

B913 – EMBEDDED WORK IN STRUCTURES FOR ELECTRICAL SYSTEMS

(As Specified in OPSS 913, November 2026)

913.1 GENERAL

The work under these items consists of the installation of electrical and communication materials to be embedded in structures.

913.2 REFERENCES

- Canadian Highway Bridge Design Code (CHBDC), CSA-S6
- MTO Electrical Engineering Manual, Volume 1 – Electrical Design
- MTO Electrical Engineering Bulletins
- MTO Structural Manual
- Designated Sources for Materials List:
 - 6.05.30 Ducts and Fittings
 - 6.60.12 Anchorage Assemblies

913.3 TENDER ITEMS

Item Code	Title	Col Type	U.O.M.	PQP
0913-0010	Embedded Work in Structure (Ministry)	Normal	LS/m	No
0913-0020	Embedded Work in Structure (Bell Canada)	Normal	LS/m	No
0913-0040	Embedded Work in Structure (Utility)	Normal	LS/m	No
0913-0050	Embedded Work in Structure (Utility - 2)	Normal	LS/m	No

913.4 SPECIFICATIONS

The requirements for the above tender items are contained in OPSS 913.

913.5 SPECIAL PROVISIONS - None

913.5.1 Non-Standard Special Provisions

Preparation of site-specific NSSPs may be required. See Section 9 for further details.

913.6 STANDARD DRAWINGS

Applicable standard drawings are contained in the 2200, 2300 and 3300 series of the Ontario Provincial Standard Drawings (OPSD) and Ministry of Transportation Ontario Drawings (MTOD). Symbols for embedded ducts and/or cables are in the 2000 series.

913.7 DESIGN

Design shall be according to the Electrical Engineering Manual, Structural Manual and SSDs for standard details and exceptions to the Canadian Highway Bridge Design Code (CHBDC), CSA S6.

913.8 COMPUTATION

Each of the tender items covered by OPSS 913 are Lump Sum items.

913.9 DOCUMENTATION**913.9.1 Contract Drawings**

The location of ducts, expansion and deflection coupling joints, junction boxes and pole bases are typically shown on the Contract Drawings.

The designer may need to produce detail drawings to cover project specific installation requirements. For example, project specific drawings may be necessary when standard drawings for a municipality or utility authority are required.

The designer shall include the pertinent information provided by the Regional Structural Section into the Contract Drawings.

913.9.2 Quantity Sheets

The ministry's Contract Preparation System (CPS) is used for the preparation of Quantity Sheets.

Embedded Work in Structures quantities are included on the "Quantities - Structures" sheet.

For Embedded Work in Structures, the notations "100%" and "L.S." must also be shown in the "Totals" and "Unit" lines respectively.

For multiple structures on the same contract, separate tender items are used for each applicable structure, and a separate Quantity Sheet is required for each structure.

When Embedded Work is provided for parties other than the owner (e.g., utilities, Bell Canada) a separate entry is required using the appropriate tender item.

913.9.3 Non-Standard Special Provisions

Non-standard special provisions should be carefully written to clearly state what is required beyond or in place of the requirements in OPSS 913 and other standards (e.g., OPSSs, OPSDs, and MTODs). For example, an NSSP may be required to identify specific municipal requirements for utility or municipal embedded works. The NSSP can be used in addition to or as an alternative to providing notes on the quantity sheets.

913.9.4 Documentation Accuracy

Stations are recorded in whole numbers.

100% checking is required.