

54.13 MAINTENANCE OF HIGHWAY SIGNS

54.13.1 GENERAL

The Work consists of removing and installing signs and sign supports. This includes supply and installation of concrete bases, wooden posts, steel sign supports, breakaway steel posts, wind frames, cluster frames, reinforcing girts, banding signs to poles and work on signs on overhead sign structures or bridge structures.

54.13.2 MATERIALS

The Contractor shall supply signs in accordance with Specification 54.12, Supply of Permanent Highway Signs.

The Contractor shall supply all material required for completion of the Work in accordance with the Alberta Transportation Recognized Products List.

When wooden sign supports are ordered, the Contractor has the option of supplying and installing steel sign supports if the supports supplied are equivalent to the size of wooden post ordered. Equivalencies will be based on criteria established for wind resistance, load bearing capabilities and crash worthiness. The Best Practise Guidelines for Sign Materials will be included in the Recognized Products List which will also list known equivalencies. When the Contractor elects to use steel sign supports in place of wooden posts, the bases and all mounting hardware shall be supplied in accordance with the manufacturer's recommended installation requirements.

Steel sign supports shall not be used in combination with wooden posts on two post installations.

Supply of new signs shall be in accordance with Specification 54.12, Supply of Permanent Highway Signs. Suitable salvaged signs shall be used whenever possible.

The Contractor shall supply mounting hardware in accordance with drawings TEB 1.69, TEB 1.71, TEB 1.72, TEB 1.75, TEB 1.82 and TEB 1.95, and TEB 1.71A, or an equivalent satisfactory to the Engineer.

All sign supports, frames and mounting materials shall be treated with rust proofing products applicable for the type of material supplied.

54.13.3 PROCEDURE

Concrete bases and breakaway steel posts shall be installed as shown on drawings TEB 1.82 and TEB 1.83.

Wooden posts shall be installed as shown on drawing TEB 1.70.

Cluster frames shall be installed perpendicular to and facing the approaching traffic lane and shall be securely fastened to the post in accordance with drawing TEB 1.69.

New or salvaged signs shall be mounted in accordance with drawings TEB 1.69, TEB 1.71, TEB 1.72, TEB 1.75, TEB 1.82 and TEB 1.95, and TEB 1.71A.

Sign posts shall be installed plumb with signs and frames installed level horizontally.

The installed sign, support and frame shall be clean and not bent or twisted. Reflectorized surfaces shall be free of scratches and marks and must be securely fastened to the post or frame. Existing signs, supports and bases shall be salvaged and reused wherever possible.

The Engineer will identify the general location of a new installation by means of paint or other marks on the shoulder of the road or by stakes near the shoulder. The Contractor shall establish the exact location of the installation in accordance with drawing TEB 1.70. If this location is not suitable, the Contractor shall obtain approval of an alternate location from the Engineer. The Contractor shall be responsible for having post locations checked for utilities prior to excavating holes. The Contractor shall remove and salvage or remove and dispose of signs, supports and bases as determined by the Engineer.

The Engineer will determine which signs require reinforcing girts and will issue Work Orders accordingly.

Supports and bases shall be replaced with the same size unless otherwise specified by the Engineer.

Steel sign supports used in lieu of wooden posts shall be installed in accordance with the manufacturer's recommended procedures.

When removing a wooden post or steel sign support or concrete base, the existing hole must be filled in such a manner that there is less than 50 mm settlement within the warranty period.

Signs on utility posts shall be mounted using procedures approved by the utility owner. The Engineer will determine when signs are to be banded to utility poles and issue Work Orders accordingly.

54.13.4 TIME TO COMPLETE

The Contractor shall install critical signs, "Stop" and "Yield", immediately upon request. For other warning and regulatory signs (standard signs), the Contractor shall complete Work within 30 calendar days of the issuance of the Work Order.

For all other signs (non-standard signs), the Work shall be completed within 60calendar days of the issuance of the Work Order.

54.13.5 ACCEPTANCE CRITERIA

Evaluation of the Work will be based upon a visual inspection by the Engineer. The Work will be considered acceptable when; sign(s) and supports are plumb and level; all signs, supports and other components are installed according to the applicable drawings; concrete bases are the correct distance out of the ground; all breakaway steel support surfaces are protected by galvanizing or zinc-rich paint; the work site is left clean; and the correct colour, spelling or symbols are on the sign provided.

Any measurement for plumb and level will be done using a rigid two-foot hand level.

54.13.6 MEASUREMENT AND PAYMENT

54.13.6.1 Wooden Sign Supports

For measurement payment purposes, steel sign supports shall be considered to be wooden posts and Sections 54.13.6.1.1 and 54.13.6.1.2 will apply equally to both steel and wooden sign supports. However, when two or more steel supports are equivalent to one wooden post in accordance with the Best Practise Guidelines for Sign Materials, payment will only be made for the number of wooden posts which would have been installed or removed.

Measurement will be made of the number of wooden posts supplied and installed within a particular size range.

Measurement will be made of the number of wooden posts removed and disposed of, and the number of wooden posts removed, salvaged and reinstalled.

54.13.6.1.1 Wooden Supports - Supply and Install

Payment for supplying and installing wooden sign supports will be made at the unit price bid per post for:

- ! "Sign Posts - Wooden, 100 x 100 mm (or equivalent) - Supply and Install",
- ! "Sign Posts - Wooden, 100 x 150 mm (or equivalent) - Supply and Install", or
- ! "Sign Posts - Wooden, 150 x 200 mm (or equivalent) - Supply and Install",

regardless of the length of post. Payments will be full compensation for supplying and installing of new posts, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.1.2 Wooden Supports - Remove and Reinstall

Payment for removal and reinstallation of existing wooden sign supports will be made at the unit price bid per post for "Wooden Sign Posts (or Equivalent) - Remove and Reinstall." This payment will be full compensation for removing and reinstalling of existing posts, and all labour, materials, equipment, tools and

incidentals necessary to complete the Work.

If an existing support has been pulled out (vandalism), and the existing hole can be reused without excavation, reinstalling the post in the hole is considered incidental to 53.39, Highway Maintenance Work, and not a pay item. In the case of steel sign supports, if the support is bent and can be straightened on site, or if the support has been sheared off and can be reattached using hand tools, the work will also be considered incidental to Specification 53.39, Highway Maintenance Work.

54.13.6.1.3 Wooden Supports - Remove and Dispose

Payment will be made at the unit price bid per post for "Wooden Sign Posts (or Equivalent) - Remove and Dispose" regardless of the size of post. This payment will be full compensation for removing and disposing of wooden posts, removing and disposing or salvaging the sign, backfilling the holes, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.2 Steel Breakaway Sign Supports

Measurement will be made of the number of steel posts supplied and installed within a particular size range.

Measurement will be made of the number of steel posts removed and disposed of, and the number of steel posts removed, salvaged and reinstalled.

54.13.6.2.1 Steel Breakaway Supports - Supply and Install

Payment for supplying and installing breakaway steel posts will be made at the applicable unit price bid per post for:

- ! "Breakaway Steel Posts, W150 x 14 - Supply and Install",
- ! "Breakaway Steel Posts, W200 x 15 - Supply and Install",
- ! "Breakaway Steel Posts, W150 x 22 - Supply and Install",
- ! "Breakaway Steel Posts, W200 x 27 - Supply and Install".

This payment will be full compensation for supplying and installing the post, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.2.2 Steel Breakaway Supports - Remove and Reinstall

Payment will be made at the unit price bid per steel post for "Breakaway Steel Posts - Remove and Reinstall". This payment will be full compensation for removing and salvaging the steel post and sign, hauling salvaged material to the new site, reassembling and installing the support(s) and sign, and all labour equipment, tools and incidentals necessary to complete the Work.

54.13.6.2.3 Steel Breakaway Supports - Remove and Dispose

Payment will be made at the unit price bid per steel post for "Breakaway Steel Posts - Remove and Dispose" regardless of the size or length of the support.

This payment will be full compensation for removing and disposing of the steel post, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.3 Signs

54.13.6.3.1 Supply of Signs

Payment for the supply of new signs will be made in accordance with Specification 54.12, Supply of Permanent Highway Signs.

54.13.6.3.2 Install Signs

Measurement will be made of the number of signs installed within a particular size range. When reinstalling signs on an existing salvaged, or new cluster frame or wind frame, the total area will be measured and considered a single sign.

Payment will be made at the applicable unit price bid per sign for:

- ! "Install Sign - less than 1 m²"
- ! "Install Sign - 1 m² to 3 m²"
- ! "Install Sign - over 3 m²"

This payment will be full compensation for delivering signs to the site when necessary, removing and salvaging, or removing and disposing of the existing sign, installing the new or salvaged sign, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.3.3 Remove Signs

Measurement will be made of the number of signs removed and disposed of or removed and salvaged within a particular size range. When several signs are being removed from a single support, the total area of the signs removed will be measured and considered a single sign. When existing signs are being removed from a cluster frame or wind frame, the total area will be measured and considered a single sign.

Payment will be made at the applicable unit price bid per sign for:

- ! "Remove Sign - less than 1 m²"
- ! "Remove Sign - 1 m² to 3 m²"

! "Remove Sign - over 3 m²"

Payments will be full compensation for removing, salvaging and storing the sign or removing and disposing of the sign, and all labour, materials, tools and incidentals necessary to complete the Work.

The payment for "Remove Sign" will only be applicable when the sign is not replaced.

54.13.6.3.4 Signs on Overhead Structures and Bridge Structures

Measurement will be made of the area in square metres of each sign installed or removed from an overhead structure or bridge structure.

Payment will be made at the unit price bid per square metre for "Sign on Overhead Sign Structure or Bridge Structure - Install" or "Sign on Overhead Sign Structure or Bridge Structure - Remove". Payment for installation will be in addition to the payment for supply of the sign. Payments will be full compensation for installing or removing the sign from the overhead sign structure and all labour, materials, tools and incidentals necessary to complete the Work.

Payment for site specific traffic accommodation and signing will be paid separately in accordance with Specification 53.37, Supply of Flagperson for Emergency Traffic Control and/or Specification 53.38, Supply of Arrowboards for Traffic Control.

54.13.6.4 Install and Remove Concrete Bases

Measurement will be made of the number of bases supplied and installed, bases removed, salvaged and reinstalled and bases removed and disposed of.

Payment for supplying and installing concrete bases will be made at the unit price bid per base for "Concrete Base - Supply and Install".

Payment for removing, salvaging and reinstalling existing bases will be made at the unit price bid per concrete base for "Concrete Base - Remove and Reinstall".

Payment for removing and disposing of concrete bases will be made at the unit price bid per base for "Concrete Base - Remove and Dispose".

These payments will be full compensation for all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.5 Supply and Install, or Remove and Dispose, Cluster and Wind Frames

Measurement will be made in square metres of the area bounded by the outside edge of the cluster frame or wind frame installed or removed.

Payment will be made at the unit price bid per square metre for "Cluster Frames - Supply and Install", or "Wind Frame - Supply and Install". Payments will be full compensation for the supply of the frames, removal and disposal of existing frames, installation of the new frame, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.6 Girts

When girts are requested by the Engineer, they will be measured and paid for at the unit price bid per metre for "Reinforcing Girts - Supply and Install". This payment will be full compensation for supplying and installing reinforcing girts, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

54.13.6.7 Banding Signs

Measurement will be made of the number of signs banded to a structure.

Payment for banding signs will be made at the unit price bid per sign for "Banding Signs". This payment shall be full compensation for the supply and installation of banding material, and all labour, materials, tools and incidentals necessary to complete the Work.

54.13.7 WARRANTY

The warranty period for the installation of wooden sign supports (or equivalent), and the removal of concrete bases shall be 60 days.

The warranty period for installation of breakaway steel sign supports, concrete bases, banding signs, reinforcing girts, cluster frames, and wind frames shall be 1 year.

There is no warranty period for the removal of signs.