## 3.5.1 DEAD LOADS

All structures whose deck slabs will be exposed to traffic shall be designed for a future wearing surface.

Box girder bridges (steel, conventional reinforced, post-tension) shall be designed for a Type 1 or Type 2 dual protection system as specified in Article 5.14.
A Type 1 dual protection system shall have a future 1½" concrete overlay to replace the original top 1½" non-structural deck slab concrete. Use 18 psf for the value of the future wearing surface.
A Type 2 dual protection system shall have a future 1" concrete overlay to replace the original top 1" non-structural deck slab concrete. Use 12 psf for the value of the future wearing surface.

Prestressed or steel girders with a cast-in-place deck that do not have any overlay during original construction should be designed for a future overlay of 28 psf.

Prestressed or steel girders with a cast-in-place deck that have a ¾" ppc overlay during original construction shall be designed for a minimum 9 psf ppc overlay at original construction and 9 psf ppc future overlay.

Deck bulb-tee girders and voided slabs that have a ¾" ppc overlay during original construction shall be designed for a 9 psf ppc overlay and 9 psf ppc future overlay.

Deck bulb-tee girders and voided slabs that have an asphalt overlay with a spray-applied membrane during original construction shall be designed for a minimum 28 psf overlay and 28 psf future overlay.

**Commentary:**
When a spray-applied waterproofing membrane exists, only a partial removal of the existing asphalt is done to protect the membrane. Therefore, an additional 28 psf of future wearing surface should be included in the design.

**Revisions:**

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| May 2021 | Added clarification for the weight of future overlays for different applications of overlays. |
| Oct 2023 | Clarified the loads for box girder bridges. |
| | Added 9 psf of future ppc overlay for bridges with a ppc overlay during original construction. |