



RECEIVED
JUL 18 2003
OLYMPIC REGION

July 16, 2003

TO: Terry Barnett Chad Hancock Glen Puterbaugh
Dave Bierschbach Mark Leth Amir Rasaie
Larry Chatterton Jim Mahugh Jennene Ring
Loran Dantzer Ralph Martinez Sam Swenson, Jr.
Doug Ficco Casey McGill Ted Trepanier
Wayne Frudd Richard Moorhead Kevin Waligorski
Rick Gifford Bonnie Nau Jerry Walter
Matt Griswold John Nisbet Marty Weed

FROM: Toby Rickman
(360) 705-7280

SUBJECT: Work Zone Sign Update

There have been some changes to our work zone sign requirements over the past two years or so and I wanted to take the time to recap some of the requirements that may need additional guidance in an effort to ensure that appropriate work zone signs are being used.

• **Use of outdated or otherwise inappropriate work signs**

All signs must be approved as part of an approved traffic control plan (TCP), as shown in the Traffic Control Guidelines Book M54-44, Sign Fabrication Manual or MUTCD. The State Sign Engineer or Region Traffic Engineer may approve special signs on a case-by-case basis. Signs such as the following are not allowed and are no longer approved standard work zone signs. These signs must be removed and replaced with the approved signs:

- MEN WORKING (WORKERS is approved)
- ROAD CONSTRUCTION AHEAD (ROAD WORK AHEAD is approved)
- END CONSTRUCTION (END ROAD WORK is approved)
- FLAGGER SYMBOL (old version showing stop/slow paddle on a staff, approved version shows a flag)

• **Fluorescent Orange Work Zone Sign Sheeting**

All construction projects must be using fluorescent orange sign sheeting for all orange background signs as per the contract provisions. Maintenance work zones should be using fluorescent orange sheeting as part of a phase in program that replaces the old signs as they wear out. The new fluorescent orange sheeting is Type X for rigid signs (formerly Type IV & VII) and Type VI with Type X reflectivity requirements for roll-up signs.

July 16, 2003

Page 2

- **Rigid substrate signs vs. flexible signs**

Rigid signs (aluminum, plywood or plastic composite) are generally used for longer term work zones or night work and are required on construction projects. The Standard Specifications does not provide for the use of flexible signs (roll-ups) on construction projects. An exception to this requirement could be a region decision to allow roll-up signs on a short term daytime only construction project. Most maintenance work zones are of short duration and roll-up signs are allowed. Long-term maintenance work zones (especially at night) should consider the use of rigid signs.

- **NCHRP 350 crash performance requirements for work zone signs**

All new portable work zone sign installations (using portable stands or approved barricade installations) must meet the NCHRP 350 crash performance requirements. Post mounted work zone sign installations must comply with the Design Manual standards. Most (if not all) vendors carry NCHRP 350 approved sign stands, but only a few are approved for use with .125 thickness aluminum signs or 3/4" plywood signs (current standard). We are in the process of amending the Standard Specifications to allow the use of .080 and .100 aluminum signs, which will allow more selection of NCHRP 350 approved sign/stand units. Plastic composite signs are also an option to meet NCHRP 350 requirements.

Roll-up signs generally comply with the NCHRP 350 standards as long as they are attached to a NCHRP 350 approved sign stand designed for roll-up signs.

Work zone sign/stand units are NCHRP 350 Category 2 devices and require a manufacturers certification letter approved by FHWA as part of the purchase of new sign stands.

December 31, 2007 is the NCHRP 350 compliance date for all work zone signs.

- **Work zone sign location and performance**

- All work zone signs must meet the placement standards (height, lateral offset & spacing) of the MUTCD and/or the approved TCP. Please be aware that there are new work zone sign spacing categories included in the new Washington modifications to the MUTCD.
- Any ballasting of sign stands must be in keeping with the manufacturers requirements.
- The ATSSA "Quality Standards For Work Zone Traffic Control Devices" should be used to determine "acceptable" sign condition.
- The use of warning flags & lights on some work zones signs may be allowed under conditions where enhanced warning is desired. Most portable work zone sign/stand units will not meet NCHRP 350 standards with a warning light attached. Warning flags should only be used for short durations, then removed when the need for the additional emphasis has ended.

July 16, 2003

Page 3

- **Portable Changeable Message Signs (PCMS)**

A PCMS can be a very effective device when applied strategically to work zone activities. A highly visible location should be determined in the field and short accurate messages should be used. Each panel should convey a single thought and two panels are the maximum allowed. A shoulder closure taper should be installed to guide traffic past a PCMS located on the roadway shoulder, or a protected location beyond the clear zone or behind a barrier should be considered.

Drivers indicate that work zone signs are the number one provider of the information they need to navigate through our work zones, as you might expect. It is important that we provide the most effective signs possible.

Please pass this information on to appropriate region crews to ensure that they have the latest information and can take action as needed. The Region Traffic Offices can assist with this issue or contact the Headquarters Traffic Office for addition assistance if needed.

Thank you for your attention to this issue.

TR:FRN

cc: Paul Harker, FHWA
Chris Christopher
Kevin Dayton
Rick Mowlds
Scott Zeller