B909 - Prestressed Concrete - Precast Girders (OPSS 909)
(As specified in OPSS 909 November 2025)

909.1 GENERAL

This work is for the fabrication, delivery and installation of precast prestressed concrete girders.

909.2 REFERENCES

- Canadian Highway Bridge Design Code (CHBDC), CSA-S6
- OPSS 1355 - Material Specification for Precast Concrete - Materials and Production
- MTO Publication - Structural Manual

909.3 TENDER ITEMS

Item Code	Title	Col Type	U.O.M.	PQP
0909-0230	Prestressed Concrete Girders NU 900 Fabrication	Normal	LS/m	N
0909-0231	Prestressed Concrete Girders NU 1200 Fabrication	Normal	LS/m	N
0909-0232	Prestressed Concrete Girders NU 1400 Fabrication	Normal	LS/m	N
0909-0233	Prestressed Concrete Girders NU 1600 Fabrication	Normal	LS/m	N
0909-0234	Prestressed Concrete Girders NU 1800 Fabrication	Normal	LS/m	N
0909-0235	Prestressed Concrete Girders NU 2000 Fabrication	Normal	LS/m	N
0909-0240	Prestressed Concrete Girders NU 900 Delivery	Normal	LS/m	N
0909-0241	Prestressed Concrete Girders NU 1200 Delivery	Normal	LS/m	N
0909-0242	Prestressed Concrete Girders NU 1400 Delivery	Normal	LS/m	N
0909-0243	Prestressed Concrete Girders NU 1600 Delivery	Normal	LS/m	N
0909-0244	Prestressed Concrete Girders NU 1800 Delivery	Normal	LS/m	N
0909-0245	Prestressed Concrete Girders NU 2000 Delivery	Normal	LS/m	N
0909-0250	Prestressed Concrete Girders NU 900 Installation	Normal	LS/m	N
0909-0251	Prestressed Concrete Girders NU 1200 Installation	Normal	LS/m	N
0909-0252	Prestressed Concrete Girders NU 1400 Installation	Normal	LS/m	N
0909-0253	Prestressed Concrete Girders NU 1600 Installation	Normal	LS/m	N
0909-0254	Prestressed Concrete Girders NU 1800 Installation	Normal	LS/m	N
0909-0255	Prestressed Concrete Girders NU 2000 Installation	Normal	LS/m	N
0909-0330	Prestressed Concrete Box Girders Fabrication	Normal	LS/m	N
0909-0340	Prestressed Concrete Box Girders Delivery	Normal	LS/m	N
0909-0350	Prestressed Concrete Box Girders Installation	Normal	LS/m	N

The item Prestressed Concrete Girders, **Fabrication** shall be used when the Contractor shall be responsible for the fabrication of the prestressed girders as specified in the Contract Documents. The work associated with the item includes the temporary storage of the girders at the manufacturing facility prior to being transported to the Working Area.

The item Prestressed Concrete Girders, **Delivery** shall be used to account for the work of transporting the prestressed girders from the manufacturing facility to the Working Area as specified in the Contract Documents. The work associated with the item does not include the requirements for temporary storage of the girders and stabilization of the girders while they are in temporary storage, as required.

The item Prestressed Concrete Girders, **Installation** shall be used when the Contractor shall be responsible for the installation of the prestressed girders as specified in the Contract Documents. The Prestressed Concrete Girders, Installation encompasses the Work associated with taking the girders from a storage area and installing the girders to their final alignment as specified in the Contract Documents. The Work associated with the item includes the temporary storage and stabilization of the girders while they are in temporary storage and prior to girder erection to their final alignment.

When the Working Area encompasses multiple structures, the transportation of the prestressed girders from a general on-site storage area to a particular structure prior to girder erection shall be included under the Prestressed Concrete Girders, Installation item.

909.4 SPECIFICATIONS

The construction requirements for the above tender items are contained in OPSS 909.

Material requirements for the above tender items are contained in OPSS 1355.

909.5 SPECIAL PROVISIONS - None

909.6 STANDARD DRAWINGS

Applicable standard drawings are contained in the Structural Standard Drawings (SSD), and the 3000 series of the Ontario Provincial Standards Drawings (OPSD) and Ministry of Transportation Ontario Drawings (MTOD).

Standard Drawings and Notes to Designer can be found in the MTO SSD Manual available on MTO's Technical Publications website under the title "SSD Complete Manual", Changes and updates of Structural Standard drawings information about new and archived drawings are listed in "SSD Revision Sheet All-Rex" and available on MTO's Technical Publications website.

909.7 DESIGN

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

Design requirements for prestressed girders are contained in Canadian Highway Bridge Design Code (CHBDC), CSA S6 and the Structural Manual.

909.8 COMPUTATION

909.8.1 Item Payment Basis

Prestressed concrete girders are Lump Sum items.

909.8.2 Sources of Information

Information on the requirements for prestressed girders can be found in OPSS 909 and OPSS 1355.

909.8.3 Method of Calculation

The unit of measurement for the prestressed concrete girders items is LS/m. The designer must calculate the quantity in metres, for cost estimating purposes. The length of each girder in metres shall be provided by the Structures Office or Regional Structural Section for use by the Estimating Office. These quantities will not form part of the Tender Documents. In the tender, the item is Lump Sum (LS) with a quantity of 100%.

909.9 DOCUMENTATION

909.9.1 Contract Drawings

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

909.9.2 Quantity Sheets

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

For prestressed concrete girders, 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.

The designer must enter the theoretical quantities for above items in CPS. These quantities are stored in CPS and used for estimating purposes but are not displayed on the Q-Sheet. A value of 100% is automatically displayed in the quantity fields of the Q-sheet.

Concrete and steel reinforcement quantities are included on the "Quantities - Structures" sheet, with location and description details sufficient to link the quantities to the prestressed concrete girder locations.

909.9.3 Documentation Accuracy

Length of girder rounded to the nearest 0.1 m. Stations are recorded in whole numbers.

909.9.4 Non-Standard Special Provisions (NSSP)

Non-standard special provisions (NSSPs) and non-standard tender items (NSTIs) shall be created to address project specific situations which are not covered under applicable standards. Designer should determine the need for a NSSP and NSTI to address the specific situations for the completion of the work. For example:

a) When a specialist engineer is required for the erection of complex bridge structures; and

b) When the method of bridge construction would require the double handling of structural steel (e.g., accelerated bridge construction where the steel is delivered and installed at one location and a heavy bridge move is used to place the bridge in its final location)