

## Project 2- Design of a Highway Crossover bridge



### Introduction:

In this project you will design a precast pretensioned I girder bridge. Consider a crossover bridge on any state highway. Some details of the bridge is given. You will be responsible for selecting the length, span length and width of the bridge as shown in the figure below.

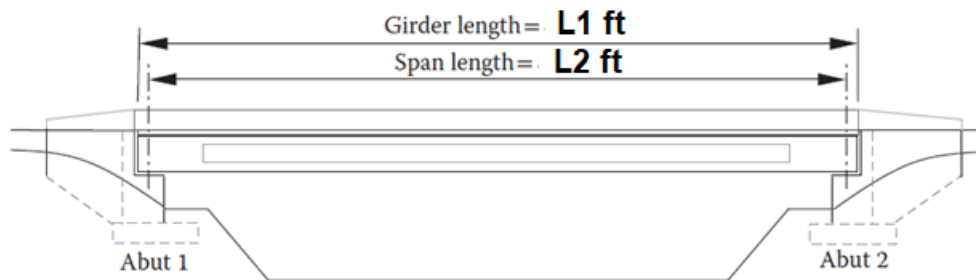


Fig1. Bridge Elevation

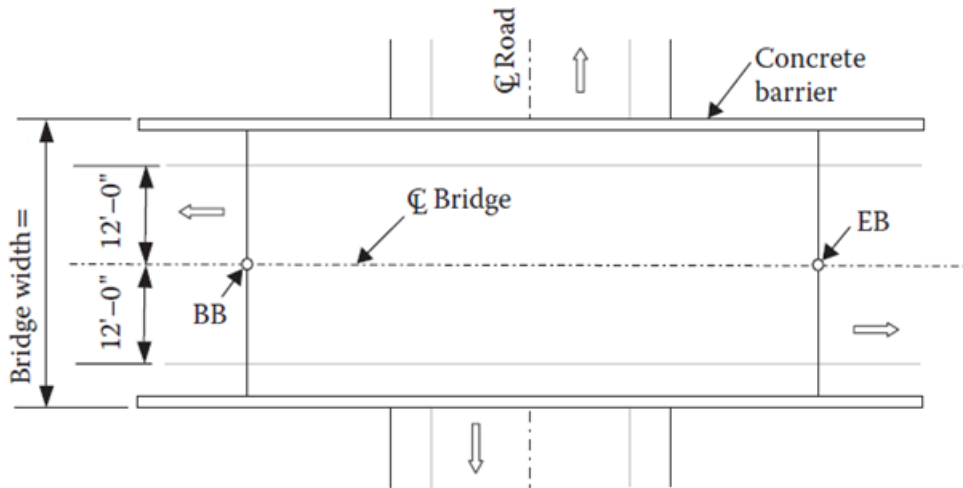


Fig2. Bridge Plan

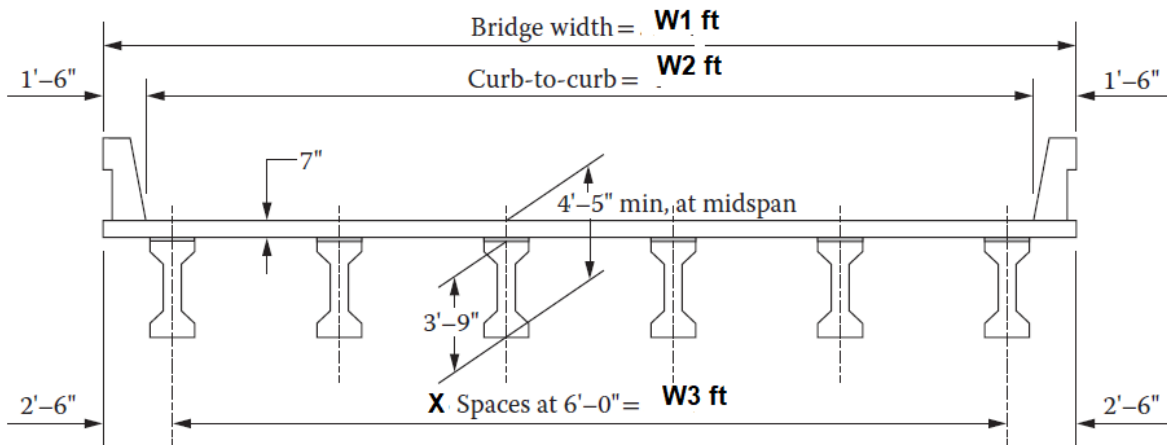


Fig 3. Typical Cross Section

**Deliverables:**

You are responsible for performing the following steps

Develop Geometry

Select materials

Compute section properties

Perform Structural analysis

Calculate dead load

Calculate shear and bending moment due to dead load.

Calculate shear and bending moment due to live load.

### **Report Format**

- Cover Page
  - Project Name, Course Name, Participant Name
- Learning Objective
- Project Introduction
- Codes Used and Code Detail
- Project Inputs
- Design Calculation [Hand Calculation is Acceptable]
- Summary of Design Output.
- References

### **Submission Detail**

- Submit Project in one file.
- Use a CAD program for detailed drawing and dimension.
- Include Table of content.
- Include all design contents in a single pdf.