

Part 500 General Details

Section 501 Introduction

Details are used to convey additional information about any item or installation that is not clearly addressed on other plans sheets or standard drawings. Roadway details often provide an enlarged view of a specific area or item from the plan view on the General Construction sheets. They can also be used to show tabular construction data or specialized drawings that are not included as part of General Construction plan sheets. See Part 400 of the ODOT CAD Manual (OCM) for numbering roadway detail plan sheets within the “B” series of the plan set.

Section 502 Standard Details

The [ODOT Standard Details](#) are drawings published by ODOT technical experts to assist designers in creating contract plan details. Using Standard Details also provides consistency from project to project and helps avoid duplication of design and drafting efforts. The Standard Details are numbered using the format of “DET” followed by four numerals (e.g., DET1000). They can be used as a starting point for the designer and CAD technician, but project-specific information will often need to be added. Standard Details may also contain notes to the designer that need to be addressed and deleted before including the detail on a plan sheet.

It is important to note that Standard Details are different than Standard Drawings. Standard Drawings are numbered with two alpha characters (BR, RD, or TM) followed by three digits (e.g., RD100,). Standard Drawings are referenced from notes on project plan sheets, and the entire Standard Drawing is included in the plan set as a standalone plan sheet. Standard Drawings used within a contract plan set are listed on the index sheet.

Unlike Standard Drawings, the elements of Standard Details are copied directly onto contract plan details sheet and are not reference by standard details number. Also, the published Standard Detail drawings have not been sealed by a licensed professional of record (POR). Once elements of the Standard Details are copied to the project plan sheets, the POR for the project must seal and sign the plan sheet.

ODOT roadway standard details are available at

<https://www.oregon.gov/odot/Engineering/Pages/Details-Roadway.aspx>.

When a standard detail is not available, the detail must be created for the project plan set. See Section 503 for guidance on creating details.

Section 503 Creating Details

503.1 General

Details should clearly convey all features and dimensions necessary to construct or install a component or item. Group similar types of details on the same plan sheet, and group related details on consecutively numbered plan sheets. Avoid placing too many details on a single plan sheet. Determining early on how many detail sheets could be needed is one way to help ensure there is enough space on the detail plan sheets for all details. See Figure 500-6 through Figure 500-9 for examples of details and detail plan sheets.

503.2 Scale

It is best practice to draw details actual size (without scaling) so that the drawing is proportional. Maintaining key proportions of the drawing is very important in helping to ensure the detail conveys the intent of the designer. Once the detail is developed, it can be enlarged or reduced to show on a plan sheet.

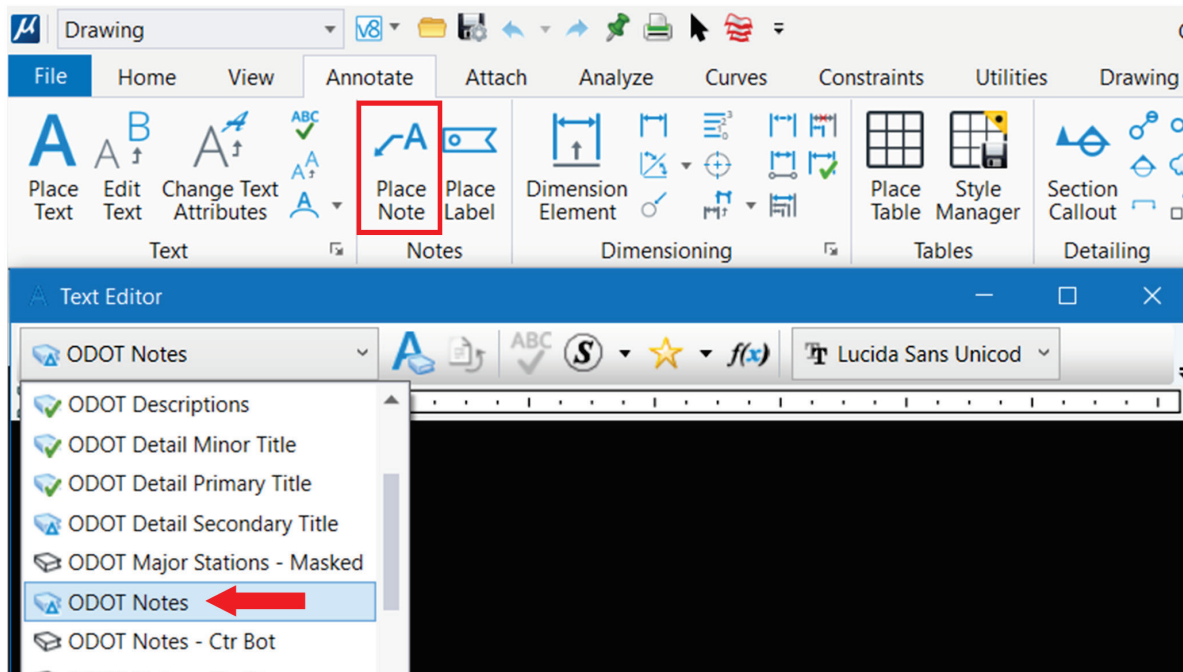
One method for scaling a detail is to reference the detail's design model into the sheet model using a scale factor. While developing details, an annotation scale need to be set for annotations (like dimensions, arrow leaders, text, etc.) to scale automatically as appropriate. The creator of the detail will need to determine this annotation scale by adjusting its fit to the drawing and sometimes how the entire detail fits within a sheet border and/or amongst other details. The chosen annotation scale for a detail is the same as the scale factor used to reference the model of the detail into a sheet model. Regardless of the active model's annotation scale, set the references 'detail scale' value to be the same as the detail models annotation scale, and the reference of the detail will be scaled appropriately. Other reference settings may need adjusting for the detail to print as required.

Showing detail scale on detail plan sheets is not required. If the designer or CAD technician determine that showing detail scale is necessary to properly convey the design, the methods described in Section 207 of the ODOT CAD Manual can be used. If a graphic scale bar is preferred, scale bars are available in the ODOT.cel cell library file. The available scale bars are "Scale Bar 2", "Scale Bar 2 with North Arrow", "Scale Bar 3", and "Scale Bar 3 with North Arrow".

503.3 Text

Use ODOT standard text styles on all projects to maintain consistency in the plan sets. Specifically, use the “ODOT Notes” style for labels on the detail. Use the “Place Note” tool (see Figure 500-1) and dimensioning tools within the MicroStation workspace for adding labels and dimensions in the details. Further discussion regarding detail titles is included in section 503.5.

Figure 500-1: Place Note Tool



503.4 Separation Lines

When multiple items are detailed on a single plan sheet, use separation line to separate details relating to a different item. Do not place separation lines between different views of the same item. White space can serve as a replacement for separation lines when extra wide spacing can clearly separate different details or groups of details. If clear division cannot be made with white space, use separation lines. Place separation lines with the “Separation Line” button, which is available in the following two locations on the MicroStation CONNECT ribbon.

- **ODOT Plan Sheet Creation** ribbon workflow > **Sheet Tools** ribbon tab > **Items for Detail Sheets** ribbon group (see Figure 500-2)
- **ODOT Roadway** ribbon workflow > **Details** ribbon tab > **Detail Sheet Tools** ribbon group (see Figure 500-3)

Figure 500-2: Separation Line Ribbon Button (ODOT Plan Sheet Creation Workflow)

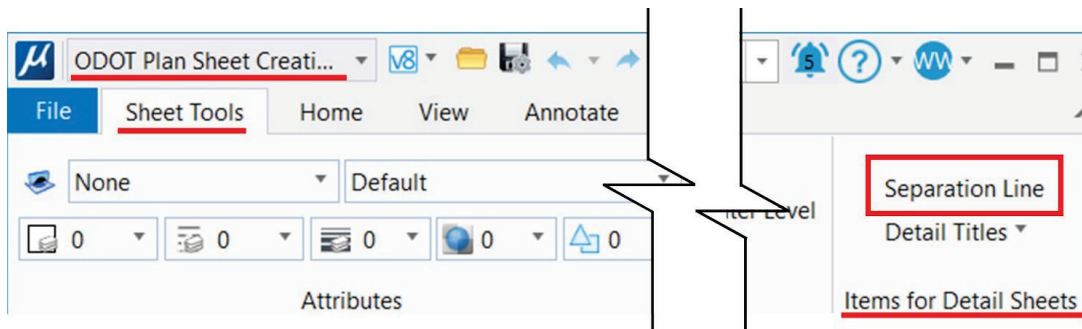
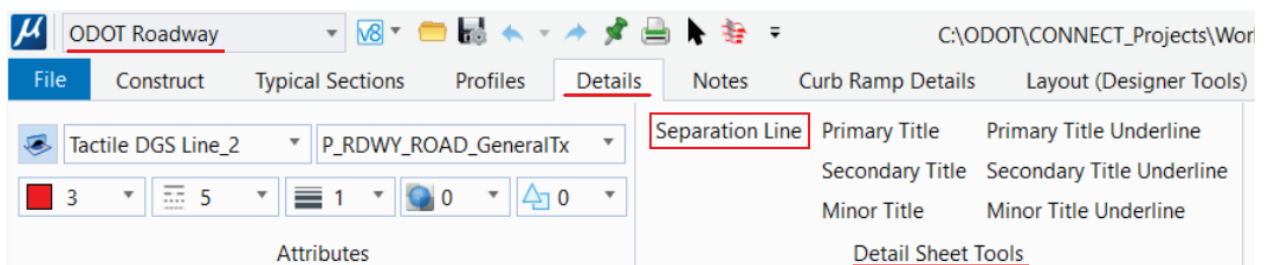


Figure 500-3: Separation Line Ribbon Button (ODOT Roadway Workflow)



Avoid overuse of separation lines or placing too many details on a single plan sheet, as overcrowding on a plan sheet can cause confusion. If there is only one item being detailed on a sheet, do not use separation lines. See Figure 500-8 for an example detail plan sheet showing the use of separation lines.

503.5 Titles

Detail titles are separated into a hierarchy of primary, secondary, and minor titles.

1. **Primary Title** (“ODOT Detail Primary Title” text style) - Use the primary title for the main title of the detail.
2. **Secondary Title** (“ODOT Detail Secondary Title” text style) – Use the secondary title to label the views.
3. **Minor Title** (“ODOT Detail Minor Title” text style) - Minor titles are used for any other title that might be needed. When scale is shown for a detail, use the minor title.

Figure 500-6 through Figure 500-9 demonstrates use and positioning of the ODOT detail text styles. Proper use of detail titles helps clearly define one detail from another. The title hierarchy helps clarify that the subordinate views are a subset of the main detail.

Place title text using the buttons on the MicroStation workspace ribbon, which are available in the following two locations:

- **ODOT Plan Sheet Creation** ribbon workflow > **Sheet Tools** ribbon tab > **Items for Detail Sheets** ribbon group > **Detail Titles** dropdown button (see Figure 500-4)
- **ODOT Roadway** ribbon workflow > **Details** ribbon tab > **Detail Sheet Tools** ribbon group (see Figure 500-5)

Figure 500-4: Detail Title Ribbon Buttons (ODOT Plan Sheet Creation Workflow)

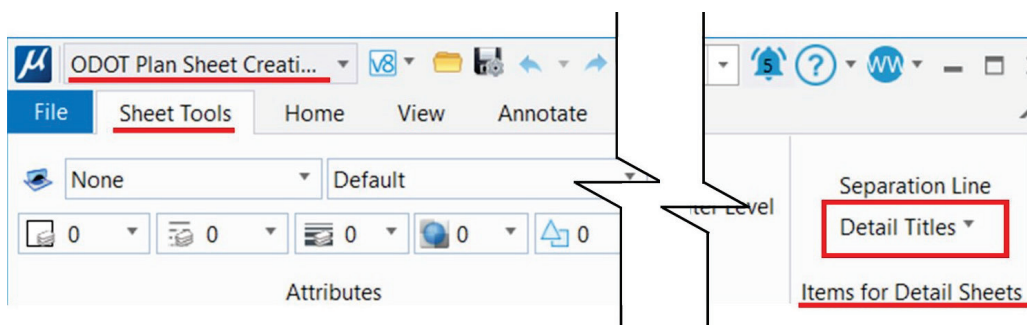
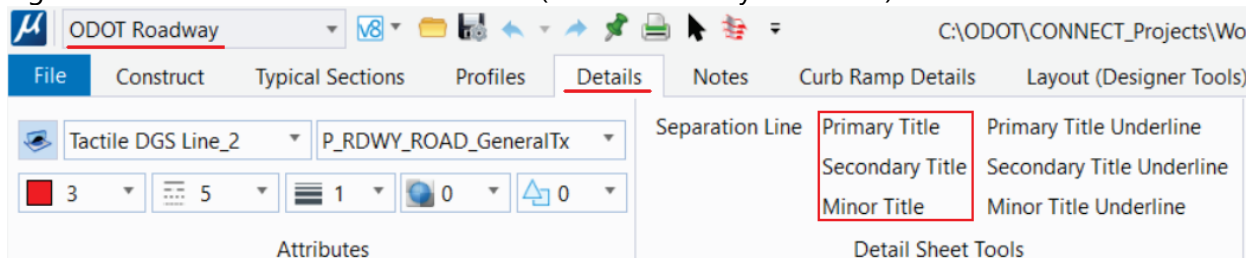


Figure 500-5: Detail Title Ribbon Buttons (ODOT Roadway Workflow)



503.6 Examples

Figure 500-6 through Figure 500-9 provide example details plan sheets to demonstrate plan sheet layout, detail titles, text styles, separation lines, and the detail composition.

Figure 500-6: Detail Example

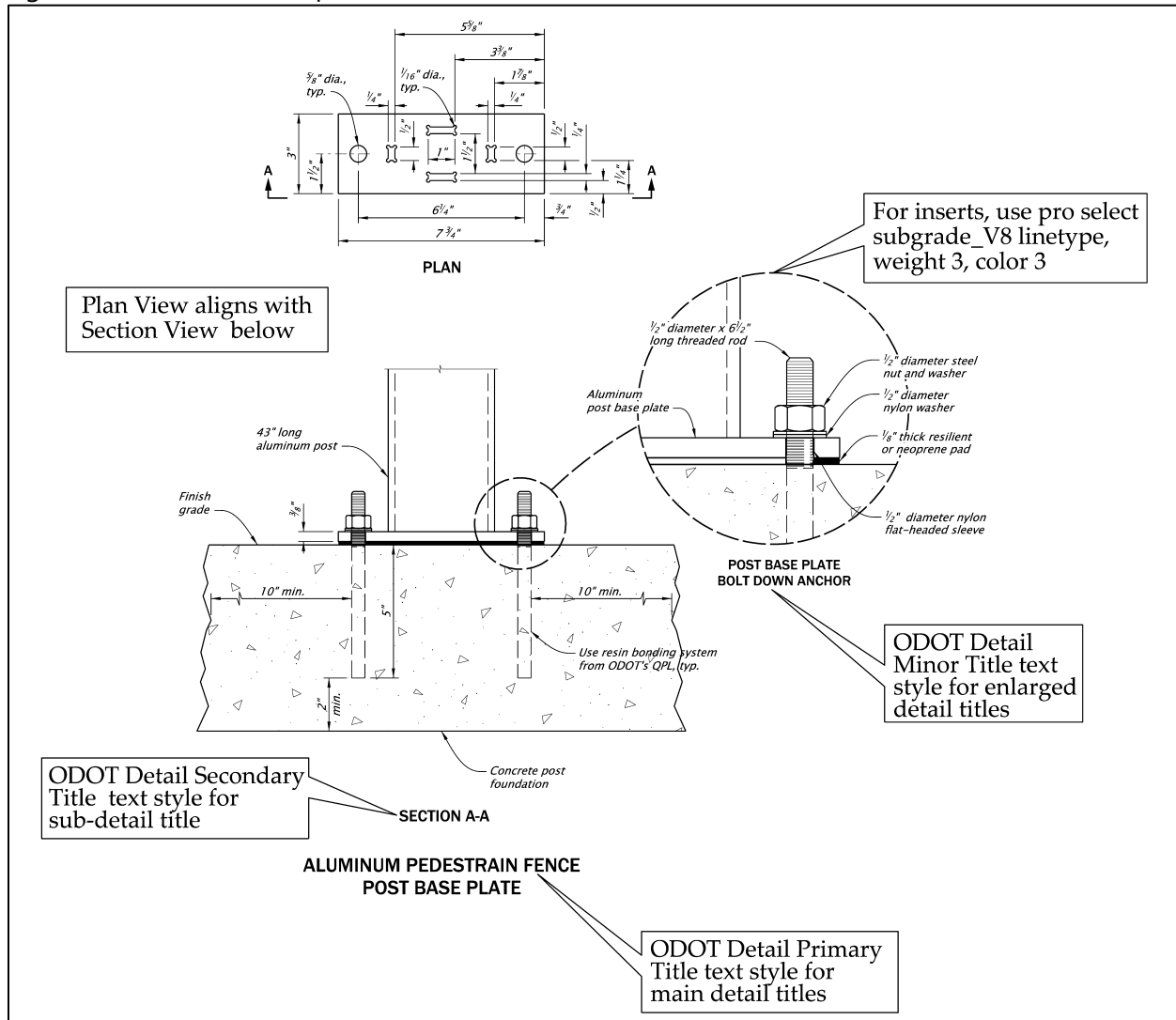


Figure 500-7 Details Plan Sheet Example

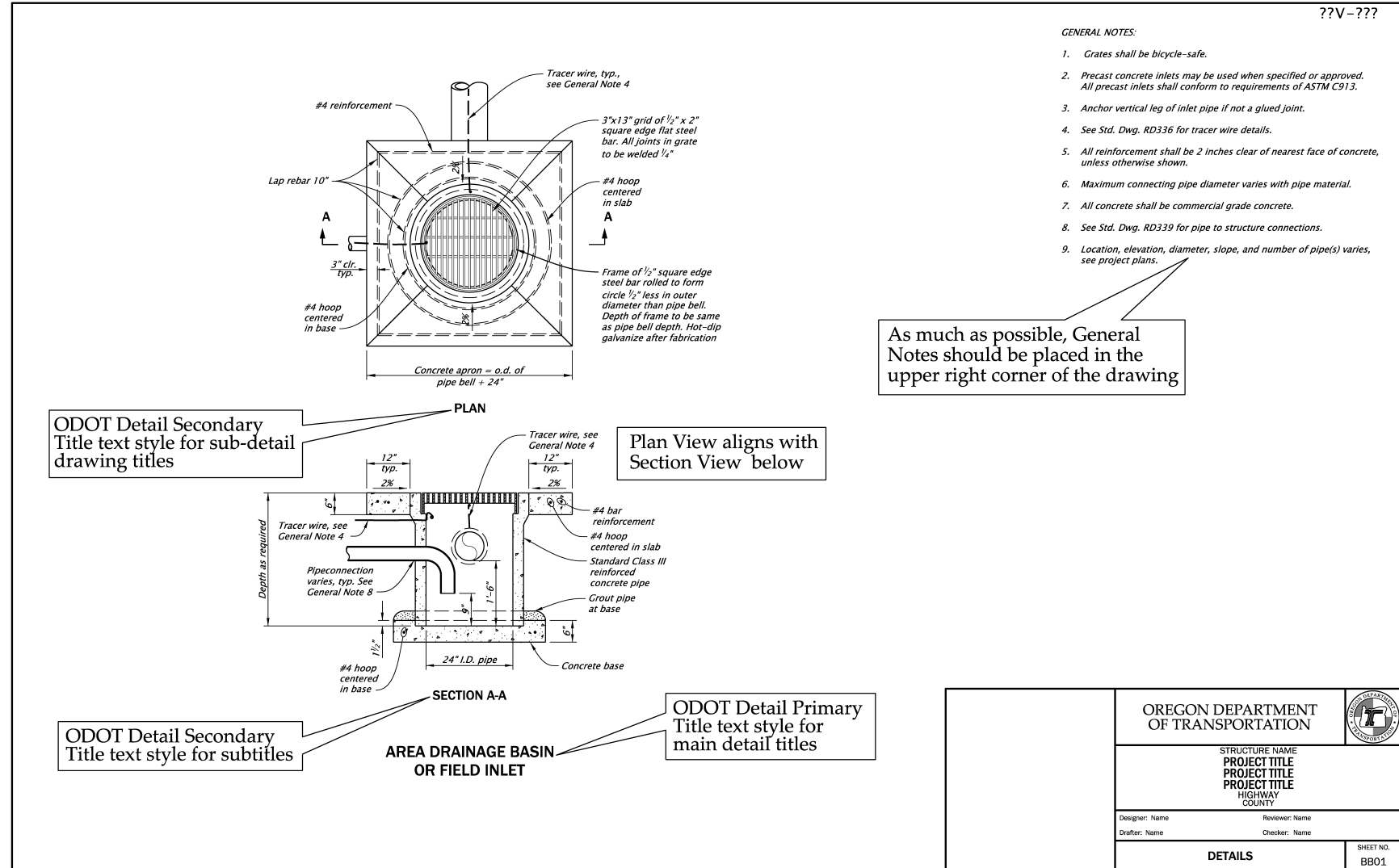


Figure 500-8 Details Plan Sheet Example

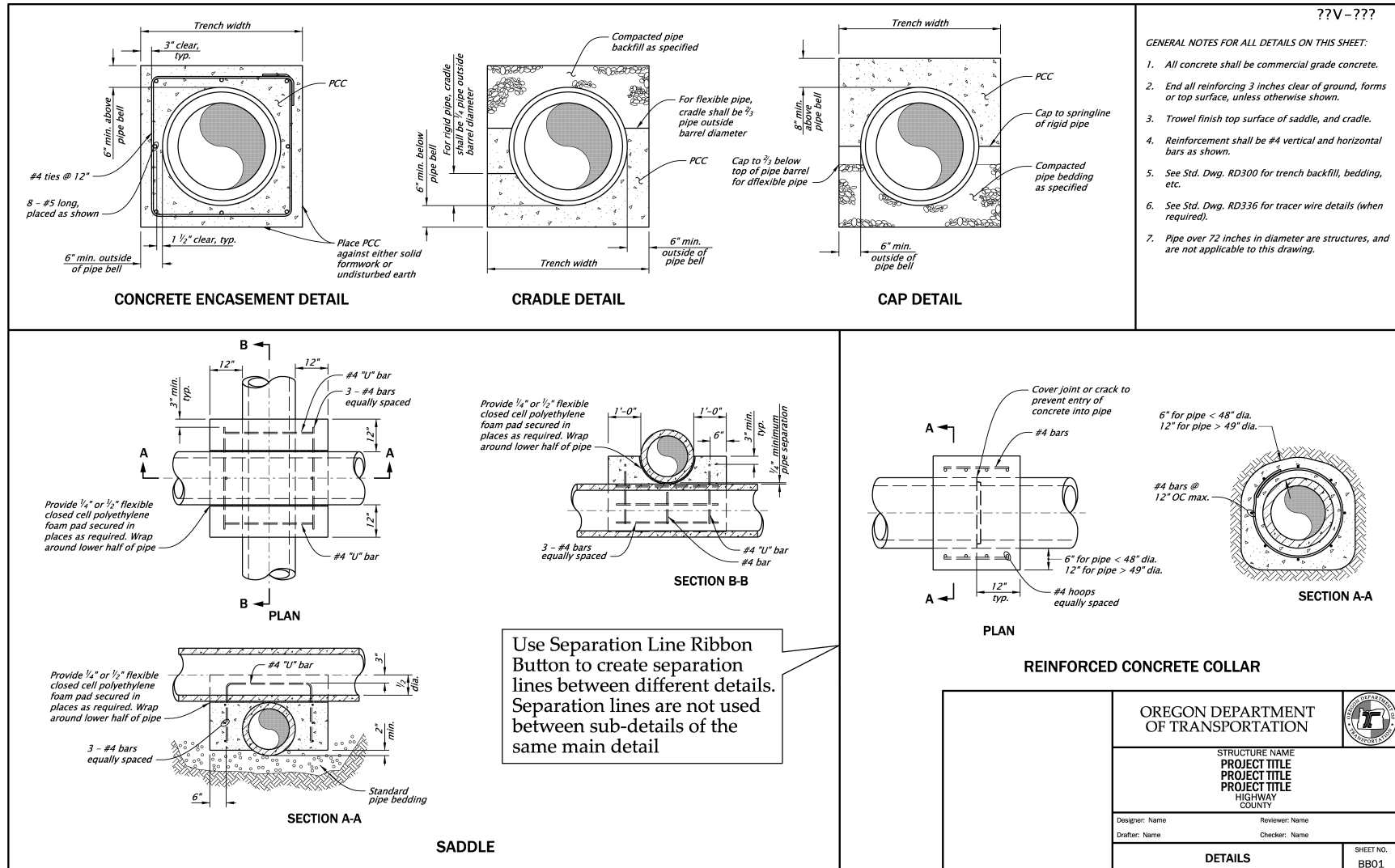
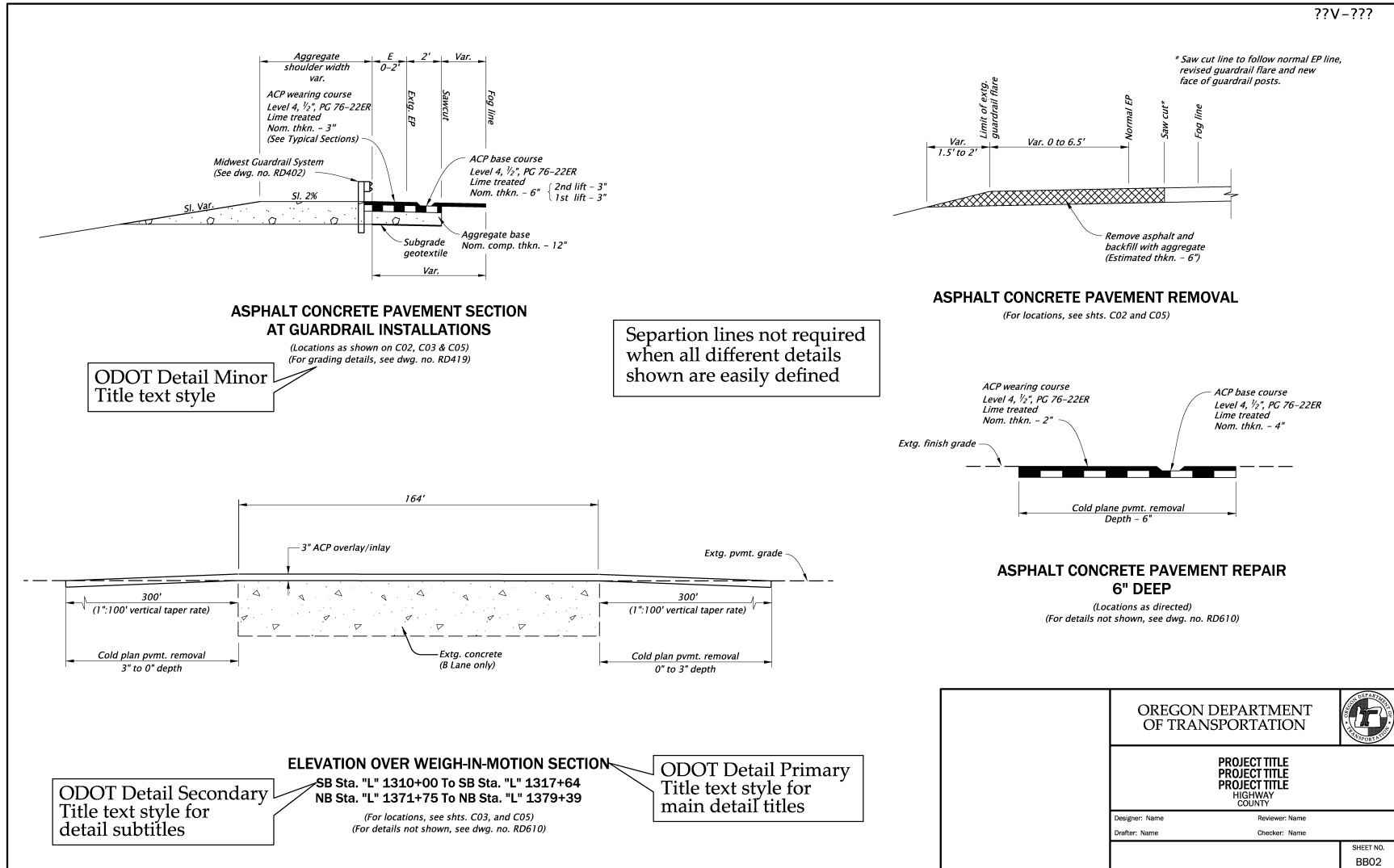


Figure 500-9: Details Plan Sheet Example



Section 504 Checklist

All Roadway details include the following as needed:

- Sheet title, sheet number, and “V” Number.
- General notes (upper right corner is the preferred location).
- Separation lines or adequate white space between different details when multiple details are shown on a sheet. Separation lines are not used between views of the same detail.
- Tables to clearly indicate amounts, types, sizes, or other information that cannot be properly shown within the detail.
- Enlarged areas shown in an insert.
- Engineer’s seal.
- Reference to necessary Oregon Standard Drawings. See ODOT CAD Manual, Section 700 for note format.