

# Chapter 4

## Bridge Program Drawings

### Introduction

Chapter 4 is intended to familiarize Bridge Program personnel with the various detail sheets produced by the program. In producing a complete set of structural details, a variety of sheet types are required. Each type is listed as a **SECTION**, separated by tabs, and shown as it would occur in a standard set of Bridge Plans. Also described in a section is Reinforcing Steel, which is used in producing many of these sheets. Each section generally includes the following.

#### **INTRODUCTION**

This section defines each structural component's primary functions.

#### **COMPONENT TYPES**

Each structural component (i.e., abutment, bent, girder) may consist of several types that are commonly designed and detailed. Each type is listed and described under Component Types.

#### **GENERAL DESIGN AND DETAIL INFORMATION**

This portion of each section is to be used as a general guideline aiding in the completeness of the design and detailing phase of each sheet type. All **BOLD TEXT** should be understood and considered.

#### **STANDARD SHEETS**

If there are standard detail sheets for a particular component, these are in this section. These are partially to fully detailed sheets requiring minimal editing. Standard sheets reside on the server for easy referencing.

#### **CELLS**

The cell library contains cells used primarily for detailing a specific structural component type. Many of the cells listed occur frequently on a particular sheet, but are not necessarily unique to that sheet. Cells reside on the server for easy reference.

#### **CHECKLIST**

During the detailing and detailing check phase, each sheet type requires commonly used elements and text for the completeness of

the detail. This comprehensive list identifies most of the items to be considered.

### EXAMPLE DRAWINGS

The drawings found at the end of each section illustrate preferred CADD drafting format. These drawings are to be used for guidance and efficiency; the examples are not all inclusive or exclusive. An attempt has been made to include entire structure details illustrating a complete project.

Preliminary Layouts require a **PRELIMINARY DRAWING NUMBER**. These drawing numbers are acquired by using the next consecutive number available in the Bridge Program Preliminary Drawing Numbers book. The format for entering the drawing number in the book and examples of entries are given below.

P-	<u>Name Of Structure</u>
	Road      Sta      RM Section (If Applicable) County      Project Number Date Of Entry      Squad Id      Initials Of Entrant
P-837	<u>Bridge Over South Tongue River</u> Burgess Jct. - Dayton Road      Sta 291+00 RM 60.17 Tongue River Section Sheridan Co.      0352023 10-3-99      Cortez Squad      WES
P-833	<u>Widening UPRR Overpass</u> Lazeart Jct. - Kemmerer Road      Sta 109+99.50 RM 33.25 Kemmerer South Section Lincoln Co.      0112012 2-22-01      PDH Squad      LAF

A **DRAWING NUMBER** is assigned to each set of details for a structure within a set of Contract Plans. These drawing numbers are acquired by using the next consecutive number available in the Bridge Program Drawing Numbers book. The format for entering the drawing number in the book and examples of entries follow.

When working with Consultants, the squad assigned to the project will provide the Preliminary Drawing Number and the Drawing Number to the Consultant.

No. Shts & Ref Shts	<u>Name Of Structure</u> Structure Description Road Sta RM Section (If Applicable) County Project Number Date Of Entry Squad ID Initials Of Entrant
6143  13 Shts & 5 Ref Shts	<u>Bridge Over South Tongue River</u> 3 Cont W-Girder Spans (31'-1",40'-0",31'-1") 105'-0" b-b Abuts, 25 Deg Left Skew, Tangent Align Burgess Jct. - Dayton Road, Sta 291+00, RM 60.17 Tongue River Section Sheridan Co. 0352023 9-3-02 Menghini Squad SMS
6326  15 Shts & 18 Ref Shts	<u>Bridge Rehabilitation</u> Rock Springs – Rawlins, Various Locations RM 122.27, RM 124.31, RM 127.55 Point Of Rocks - West Section Sweet Water Co. 0803101 10-5-04 MJW Squad JKM

Entries in the drawing numbers books should be done as neatly as possible in lead pencil. All drawing numbers are retained, even if the project is voided. When the structure plans are completed, the information shown in the Bridge Program Drawing Numbers book should be **RECHECKED** for accuracy and the construction number included.

The **TITLE SHEET** and **TITLE BLOCK INFORMATION** shall be identical to the Project Development Program's Title information given on the Road Plans. However, the project number prefix shall not be included on the Title Sheet or Title Block and the county shall not be abbreviated on the Title Sheet.

When the **STATION** identifying a structure is a whole number, the station in the Title Block and on the Title Sheet shall be shown without the zeros after the decimals (i.e., 897+27). When the station is some part of a whole number, the station in the Title Block and on the Title Sheet shall be shown with two numerals after the decimal (i.e., 897+27.50). However, the station shall always be shown to two decimal places at all other locations on the structure details.

Certain details within a set of plans should be **DETAILED TO SCALE** to more accurately show the elements in relation to each other. These include any detail that has a stationed survey line or

an elevation scale. Sheets with these scaled details include, but are not limited to, all Preliminary Layouts, Track Profiles, General Plan and Elevation sheets, Substructure Layouts, Riprap Details, and the sheet including the culvert Location Plan. Details should be proportional in scale but may be exaggerated when needed for clarity. See Chapter 2 - Cadd Drafting Standards for scaling instructions.