Railroad Bridges Superstructure Depths

The dimensions on the following sketches may be used for preliminary studies and designs.

**CELLULAR**

Note: Cellular trough may be more economical for longer spans than the solid alternative.

**SOLID**

**Prestressed Concrete Troughs**
Single Track Only

**Prestressed Concrete Box**
Any Number of Tracks

**Concrete Structures**

Ballast troughs of all railroad bridges should be sloped a minimum of 1% for drainage. A greater slope, if practical, is desired. If the tracks are level, the depth of ballast can be varied. This will increase the vertical dimension from top of rail to bottom of superstructure and should be considered in determining vertical clearances.

Supersedes Memo to Designers 17-115 dated May 1989
MEMO TO DESIGNERS 17-115
MARCH 1991

13'-0" minimum

See View A-A

Typical Section

S = span length

S/15

Ballast (6" min. depth)

1 1/2" protective cover

Concrete slab (6" min.)
or steel plate (1 1/2" min.)

Notes:
Live Load = Cooper's E-80
f_s = 60,000 psi

Data based on simple spans
and A.R.E.A. 1983

Steel Deck Girders
**Plate Girder – Single Track – Half Section**

Symmetrical about track

- Ballast (6" min)
- 1½" protective cover
- Concrete slab (6" min) or steel plate (½" min)
- Floorbeam**

View A-A (Typ)

*Based on 6" concrete slab used as floor plate.

**Depth of floor beam varies.

**Through Plate Girders**

Notes: Data based on A.R.E.A. 1983 Simple Span Loading. Live Load = Cooper's E-80. Lateral dimensions may be increased for curved alignment.

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