This analysis should be done during the preliminary plan development process and should involve determining the additional construction and R/W costs to provide the desired clear zone. Refer to AASHTO's <u>Roadside Design Guide</u>, Appendix A, for "A Cost-Effective Selection Procedure". Any other procedure which will provide this cost is acceptable as long as it is documented in the project files. After the additional cost to provide the recoverable area is determined, it should be compared to the estimated accident cost without the recoverable area. This cost comparison <u>along with good engineering judgment</u> should be used to determine the feasibility of providing the recoverable areas through the project and should be documented on the Field Review and Scoping Report PM-100 (LD-430).\*

Prior to establishing the additional construction and R/W cost estimate, the developed areas that would involve heavy R/W damages and/or relocations or environmental restrictions such as park properties, historic areas or wetlands should be noted and where practicable horizontal and vertical alignment adjustments are to be made to provide the desired recoverable areas and clear zones. In these situations alternate designs may include elimination of ditches and/or median width reductions with possible incorporation of raised medians or median barrier to reduce required R/W.

A suggested procedure is shown in FIGURE A-2-2 to develop the difference in cost between the typical section based on the project's functional classification and proper Geometric Design Standards and the typical section with the desired recoverable areas.

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<sup>\*</sup> Rev. 1/09