To:

SUPERSEDED BY EI 04-035
EFFECTIVE 1/13/05

New York State Department of Transportation
ENGINEERING INSTRUCTION

EI 00-029

Title: **HIGH CAPACITY TYPE A SIGN POSTS, SOIL PLATES, EXTRA DEPTH**

Distribution:
- ☒ Manufacturers (18)
- ☒ Main Office (30)
- ☐ Local Govt. (31)
- ☒ Regions/Agencies (32)
- ☒ Surveyors (33)
- ☒ Consultants (34)
- ☒ Contractors (39)
- ☐ _____( ).

Approved:

P. J. Clark, Deputy Chief Engineer, (Facilities Design)

08/28/00
Date

ADMINISTRATIVE INFORMATION. This Engineering Instruction (EI) is effective with projects submitted for the letting of January 11, 2001. It does not supersede any previous issuances.

PURPOSE. This EI issues a shelf note which revises Section 645 of the Standard Specifications, as amended by Addendum No. 2, and initiates three (3) new pay items for modified Type A Sign Posts.

BACKGROUND The MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS, issued by EB 99-018, gives criteria when Type A Sign Posts must be installed with extra deep embedment (more than 1 m) and/or soil plates. As a general rule, extra embedment is required when posts are installed on a slope, and soil plates are required when posts are installed in loose (beach) sand, but the Materials Details should be consulted for the exact particulars. This EI requires designers to inform contractors where these modified post bases are expected to be required, and introduces new pay items for such.

Soil plates and extra long bases are presently required as a contract "throw-in," but contractors do not know exactly which base modifications to order, if any, or how to bid this item due to the extra costs involved. The cost of delays caused by not having the correct size base posts and sufficient soil plates can be quite substantial. Therefore, this EI instructs designers to indicate where extra depth embedment or soil plates are required in the contract documents, if known, so this determination will not be left solely to the contractor or Engineer.

The MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS also include several TYPE A SIGN POSTS, or combinations of posts, that are significantly stronger that the "standard" post, and can support much larger sign panels than the standard Type A post. Some are even stronger than the S75 x 8 (Post Code 01) of the Type B Sign Posts, and can be installed at a much lower cost than Type B posts, but are considerably more expensive than standard Type A posts. Therefore, a new pay item is being introduced, Item 645.8101 - High Capacity Type A Sign Posts, to allow adequate compensation for these when cost effective. High Capacity Type A Sign Posts are defined as any Type A Sign Support system shown in the MATERIALS DETAILS that has a total combined capacity for the entire two or three post system higher than 10,600 N•m. This lower limit of 10,600 N•m was selected because it is the upper limit of the capacity of 3 of the strongest Marion Steel posts, and 2 of the strongest Unistrut posts. The post systems that can presently be classified as High Capacity Type A Sign Posts are the Unistrut telescoped posts, the Marion back-to-back posts, the Poz-Lock Slip-Base (63.5 mm, Sch 80), and the Lancaster 101 mm diameter posts. The corresponding maximum capacity of High Capacity Type A Sign Post systems is 12,656 N•m for two Lancaster posts; 12,702 N•m for two Poz-Lock Slip-Base posts; 27,924 N•m for 3 telescoped Unistrut posts; and 28,800 N•m for 3 Marion back-to-back posts. As additional High Capacity Type "A" Sign Post systems become available, designers and contractors will be notified and instructed accordingly.

REQUIRED ACTION. Designers are hereby instructed to include the pay items for extra embedment depth and/or soil plates in their contract documents (sign data sheets and cost estimates) wherever these base modifications are expected to be necessary.

Designers should also specify High Capacity Type A Sign Posts in their contract documents in lieu of Type B Sign Posts wherever possible. When the sign panel size is "off the charts" for standard Type A Sign Posts, designers are requested to check if High Capacity Type A Sign Posts will suffice.

TRANSMITTED MATERIAL.

This EI transmits the following shelf note to initiate these three (3) new pay items and specifications.

ITEM 645.8104 M TYPE A SIGN POST WITH EXTRA EMBEDMENT
ITEM 645.8105 M SOIL PLATE FOR TYPE A SIGN POSTS
ITEM 645.8106 M HIGH CAPACITY TYPE A SIGN POSTS

In **Addendum No. 2, Page VI-26, after line 10**, ***insert*** the following: "Type A Sign Posts With Extra Embedment (more than 1 m) , and Soil Plates for Type A Sign Posts, shall meet the requirements of the MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS.

645-2.08 High Capacity Type A Sign Posts. High Capacity Type A Sign Posts are defined as any Type A Sign Post system shown in the MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS that has a total combined capacity for the entire two or three post system higher than 10,600 N•m when used as shown in the MATERIALS DETAILS. The contractor shall calculate the design moment of the sign panel to be installed at the required location, and select an appropriate High Capacity Type A Sign Post system from the MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS, subject to the Engineer's approval, capable of resisting that moment."

In **Addendum No. 2, Page VI-26, line 29**, after "Details" ***insert*** the following: "Type A Sign Posts With Extra Embedment, and Soil Plates for Type A Sign Post, shall be installed in accordance with the installation requirements of the MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS wherever extra embedment depth and/or soil plates are required by the Materials Details. High Capacity Type A Sign Posts shall also be installed in accordance with the installation requirements of the MATERIALS DETAILS FOR TYPE A SIGN SUPPORTS wherever indicated in the contract documents or where extra moment capacity is required."

In **Addendum No. 2, Page VI-27, below line 6**, ***insert*** the following: "The quantity of Type A Sign Posts With Extra Embedment will be measured as the number of posts satisfactorily installed with these modified bases where indicated on the plans or where directed by the Engineer. Soil Plates for Type A Sign Posts will be measured as the number of soil plates satisfactorily installed on either standard Type A Sign Posts, or on Type A Sign Posts With Extra Embedment where indicated on the plans or where directed by the Engineer."

In **Addendum No. 2, Page VI-27, line 9**, after "Sign Post," ***insert*** the following: " and each Type A Sign Post With Extra Embedment, and each Soil Plate for Type A Sign Post, and each High CapacityType A Sign post"

In the **Standard Specifications of 1995, Page 6-149, after line 30**, ***insert*** the following:

"645-4.05 High Capacity Type A Sign Posts. The quantity of High Capacity Type A Sign Posts will be measured as the number of posts installed in accordance with the plans, specifications, standard sheets, MATERIALS DETAILS, and as directed by the Engineer. Post systems in which two posts are combined to function as a single post, such as the back-to-back flanged channel or the telescoping square tube, are measured as one post."

In **Addendum No.2, Page VI-27,** after **line 22**, ***insert*** the following:

" 645.8104 M	Type A Sign Post with Extra Embedment	Each
645.8105 M	Soil Plate for Type A Sign Post	Each
645.8106 M	High Capacity Type A Sign Posts	Each"

CONTACT PERSON

Questions regarding this issuance should be addressed to Richard Stempel of the Design Quality Assurance Bureau. He may be reached at 518-457-5440.

C:\myfiles\soilplt3.wpd. DISK 45