive. From Sunset Drive to I-71, this proposed alignment follows Alternative #1's alignment.

The horizontal and vertical alignments were designed for 45 mph. For the rural option, the 5-lane rural typical section begins at KY 22 West and ends at Cherry Creek Road. From Cherry Creek Road to I-71, a 5-lane urban typical section is used.

For the rural option, seventy-five properties are affected, with one residence being taken by this alignment. For the urban option, seventy properties are affected, with one residence being taken. This alternative also crosses three blue line streams, requiring three box culverts.

ALTERNATIVE #3 - CENTRAL ALTERNATIVE (ORANGE)

Alternative #3 is a 3.50 mile alignment that follows the existing KY 53 roadway as closely as possible. Alternative #3 begins near the intersection of KY 53 and KY 22 East at the New Dawn Baptist Church (former location of the Ballardsville Baptist Church), where it departs Existing KY 53 by veering to the north. This allows the alignment to bypass to the east a section of Ballardsville from the church to the Ballardsville Fire Station. The alignment then crosses Existing KY 53 near Ann Trese Cove, avoiding the Crystal Bridge Fish Farm ponds by running to the west of Existing KY 53. The alignment then crosses Existing KY 53 shortly after the ponds, staying adjacent to the Existing KY 53 roadway on its east side until merging with Alternative #1 and #2's alignment just north of Sunset Drive.

The horizontal and vertical alignments were designed for 45 mph. For the rural option, a 3-lane rural section begins at KY 22 East and continues to KY 22 West. A 5-lane rural section begins at KY 22 West and ends at Cherry Creek Road. From Cherry Creek Road to I-71, a 5-lane urban section is used.

For the rural option, ninety-eight properties are affected, with one residence being taken. For the urban option, ninety-three properties are affected, with one residence being taken. This alternative also crosses three blue line streams, requiring three box culverts.

Right-of-Way Acquisition, Utility Relocations, and Construction Cost Estimates

The estimated total cost for each of the alternatives is as follows:

PHASE	2008 Six Year Plan Budgets ***	Alternative #1 Rural Option**	Alternative #2 Rural Option**	Alternative #3 Rural Option**
Right-of-Way Acquisition	\$6,080,000	\$12,850,000	\$10,050,000	\$11,300,000
Utilities Relocation	\$3,510,000	\$3,200,000	\$6,575,000	\$4,970,000
Construction	\$25,310,000	\$22,770,099*	\$16,516,937	\$19,790,596
TOTAL	\$34,900,000	\$38,820,099	\$33,141,937	\$36,060,596

PHASE	2008 Six Year Plan Budgets ***	Alternative #1 Urban Option	Alternative #2 Urban Option	Alternative #3 Urban Option
Right-of-Way Acquisition	\$6,080,000	\$11,275,000	\$8,850,000	\$9,900,000
Utilities Relocation	\$3,510,000	\$3,200,000	\$6,575,000	\$4,030,000
Construction	\$25,310,000	\$29,372,404*	\$18,991,444	\$21,947,308
TOTAL	\$34,900,000	\$43,847,404	\$34,416,444	\$35,877,308

* Includes construction costs for the realignment of KY 22. Add \$2,775,556 to Alternatives #2 and \$0 to Alternative #3 for the realignment of KY 22.

** Add \$1,199,012 to the construction costs for each rural alternative if the urban typical section is extended from Blakemore Lane to Cherry Creek Road.

*** 2010 Six Year Plan Budget data not available.

Public Involvement, Displays, and Handouts

(A copy of the project handout, comment form, and a display presented at the public meeting illustrating each of the alternatives that was studied has been included in this report.)

On September 3, 2008 a meeting was held at the Oldham County Fiscal Court with the local public officials to present the three corridor alternatives for the new KY 53. Presented at this meeting were the project traffic along KY 53, the rural and urban typical sections, and roll plans of the three corridors to be presented at the public meeting. The history of the project was discussed, including the six initial alternatives explored, local developments planned for the area, and the planned schools along KY 22 West.

On September 25, 2008 a Public Informational Meeting was held at the La Grange Presbyterian Church to present the three corridor alternatives being studied for the new KY 53 roadway. KYTC received thirty-three responses from people who attended the Public Meeting. From the responses, the highest ranked problems with the roadway were reported as: poor visibility, high speeds, steep hills, and narrow shoulders. Twenty-six of the responses ranked bikeways as a low priority along KY 53 and twenty-four ranked sidewalks a low priority. While not a question on the comment form, five responses indicated a preference for the cross country Western Alternative, while two responses favored the Eastern Alternative.

On June 9, 2011 a meeting was held at the Oldham County Fiscal Court with the local public officials to provide an update on the status of the project; to present the Preferred Alternative, typical sections, and estimated costs; and to obtain their input. A brief history of the project, including the original three alternatives studied, the typical sections used, and the process used to arrive at the Preferred Alternative, was discussed. From this meeting, the local public officials concurred with the Preferred Alternative and indicated that their priority section would be from Clarke Pointe Drive to the project end near I-71 in order to address the capacity problems near I-71 and the geometric deficiencies along the existing two lane section of road north of Clarke Pointe Drive.

Preferred Alignment Selection

Preliminary Line & Grade Meeting

On June 9, 2010, the Preliminary Line and Grade Meeting was held. At that meeting, the Project Team selected a modified Alternative #1, the Western Alternative, as the Preferred Alternative. This alternative satisfies the project's Purpose and Need:

- To increase safety and reduce accidents.
- To improve capacity and level of service of the roadway.
- To accommodate the forecasted increase in automotive and commercial truck traffic on KY 53. (Year 2008 – 2,160 to 30,920 vehicles per day with 11.4% trucks; Year 2030 – 4,000 to 39,400 vehicles per day with 17.7% trucks).
- To provide a roadway facility that meets current design standards.

Although each of the alternatives would satisfy the Purpose and Need, Alternative #1 offers the following advantages over the other alternatives studied:

- Overall system connectivity is addressed; all substandard sections of Existing KY 53 are addressed.
- Presents opportunity to continue improvements of KY 53 toward Shelbyville in the future.
- Provides best access to planned and current schools on KY 22 West.
- Has the lowest utility cost.
- Provides increased development opportunities along the new cross country section of KY 53.
- Bypasses Ballardsville, avoids impacts to properties along the road, and provides for a "Main Street" area through town from the remnants of Existing KY 53.
- Results in no impacts to Ballardsville Baptist Church's parking lot and entrance or the Crystal-Bridge fish farm ponds.

The following modifications were made to Alternative #1 to select it as the Preferred Alternative:

- KY 22 will not have a continuous movement in order to reduce impacts to Ballardsville. KY 22 East and West will be maintained at their current offset and extended to meet the new KY 53 roadway. The proposed KY 53 profile will be adjusted to better tie-in to these intersections.
- Lane widths in the urban section will be reduced from 12 to 11 feet for the travel lanes and 14 to 13 feet for the flush median. The bike lanes will also be removed from the urban template. Bicycles will be able to use a 10-foot shared use path that will be used instead of the sidewalk on one side of the road (to be determined in Phase II) through the urban section.
- The urban section will begin at Clarke Pointe Drive and continue to the end of the project. It will have a design speed of 45 mph.
- The rural section will begin at the project start and extend to Clarke Pointe Drive. It will have a design speed of 55 mph.
- An additional access point to existing KY 53 was added to the south of Clarke Pointe Drive for access to the town of Ballardsville.
- The alignment was shifted slightly to the east from Clarke Pointe Drive to Blakemore Lane to avoid an LGE substation near Existing KY 53's intersection with KY 2856.
- Exhibit A from the DES showing a summary of the rural and urban roadway facilities has been included in this report.

The Project Team decided to break the proposed roadway into three construction sections, to be built as needed or as funding becomes available. Cost estimates in the table below reflect these sections. The resulting three sections would be:

- Section One: KY 1315 to KY 22 West (1.02 miles of KY 53 +0.13 miles of KY 1315 + 0.34 miles of KY 22 East): Two lane / three lane rural section (55 mph). The three lane configuration will be used between the KY 22 intersections, with a truck climbing lane added in the northbound direction. Left turn lanes on the KY 22 legs will be added where necessary. If this section is not built initially, the R/W should be reserved for this section, if and when, KY 53 is planned to be improved to Shelbyville.
- Section Two: KY 22 West to Zhale Smith Road (2.42 miles of KY 53 + 0.22 miles of KY 22 West): Five-lane rural section from KY 22 West to Clarke Pointe Drive (55 mph); five-lane urban section from Clarke Pointe Drive to Zhale Smith Road (45 mph). This section addresses the increased traffic due to the added road from the OCEDA development, the need for a Ballardsville bypass to avoid impacts to properties close to the existing road and the existing geometric deficiencies along KY 53.
- Section Three: Zhale Smith Road to I-71 (0.48 miles of KY 53): Five-lane urban section (45 mph) that addresses the current capacity problems.

Estimated Year 2011 costs for the Preferred Alternative:

PHASE	2008 Six Year Plan Budget *	Preferred Alternative Section One	Preferred Alternative Section Two	Preferred Alternative Section Three	Preferred Alternative TOTAL
Right-of-Way Acquisition	\$6,080,000	\$2,200,000	\$4,950,000	\$1,150,000	\$8,300,000
Utilities Relocation	\$3,510,000	\$110,000	\$2,615,000	\$970,000	\$3,695,000
Construction	\$25,310,000	\$4,619,808	\$12,332,121	\$1,853,459	\$18,805,388
TOTAL	\$34,900,000	\$6,929,808	\$19,897,121	\$3,973,459	\$30,800,388

* 2010 Six Year Plan Budget data not available.

Item No. 5-388.00 Oldham County

KY 53 Alternates Comparison

	Alternative #1 rural (urban)	Alternative #2 rural (urban)	Alternative #3 rural (urban)	2006 Six Year Plan Budgets
Impacts				
Residences Taken	8 (7)	1 (1)	2 (2)	---
Number of Parcels Affected	98 (95)	75 (70)	98 (93)	---
Lengths				
Mainline (mi)	3.93	3.08	3.48	---
Crossroads (mi)	0.72	1.00	1.03	---
KY22 (mi)	1.14	0.05	0.08	---
Earth Work Quantities				
Common Excavation (CU YD)	357907 (354952)	140452 (122607)	343616 (194789)	---
EMB (CU YD)	362585 (432557)	199162 (234318)	324061 (310136)	---
Net Total (CU YD)	-4678(-77606)	-56970 (-111711)	19555 (-115347)	---
Right of Way				
Fee Simple R/W (AC)	89.5 (60.8)	46.3 (30.3)	54.8 (35.7)	---
Permanent Easement (AC)	0.06 (0.44)	0.07 (0.35)	0.12 (0.41)	---
Temporary Easement (AC)	3.61 (27.25)	3.86 (17.60)	3.75 (22.88)	---
Number of Structures				
Box Culverts	3 (3)	3 (3)	3 (3)	---
Other Issues				
Channel Change - Trib. of Floyds Fork	>800 feet	None	None	---
Access Control	See alternative plan	See alternative plan	See alternative plan	---
Design Speed	45 mph	45 mph	45 mph	---
Ballardsville Bypass	Yes	None	None	---
Impacts to Historical Property	Yes (KY 22)	None	None	---
Impacts to Crystal-Bridge Fish Ponds	None	Yes	None	---
Costs (rural typical)				
Utility Relocation Costs				
ROW Acquisition Costs	\$12,850,000	\$10,050,000	\$11,300,000	
Construction Costs	\$22,770,099	\$16,516,937	\$19,790,596	
Estimated Total Costs (Rural)	\$35,620,099	\$26,566,937	\$31,090,596	
Costs (urban typical)				
Utility Relocation Costs				
ROW Acquisition Costs	\$11,275,000	\$8,850,000	\$9,900,000	
Construction Costs	\$29,372,404	\$18,991,444	\$21,947,308	
Estimated Total Costs (Urban)	\$40,647,404	\$27,841,444	\$31,847,308	
Additional Costs				
KY 22 Construction Costs	Included	\$2,775,556	\$0	---
Const. costs to extend urban section Blakemore Ln. to Cherry Creek Rd.	\$1,199,012	\$1,199,012	\$1,199,012	---
Estimated Additional Costs	\$1,199,012	\$3,974,568	\$1,199,012	---

EXHIBIT A

DESIGN ITEM		ROADWAY FACILITY		
		KY 53 Rural Section (South of Clarke Pointe Drive)	KY 53 Urban Section (North of Clarke Pointe Drive)	
Roadway Classification	Local			
	Collector			
	Arterial	X	X	
	Interstate			
	Rural	X		
	Urban		X	
Traffic	ADT (2008)	7,220 (See Exhibit B)	30,920 (See Exhibit B)	
	ADT (2030)	18,980 (See Exhibit B)	39,400 (See Exhibit B)	
	AM DHV (2030)	1,740 (See Exhibit B)	2,730 (See Exhibit B)	
	PM DHV (2030)	1,870 (See Exhibit B)	3,730 (See Exhibit B)	
Speed	Posted Speed Limit (mph)	55 (35 within Ballardsville city limits)	45	
	Design Speed Selected (mph)	55	45	
Design Exceptions Require Director of Design Approval		YES	YES	
DESIGN CRITERIA	Number of Lanes	Existing	2	4 w/ Turn Lanes
		Typical	2	4
		Recommendation	Varies (2 to 4) w/ Turn Lanes **	4 w/ Turn Lanes
	Lane Width	Existing	10'	11'
		Typical	12'	12'
		Recommendation	12'	11'***
	Shoulder Width, Slope	Existing	Mix of no shoulder and 4' at 8.33% paved	Mix of curb & gutter and varying width paved shoulder
		Typical	8' at 4% paved 10' Total ****	Curb & Gutter
		Recommendation	8' at 4% paved 10' Total	Curb & Gutter
	Bridge Width	Existing	-	-
		Typical	-	-
		Recommendation	-	-
	e-max	Existing	10%	10%
		Typical	8%	4%
		Recommendation	8%	4%
	Minimum Radius	Existing	325'	848.83'
		Typical	965'	730'
		Recommendation	2500'	1200'
	Maximum Grade	Existing	12.52%	10.86%
		Typical	5%	7%
Recommendation		4.05%	6%	
Minimum Sight Distance	Existing	229'	375'	
	Typical	495'	360'	
	Recommendation	453' *	363'	
Sidewalk	Existing	-	Varies	
	Typical	-	5'	
	Recommendation	-	5'	
Border Area	Existing	-	Varies	
	Typical	-	10'	
	Recommendation	-	14'	

Note: KYTC Design Manual Exhibits 700-03 and 700-04 have been used to establish design criteria for this project.

* See design criteria notes on page 1 for design exception note.

** Limits of the 2-lane rural section for KY 53 begin at KY 1315 and end at the intersection with KY 22 East. Limits of the 4-lane rural section for KY 53 begin at KY 22 East and end at the intersection with KY 22 West.

*** 11 ft lanes minimum for interrupted flow conditions per KYTC Design Manual Exhibit 700-04.

**** 10 ft total width (8 ft paved) shoulders for Arterial Roadways with ADT over 2000 per KYTC Design Manual Section HD-702

Table: Minimum Paving Width Requirements for Shoulders

Exhibit D

Intersection	AM Peak OVERALL LOS			PM Peak OVERALL LOS						
	2008 Existing	2030 No Build	2030 Short-Term	2030 Full-Build	2008 Existing	2030 No Build	2030 Short-Term	2030 Full-Build	2008 ADT	2030 ADT
KY 53 @ KY 1315 (Eastbound - Stop Controlled)	A	B	B	B	B	C	C	C	2160	4000
KY 53 @ KY 22 East (Westbound - Stop Controlled) 2030 New Traffic Signal (No Build only)	B	B	C	C	B	C	F	F (1)	6120	11020
KY 53 @ KY 22 West (Eastbound - Stop Controlled) (Westbound - Stop Controlled) 2030 New Traffic Signal	D C	D	C	C	D C	D	C	B	7220	18980
KY 53 @ (KY 2856 (Old Moody Lane) (Eastbound - Stop Controlled) 2030 New Traffic Signal	B	F	B	B	C	F	D	B	8040	17000
KY 53 @ Blakemore Lane (Eastbound - Stop Controlled) 2030 New Traffic Signal	B	D	B	B	B	F	D	B	8500	16500
KY 53 @ Glen Eagles Way (Eastbound - Stop Controlled)	C	F	F	D	C	F	F	F (2)	12020	20960
KY 53 @ Peak Road 2030 New Traffic Signal	---	B	B	B	---	F	C	B	23480	20840
KY 53 @ Zhale Smith Road (Westbound - Stop Controlled) 2030 New Traffic Signal	C	C	B	B	C	B	A	B	14280	20840
KY 53 @ Kroger Entrance Ex. Traffic Signal	B	B	B	B	B	C	B	C	17600	24000
KY 53 @ Cherrywood Drive (Eastbound - Stop Controlled)	C	F	F	F	E	F	F	F (2)	19400	25880
KY 53 @ Grange Drive Ex. Traffic Signal	B	B	B	A	A	B	B	A	21180	26900
KY 53 @ Moody Lane Ex. Traffic Signal	B	C	C	C	C	C	C	C	30920	39400
KY 53 @ I-71 Northbound Ex. Traffic Signal	C	D	D	D	F	F	F	F (3)		
KY 53 @ I-71 Southbound Ex. Traffic Signal	C	F	F	F	C	F	F	F (3)	26700	36400
KY 53 @ Crystal Drive Ex. Traffic Signal	B	C	C	C	B	E	E	E (3)	21560	26500

(1) For the KY 22 EAST intersection, a signal was required for the 2030 No Build scenario due to capacity problems along KY 53 and a lack of turn lanes on all legs.

For the build scenarios, this intersection includes turn lanes in all directions and is just below the threshold for a signal warrant.

This intersection should be evaluated for a signal warrant in the design year using actual volumes to address this LOS.

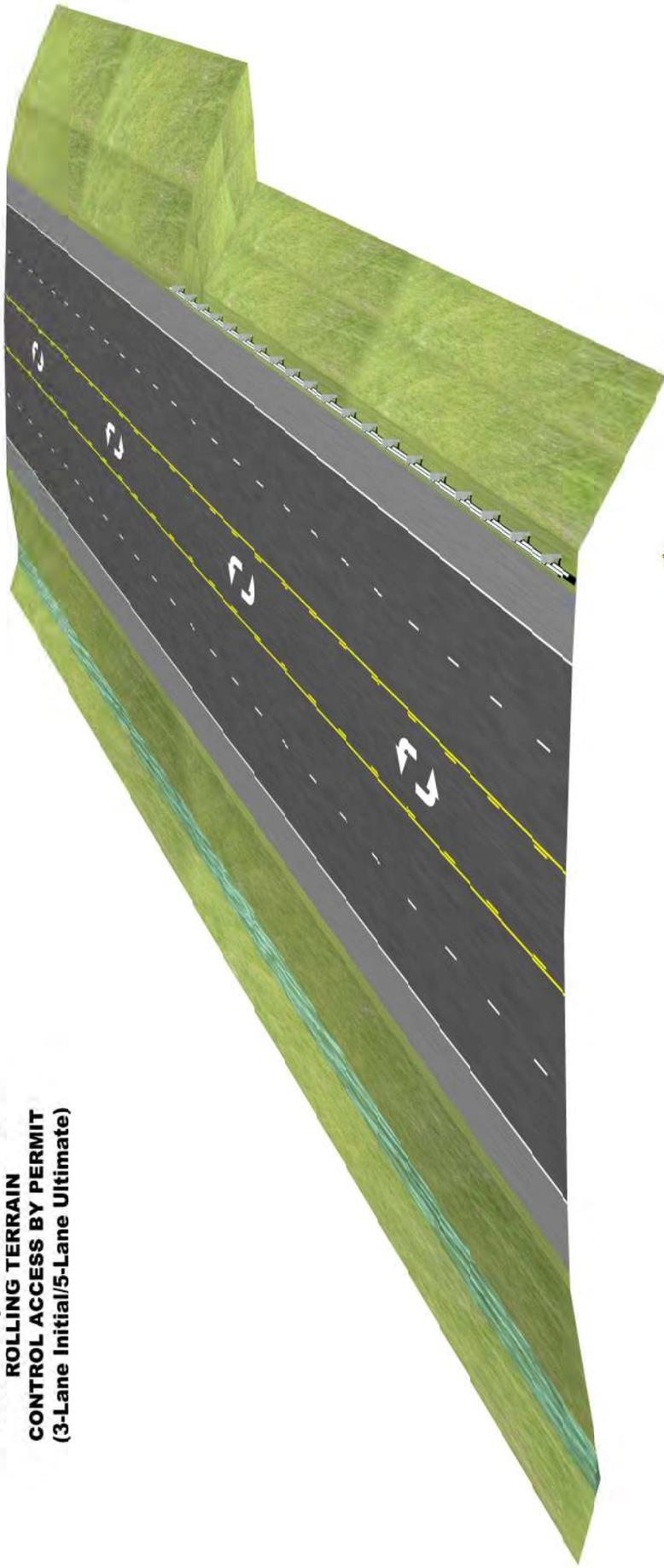
(2) These intersections utilize Stop Control on the side roads, thus, LOS shown is for the side roads only.

The side roads at these intersections are not classified as Collector or Arterial roadways.

(3) Intersection not within Project Limits.

TYPICAL SECTION
KY 53 (Ballardsville-Lagrange Road)

RURAL MINOR ARTERIAL CLASS ROADWAY
45 to 60 mph DESIGN SPEED
ROLLING TERRAIN
CONTROL ACCESS BY PERMIT
(3-Lane Initial/5-Lane Ultimate)



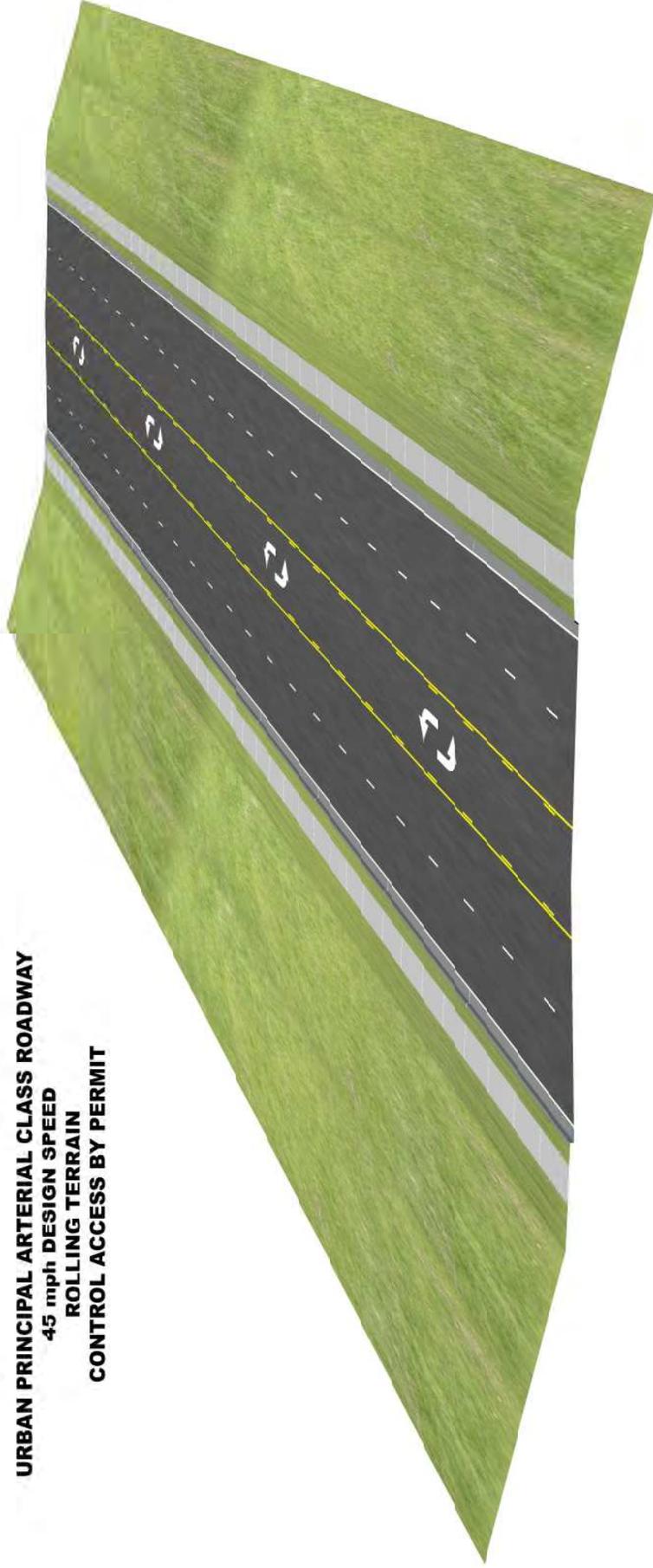
**KENTUCKY
TRANSPORTATION
CABINET**



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TYPICAL SECTION
KY 53 (Ballardsville-Lagrange Road)

URBAN PRINCIPAL ARTERIAL CLASS ROADWAY
45 mph DESIGN SPEED
ROLLING TERRAIN
CONTROL ACCESS BY PERMIT



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COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-388.00	R2-3L-55

TYPICAL SECTIONS KY 53

RURAL MINOR ARTERIAL CLASS ROADWAY
55 mph DESIGN SPEED
ROLLING TERRAIN
CONTROL ACCESS BY PERMIT

PAVEMENT DESIGN NEW CONSTRUCTION: FLEXIBLE PAVEMENT

Roadbed Preparation:

- 8" Lime Stabilized Modified Roadbed
 - Lime (6% by weight)
- Asphalt Curing Seal (2.0 lbs/sq. yd.)
- Sand for Blotter (5 lbs/sq. yd.)

Pavement:

Traffic Lanes:

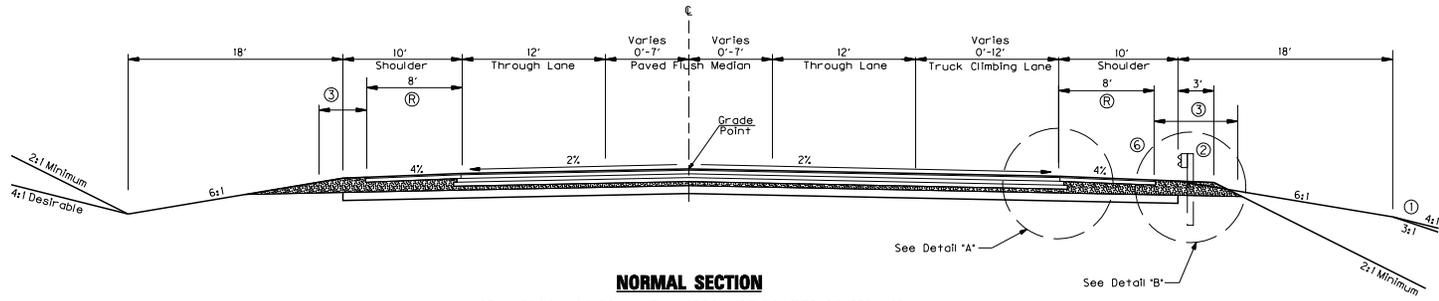
Pavement Design Not Completed

Shoulders:

Asphalt Seal:

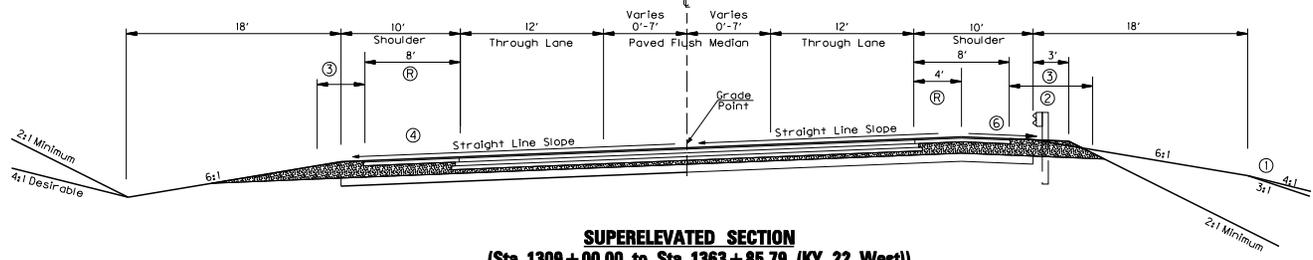
- Emulsified Asphalt RS-2 2.4 lb/sq. yd. (2 applications)
- Asphalt Seal Aggregate 20 lb/sq. yd. (Size No. 8 or 9M) (2 applications)

Plan Note:



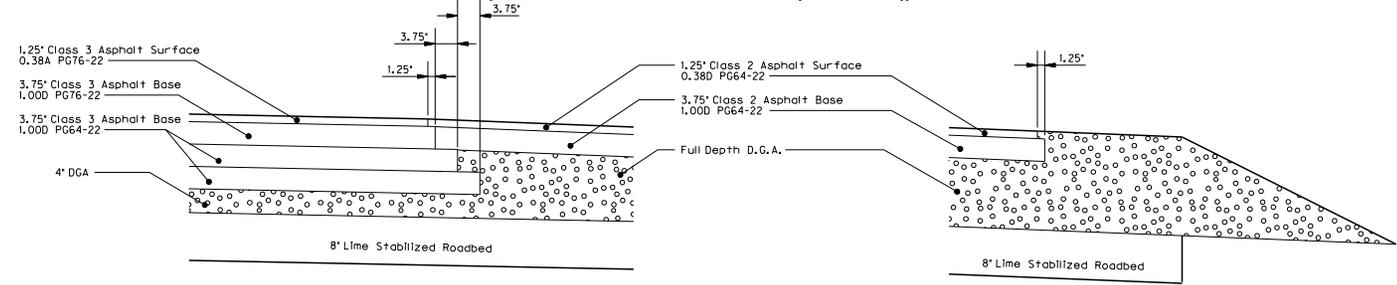
NORMAL SECTION

(Sta. 1309+00.00 to Sta. 1363+85.79 (KY 22 West))
Truck Climbing Lane: Sta. 1345+00.00 to Sta. 1363+85.79 (KY 22 West)



SUPERELEVATED SECTION

(Sta. 1309+00.00 to Sta. 1363+85.79 (KY 22 West))



DETAIL "A"

DETAIL "B"

NOTES:

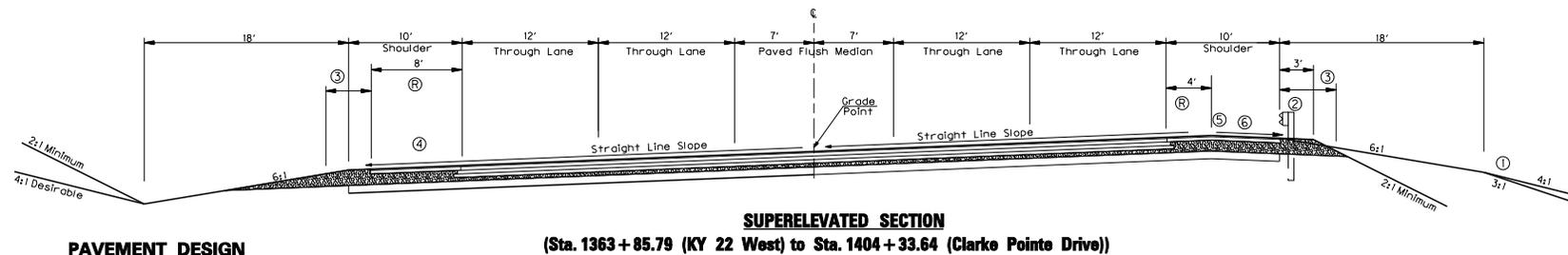
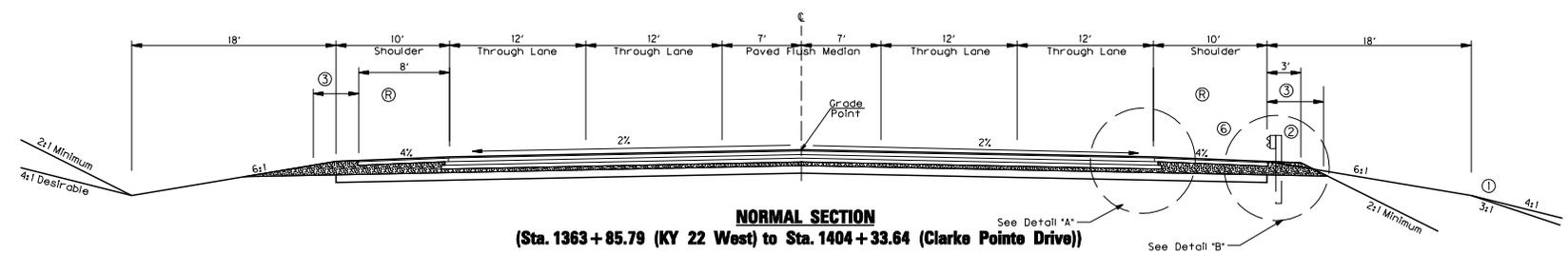
- See Cross Sections for slopes beyond the limits of the shoulders.
- Shoulders shall be widened 3.0 feet where guardrails to be installed.
- Asphalt seal required from the outside edge of the paved shoulder to a point 2.0 feet down the ditch or fill slope.
- Slope at same rate as superelevation except not flatter than slope indicated for normal shoulders.
- High Side Superelevated Shoulder - construct to normal shoulder slope, except that the algebraic difference in shoulder slopes shall never exceed 12%.
- Shoulders shall be paved full width within the guardrail limits. The remainder of the project shall be constructed with shoulders as otherwise shown.
- Construct Rolled Rumble strips in accordance with Section 403.03.08 of the standard specifications.

TYPICAL SECTIONS
KY 53

COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-388.00	R2-5L-55

TYPICAL SECTIONS KY 53

**RURAL MINOR ARTERIAL CLASS ROADWAY
55 mph DESIGN SPEED
ROLLING TERRAIN
CONTROL ACCESS BY PERMIT**



PAVEMENT DESIGN
NEW CONSTRUCTION: FLEXIBLE PAVEMENT

Roadbed Preparation:

- 8" Lime Stabilized Modified Roadbed
- Lime (6% by weight)
- Asphalt Curing Seal (2.0 lbs/sq. yd.)
- Sand for Blotter (5 lbs/sq. yd.)

Pavement:

Traffic Lanes:

Pavement Design Not Completed

Shoulders:

Asphalt Seal:

- Emulsified Asphalt RS-2 2.4 lb/sq. yd. (2 applications)
- Asphalt Seal Aggregate 20 lb/sq. yd. (Size No. 8 or 9M) (2 applications)

Plan Note:

NOTES:

- ① See Cross Sections for slopes beyond the limits of the shoulders.
- ② Shoulders shall be widened 3.0 feet where guardrail is to be installed.
- ③ Asphalt seal required from the outside edge of the paved shoulder to a point 2.0 feet down the ditch or fill slope.
- ④ Slope at same rate as superelevation except not flatter than slope indicated for normal shoulders.
- ⑤ High Side Superelevated Shoulder - construct to normal shoulder slope, except that the algebraic difference in shoulder slopes shall never exceed 12%.
- ⑥ Shoulders shall be paved full width within the guardrail limits. The remainder of the project shall be constructed with shoulders as otherwise shown.
- Ⓜ Construct Rolled Rumble strips in accordance with Section 403.03.08 of the standard specifications.

TYPICAL SECTIONS
KY 53 (5 LANE RURAL)

COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-388.00	R2-5L-URBAN

TYPICAL SECTIONS KY 53

URBAN PRINCIPAL ARTERIAL CLASS ROADWAY
45 MPH DESIGN SPEED
ROLLING TERRAIN
CONTROL OF ACCESS BY PERMIT

PAVEMENT DESIGN ASPHALT OVERLAY & FULL-DEPTH WIDENING

Pavement

Traffic Lanes:

Pavement Design Not Completed

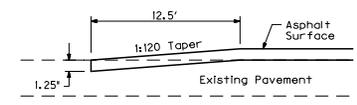
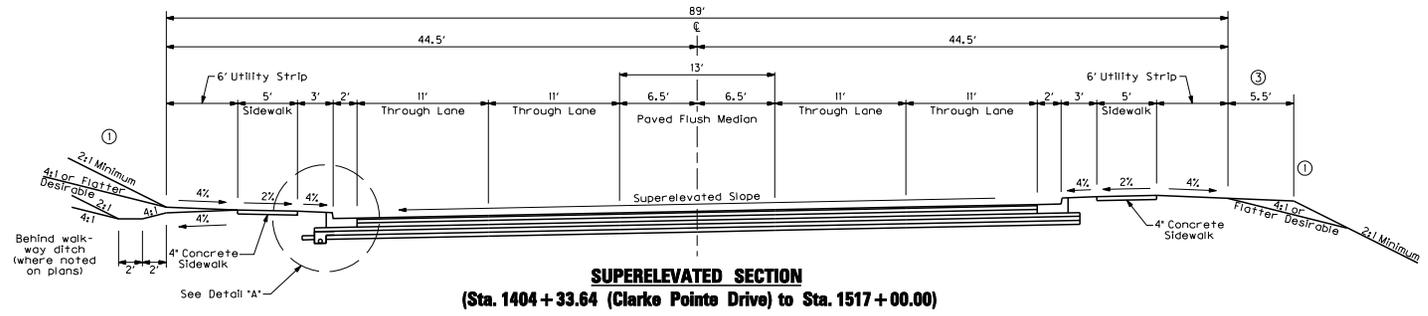
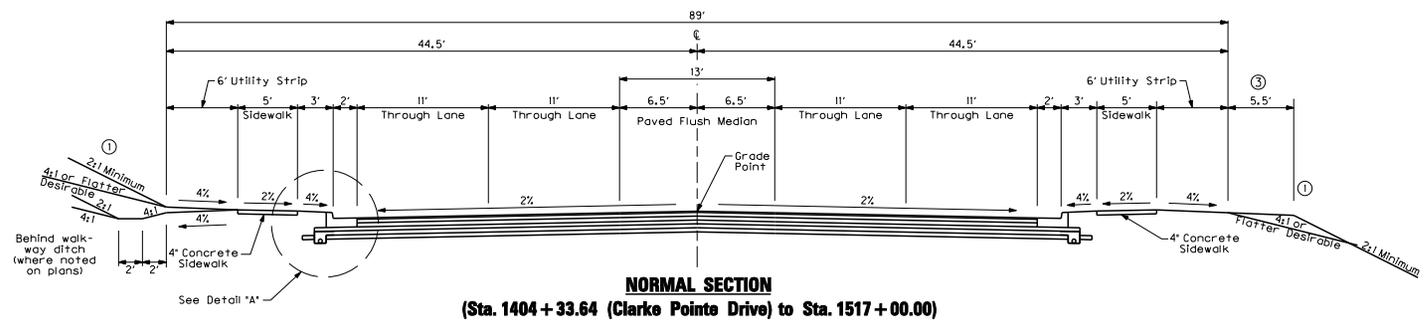
Shoulders:

Standard Curb and Gutter

Plan Notes:

Notes:

- See cross sections for slopes beyond the limits of the shoulders.
- All longitudinal pipe drainage systems for the pavement drainage blanket shall be outletted to a Headwall, Ditch Box, or Curb Box Inlet. Outlets shall be in a fill section whenever possible. Outlet spacing shall not exceed 500 feet except grades 1% or less, then the spacing of outlets shall not exceed 250 feet. All sags shall have an outlet. The Design Engineer has spotted these on the plans or in the proposal.
- Berm area widen to meet clear zone requirements for 45 mph design. Width may be reduced if guardrail is constructed in the high embankment areas.



Work under this item shall include milling out the existing asphalt material so that the proposed asphalt surface may heel into the old surface. The contract unit bid price per foot for "Edge Key" shall include all necessary materials, labor, and equipment to perform the work and dispose of the material removed.

TYPICAL SECTIONS
KY 53 (5 LANE URBAN)

COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-388.00	R2-3L-45

TYPICAL SECTIONS KY 22

RURAL MINOR ARTERIAL CLASS ROADWAY
45 mph DESIGN SPEED
ROLLING TERRAIN
CONTROL ACCESS BY PERMIT

PAVEMENT DESIGN NEW CONSTRUCTION: FLEXIBLE PAVEMENT

Roadbed Preparation:

- 8" Lime Stabilized Modified Roadbed
 - Lime (6% by weight)
- Asphalt Curing Seal (2.0 lbs/sq. yd.)
- Sand for Blotter (5 lbs/sq. yd.)

Pavement:

Traffic Lanes:

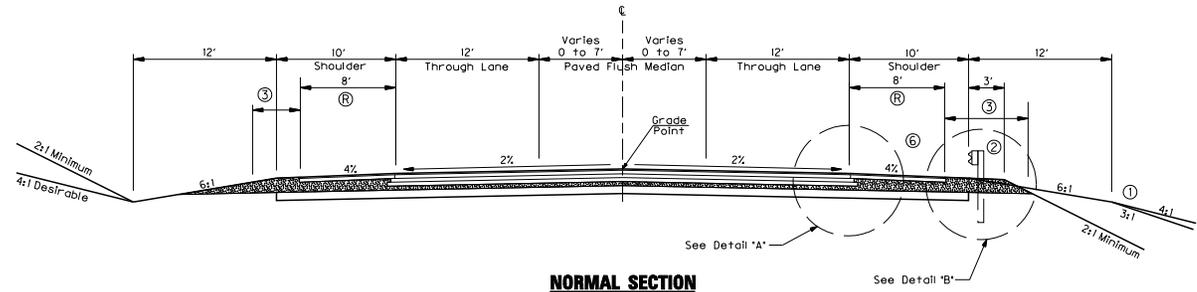
Pavement Design Not Completed

Shoulders:

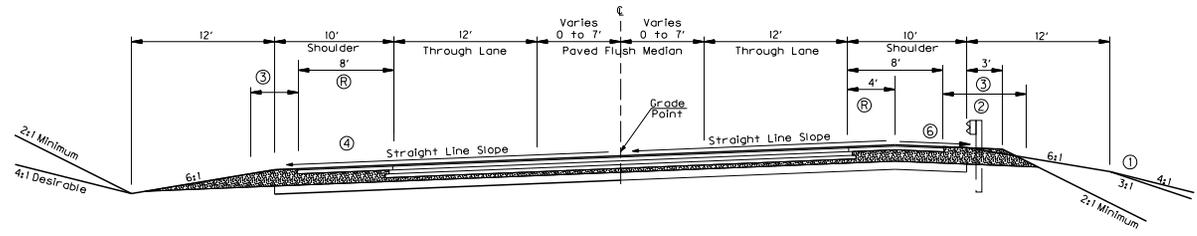
Asphalt Seal:

- Emulsified Asphalt RS-2 2.4 lb/sq. yd. (2 applications)
- Asphalt Seal Aggregate 20 lb/sq. yd. (Size No. 8 or 9M) (2 applications)

Plan Note:



NORMAL SECTION
(Sta. Sta. 900+00.00 to Sta. 919+80.00 (KY 22 East))
(Sta. Sta. 392+70.00 to Sta. 406+25.00 (KY 22 West))



SUPERELEVATED SECTION
(Sta. Sta. 900+00.00 to Sta. 919+80.00 (KY 22 East))
(Sta. Sta. 392+70.00 to Sta. 406+25.00 (KY 22 West))

NOTES:

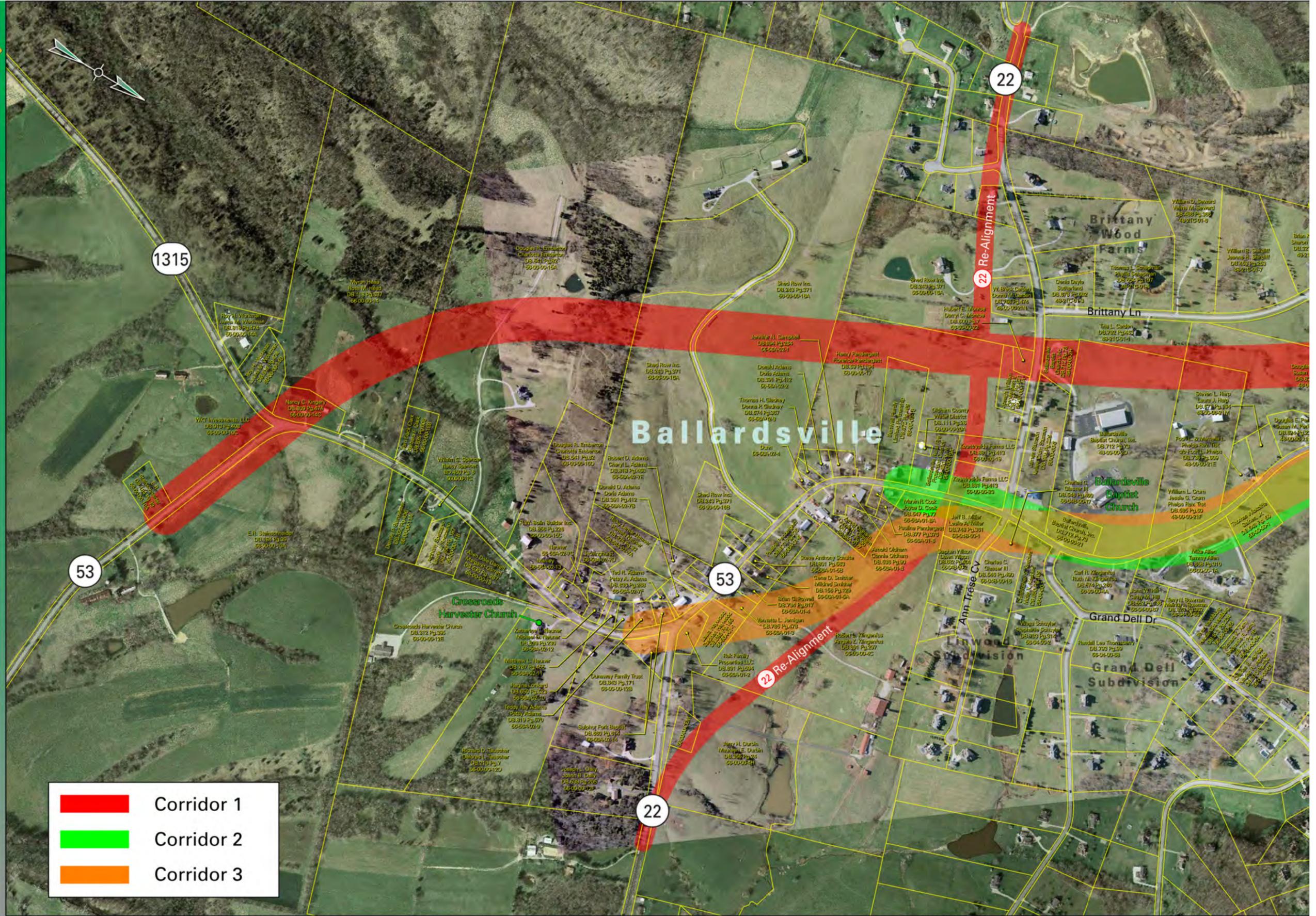
- See Cross Sections for slopes beyond the limits of the shoulders.
- Shoulders shall be widened 3.0 feet where guardrail is to be installed.
- Asphalt seal required from the outside edge of the paved shoulder to a point 2.0 feet down the ditch or fill slope.
- Slope at same rate as superelevation except not flatter than slope indicated for normal shoulders.
- High Side Superelevated Shoulder - construct to normal shoulder slope, except that the algebraic difference in shoulder slopes shall never exceed 12%.
- Shoulders shall be paved full width within the guardrail limits. The remainder of the project shall be constructed with shoulders as otherwise shown.
- Construct Rolled Rumble strips in accordance with Section 403.03.08 of the standard specifications.

TYPICAL SECTIONS
KY 22



KY 53 From KY 22 at Ballardsville to I-71

BURGESS & NIPLE
Engineers ■ Architects ■ Planners



- Corridor 1
- Corridor 2
- Corridor 3





KY 53 Improvements From KY 22 at Ballardsville to I-71



Contact Person:
Aman Razavi, P.E.
Kentucky Department of Highways
8310 Westport Road
P.O. Box 22100
Louisville, KY 40242
(502) 210-5400



September 25, 2008

BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

The Kentucky Transportation Cabinet

The Kentucky Transportation Cabinet (KYTC) welcomes you to tonight's public meeting for the Improvement of KY 53 from KY 22 at Ballardsville to I-71. The purpose of this meeting is: 1) to present potential project alternatives; 2) to gather information that may influence the travel path of the alternative alignments (historical and environmental features/areas in the project corridor, etc.); and 3) to discuss project goals. Comments on the corridor alternatives and their potential impacts are requested from the general public to further assist in the continuing development and design of this project.

Your involvement is very much appreciated and we encourage you to visit the information displays and talk with the project team members. The KYTC recognizes that a vital part of the design process comes from public involvement. Please take the time to look around, ask questions, and submit the "Comment Form" provided. Please leave the completed form in the box near the sign-in table as you leave. If you would like to take the form home and submit it at a later date, please feel free to do so. Preadressed envelopes have been provided. All written comments will be accepted until October 9, 2008.

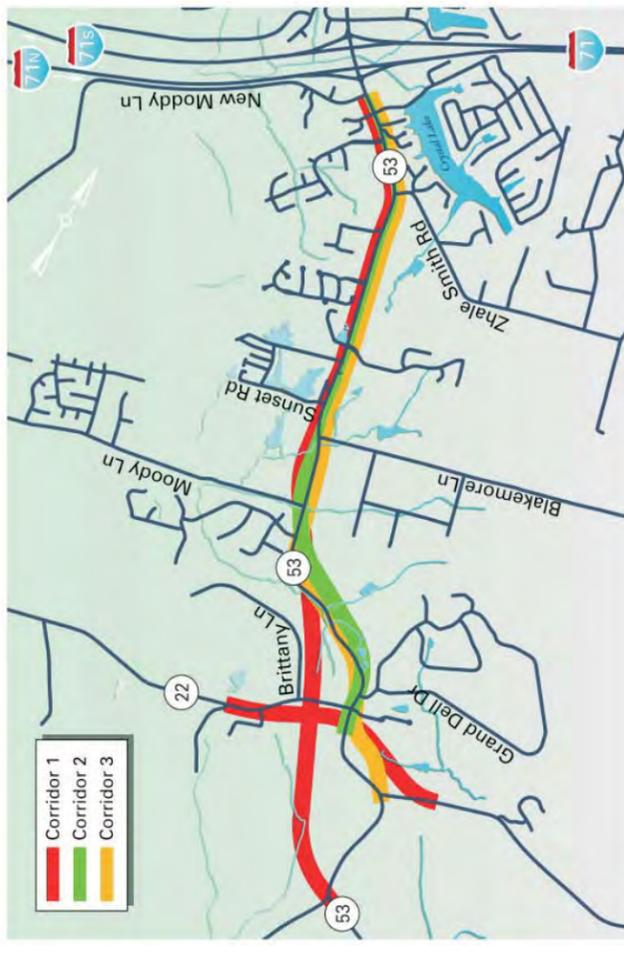
Project Summary

The existing KY 53 roadway varies within the project limits. From the beginning point in Ballardsville to just south of Zhale Smith Road, the existing roadway consists of two 10-foot wide lanes with grass shoulders. Through the intersection with Zhale Smith Road, the travel lanes are 12 feet wide with 8-foot grassed shoulders. From north of the Zhale Smith Road to I-71, KY 53 widens to four 12-foot lanes with a 16-foot paved median. Upgrading this roadway would provide a safer facility for a segment of the Oldham County population that drives KY 53

daily for their jobs, local residents accessing both their homes and churches located along KY 53, and school buses traveling the route.

Three Corridor Alignments are being presented at tonight's public meeting. A 200-foot wide corridor is shown on both displays for a general location of each potential alternative. The First Corridor Alignment begins at the intersection of KY 53 and KY 1315. This corridor alignment is a new cross-country alignment that bypasses Ballardsville to the west. After the intersection with KY 22 West, it runs between the Ballardsville Baptist Church's Community Center and the residential homes on Brittany Lane before crossing the existing roadway twice near the Clarke Pointe Subdivision. From KY 2856, this corridor alignment stays on the west side until it reaches Sunset Drive where it crosses KY 53 again. It stays adjacent to the existing roadway on the east side of KY 53 until Zhale Smith Road. From Zhale Smith Road to New Moody Lane, the centerline for this corridor alignment follows the existing roadway centerline. KY 22 is also realigned as part of this corridor option.

(continued inside)



(continued from previous panel)

The Second Corridor Alignment begins just south of the intersection with KY 22 West near the Ballardsville Fire Department. This corridor alignment runs on the west side of KY 53 before crossing the existing roadway near the Crystal Bridge Fish Farm. This corridor alignment then stays on the east side of KY 53 and is more of a cross-country alignment from this point before crossing KY 53 near its intersection with KY 2856. From this intersection, the alignment stays on the west side of KY 53 before crossing again near Sunset Road. From Sunset Road to New Moody Lane, this proposed alignment follows the First Corridor Alignment.

The Third Corridor Alignment begins at the intersection of KY 22 East at the New Dawn Baptist Church (former location of the Ballardsville Baptist Church). This section of KY 53 is a new cross-country alignment that bypasses a section of Ballardsville from the church to the Ballardsville Fire Station. From its intersection with KY22 West, this corridor alignment follows the same general path as the Second Corridor Alignment. However, this corridor alignment always stays on the east side of KY 53 after crossing the existing roadway near the Crystal Bridge Fish Farm. From just north of Sunset Drive, it follows the same alignment as both the First and Second Corridor Alignments.

It would be difficult to develop an alternative that closely follows the existing roadway's alignment for the following reasons:

- Existing horizontal curves are substandard.
- Sight distance is limited at the existing roadway sags and crests.
- The existing roadway profile is steep at many locations and greater than recommended grades.
- Acquisition of multiple homes adjacent to the existing roadway would be necessary to improve existing horizontal and vertical curvature and to provide the required clear zone widths for safety and vehicle recovery.
- Utility relocation costs along existing roadway would be costly.

KY 53 is classified as a Rural Arterial. For this class of highway, the posted speed limit would be 45 to 55 mph. The rural typical section would include two or four 11- to 12-foot lanes, a 13- to 14-foot paved median, and 10-foot wide shoulders. The urban typical section would include four 11- to 12-foot lanes, a 13- to 14-foot paved median, an optional 4-foot bike lane, and a 2-foot curb and gutter section. The urban typical section would also include a 3-foot utility strip, a 5-foot sidewalk, and a 6-foot berm area behind the sidewalk. These different typical sections for the new roadway are shown below.

Project Goals

During the early stages of a project's evaluation, the Project Development Team identifies goals for the project. For KY 53, these project goals include:

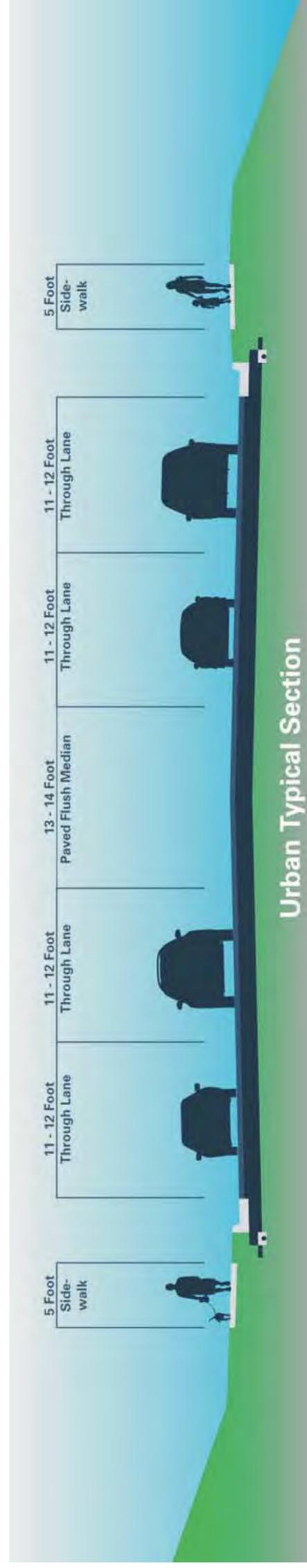
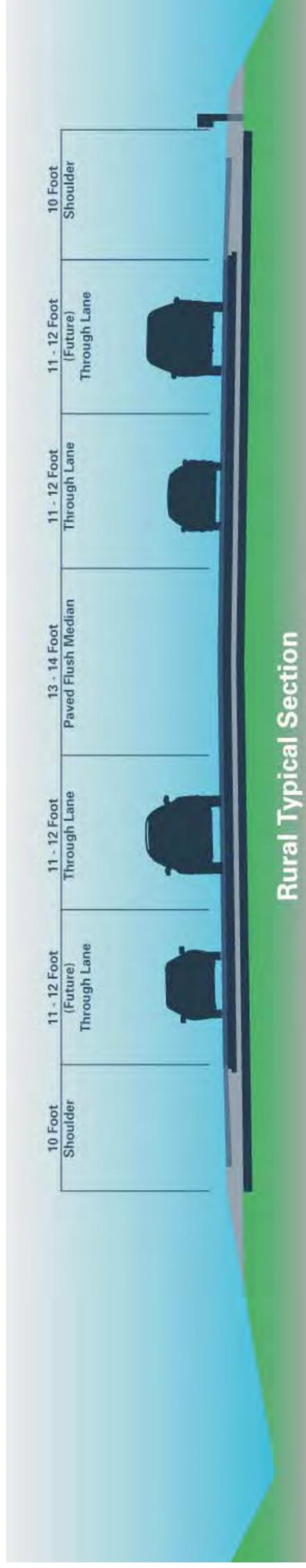
- To increase safety and reduce accidents.

- To improve capacity and level of service of the roadway.
- To accommodate the forecasted increase in automotive and commercial truck traffic on KY 53, which is expected to double in the next 20 years.
- To facilitate the movement of goods and services reinforcing economic development efforts in Oldham County, while minimizing adverse economic, environmental and community impacts in a most cost effective manner.
- To provide a roadway facility that meets current design standards.

Next Steps

After tonight's meeting, following are the steps to be taken for this project:

1. KYTC will review and consider all comments received.
 2. Environmental studies will be conducted on the alternatives by the project consultant. An Environmental Overview will be developed for the project.
 3. A second Public Meeting will be held to receive public comments on the results of the environmental overview and the preliminary alignment locations.
 4. KYTC will recommend one alternative to move forward.
 5. Additional funding will have to be programmed. This project is currently not funded beyond Phase I, Preliminary Design.
- Thank you for your attendance and the input you have provided for this important highway project.**





COMMONWEALTH OF KENTUCKY
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DISTRICT 5



PUBLIC MEETING
For

**KY 53 Improvements From KY 22 at Ballardsville to I-71
Oldham County
Item No. 5-388.00**

**Thursday, September 25, 2008, 6:00p.m. – 8:00p.m.
LaGrange Presbyterian Church
1901 Prestwick Drive, LaGrange, KY 40031**

Comments will be received at the meeting or by mail through October 9, 2008.

To: Aman Razavi, P.E.
Kentucky Department of Highways
8310 Westport Road
P.O. Box 22100
Louisville, KY 40242
(502) 210-5400
(502) 210-5498 (fax)
Aman.Razavi@ky.gov

From: _____

Phone: _____

Comments and views concerning this project:

1. How often do you use the portion of KY 53 in the study area now? (Circle one)

Daily 3-4 times per week 1-2 times per week Few times a month Rarely or never

2. Do you own/lease/rent property that would be affected by any of the Alternates presented? Yes No

3. Are you aware of any historical or environmental features/areas that may impact this project?

4. Do you feel that this project is needed?
If no, please explain:

Yes No

5. Please rank the importance of bikeways and shared use paths. (1=Very important, 5=Not important at all)

1 2 3 4 5

6. Please rank the importance of sidewalks. (1=Very important, 5=Not important at all)

1 2 3 4 5



LEGEND

- Existing RW Line
- Existing Property Line
- Proposed Pavement
- Proposed Shoulders
- Disturb Limits

0 100 200
GRAPHIC SCALE IN FEET

KY 53
 From KY 1315 to KY 22W

BURGESS & NIPLE



53

53

53

71n

71s

71n

71s

LEGEND

- Existing RW Line
- Existing Property Line
- Proposed Pavement
- Proposed Shoulders
- Disturb Limits

0 200 400
GRAPHIC SCALE IN FEET

KY 53 From
Lakewood Dr to I-71
BURGESS & NIPLÉ



END PROJECT