ABSTRACT

Scour is the result of the erosive action of flowing water excavating and carrying away material from the bed and banks of streams. Potential scour can be a significant factor in the analysis of a stream crossing system. The design of a crossing system involves an acceptable balance between a waterway opening that will not create undue damage by backwater or suffer undue damage from scour and a crossing profile sufficiently high to provide the required traffic service.

Scour is varying to many types such as live bed scour, clear water scour, and tidal scour according to many factors affecting it and these factors also varying depending on the time interval, the place chosen to build the bridge, the bed materials properties and the circumstances.

Because of these many factors, pier scour is going to be complicated and it is difficult to carry out exactly the scour analysis. Therefore, in this research a concentrated analysis is carried out considering most of the factors affecting the pier scour and how they are influencing it (considering the equations, which explain these effects). In addition, relationships between the scour and some of factors are obtained.