

SR 54 Project Development and Environment (PD&E) Study

From CR 577 (Curley Road) to CR 579/CR 54 (Morris Bridge Road)

Final Location Hydraulic Report

WPI Segment No: 416561-1
Pasco County

Prepared for the

**Florida Department of Transportation
District Seven**



October 2008

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Prepared by
American Consulting Engineers of Florida, LLC



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The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate alternative improvements along State Road (SR) 54, from CR 577 (Curley Road) to CR 579/CR 54 (Morris Bridge Road), in southeast Pasco County (**Figure 1**). The proposed improvements consist of widening the existing two-lane rural highway to a minimum four-lane divided roadway. The proposed typical sections are shown in **Figure 2**. Both suburban and urban typical sections are proposed.

This Location Hydraulic Report has been prepared to determine if any floodplains will be significantly affected due to the proposed improvements. There are 12 cross drains within the study limits including a bridge culvert (Bridge No. 14001) that is located at the New River crossing. The project site has been field reviewed by Department Modal Planning and Development staff, and routinely reviewed by local Department Maintenance Supervisors. The following 10 items have been addressed to document that the floodplain encroachments will be minimal.

1. History of Flooding: No flooding problems have been identified with any of the drainage structures on this project. Local maintenance offices having jurisdiction in the project area were contacted to determine the history of flooding problems in the project area. A representative with the FDOT Pasco County Maintenance Office said that there is no record of SR 54 overtopping and/or water on the roadway along the project limits during the past 30 years.

2. Longitudinal or Transverse Encroachments: All of the floodplain encroachments will be transverse encroachments of existing floodplain crossings.

3. Avoidance Alternatives: All of the floodplain encroachments will be minimal due to the proposed roadway alignment following the same general alignment as the existing highway. There are no Build Alternatives available which would completely avoid any new floodplain encroachment.

4. Emergency Services and Evacuations: SR 54 has no history of stormwater overtopping due to the existing floodplain. Therefore, no emergency services or evacuation opportunities will be adversely affected.

5. Base Flood Impacts: The project's drainage design will be consistent with local (FEMA), FDOT, and Southwest Florida Water Management District's (SWFWMD) design guidelines. Therefore, no significant changes in base flood elevations or limits will occur.

6. Regulatory Floodway: There are no regulatory floodways within the limits of this project.

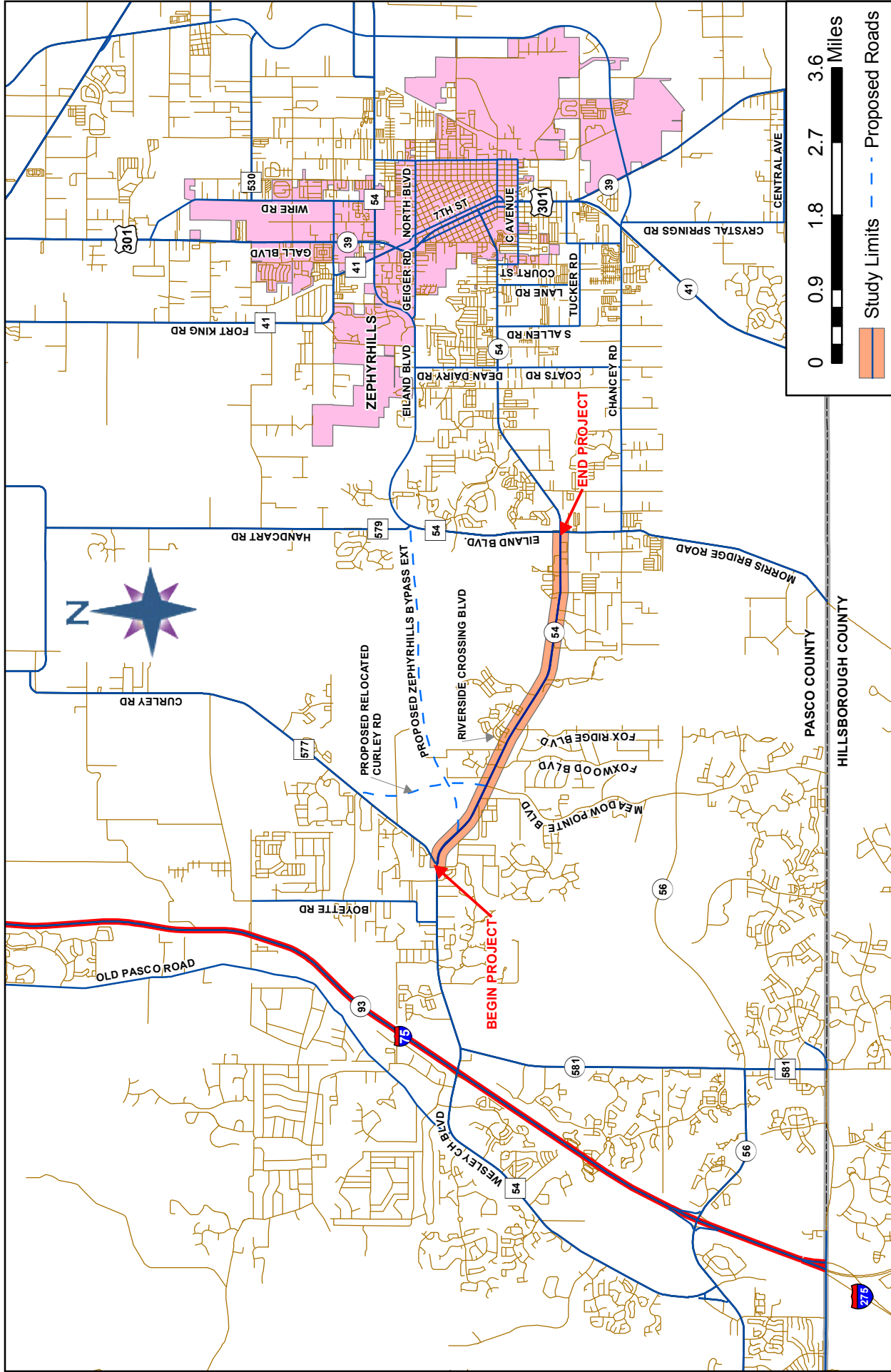
7. Natural and Beneficial Floodplain Values: The proposed roadway will follow the same general alignment as the existing roadway. Therefore, no natural and beneficial floodplain values will be significantly affected.

8. Floodplain Consistency and Development: The proposed project is consistent with the local Comprehensive Plan for 2025; it is included in the Pasco County Metropolitan Planning Organization's (MPO) Year 2025 Cost Affordable Long-Range Transportation Plan for the period from 2016 to 2025, as a four-lane divided facility. The proposed project will not encourage floodplain development due to local (FEMA) floodplain and SWFWMD regulations.

9. Floodplain/FIRM: A FEMA FIRM showing the proposed project is attached as **Figure 3**. The FEMA FIRM for Pasco County (unincorporated), Florida, community panel number 120230 0450E (dated September 30, 1992), indicates that there are two areas where the 100-year floodplain crosses SR 54. The Bassett Branch crossing is located within Zone A, a special flood hazard area that is inundated by a 100-year flood and where no base flood

elevation has been determined. The New River crossing is located with Zone AE, a special flood hazard area that is inundated by a 100-year flood and where the base flood elevation has been determined [87 ft National Geodetic Vertical Datum (NGVD), upstream; and 86 ft NGVD, downstream of the triple box culvert at New River]. Therefore, there will be floodplain involvement with any of the Build Alternatives.

10. Risk Assessment: Based on the FDOT's floodplain categories, this project falls under "Category 3: projects involving modification to existing drainage structures." Floodplain encroachments do not vary significantly with any of the alternatives. The modifications to drainage structures included in this project will result in an insignificant change in their capacity to carry floodwater. This change will cause minimal increases in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.



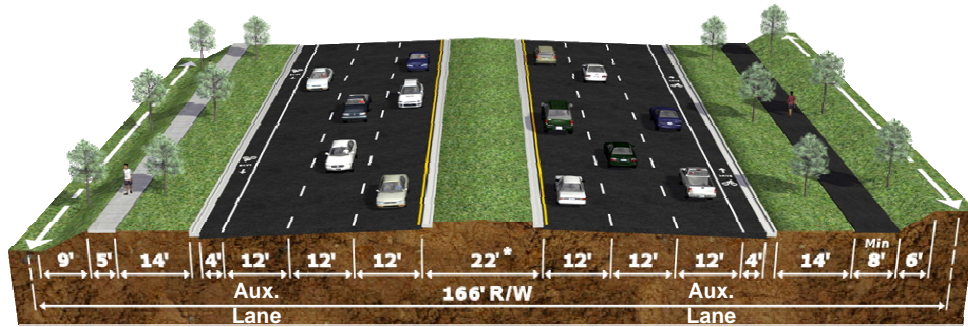
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SR 54 PD&E STUDY AREA MAP

Rev. 11/19/08

FIGURE 1

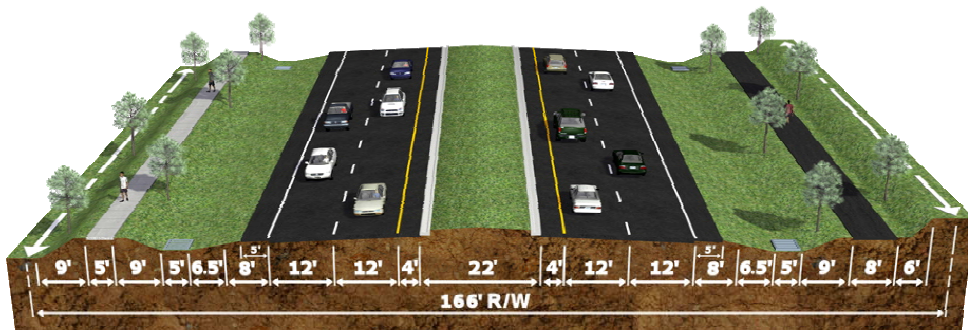
(Looking east for all sections)



Four-Lane Divided with Auxiliary Lanes Urban Typical Section

From Curley Road to Foxwood Blvd

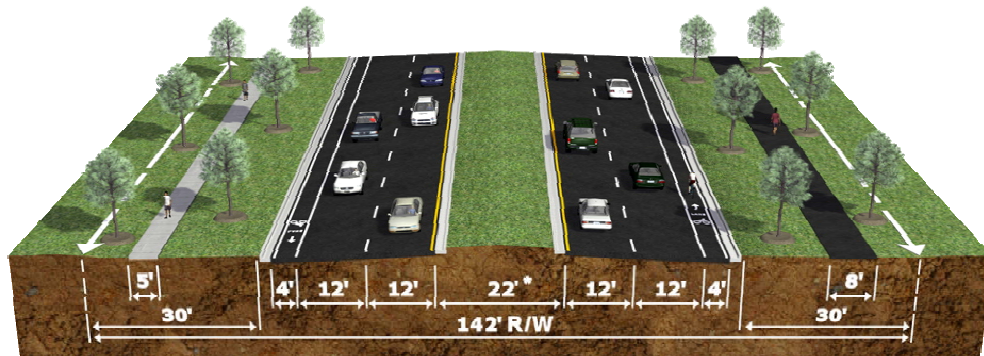
Design Speed = 45 mph



Four-Lane Divided Suburban Typical Section

From Foxwood Blvd to Linda Drive

Design Speed = 55 mph



Four-Lane Divided Urban Typical Section

From Linda Drive to Morris Bridge Road

Design Speed = 45 mph

*For the few areas where a 30' median would be required for dual left turn lanes at signalized intersections, the outside border areas would be reduced by 4' on each side to provide the extra median width required.

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SR 54 Alternative Typical Sections



