BRIDGE DESIGN STANDARD PRACTICES

The following standard practices were established by the Bridge Design Standard Practices Committee.

1. Metric Bolts

On all metric projects, designers shall specify metric bolts only. However, designers shall also take into account that, due to current limited availability of metric bolts, Contractors may request a substitution of customary U.S.-sized bolts. To account for this contingency, all metric designs should be checked for adequacy with the closest equivalent customary U.S.-sized bolts and adjusted as necessary.

Bolt spacings and edge distances should be specified such that minimum requirements will be satisfied with either system. Preference shall be given to M22 bolts in designs since they are very closely equivalent to 7/8" customary U.S.-sized bolts.

To avoid the possibility of inadvertent mixing of components; i.e., metric nuts being installed on customary U.S. bolts, in no case will partial substitution on a project be allowed. All bolts used on a project (not just an individual bridge) must be a single system, either metric or customary U.S.

2. Oversized Holes in Bolted Connections

Generally, standard-sized holes shall be specified in the component parts of bolted connections. Where design considerations permit, however, connections should be designed to accommodate oversized holes to allow for potential enlargement of holes in the field where necessary to facilitate field erection.

The following standard practice has been established by the Department.

3. Design Practice for Bridges

As of January 4, 1998, the design and details of all structures and structure components shall conform to the requirements set forth in the latest edition of the AASHTO LRFD Bridge Design Specification.

In addition to the requirements of the AASHTO LRFD Design Code all bridges shall also be analyzed for two Department operating vehicles. This is being done to ensure adequate strength for all legal weight vehicles and permit vehicles for all span lengths and most "superloads" permitted by the Department.

The first truck has a G.V.W. of 204,000 pounds (906 kN) on eight axles. The second vehicle is a "superload" that should be checked on long spans of 180 feet (55 meters) or greater. This truck has a G.V.W, of 380,000 pounds (1670 kN) on nineteen axles. Both of these vehicles are shown on the attached sheets.

All new design projects will be negotiated on this basis. All current design projects already in

final design will continue to be designed using the current design criteria spelled out in the Bridge Design Manual. All current design projects not yet in final design will be handled on a case-by-case basis.