

APPENDIX A – MEETING SUMMARIES

Meeting Minutes

TO: Eileen Vaughan
Co-Project Manager
KYTC Central Office
200 Mero Street
Frankfort, KY 40622

Carol Callan-Ramler
Co-Project Manager
KYTC District Office #6
421 Buttermilk Pike
Crescent Springs, KY 41017

FROM: Brian Aldridge
Project Manager
Stantec Consulting Services Inc.

DATE: December 4, 2015

SUBJECT: KY 8 - Mary Ingles Highway Scoping Study
Campbell County – Dodd Street (MP 3.266) to KY 445 (MP 7.902)

A project team kick-off meeting for the subject project was held at the District 6 office in Covington, Kentucky on November 13, 2015 at 12:30 p.m. EST. The following individuals were in attendance:

Carol Callan–Ramler	KYTC – District 6 Planning
Troy Hearn*	KYTC – Central Office Planning
Beth Jones	KYTC – Central Office Planning
Sharon Laylock	KYTC – District 6 Environmental
Shane McKenzie	KYTC – Central Office Planning
Daniel Menetrey	KYTC – District 6 Planning
Mikael Pelfrey	KYTC – Central Office Planning
Jonathan Reynolds*	KYTC – Central Office Planning
Lynn Soporowski*	KYTC – Central Office Planning
Eileen Vaughan	KYTC – Central Office Planning
Bob Yeager	KYTC – District 6 Project Development
Brian Aldridge	Stantec Consulting Services Inc.
Bill Amrhein	Stantec Consulting Services Inc.
Steve Farmer	Stantec Consulting Services Inc.
Tony Hunley	Stantec Consulting Services Inc.
Ashley Williamson	Stantec Consulting Services Inc.

*Joined via teleconference

Prior to the meeting, the project team visited the study area. Following the visit to the study area, Carol Callan-Ramler welcomed everyone and said the purpose of the meeting was to discuss the progress to date on the KY 8 - Mary Ingles Scoping Study.

Handouts included copies of the presentation, an agenda, and maps of the study area. Brian Aldridge delivered a brief presentation. The following enumerated items were discussed.

1. The purpose of the meeting is to present the results of the existing conditions analysis and to get feedback from the project team before developing improvement alternatives. The KY 8-Mary Ingles study area includes the existing KY 8 corridor in Campbell County from Dodd Street in Dayton to KY 445. The study portion is 4.636 miles in total length.
2. As noted during the site visit, the existing pavement along Mary Ingles Highway has experienced multiple failures over the years. The roadway embankment slope on the east / Ohio River side of the roadway consists largely of alluvium materials of silt, clay, and gravel. The west side of the roadway is in a cut section, with the adjacent hillside consisting primarily of shale. The roadway is located at the interface of the shale and the Ohio River alluvium, resulting in unstable slopes. The weight of the roadway structure combined with drainage issues in both the shale materials and roadway result in embankment slope failures, roadway subgrade failures, and general movement of the pavement structure.
3. Some highlights from the existing conditions inventory include KY 8 is functionally classified as an Urban Collector. It has 10 to 11 foot wide lanes with shoulders no more than 4 feet wide. There is an existing CSX rail underpass at MP 5.0, just west of Tower Hill Road.
4. KY 8 has a 2015 Average Daily Traffic (ADT) volume of 1,400 vehicles per day (vpd) with four percent trucks. Based on the Ohio Kentucky Indiana (OKI) Regional Model, by 2040 traffic volumes are expected to experience little to no growth.
5. The crash history for the project corridor was discussed in detail. There were 34 crashes reported for the project area between 2012 and 2014. Single vehicle collisions comprise the vast majority of the crashes (25 crashes, 74%). Of the 34 reported crashes, 0 (0%) resulted in a fatality, 11 (32%) resulted in injuries, and 23 (68%) were property damage only collisions. There is one high crash spot with a Critical Crash Rate Factor (CRF) greater than 1.0, near the railroad underpass at MP 5.0.
6. While the scope of work for this study does not include an Environmental Overview, Stantec prepared an overview map showing some natural and human environmental resources within the study area from available GIS data.
7. Brian introduced the draft Purpose and Need Statement:
 - a. *KY 8 (Mary Ingles Highway) travels along the Ohio River through Dayton and Fort Thomas in eastern Campbell County. Between Dayton and KY 445, KY 8 has been plagued with slippage issues as the roadway is sliding towards the river. While maintenance activities have repeatedly been undertaken to minimize damage to the roadway and to*

maintain a usable driving surface, the purpose of the project is to provide a more permanent solution to the underlying geotechnical issues.

- b. The project team discussed and changed the last sentence of the draft Purpose and Need Statement to “...provide a permanent solution to the underlying geotechnical issues.”
8. Brian discussed some of the recent maintenance activities undertaken on KY 8. There have been several significant breaks in the pavement, which is in some locations over three feet thick. In these instances, soil nail walls were installed and slope reinforcement was constructed to address failures.
- a. The 2008 cost estimate near MP 8.5 on KY 8, not including paving or clearing and grubbing was just shy of \$300,000. This addressed a slip approximately 350 feet in length.
 - b. The 2008 cost estimate near MP 5.2 to correct about 225 feet of slope failure was approximately \$180,000.
 - c. In 2011 another maintenance operation occurred for a slope failure at MP 4.8 to correct an area about 211 feet in length. The cost was almost \$260,000.
9. Carol Callan-Ramler indicated she would obtain additional information related to the District’s maintenance expenditures and would provide that to the project team.
- a. Update: Carol provided maintenance expenditure information on December 3, 2015. KYTC District 6 Maintenance has spent, on average, about \$77,000 per year over the past five years.
10. Brian discussed a number of design elements that will be considered during the alternative development process and noted the general improvement concepts presented in the presentation were for discussion purposes only. The group had an open discussion about these items as follows:
- a. There are currently four proposed alternatives:
 - i. no build (which would include ongoing maintenance as needed to address pavement and slope failures;
 - ii. a full rehabilitation of the existing slope on the north / river side;
 - iii. reconstruct KY 8, shifting it into the hillside and improving the drainage; and
 - iv. rerouting KY 8 elsewhere.
 - b. Currently KY 8 is designated by OKI as a preferred bike route.
 - c. Either of the reconstruction alternatives would require significant closures of the existing roadway. Signage could be used for a bicycle detour.
 - d. If KY 8 is rerouted access to the marina, near MP 6, would need to be maintained.
 - e. The project team discussed rerouting KY 8 and who would maintain the existing KY 8, should portions remain open to traffic for local access.
 - f. The ultimate goal of the project team is to find a long term solution.

11. The next steps will be for Stantec to complete the existing conditions analysis and work on alternative development.
12. Brian discussed the project schedule. This study includes two project team meetings with the next meeting in January 2016 to review conceptual alternatives. The study will be complete in March 2016.

The meeting ended at approximately 1:15 p.m. EST.

Meeting Minutes

TO: Eileen Vaughan
Co-Project Manager
KYTC Central Office
200 Mero Street
Frankfort, KY 40622

Carol Callan-Ramler
Co-Project Manager
KYTC District Office #6
421 Buttermilk Pike
Crescent Springs, KY 41017

FROM: Brian Aldridge
Project Manager
Stantec Consulting Services Inc.

DATE: February 26, 2016

SUBJECT: KY 8 - Mary Ingles Highway Scoping Study
Campbell County – Dodd Street (MP 3.266) to KY 445 (MP 7.902)
Project Team Meeting #2

A project team meeting for the subject project was held at the District 6 office in Covington, Kentucky on February 10, 2016 at 9:30 a.m. EST. The following individuals were in attendance:

Matt Arlinghaus	KYTC – District 6
Mike Bezold	KYTC – District 6
Andrew Bush	KYTC – District 6
Carol Callan–Ramler	KYTC – District 6
Rob Hans	KYTC – District 6
Beth Jones	KYTC – Central Office Planning
Daniel Menetrey	KYTC – District 6
Mikael Pelfrey	KYTC – Central Office Planning
Steve Ross	KYTC – Central Office Planning
Eileen Vaughan	KYTC – Central Office Planning
Bob Yeager	KYTC – District 6
Brian Aldridge	Stantec Consulting Services Inc.
Bill Amrhein	Stantec Consulting Services Inc.
Tom Creasey	Stantec Consulting Services Inc.
Glenn Hardin	Stantec Consulting Services Inc.
Len Harper	Stantec Consulting Services Inc.
Tony Hunley	Stantec Consulting Services Inc.

Carol Callan-Ramler welcomed everyone and said the purpose of the meeting was to discuss the progress to date on the KY 8 - Mary Ingles Scoping Study.

Handouts included an agenda, typical sections of the improvement concepts, and maps of the study area showing the improvement concepts and potential rerouting alternatives. Brian Aldridge delivered a brief presentation. The following enumerated items were discussed.

1. The purpose of the meeting is to present the preliminary improvement concepts and get feedback from the project team. The KY 8-Mary Ingles study area includes the existing KY 8 corridor in Campbell County from Dodd Street in Dayton to KY 445. The study portion is 4.636 miles in total length.
2. The existing pavement along Mary Ingles Highway has experienced multiple failures over the years. The roadway embankment slope on the east / Ohio River side of the roadway consists largely of alluvium materials of silt, clay, and gravel. The west side of the roadway is in a cut section, with the adjacent hillside consisting primarily of shale. The roadway is located at the interface of the shale and the Ohio River alluvium, resulting in unstable slopes. The weight of the roadway structure combined with drainage issues in both the shale materials and roadway result in embankment slope failures, roadway subgrade failures, and general movement of the pavement structure.
3. Brian discussed some of the recent maintenance activities undertaken on KY 8. There have been several significant breaks in the pavement, which in some locations exceeds five feet in depth due to the addition of more pavement in areas that have moved. These pavement and slope failures can occur with little to no warning, resulting in lane or total roadway closures until such time the failure can be addressed. These types of failures occur most frequently after heavy rainfall events or in the spring after harsh winter weather. In the specific instances discussed, soil nail walls were installed, slope reinforcement was constructed, and new pavement was placed to address the failures.
4. KY 8 has a 2015 Average Daily Traffic (ADT) volume of 1,400 vehicles per day (vpd) with four percent trucks. Based on the Ohio Kentucky Indiana (OKI) Regional Model, by 2040 traffic volumes are expected to experience little to no growth.
5. Brian introduced the revised draft Purpose and Need Statement from the first project team meeting.
 - The purpose of the project is to provide a permanent solution to the underlying geotechnical issues.
6. Brian discussed the preliminary improvement concepts. The group had an open discussion about these concepts as follows:
 - a. Four improvement concepts were examined:
 - i. No-Build: Continue Maintenance As Needed
 - ii. Reconstruction Construction Concept 1: Rehabilitate Existing Fill Slope and Reconstruct Into The Hillside

- iii. Reconstruction Option 2: Realign part of KY 8 and Reconstruct Into The Hillside
 - iv. Reroute KY 8
- b. No-Build: The Kentucky Transportation Cabinet continues to address pavement failures as they occur, resulting in significant cost and inconvenience to the traveling public as the roadway is often closed – completely or partially - to traffic while maintenance activities are underway.
- c. Reconstruction Concept 1 (shown in **Figure 1**): North of the railroad underpass at MP 5.0, the roadway is reconstructed on its existing alignment and the existing fill slope stabilized in place. South of the railroad underpass, the alignment can be shifted slightly into the adjacent cut slope to provide more separation from the railroad and existing roadway embankment. The new fill slope would be stabilized by a soil-nail wall. The construction cost estimate for this alternative is \$50.7 million. A reconstruction project of this nature would likely take more than one year to build and maintaining traffic on the existing route would likely be infeasible given the location and magnitude of the work to be done.
- i. Comment: Use tieback walls in lieu of soil-nail walls. A tieback wall would likely provide the most stable slope but at somewhat higher cost. Stantec will update the typical sections and cost estimates accordingly.
- d. Reconstruction Concept 2 (shown in **Figure 2**): Reconstructing the roadway on its existing alignment north of the CSX railroad underpass would not eliminate the skewed railroad underpass. In addition, the proximity to the railroad would limit the opportunities to reshape the cut slope on the west side of the roadway. As an alternative to reconstruction in place, a realignment was considered to move KY 8 west of the railroad and away from the Ohio River. The conceptual realignment would begin at 6th Avenue in Dayton and connect to KY 8 at Tower Hill Road, realigning KY 8 to the west side of the railroad throughout. Assuming no steeper than 2:1 slopes can be maintained on the cut slopes, retaining walls will be necessary in some locations to avoid direct takes of residential properties located off of Dayton Pike. The construction cost estimate for this alternative is \$56.5 million.
- e. Are there geotechnical techniques that could fix the drainage issues without having to reconstruct the road?
- i. The drainage issues can be addressed through the addition of a longitudinal underdrain system with transverse cross-drains spaced appropriately. For the purpose of this study, spacing of approximately 200 feet was used for cost estimating.
- f. Rerouting Options: Given the extremely high cost for reconstructing the roadway within the study area, consideration was given to potential rerouting

options. State-maintained roadways within Campbell County were considered in this analysis, with a goal of identifying options that provided similar or better roadway geometrics and traffic operation conditions compared to the existing KY 8. In each of these cases, KY 8 would be re-designated along the proposed route, and the existing KY 8 could be closed between the entrance to the Riverside Gardens Marina (near MP 4.0) and KY 445 (MP 7.902). Other than a single residential driveway immediately east of the marina, there are no access points of concern between MP 4.0 and Tower Hill Road. Three areas south of Tower Hill Road would require access to be maintained unless other alternatives are explored. Aquaramp Marina (near MP 6.0) is the only business located, located about one mile south of Tower Hill Road and two miles north of KY 445. There are three homes located on the west side of the roadway about 1.25 miles north of the KY 445 intersection. Finally, the water intake for the Northern Kentucky Water District is located about 0.9 miles north of KY 445.

- i. Four conceptual routes were examined that connect to the Mary Ingles Highway via KY 445 (River Road). These concepts are shown on **Figure 3**. The I-471 option is suggested by online mapping services (such as Google Maps) as the shortest route assuming a starting point from the I-471 interchange in Newport.
 - ii. Two additional routes were examined that connect to the Mary Ingles Highway via KY 1998 (Poole's Creek Road / Industrial road). These routes are shown on **Figure 4**. One disadvantage to using KY 1998 is it has experienced geotechnical issues of its own, particularly between KY 9 and US 27. The US 27 alternative would introduce additional traffic in an already congested area near Northern Kentucky University in Alexandria.
- g. KYTC District 6 will provide potential ROW costs for the two reconstruction concepts and the rerouting options (which includes the potential relocation of properties along KY 8).
- h. Comment: The underlying geotechnical issues that contribute to the pavement failures can be addressed through reconstruction of the existing roadway. However, such a reconstruction is not an inexpensive undertaking, with current construction cost estimates ranging from about \$50 to \$57 million. With 1,400 vehicles per day using the route currently and little or no growth anticipated, such an expenditure may not be feasible. Each of the rerouting options could feasibly accommodate additional traffic that would divert away from KY 8 at a relatively low cost. However, each route has its own set of benefits and disadvantages that would need to be examined further should a rerouting be deemed desirable.

7. The next step will be for Stantec to complete the draft report.

The meeting ended at approximately 10:45 a.m. EST.

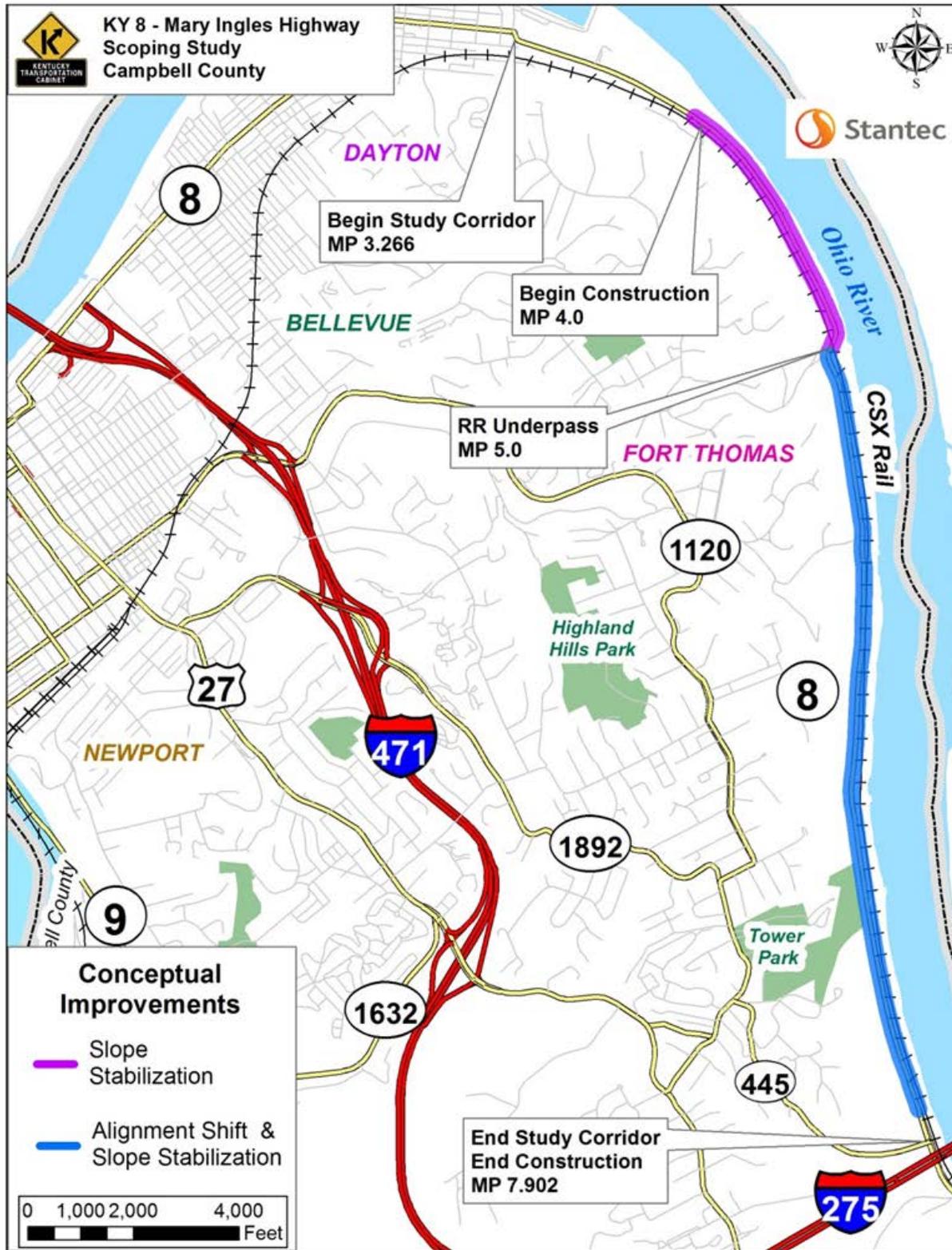


Figure 1: Reconstruction Concept 1

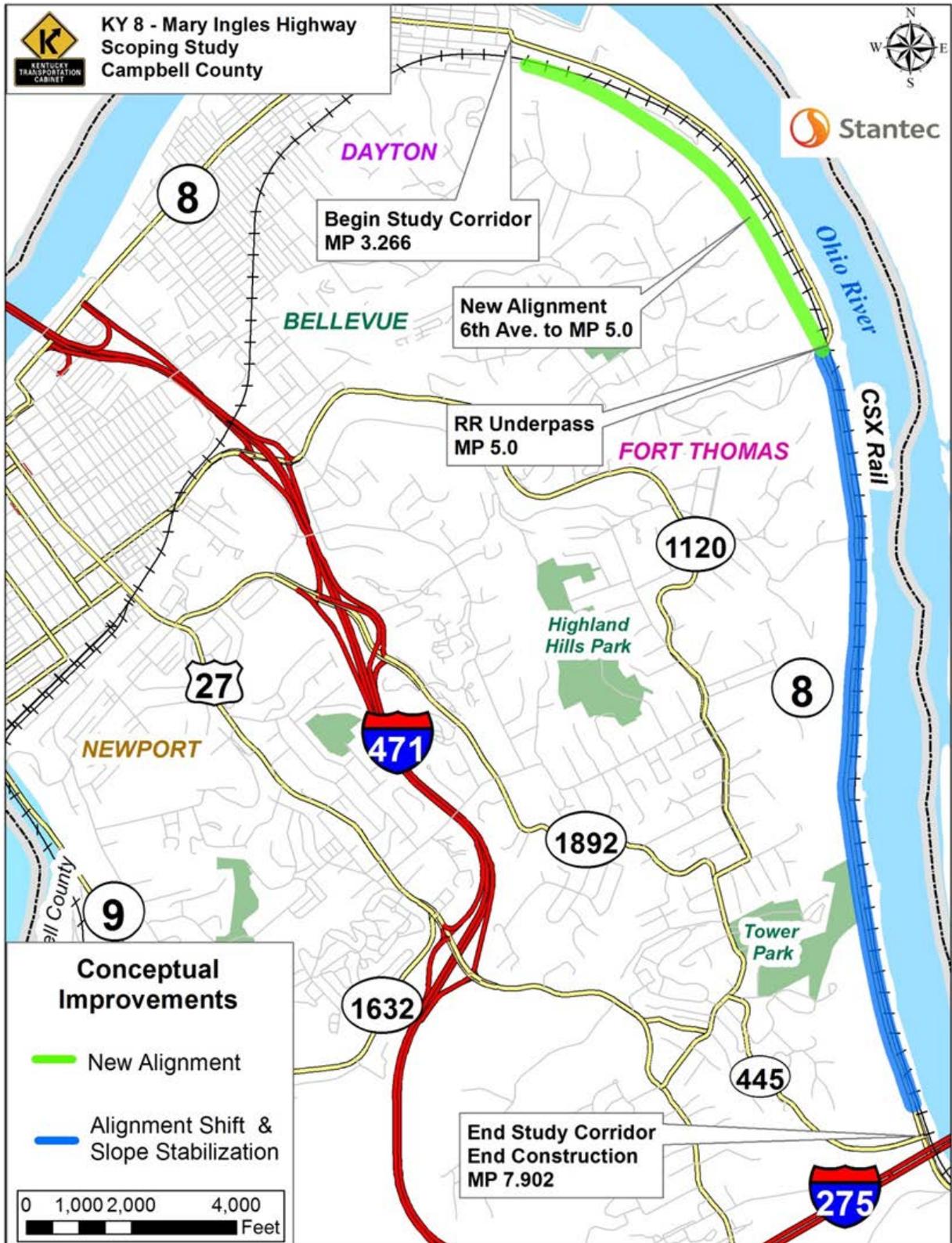


Figure 2: Reconstruction Concept 2

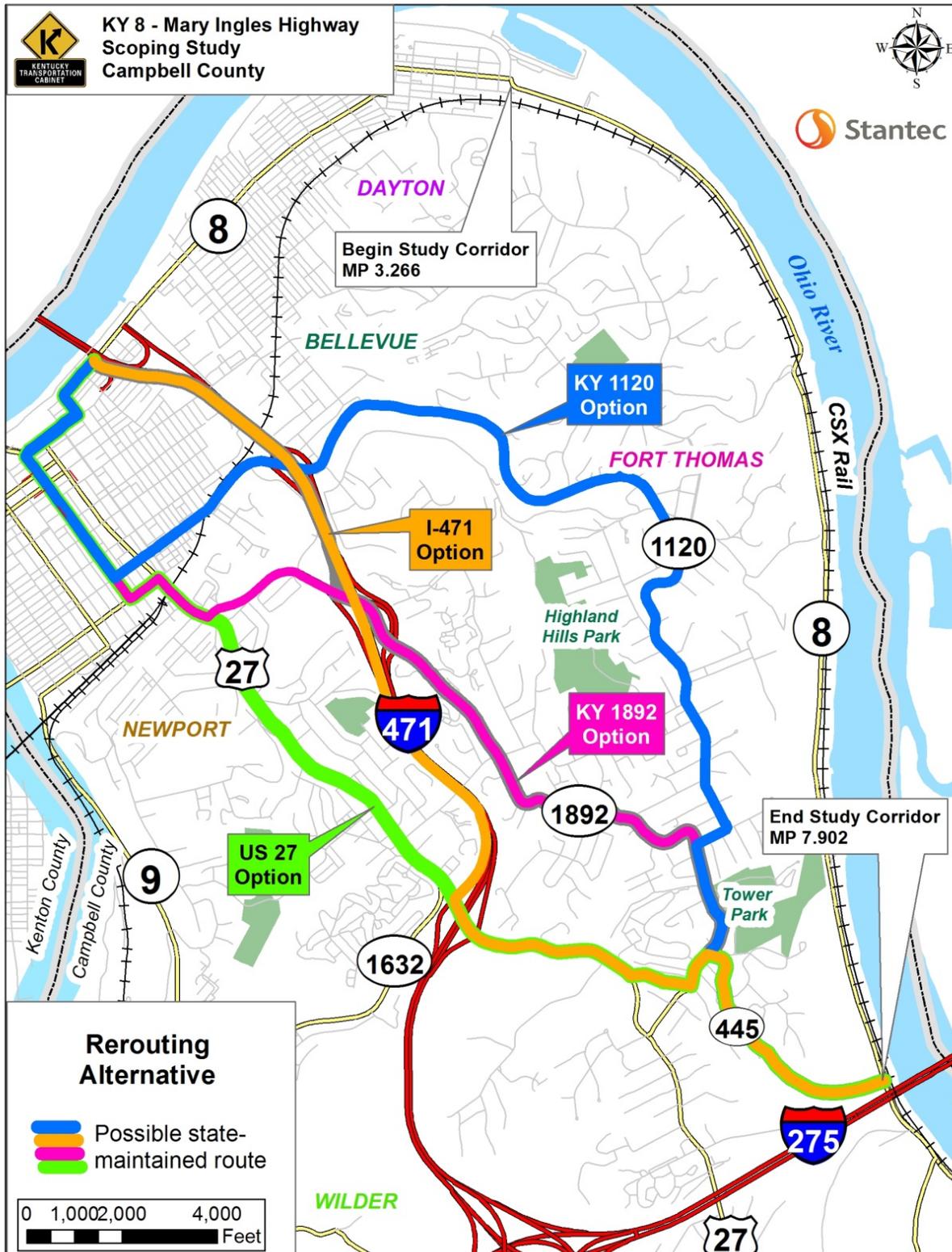


Figure 3: Rerouting Concepts using KY 445 (River Road)

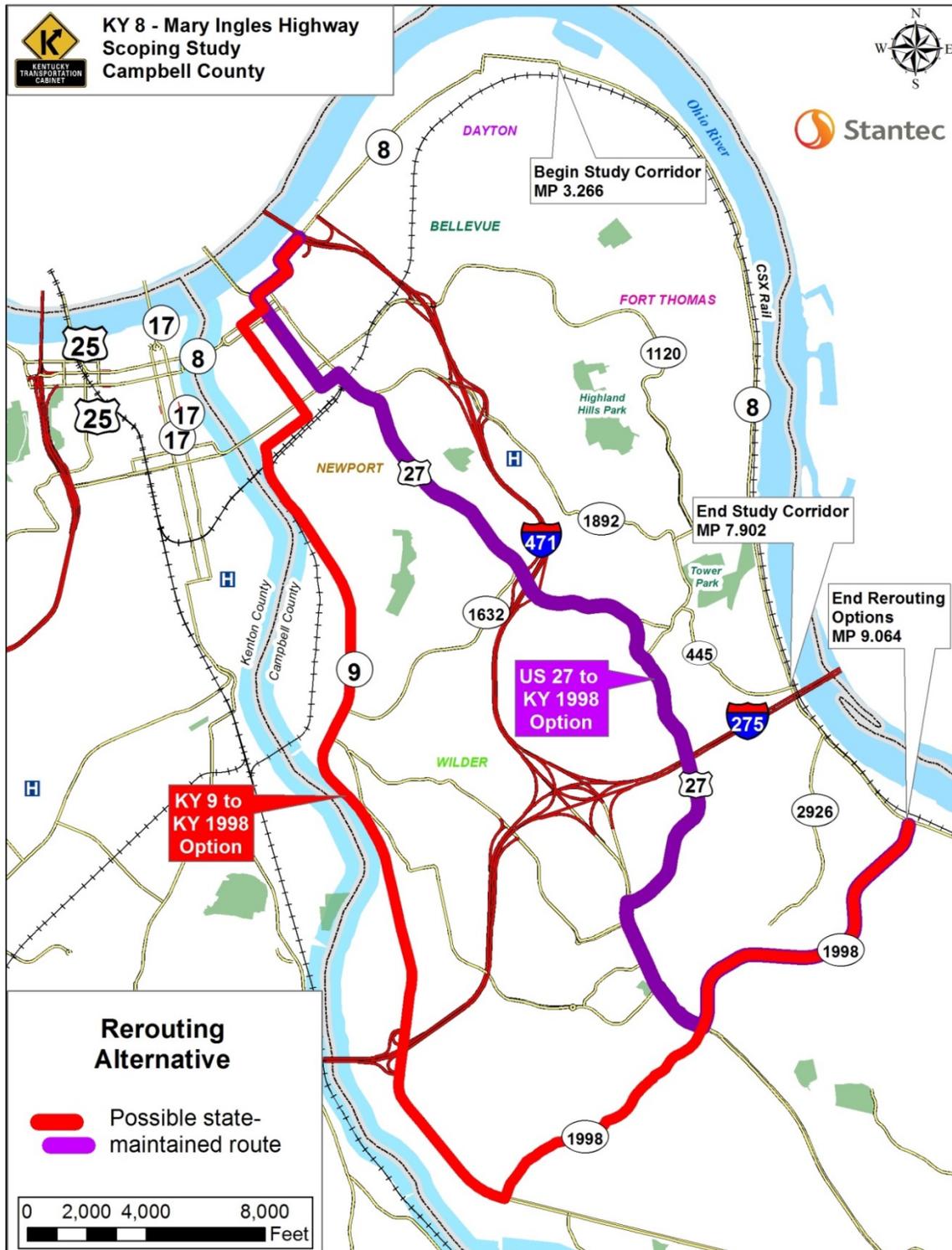


Figure 4: Rerouting Concepts using KY 1998 (Poole’s Creek Road/Industrial Road)