

# BRIDGE DATA SYSTEM

(VERSION: 2.1.0, JAN 19 2017)

**USER GUIDE  
DECEMBER 2018**



# Table of Contents

<b>PART 1: ACCESSING, SEARCHING, AND VIEWING</b> .....	<b>1</b>
CHAPTER 1: INTRODUCTION .....	2
Section 1.1 – Overview.....	2
Section 1.2 – Accessing BDS.....	2
Section 1.3 – Accessing and Understanding the Data.....	4
Accessing the data .....	4
Understanding the data .....	4
CHAPTER 2: SEARCHING.....	5
Section 2.1 – Navigating the system.....	5
Section 2.2 – Searching Tips/Notes .....	9
Section 2.3 – Searching.....	10
Structure Search.....	10
Selecting Search Criteria: .....	11
Structure Work Search .....	12
Using the “Structure Work” search screen .....	12
Structure Work Search by Structure .....	15
Using the Structure Tree .....	15
Locating the Structure Work.....	16
Drawing or Document Search .....	17
Using the Structure Tree .....	18
CHAPTER 3: VIEWING.....	19
Section 3.1 – Viewing Work.....	19
Section 3.2 – Printing Images .....	20
Section 3.3 – Using the Viewer .....	22
Viewing Images .....	22
PART 1 QUICK HITS.....	23
Search for Structure .....	24
By structure number .....	24
By other available criteria .....	24
Search for Structure Work.....	24
By structure work number .....	24
By structure number .....	24
Search for Drawing.....	25
By drawing number .....	25
By work description or date range or combination of both.....	25
By structure work number .....	25
By structure number .....	25
By other available criteria .....	25
<b>PART 2: ADDING WORK TO THE SYSTEM</b> .....	<b>26</b>
CHAPTER 4: CRITICAL STEPS .....	27
CHAPTER 5: STEP 1 - ADD NEW STRUCTURE .....	28
Section 5.1: Adding a Structure (Getting a Structure Number) .....	28
Section 5.2 – Definitions/Descriptions of Structure Details Data.....	30
General Structure data.....	30
General Structure Data Type Subtypes.....	31
Structure Location data .....	32
Structure Alias/Near Data.....	34
Structure Design data .....	35
Misc Structure data .....	36
Replace Structure data .....	36
CHAPTER 6: STEP 2 - ADD NEW WORK FOR THE STRUCTURE .....	37
Section 6.1 – Important Notes.....	37
Section 6.2 – Adding New Work to the Structure .....	38

<i>Section 6.3 – Definitions/Descriptions of Structure Work Details</i> .....	40
CHAPTER 7: STEP 3 - GETTING DRAWING NUMBERS .....	42
<i>Section 7.1 – Understanding Drawing Numbers</i> .....	42
<i>Section 7.2 – Get Drawing Numbers</i> .....	43
<i>Section 7.3 – Definition/Description of new drawings data</i> .....	45
CHAPTER 8: STEP 4 - CONVERT DIGITALLY SIGNED PDF TO TIFF .....	46
CHAPTER 9: STEP 5 - ADD IMAGES TO THE SYSTEM .....	47
<i>Section 9.1 – Adding Images to the System</i> .....	47
CHAPTER 10: STEPS 6 TO 11 - EDIT OR UPDATE STRUCTURE, WORK, AND DRAWING DETAILS .....	51
<i>Section 10.1 – Edit Structure Details</i> .....	51
<i>Section 10.2 – Edit Work Details</i> .....	52
<i>Section 10.3 – Edit Drawing Details</i> .....	53
<i>Section 10.4 – Replace the Available Image</i> .....	54
PART 2 QUICK HITS .....	56
<i>Edit Drawing Details</i> .....	56
By structure .....	56
By drawing number .....	56
<i>Add New Structure</i> .....	56
<i>Add New Structure Work</i> .....	57
<i>Add New Drawings</i> .....	57
<i>Add New Images</i> .....	58
<i>Replace an Image</i> .....	58
<i>Get Digitally Signed PDF Converted to TIFF</i> .....	58
APPENDIX A: REQUIRED STRUCTURE DATA.....	59
<i>System Requirements</i> .....	59

**REVISIONS:**

12/13/18 Updated contact and version data, instructions for working in ProjectWise, converting a digitally signed PDF to TIF, and other miscellaneous clarifications.

**PART 1:  
ACCESSING,  
SEARCHING, AND  
VIEWING**

# CHAPTER 1: INTRODUCTION

## Section 1.1 – Overview

---

There are two primary purposes of the Bridge Data System (BDS). First, is to provide Oregon Department of Transportation (ODOT) drafters and engineers and ODOT's consultants a means of tracking and viewing all work related to projects; second, to provide a means of obtaining structure and drawing numbers for new work. The system contains drawings and drawing, project, and structure details.

## Section 1.2 – Accessing BDS

---

Access to viewing and editing project work details within BDS requires administrative rights. System Administrators may be contacted by calling the [ODOT Computer Support Desk](#) at 503-986-3800.

When administrative rights have been received and the program is installed, BDS can be opened by selecting Start > All Programs > ODOT > Bridge Data System > BDS – Bridge Data System. The icon () may be dragged onto the desktop to create a shortcut for future accessibility.

When opening BDS, DO NOT attempt to use the program until the message "Response Complete" appears in the lower left corner of the BDS window. It may take a few seconds.

Once the application has opened, the options available will be dependent on the permissions the user has been given. User security levels are based on their needs and job requirements.

The user message shown below is displayed when the program initiates.

**IMPORTANT:** errors can occur if selections are made while the program is loading.

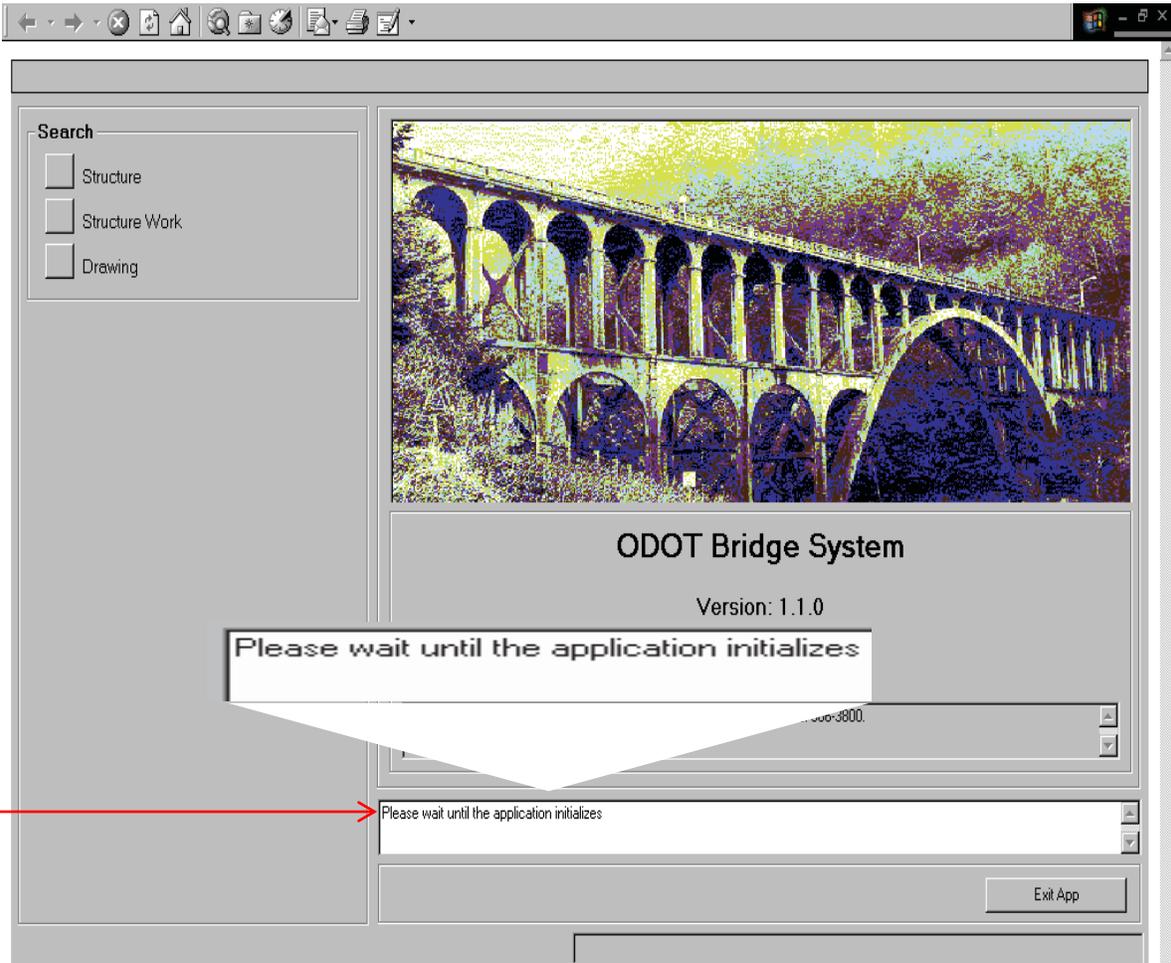


Figure 1.2 1

This message will appear when the program is ready:

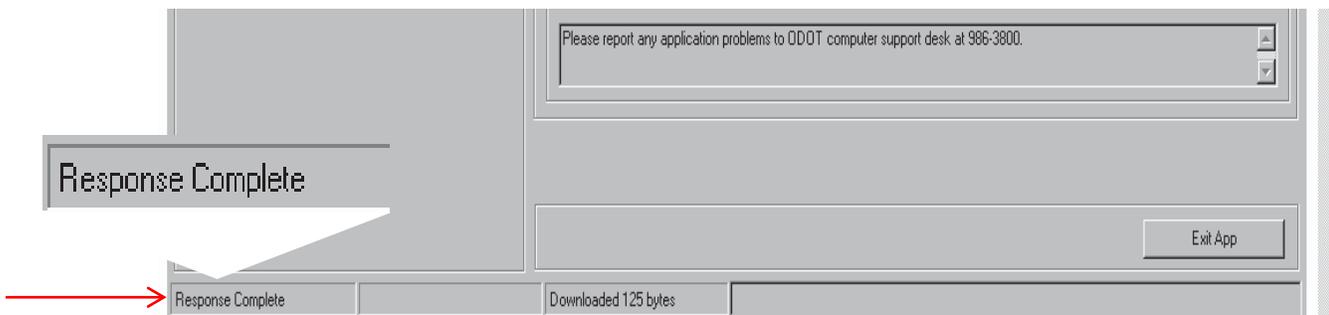


Figure 1.2 2

## Section 1.3 – Accessing and Understanding the Data

### Accessing the data

#### Home Screen

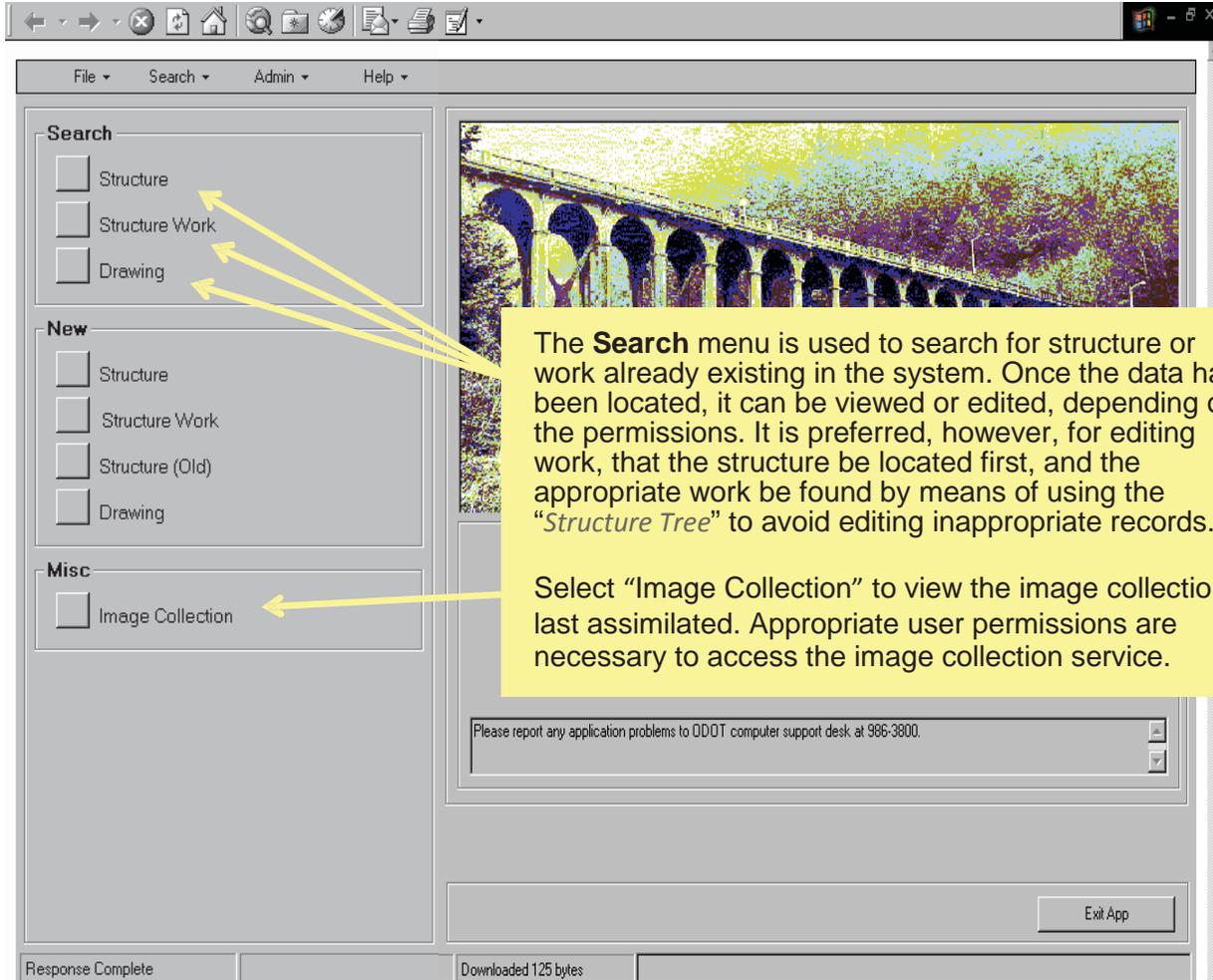


Figure 1.3 3

### Understanding the data

The Bridge Data System has been built on the following concept:

*Structure* has *Work*  
*Work* has *Drawings*

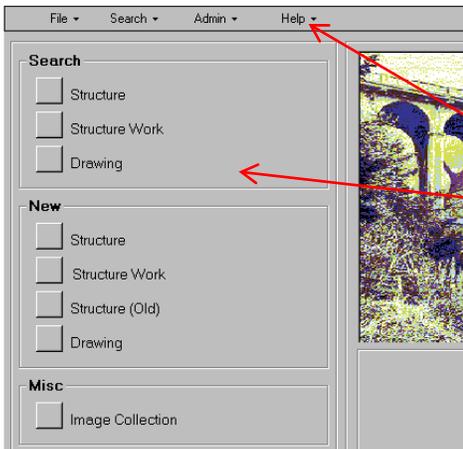
# CHAPTER 2: SEARCHING

## Section 2.1 – Navigating the system

---

### General Navigation

Open the application and wait for the program to initialize. Expanding the view to full screen will allow all options and fields in a screen to be viewed at once, without using the scroll bars.



There are two menus available from which the same option can be selected:

The pull-down menus at the top of the screen.

The options displayed on the left side of the screen.

Figure 2.1 1

There is a pull-down menu at the top of every screen. This allows the user to select a different function at any time. Their options are displayed below:

File	Search	Admin	Help
New Structure	Structure	<i>system administrator options, available with proper permissions only</i>	Bridge System Help
New Structure Work	Drawing		About
New Drawing(s)	Structure Work		
Exit			

Table 2.1 1

If “Structure” has been selected from the **Search** menu, the following **Search** screen will be displayed. There are three tabs on the left side of the screen.

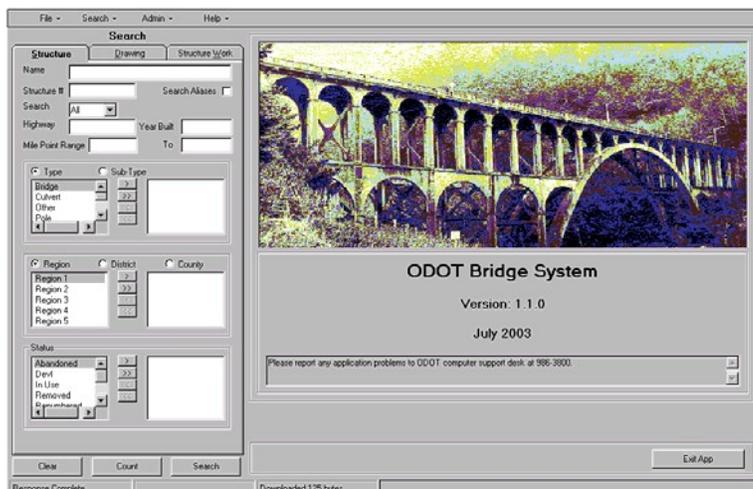


Figure 2.1 2

Since “Structure” was selected from the menu on the previous screen, the “Structure” tab is selected.

If “Drawing” or “Structure Work” had been selected, they would be selected.

A different tab may be selected at any point during the search to bring focus to an alternative search method.

## Navigation Basics

### Opening screens:

Using the menus to navigate to another search method will create additional open screens.

### Closing screens:

Selecting the “Close” button, located in the lower left area of the screen, will close the current screen. The previous screen will then be displayed.

### Returning to the “Home” screen:

There are three methods to return to the “Home” screen:

1. Use the “Close” button. When all screens have been closed and the “Structure Search Results” screen is displayed, using the “Close” button again will display the “Home” screen.
2. Use the **Help** pull-down menu and select “About”. This clears all previous search data.
3. Use the  in the upper right corner and close the application and re-open it.

**WARNING!** Opening and closing screens excessively, without clearing the data, may cause the system to lock up and force “Exiting” the application and “Re-opening” it.

### Selecting a search result:

Search results will be returned on the right side of the screen. Double-click the record to display the associated data.

To view the representative image (if available), highlight the record and click on the “View Representative Image” button at the bottom of the screen or single-click the drawing icon next to the structure number and then single-click again. No representative image does not mean there are no images for this structure, it simply means no image has been set as a representative image. To find available images, double-click one of the search results and use the structure tree. It may take a few seconds, for the drawing to appear.

### Using the command buttons to navigate:

The command buttons not available for use are grayed out.

The “Edit” and “New” command buttons will navigate directly to the “Edit...” and “Add...” screens. These will not be used for viewing purposes.

Selecting the “**Report**” or “**View Representative Drawing**” buttons will navigate directly to prepared reports and images. To close out of these screens and return to the previous screen, click the  in the upper right corner.

### Using the “Clear” feature:

On the “**Search**” screen there is a “**Clear**” button in the lower left corner. Use this button to erase all search criteria previously used.

### Using the Keyboard:

*Enter Key -*

When all “Search” criteria have been determined and ready to view results, it is our natural instinct to press the Enter key. This option is not available in the Bridge Data System. It is necessary to use the mouse and click the “**Count**” and “**Search**” buttons at the bottom of the screen.

In fact, this can be advantageous. Performing a search will sometimes provide numerous results. The “**Count**” button is provided directly to the left of the “**Search**” button. Click on the “**Count**” button to determine the number of results that will be displayed. The number of results that will be displayed is found directly above the “**Count**” button. If the number is reasonable and agreeable, click on the “**Search**” button to display the results. Only 25 records are displayed at a time. See [Section 2.2 - Searching Tips/Notes](#) for details.

*Tab Key –*

Continuous tabbing will navigate throughout a screen, making all commands and options available. For some of the sub-list options, it is more convenient to point and click.

## Changing screens:

Every time an option is selected, or when the focus has changed (i.e., from one folder to another), a screen with pertinent and associated data to that option will display. The current screen may offer different options and actions than the last. Some changes are subtle. See the following examples.

When the structure number is highlighted, there are no additional options.

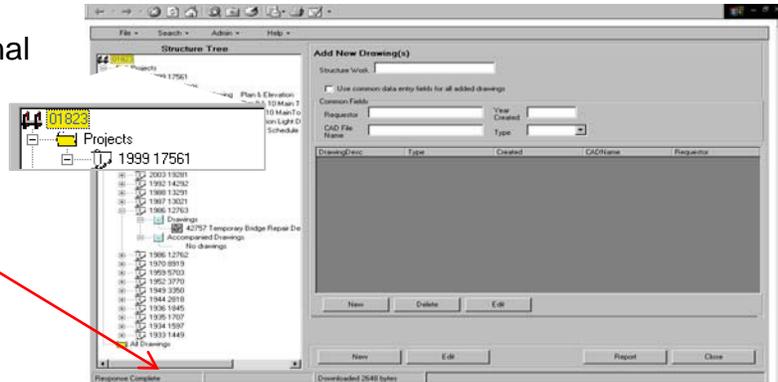


Figure 2.1 3

When one of the four main folders is highlighted; in this case, the "Project" folder, the "Add Work" button that appears.

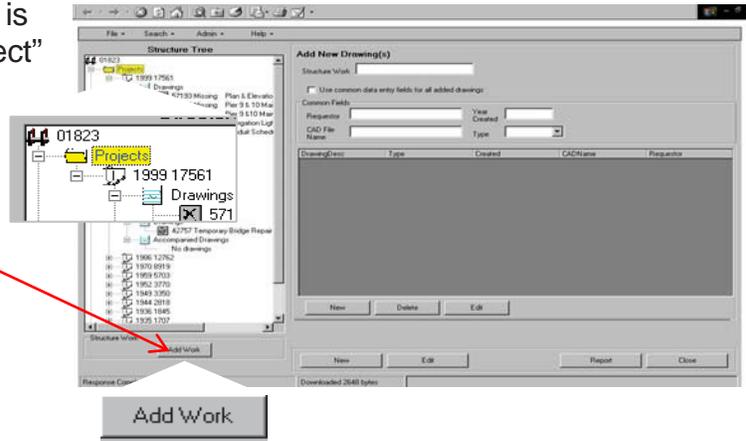


Figure 2.1 4

When one of the Work sub folders is highlighted, the "Display Thumbnails" button appears.

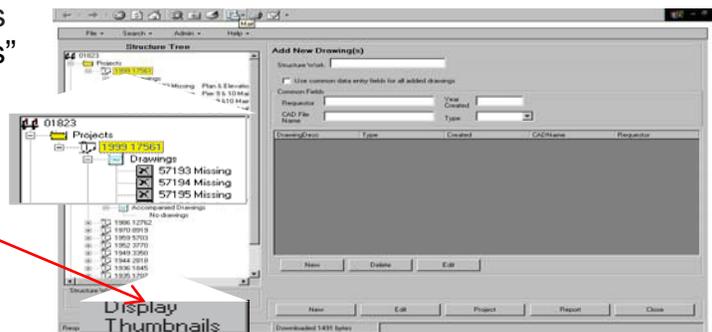


Figure 2.1 5

## Closing out of the Viewer or a Report:

Use the  in the upper right hand corner to close out of the viewer or report and return to the previous screen. Do not use the  to close screens other than the viewer.

## Section 2.2 – Searching Tips/Notes

---

Please keep the following points in mind:

- Use the “**Count**” button on the lower left corner of the search screen to determine the number of results returned based on search criteria entered. If satisfied with the count results, click on “**Search**” to have the results returned to the right side of the screen.
- Only 25 results will be returned at one time. To go to the next 25 results, click the “next record” arrow.

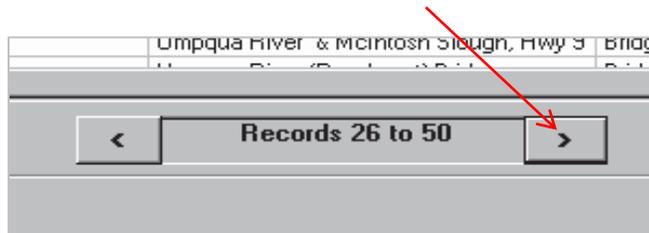


Figure 2.2 1

- Check the “Search Aliases” checkbox to include all possible results in the search. A structure name may have additional names by which it is known.
- Remember, when searching by other criteria (i.e. type and sub-type) results depend upon that data having been previously entered by another user of the system. If that piece of information has not been included, that information will not be found in a query that is looking for a certain sub-type of structure. For example:

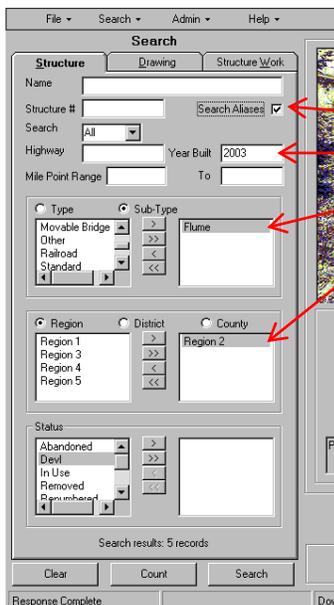


Figure 2.2 2

In this example, the following criteria have been selected:

- Search Aliases
- Must have been built in 2003, and
- Must be a flume, and
- Must be in Region 2

If any one of these pieces of information was not included when the data was entered into the system, structures will be ignored even though they are valid.

Consider this when adding additional criteria for searches, the structure search is only as good as the detail originally entered.

## Section 2.3 – Searching

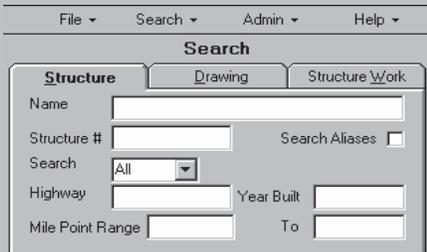
### Structure Search

(See [Figure 2.2.2](#))

The following defines the criteria requirements for the Structure Search screen. Criteria may be selected using combinations of the selections. Increasing the criteria selections may decrease the chance of successful (100%) data retrieval.

Searches can only bring up records for which data has been entered into the fields on which you are searching. The system contains many records with incomplete information. For example, if searching for structures located in Polk County, the results returned will not include structures in Polk County for which the county field was left blank.

**Primary Search Criteria**



Field	Information/Requirements
<b>Name</b>	Name of the structure. Partial name may be entered. A vague partial name will increase the number of results.
<b>Structure #</b>	Structure number is typically five to six characters in length. Partial structure number may be entered. This would increase the number of results to include all structure numbers containing the partial number entered.
<b>Search Aliases</b>	Check this box to include aliases in the search. Aliases will need to have been added to structure data if they are to be displayed in search results.
<b>Search...</b>	Search Prior work, Maintenance work, Project work, or All work. Be careful. If data was not originally entered properly, it will be excluded from the search results.
<b>Highway</b>	Enter whole three digit highway number (not Route number) or partial number. A partial number will return anything with that number in it and will increase the number of results.
<b>Mile Point Range</b>	Works best in conjunction with the Highway number. Enter the beginning range number here. Use decimal fractions if appropriate.
<b>To</b>	Enter the ending milepoint range number here. Use decimal fractions if appropriate.

Figure 2.3 1

### Selecting Search Criteria:

1. Click the **“Type”** or **“Sub-Type”** button. Only one list may be used.
2. Click an item on left side of the list and click the single right arrow, or double click the item, to move the item to the right side (selecting the double arrow will move all of the options)
3. Repeat for each item desired

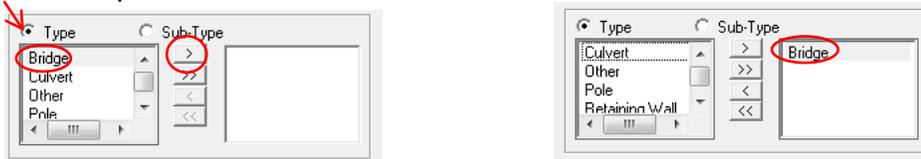


Figure 2.3 2

Use the same method to select **“Region”** or **“District”** or **“County”** and **“Status”**.

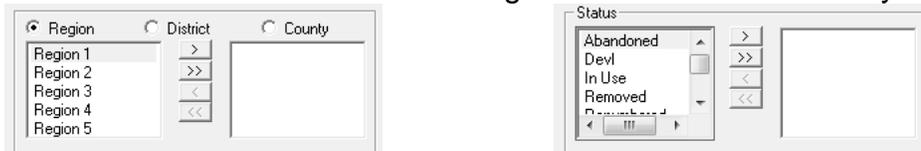


Figure 2.3 3

**NOTE:** If data was not entered properly, it will be excluded from the search results.

Once all limiting criteria have been selected, click on the **“Count”** button at the bottom of the screen to see how many records have been found. Then click on the **“Search”** button to view the results. Only 25 records will be displayed at a time. If there are more than 25 results, click the **“right arrow”** directly below the search results. *Note: the bottom one or two records of each set of 25, can be viewed by scrolling down.*

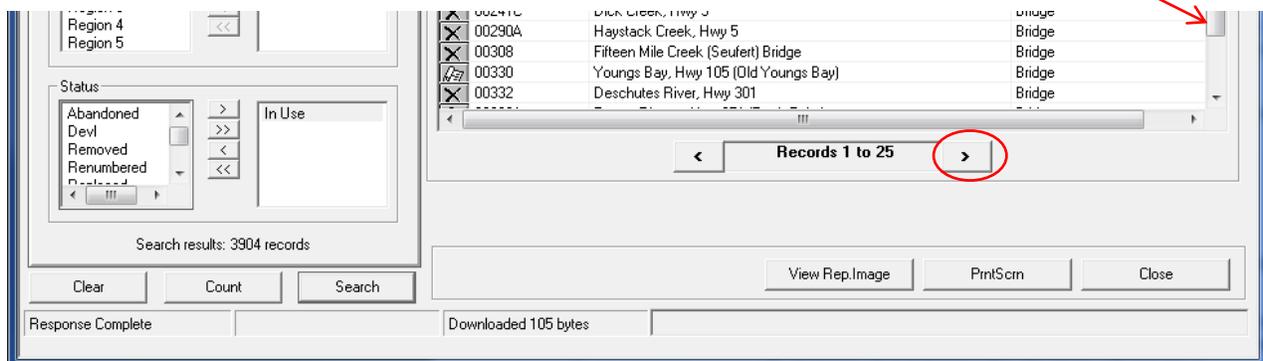


Figure 2.3 4

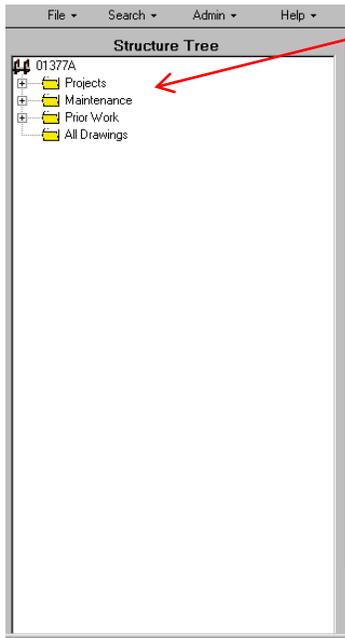
Search results will appear to the right of the screen. To view structure details for a structure, double-click on it.

To view a representative image, highlight the structure and click on **“View Rep. Image”** at the bottom of the screen. OR, single-click on the drawing icon; then single click again. It may take a few seconds for the image to load. This option will only be available if a representative image has been assigned to the structure. If an [ X ] appears, then there is currently no *representative* image in the system for that drawing or one has not been set. When a drawing icon [  ] appears, there is an image available.

## Structure Work Search

Before getting into searching for work, it is important to understand what **Structure Work** is. Structure work can be thought of as a job or work order related to a particular structure.

Equally as important, the **Structure Tree** needs an introduction. Once a structure has been accessed, the following view will be displayed on the left side of the screen.



This is referred to as a **Structure Tree**. The tree view currently displays four main folders for a structure.

**Projects folder** – Contains Project drawings (not maintenance or prior work). Work done on a structure with a PCS Key number will be stored in the Projects folder.

**Maintenance folder** – Contains Maintenance drawings only. (repairs, upgrades, etc.). Work done on a structure for the purpose of maintaining the structure will require a Maintenance number and will be stored in the Maintenance folder.

**Prior Work** – Contains drawings for all work prior to the existence of the BDS database.

**All Drawings** – This folder will display every drawing associated with the structure.

Figure 2.3 5

### *Using the “Structure Work” search screen*

This method of searching for structure work is recommended if drawings are not being accessed **and** when:

- The structure work number is known
- Searching for specific types (project or maintenance) of work done in a range of time
- Searching for work completed on a structure in a range of time
- Searching for a specific type of work performed (i.e. widenings)

**NOTE: Drawings cannot be viewed using this search method. Only the structure work details will be displayed.**

If not searching for any of the bulleted items above, or if accessing drawings, we recommended searching through the structure. See [Search for structure work by structure](#).

Select "Structure Work" from the Search menu.

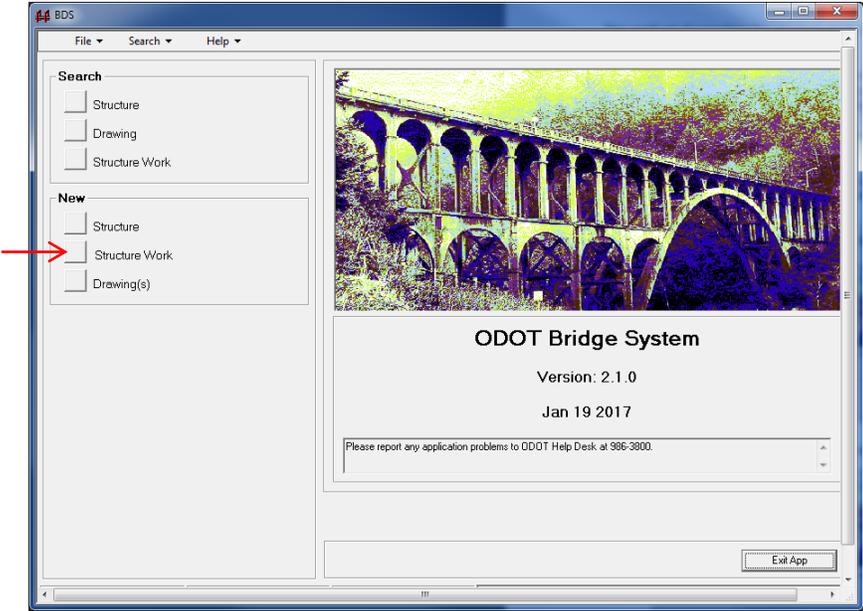


Figure 2.3 6

The following Search screen will be displayed:

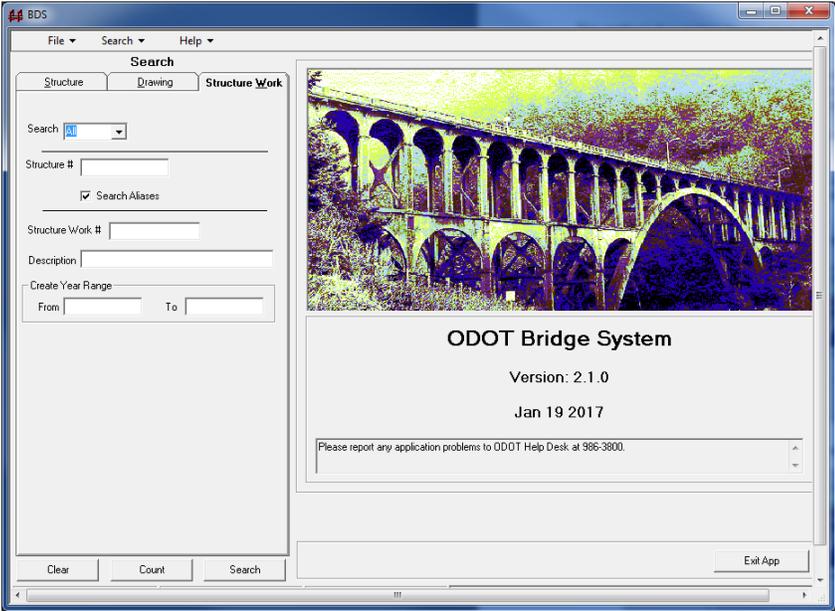


Figure 2.3 7

## Structure Work Search Criteria Definitions

<i>Field</i>	<i>Information/Requirements</i>
<b>Search (dropdown)</b>	Select All, Prior, Maintenance, or Project drawings.
<b>Structure #</b>	Structure number is typically five to six characters in length. The numeric portion of the structure number will always be five digits. Partial structure number may be entered. This would increase the number of results to include all structure numbers containing the partial number entered. A partial number entered in this field really has no value, unless only part of the structure number is known to the user.
<b>Search Aliases</b>	Check this box to search for aliases of the structure number entered.
<b>Structure Work #</b>	Enter the structure work number. Partial structure work number may be entered. This would increase the number of results to include all structure work numbers containing the partial number entered. A partial number entered in this field really has no value, unless only part of the structure number is known to the user.
<b>Description</b>	Partial entry recommended in this field to get the most accurate results. For instance, enter "rail" and all structure work that has anything to do with the rail will be displayed. If "rail retrofit" was entered, maybe all possibilities will not be displayed because a different description may have been used when the work was originally entered. Use the trial and error method until satisfied. This is a very flexible field.
<b>Create Year Range From &amp; To</b>	Enter a start year in the "From" field and an ending year in the "To" field. Certain minimum and maximum date rules will apply. If exceeded, error messages will be displayed.

Table 2.3 1

Once all limiting criteria have been selected, click on the **"Count"** button at the bottom of the screen to see how many records will be displayed. Then click on the **"Search"** button to view the results. Search results will appear to the right of the screen. Only 25 records will be displayed at a time. If there are more than 25 results, to see the next set of records, click the "right arrow" directly below the search results. *Note: the bottom one or two records of each set of 25, can be viewed by scrolling down.*

To view details for structure work, double-click on the desired work.

***NOTE: Drawings cannot be viewed using this search method. Only the structure work details will be displayed.***

To view a report of the results, click "Report" at the bottom of the screen. The report will only be for the current 25 records showing on the screen. To print a report of all records, advance to the next set of records by clicking on the "right arrow", click on Report, and repeat for each next set of records.

## Structure Work Search by Structure

This method of searching for structure work is recommended if drawings (or documents) are being accessed or when:

- The structure work number is not known
- Searching for specific types of work (project or maintenance) related to a structure
- Searching for all work completed on a structure
- Desiring an environment in which all related work can be easily viewed and accessed in one screen (using the Structure Work Tree)

Search for the structure as shown in [Section 2.3 – Searching](#).

Once the structure has been found, double click on it to view the structure details and the Structure Work Tree.

## Using the Structure Tree

When each folder in the structure tree has been expanded, a screen similar to this will be displayed:

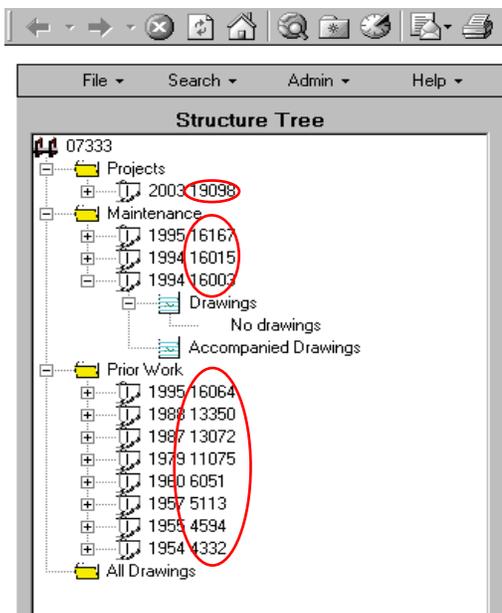


Figure 2.3 8

The sub-folders are assigned work numbers. These numbers are automatically assigned as new work is added to the system.

Expanding the work folder further displays two additional subfolders.

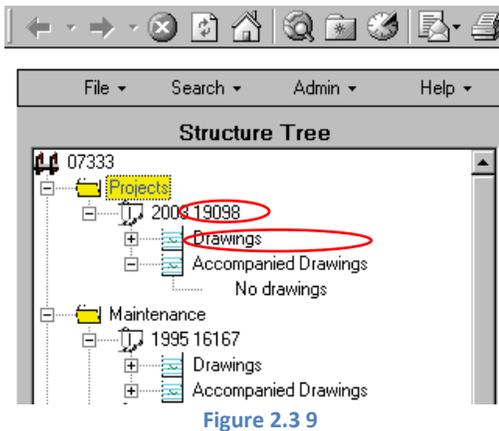


Figure 2.3 9

The *Drawings* folder contains unique drawings for the work done.

The *Accompanied Drawings* folder contains drawings that are standard or may not be unique to only this project.

By expanding the folders completely, the drawings' icons will be displayed showing the drawing title for each. If an [  ] appears, then there is currently no image in the system for that drawing (Note: In the Search view, the same symbol means there is no "Representative Image"). When a drawing icon [  ] appears, there is an image available (Note: In the Search view, the same symbol means there is a "Representative Image"). By double-clicking on the drawing, the Drawing Details will be displayed as shown: (to view the drawing, click on "View Drawing")

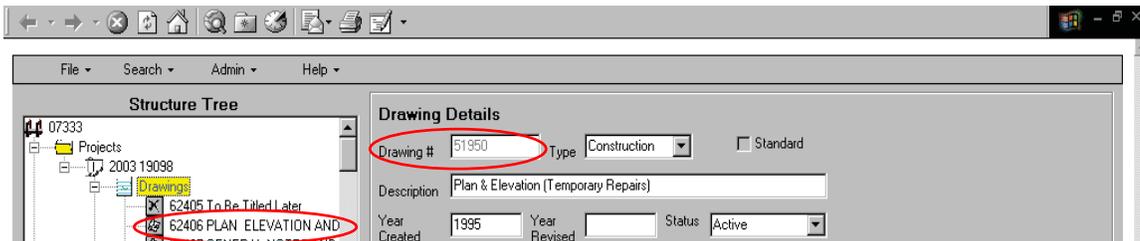


Figure 2.3 10

### Locating the Structure Work

Expand the appropriate folder

Highlight a structure work subfolder. Structure work details will be displayed to the right.

To view images of structure work, expand the folder and highlight "Drawings" or "Accompanied Drawings"

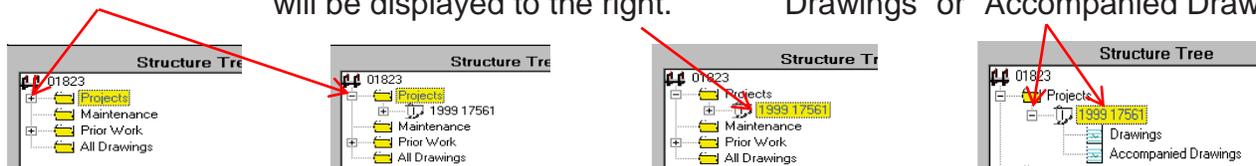


Figure 2.3 11

## Drawing or Document Search

This method of searching for a drawing is recommended when:

- the drawing number is known
- searching for examples of types of work or drawings
- searching for all drawings in specific criteria ranges

If not searching for any of the bulleted items above, we recommended searching through the structure. See [Search for drawings by structure](#).

Select “**Drawing**” from the “**Search**” menu.

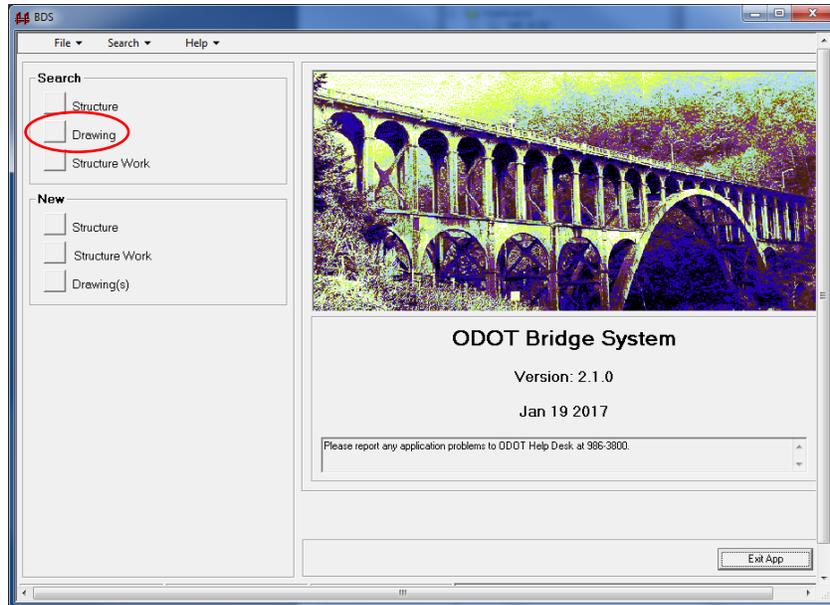


Figure 2.3 12

The following **Search** screen will be displayed:

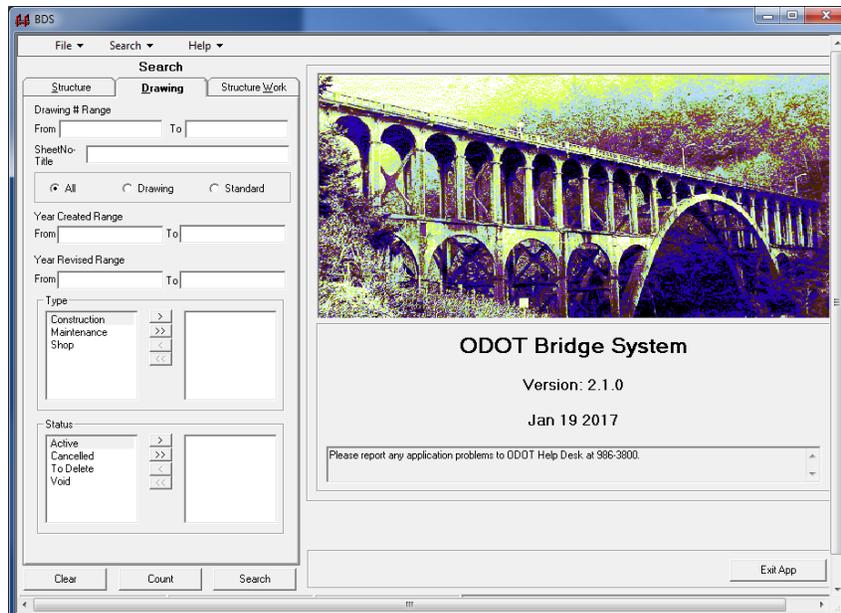


Figure 2.3 13

## Drawing Search Criteria Definitions

<i>Field</i>	<i>Information/Requirements</i>
<b>Drawing # Range: From &amp; To</b>	Enter a range of drawing numbers to display. Partial numbers may be used, but result in all drawing numbers containing the numbers entered. It is best to enter whole drawing numbers to get an accurate range display.
<b>Drawing Description</b>	Partial entry recommended in this field to get the most accurate results. For instance, enter “wingwalls” instead of deck & wingwalls (because the word “and” may be in the form of the “and” symbol, or a comma may be involved in some cases). Use terms that are common in their most commonly written form. Use the trial and error method until satisfied. This is a very flexible field.
<b>All, Drawing, Standard</b>	Select appropriate categories of drawing to search for. Selecting “Standard” will display all standard drawings in the system.
<b>Year Created Range: From &amp; To</b>	Enter a start year in the “From” field and an ending year in the “To” field.
<b>Year Revised Range: From &amp; To</b>	Enter a start year in the “From” field and an ending year in the “To” field.
<b>Type</b>	Add as many limiting criteria options as desired by highlighting the list option to the left and clicking on the “right arrow” to place the list item in the box to the right.
<b>Status</b>	Add as many limiting criteria options as desired by highlighting the list option to the left and clicking on the “right arrow” to place the list item in the box to the right.

Table 2.3 2

Once all limiting criteria have been selected, click on the “**Count**” button at the bottom of the screen to see how many records will be displayed. Then click on the “**Search**” button to view the results. Search results will appear to the right of the screen. Only 25 records will be displayed at a time. If there are more than 25 results, to see the next set of records, click the “right arrow” directly below the search results. *Note: the bottom one or two records of each set of 25, can be viewed by scrolling down.*

### Using the Structure Tree

This method of searching for a drawing is recommended when:

- Searching for drawings related to work on a structure.

Search for the structure as described in [Structure Search](#) in Section 2.3. Once the structure has been located, search for the structure work as shown in [Search for structure work by structure](#) in Section 2.3.

Once the structure work has been found, using the Structure Tree, expand the structure work folder to view the Drawings and Accompanied Drawings sub-folders.

Search for a drawing by expanding the Drawings and Accompanied Drawings sub-folders. The drawing title appears for each drawing.

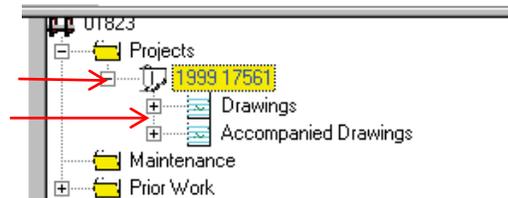


Figure 2.3 14

# CHAPTER 3: VIEWING

## Section 3.1 – Viewing Work

---

Want to:	How
<i>View drawing details and access <b>single</b> drawing</i>	<ol style="list-style-type: none"> <li>1. From the structure tree, select the folder the work is in and expand each sub-fold until the Drawings are listed.</li> <li>2. Highlight a drawing. Details are displayed to the right.</li> <li>3. Select <b>View Drawing</b> from the bottom of the screen.</li> </ol>
<i>View <b>all</b> drawings associated with the work</i>	<ol style="list-style-type: none"> <li>1. Highlight the structure work folder.</li> <li>2. Select <b>Display Thumbnails</b> from the bottom of the screen. Wait for the drawings to load; or, right-click on the structure work and select <b>Display Thumbnails</b>.</li> <li>3. Click on the first drawing.</li> <li>4. Hold <b>Shift</b> key down and click on the last drawing.</li> </ol>
<i>View <b>some</b> of the drawings associated with the work</i>	<ol style="list-style-type: none"> <li>1. Highlight the structure work folder.</li> <li>2. Select <b>Display Thumbnails</b> from the bottom of the screen. Wait for the drawings to load.</li> <li>3. Click on the first drawing.</li> <li>4. Hold <b>Ctrl</b> key down and click on each drawing to be viewed.</li> <li>5. Select <b>View Drawing</b> from the bottom of the screen.</li> </ol>
<i>View all drawings associated with the structure</i>	<p>Special permissions are needed to use the “<b>Add to Image Collection</b>” method. This method requires more work, but will allow the viewing of all/multiple structures. The drawings that are copied to a computer file are read only. To use this method:</p> <ol style="list-style-type: none"> <li>1. Highlight the first available drawing and an option to “<b>Add to Image Collection</b>” will be displayed at the bottom of the tree. <b>OR</b>, <b>right-click</b> on the drawing and select “<b>Add to Image Collection</b>”.</li> <li>2. Click on that option. Select another drawing. Click on “<b>Add to Image Collection</b>” again. Repeat for each drawing.</li> <li>3. Go to the <b>Admin</b> menu at the top of the screen and select View Image List.</li> <li>4. Click on <b>change location</b>. Select a folder to copy the drawing to.</li> <li>5. Click on “<b>Copy Files</b>” at the bottom of the screen.</li> <li>6. When the gray screen appears with “<b>Copy Operation Complete</b>”, close the screen.</li> <li>7. Open <b>Windows explorer</b> and find the location the drawings were copied to. View the drawings.</li> <li>8. You can open all drawings by clicking on the first drawing, holding the <b>shift</b> key down, and then clicking on the last drawing. Then go to the <b>File</b> menu in</li> </ol>

Table 3.1 1

## Section 3.2 – Printing Images

### Printing a single image

Print the image currently being viewed:

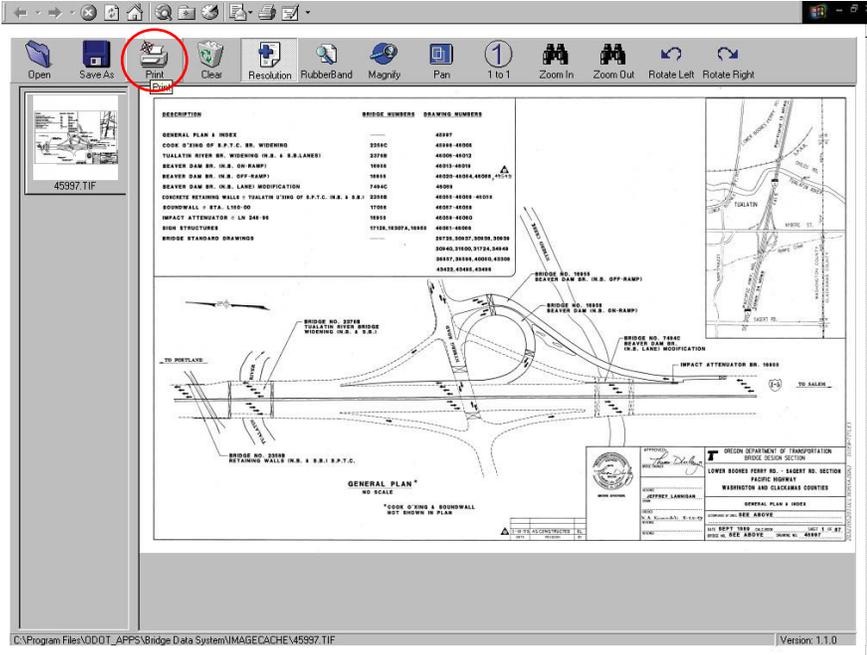


Figure 3.2.1

In the dialogue box that appears, change the settings appropriately:

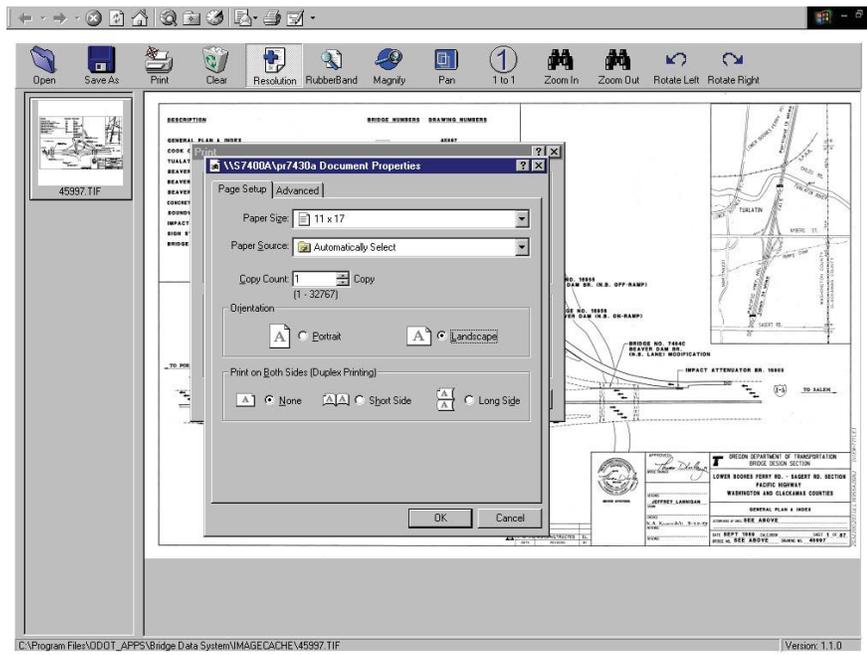


Figure 3.2.2

To print multiple images using thumbnails:

Display thumbnails as shown in [Section 3.1 – Viewing Work](#)

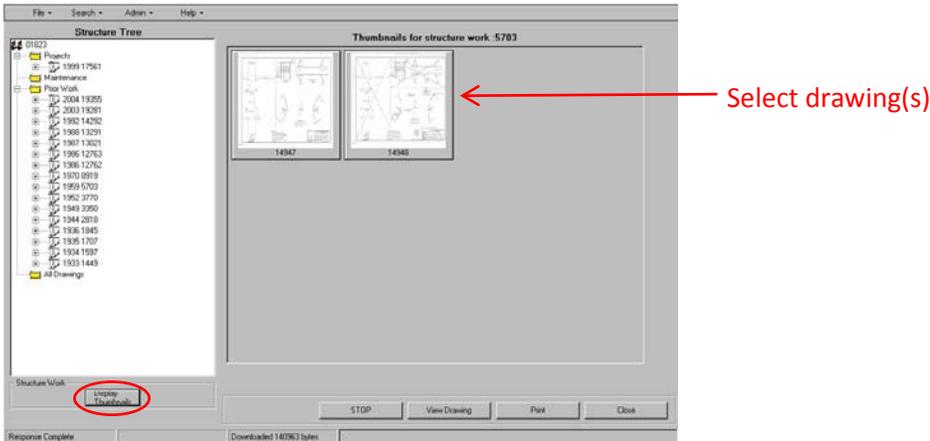


Figure 3.2.3

Once drawings have been selected, click on **Print**.

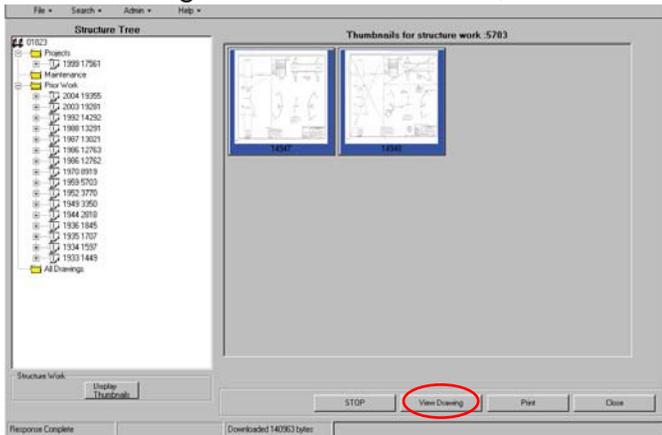


Figure 3.2.4

The Print screen will be displayed. Edit print settings as appropriate. Click OK.

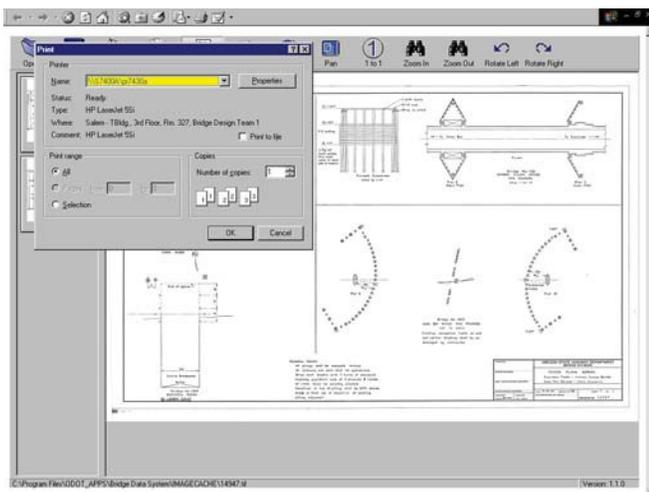


Figure 3.2.5

Close viewing screen.

## Section 3.3 – Using the Viewer

---

### Viewing Images

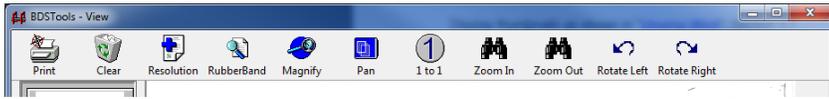


Figure 3.3 1

The complete drawing image is displayed in the Image Viewer. You can manipulate the image using the buttons on the viewer toolbar. To enlarge the details press the **Zoom In** button until the details are a readable size. Clicking the **Zoom Out** button will decrease the image size.

Clicking the **Pan** button opens a pan window – a small window with a version of the image displayed. The area of the drawing that is currently displayed is shown in the pan window as a small rectangle. Other areas of the image can be easily displayed by clicking on the rectangle and dragging it around. Navigation works until the left mouse button is released. To disable the pan feature click the X on the top right hand corner of the small pan window.

The **Rubberband** button lets you select a portion of the image to magnify. Select the upper left corner of the area desired and drag the mouse, with the left mouse button still held down, so the rectangle created surround the area of the image you want to magnify. Let go of the mouse button. The image is magnified and the Rubberband feature is turned off.

Clicking the **Magnify** button creates a virtual ‘magnifying glass’ that you can move around the image. The portion under ‘magnifying glass’ is enlarged.

Avoid the **1 on 1** button. It blows the image up to a huge size and you must then zoom out multiple times to undo the effect. The size is supposed to be the actual size of the drawing but it appears to be larger.

Clicking the **Print** button activates the Printer Setup window. Be sure the select a large paper size, such as tabloid and select landscape. The default size on most printers is 8x11 portrait. This setting will print the drawing image on the top half of page.

**PART 1**  
**QUICK HITS**

## Search for Structure

---

### *By structure number*

1. **Search** > Structure
2. Enter Structure Number > Search
3. Double-click appropriate Structure

### *By other available criteria*

1. **Search** > Structure
2. Enter a vague but narrowing name, if known
3. Enter any KNOWN data > Search
4. Try again with different variances of data if not successful

## Search for Structure Work

---

### *By structure work number*

1. **Search** > Structure Work
2. Enter Structure Work Number > Search
3. Double-click appropriate Structure Work

### *By structure number*

- A
1. **Search** > Structure Work
  2. Enter Structure Number > Search, or
  3. Enter any known pertinent information > Search
  4. Double-click each result until appropriate Structure Work appears
- B
1. **Search** > Structure
  2. Enter Structure Number > Search
  3. Double-click appropriate Structure
  4. Expand the appropriate work type folder
  5. Highlight the appropriate structure work folder to view Structure Work Details

## Search for Drawing

---

### ***By drawing number***

1. **Search** > Drawing
2. Enter Drawing Number or Number Range > Search
3. Double-click to view a drawing

### ***By work description or date range or combination of both***

1. **Search** > Drawing
2. Enter Drawing Description or Date Range or combination > Search
3. Double-click to view structure work
4. Highlight appropriate drawing > Edit
5. Drawing still highlighted > Edit to view drawing details

### ***By structure work number***

1. **Search** > Structure Work
2. Enter Structure Work Number > Search
3. Double-click appropriate Structure Work
4. Highlight appropriate drawing > Edit
5. Drawing still highlighted > Edit to view drawing details

### ***By structure number***

- A
1. **Search** > Structure Work
  2. Enter Structure Number > Search
  3. Double-click each result until appropriate Structure Work appears
  4. Highlight appropriate drawing > Edit
  5. Drawing still highlighted > Edit to view drawing details

- B
6. **Search** > Structure
  7. Enter Structure Number > Search
  8. Double-click appropriate Structure
  9. Expand the appropriate work type folder
  10. Expand the appropriate structure work folder to view Structure Work Details
  11. Highlight the appropriate drawings folder to view drawings
  12. Highlight the appropriate drawing to view details on the right side of the screen.

### ***By other available criteria***

1. Search > Structure
2. Enter a vague but narrowing name, if known
3. Enter any KNOWN data > Search
4. For each applicable result:
5. Double-click a structure
6. Expand the appropriate work type folder
7. Expand the appropriate structure work folder to view Structure Work Details
8. Highlight the appropriate drawings folder to view drawings
9. Highlight the appropriate drawing to view details on the right side of the screen.
10. If not successful, try the next structure in search results by clicking the "close" button until back to the results screen.
11. If not successful after trying all resulting structures, try adjusting the search criteria and repeat process.

**PART 2:  
ADDING WORK  
TO THE  
SYSTEM**

## CHAPTER 4: CRITICAL STEPS

- Step 1 Add new structure to the system (see [Structure Naming and Numbering Rules](#))
- Step 2 Add new work for the structure
- Step 3 Get drawing numbers for work
- Step 4 Convert digitally signed PDF to TIFF (400 dpi)
- Step 5 Add images to the system
- Step 6 Update structure details for completeness and change status to “Construction”
- Step 7 Update MicroStation files to “As-Constructed”
- Step 8 Create TIFF image
- Step 9 Replace original image with “As-Constructed” image
- Step 10 Update structure data and change status to “In-Use”
- Step 11 Update structure, work, and drawing details as needed

# CHAPTER 5: STEP 1 - ADD NEW STRUCTURE

## Section 5.1: Adding a Structure (Getting a Structure Number)

---

Certain information about the new structure must be entered into the Bridge Data System in order to obtain a new structure number. See [Appendix A](#).

It is critical that as much information as possible be input when getting a new structure number. We request that all data be provided. If there are data fields that cannot be filled in initially, we ask that it get added as soon as possible.

The first step in adding a new structure to the system, is to access the Bridge Data System and select “Structure” from the “New” menu. See [Part One, Chapter 1: Introduction](#).

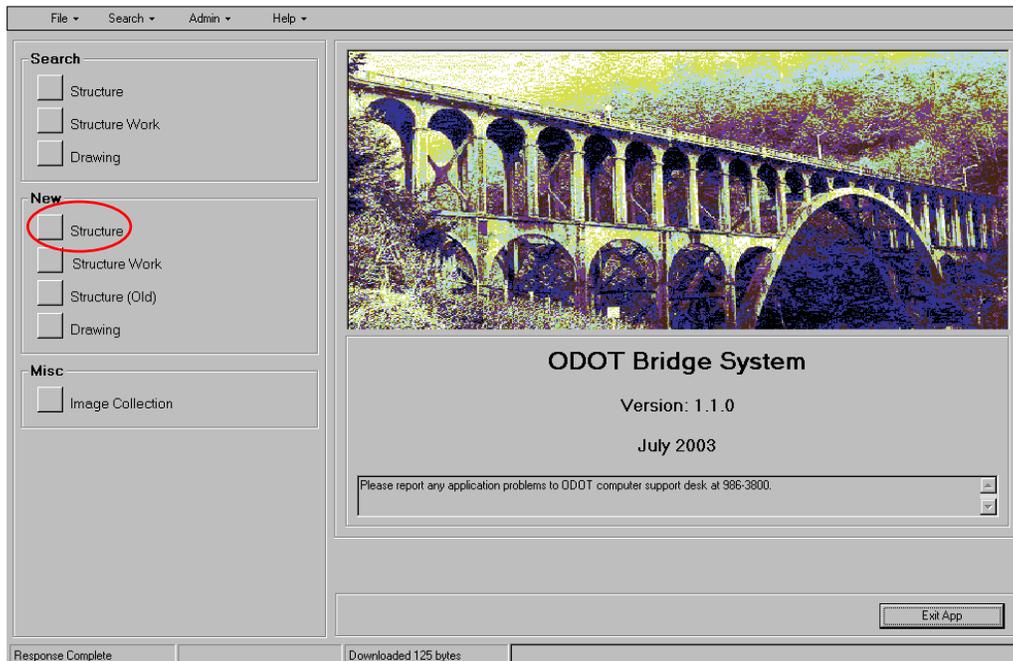


Figure 5.1 1

The “**Add Structure Details**” screen will be displayed to the right, as shown:

Figure 5.1 2

Enter data into each field appropriately. Click on **Update** at the bottom of the screen when data input is complete. This will permanently add the data to the Bridge Data System and get a new structure number.

For detailed field requirements and helpful information, see [Section 5.2 – Definitions/Descriptions of Structure Details Data](#).

A “**Structure Details**” screen will be displayed when the structure details have finished updating. Four options are available once in this screen. These four options and their actions are listed in the following table:

Option	Action Desired
<b>New</b> .....	Add another structure to the system
<b>Edit</b> .....	Edit the structure data just entered
<b>Report</b> .....	Print a Structure Details report for the new structure
<b>Close</b> .....	Close screen

Figure 5.1 3

## Section 5.2 – Definitions/Descriptions of Structure Details Data

Following are specific parameters for entering NEW Structure Data into BDS:

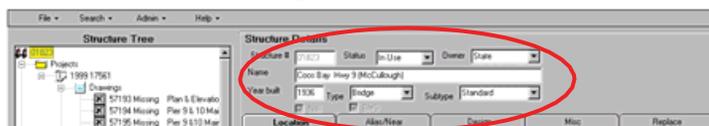


Figure 5.2 1

### General Structure data

Field	Options	Information/Requirements
<b>Status</b>	Abandoned Devl Renumbered Unknown Replaced In Use Void Removed	Started and then abandoned Being developed Has been renumbered Status not known Replaced with new structure Currently in use Never constructed Structure removed
<b>Owner</b>	State County Township City State Park Local Park Other State Other Local Private Railroad State Toll Local Toll Other Federal BIA US Forest Service National Park BLM B of Reclam Corps of Engineers Unknown	Select the appropriate owner for the structure.
<b>Name</b>		See <a href="#">Bridge Naming Rules</a> ; For State Owned structures, the ODOT official name, created with the NBI rules. For other structures, the primary name associated with the structure.
<b>Year Built</b>		The year the structure was completed.
<b>Type</b>	Bridge Culvert Other Pole Retaining Wall Sign Structure Sound Wall Tunnel	Physical type of structure. Type includes buildings since until about 1993 the ODOT Bridge Engineering section designed many of the buildings for which Facilities is now responsible. See <a href="#">Table 5.2 2</a> for Subtypes
<b>NBI</b>	(checkbox)	When checked, indicates that the structure is an NBI structure. NBI structures are federally reported. Since NBI length is calculated differently than the overall structure length, this flag has to be set by information sent from BMS.
<b>BMS</b>	(checkbox)	When checked, denotes that the structure is managed by ODOT.

Table 5.2 1

### **General Structure Data Type Subtypes**

The sub-types codes were supplied by the business users. Many are codes that are used with other Bridge systems.

<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
<b>Bridge</b>	Standard Bike/Pedestrian Structure Covered Bridge Movable Bridge Railroad Viaduct	
<b>Culvert</b>	< 6' Culvert 6' – 19' Culvert 20' + Culvert	
<b>Other</b>	Cattle Pass Ferry Flume Toll House Other	
<b>Pole</b>	Standard Camera Pole	
<b>Retaining Wall</b>	Standard Retaining Wall	
<b>Sign Structure</b>	Standard Sign Structure Truss Type VMS Bridge Truss Type Sign Bridge Monotube Sign Bridge Monotube Signal Bridge Monotube Sign Cantilever Pipe VMS Butterfly Pipe Sign Butterfly Bridge Sign Mount	
<b>Sound Wall</b>	Standard Sound Wall	
<b>Tunnel</b>	Bike/Pedestrian Structure Standard Tunnel	

Table 5.2 2

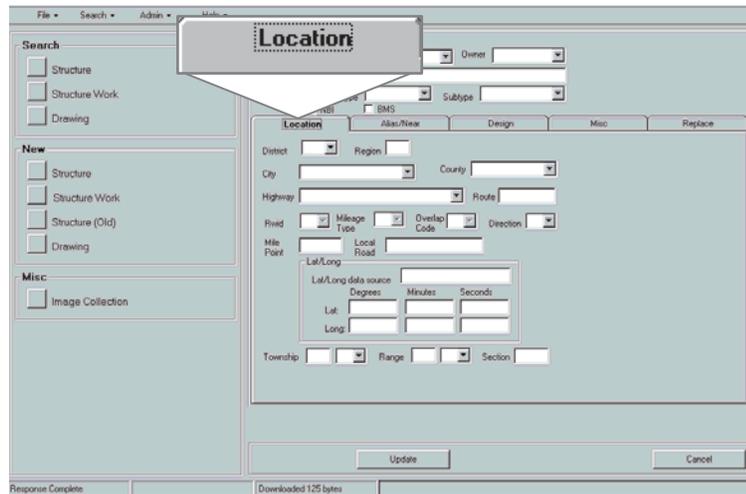


Figure 5.2.2

### **Structure Location data**

<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
<b>District</b>	1, 10, 11, 12, 13, 14, 2A, 2B, 2C, 3, 4, 5, 7, 8, 9	An organization within ODOT that is responsible for the maintenance of State roads within its geographic area of responsibility.
<b>Region</b>	1, 2, 3, 4, 5	Geographic divisions of the state of Oregon. When a District is selected, the Region automatically fills in once the tab key is depressed.
<b>City</b>	Oregon's Cities listed in alphabetical order	A geographic area representing a political table that is incorporated for government management in accordance with the laws of and within the borders of the State of Oregon.
<b>County</b>	Oregon's Counties listed in alphabetical order	A geographic area representing a political entity as designated by the State of Oregon Constitution for government management in accordance with the laws of and within the borders of the State of Oregon.
<b>Highway</b>	Oregon's Highways listed in alphabetical order by Code.	The primary identifier of the road. In IT IS, this is five characters. The first three characters identify the road. The last two characters identify frontage and connecting roads that relate to the primary road. Since the Bridge Section uses the first three characters of the road, the system will put spaces in the remaining two characters.
<b>Route</b>		Interstate, Oregon or US highway route number (e.g. US101).
<b>Rwid</b>	1, 2, 3	The roadway identifier is a one-digit code used in conjunction with the highway number and mile point to identify the alignment on which the mile point exists.

Table 5.2.3

<b>Mileage Type</b>	<p>Y = Spur Mileage – A highway spur is a short off-shoot of an established highway.</p> <p>Z = Overlapping Mileage – When a road is lengthened in the middle due to realignment, Z-mileage is created.</p> <p>T = Temporary mileage – Mileage on a temporary traveled route, usually due to a detour or highway under construction.</p>	<p>Used to make mile points unique in areas where there are multiple occurrences of a mile point on a single highway.</p> <p>Note: 'X' prefix is no longer used, it has been replaced with a '-' negative sign.</p>
<b>Overlap Code</b>	1, 2, 3, 4	Milepoint overlapping code used only in conjunction with mileage type of 'Z'. It indicates a unique series of overlapping 'Z' mileages. The first chronological occurrence of 'Z' mileage will have a code of 1, the second chronological occurrence will have a code of 2, etc.
<b>Direction</b>	Blank, N, S, E, W	Direction of the structure from the landmark. Example: the structure is south of Bend. Valid values (E, N, NE, NW, W, S, SE, SW, Un (Unknown)) are stored as constraints in the database.
<b>Milepoint</b>		Approximate distance in miles from the beginning of a state highway.
<b>Local Road</b>		Actual street or road name as known by the public.
<b>Lat/Long data source</b>		Source of latitude and longitude data. Example: provided by ODOT GIS, calculated from map, etc.
<b>Lat: Degrees, Minutes, Seconds</b>		The latitude of the location of the structure in Degrees, Minutes, Seconds
<b>Long: Degrees, Minutes, Seconds</b>		The longitude of the location of the structure in Degrees, Minutes, Seconds.
<b>Township</b>		<p>A public land surveying unit. A division of territory six miles square, contains 36 sections. Values allowed: 2 digits + N,S</p> <p>Note: The meridians included in each great survey are numbered in order east and west from the "principal meridian" of that survey, and the townships in the range are numbered north and south from the "base line," which runs east and west; as, Township No. 6, N., Range 7, W., from the fifth principal meridian.</p>
<b>Range</b>		A north-south strip of townships, each six miles square, numbered east and west from a specified meridian in a U.S. Public land survey, Values allowed: 2 digit + E or W
<b>Section</b>		A one square mile area that is one of 36 in a range which is in a township. Township, range, and section identify a geographic location.

Table 5.2 4

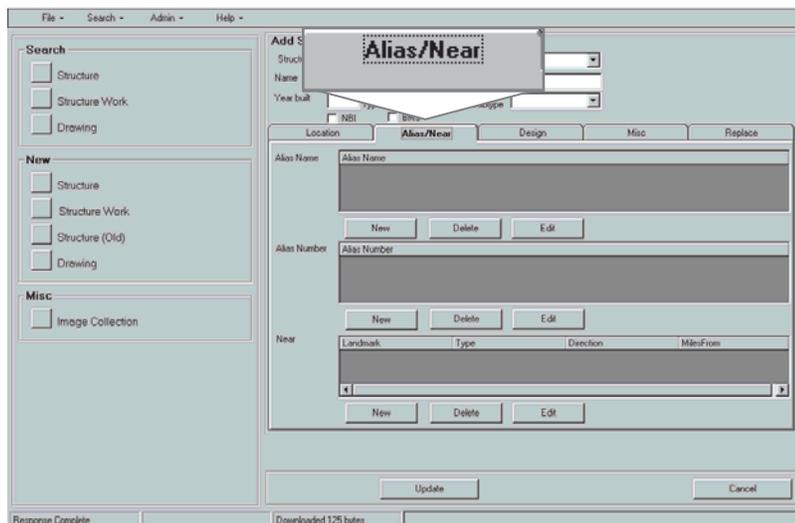


Figure 5.2 3

### Structure Alias/Near Data

Field	Options	Information/Requirements
Alias Name		Name other than the official name, by which a structure is/was referred to or also known as.
Alias Number		County number or other number structure is/was known by. (cross-reference information)
Landmark		Name or description of the landmark. Examples: <ul style="list-style-type: none"> <li>- Salem</li> <li>- Yeon State Park</li> <li>- Washington/Multnomah county line Intersection of I-5 and Portland Road</li> </ul>
Type	Unknown, Cemetery, Road, Street, Bridge, Highway, Shopping Center, Park, Subdivision, Railroad, Airport, Lake, Pond, Bay, Fish Hatchery, City, City Limits, Church, Commercial, Business County Line, Interchange, National Monument, Dam, Canyon, River	Description of the type of landmark.
Direction	N, E, S, W, NE, SE, SW, NW, Un (Unknown)	Direction of the structure from the landmark.
Miles From		Distance in miles between the structure and the landmark.

Table 5.2 5

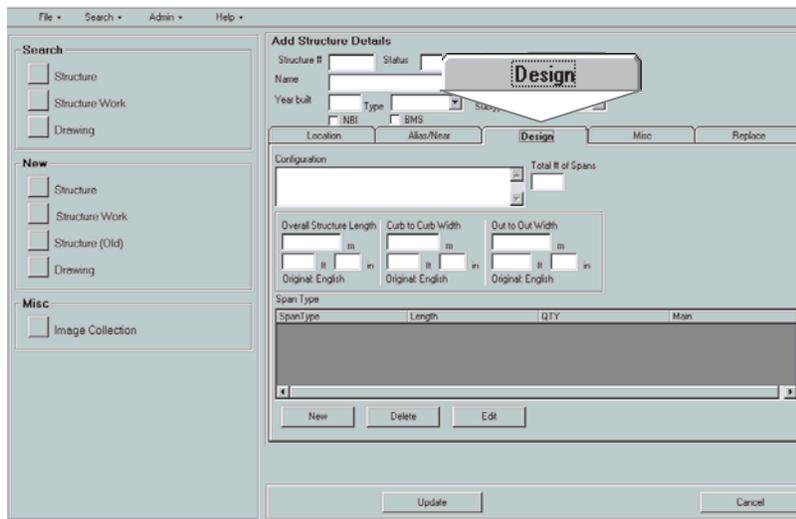


Figure 5.2 4

**Structure Design data**

Field	Options	Information/Requirements
Configuration		A free-form description of the component mix of the structure
Total # of Spans		The number of spans. A span is a section of a bridge that runs between two bearing points.
Overall Structure Length	<i>If one measurement unit is measured, the others auto-fill in.</i>	Overall length of structure, or pole height, in meters (which may or may not match the length of the structure after the project is complete). Must be updated at status change from Dev to In Use.
Curb to Curb Width	<i>If one measurement unit is measured, the others auto-fill in.</i>	The width (in decimal feet) of a structure measured between the curbs, not counting the sidewalks. This is the maximum surface on which driving and bike lanes can be laid out.
Out to Out Width	<i>If one measurement unit is measured, the others auto-fill in.</i>	Maximum width (in decimal feet) of a bridge includes driving lanes, curbs, sidewalk and outer rails.
Span Type	RCBG, RCMB, RC Slb, RC Rigid Frame, RC Thru Arch, Comp, RC Deck Arch, RC Dk Panel, RC Spandrel Arch, RC Arch Culv, St Box Gir, St Rigid Frm, St Orthotropic, St Thru Arch, St Cont Thru Tru, St Thru Truss, RCDG, St Dk Truss, St Pony Truss, St Dk Arch, St Susp, St Swing, St Lift Vert, St Bascule, StDkGir, St I-Bm, TBR Untreated, RCBB, TBR Trtd, TBR Thru Truss, TBR "A" Frame, TBR Dk Truss, TBC, TBR Drain Tnl, Tnl, CMP, RCBC, St Sign Br, St Cant Sign, Alum Sign Br, Alum Cant Sign	<p>Categorization of a section of a bridge that runs between two bearing points.</p> <p>Examples are:</p> <ul style="list-style-type: none"> <li>- Steel Swing Span</li> <li>- Steel Rigid Frame</li> <li>- Timber Treated</li> <li>- Reinforced Concrete Decked Girder</li> </ul>
Length		Length of span in either feet or meters.
QTY		Number of spans of this type
Main		Distinguishes between approach and main spans.

Table 5.2 6

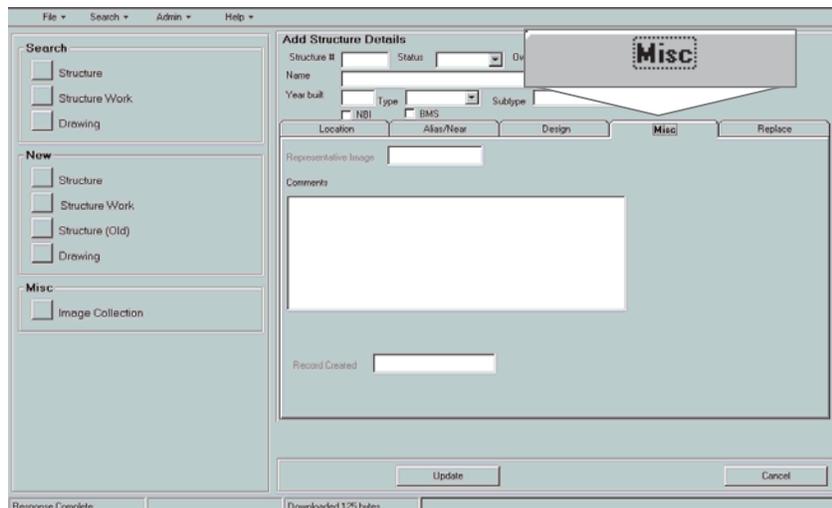


Figure 5.2 5

**Misc Structure data**

Field	Information/Requirements
Representative image	Image that has been assigned to represent the work
Comments	Misc. comments
Record Created	Computer generated field. Date and time record was added.

Table 5.2 7

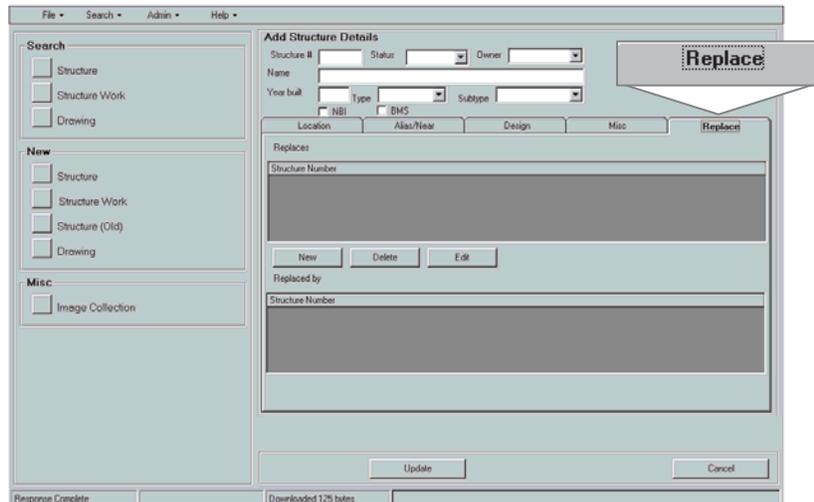


Figure 5.2 6

**Replace Structure data**

Field	Information/Requirements
Replaces Structure Number	Structure Number for bridge originally being replaced. This data will automatically update the original structure.
Replaced by Structure Number	Structure Number of new bridge replacing currently used bridge.

Table 5.2 8

## CHAPTER 6: STEP 2 - ADD NEW WORK FOR THE STRUCTURE

New project or maintenance work done to a structure will require structure work numbers (numbers automatically assigned to project or maintenance work when details are entered into the system). Structure work numbers will be obtained by searching for the structure first, then using the “Structure Work Tree” to add work directly to the structure. See [Part 1, Section 2.2 – Searching Tips/Notes](#) for an explanation of structure work and the “Structure Work Tree”.

### **Section 6.1 – Important Notes**

---

- Note 1** Only two options should be used when selecting a “Work Type”, Project or Maintenance. “Prior Work” should not be used. The “Prior Work” folder contains all project data prior to the existence of the Bridge Data System. New work should NEVER be placed in the “Prior Work” folder.
- Note 2** The requirements for filling in the *Description* field are very important. Please ensure that this data is entered using the information provided in the table as a guide. (see [Section 6.3 – Definitions/Descriptions of Structure Work Details](#)). Specific examples are provided. Administrators of the system and the ODOT Bridge Section would like to know exactly what was being done to the structure, in a concise manner. See description requirements

## Section 6.2 – Adding *New Work* to the Structure

Search for the structure. (see [Part 1: Accessing, Searching, and Viewing](#)).

Once the appropriate structure is displayed, double-click on it to view the structure details and Structure Work Tree.

Expand the appropriate Work Type folder (Project or Maintenance).

Highlight the folder and look to the bottom of the screen where an “Add Work” option now appears:

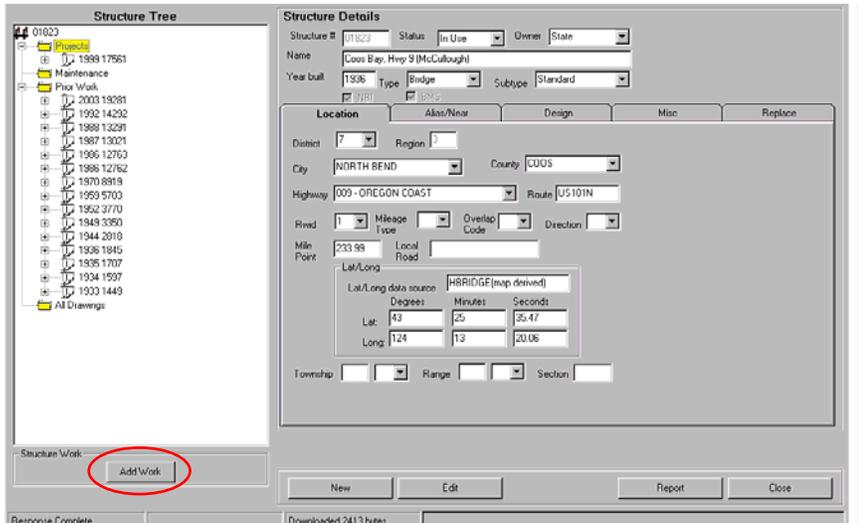


Figure 6.2 1

When the “Add Work” button is clicked, the following screen appears:

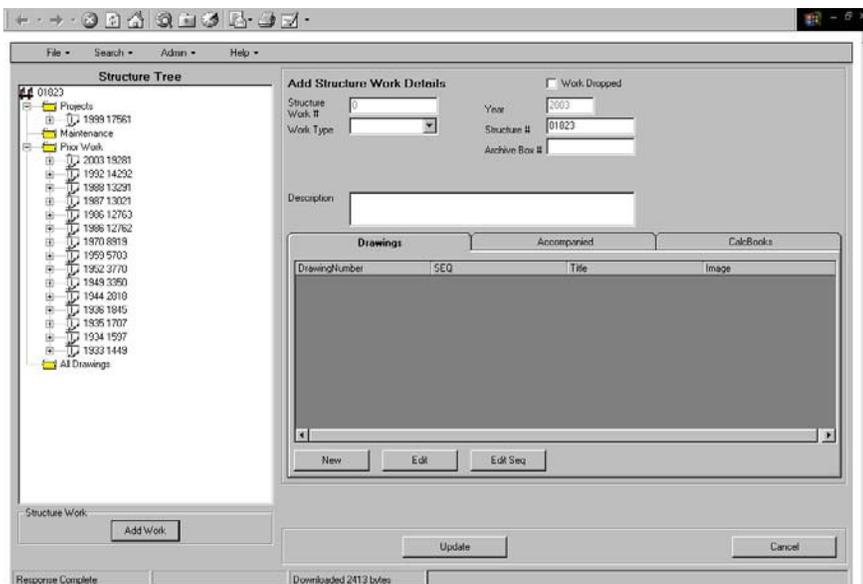
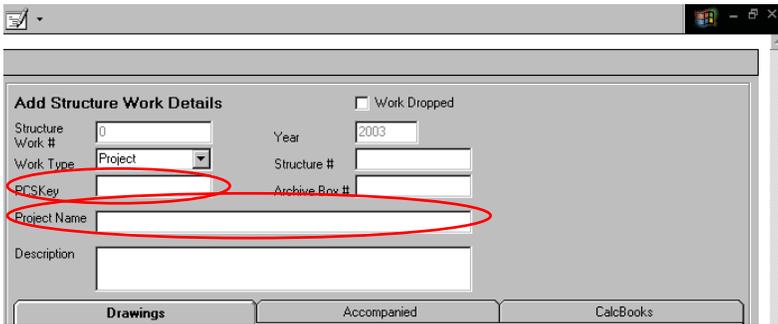


Figure 6.2 2

Fill in the work details, see Sections [6.1](#) and [6.3](#) for specific requirements, definitions, and notes.

Once the “Work Type” is filled in the screen will change slightly. The following two illustrations show the subtle differences in screen appearance based on which “Work Type” is selected.

If “Project” is selected, when the tab key is depressed, the following screen will appear:

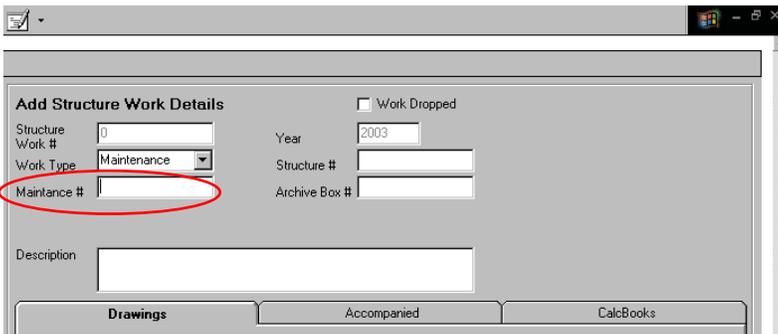


The screenshot shows a software window titled "Add Structure Work Details". It contains several input fields: "Structure Work #" (value: 0), "Year" (value: 2003), "Work Type" (dropdown menu showing "Project"), "Structure #" (empty), "PCSKey" (empty, circled in red), "Archive Box #" (empty), "Project Name" (empty, circled in red), and "Description" (empty). There is a checkbox labeled "Work Dropped" which is unchecked. At the bottom, there are three buttons: "Drawings", "Accompanied", and "CalcBooks".

Figure 6.2 3

Note the differences. A **PCSKey** and **Project Name** field are now displayed.

If “Maintenance” is selected, when the tab key is depressed, the following screen will appear:



The screenshot shows the same software window as Figure 6.2 3, but with "Maintenance" selected in the "Work Type" dropdown menu. The "PCSKey" and "Project Name" fields are no longer present. Instead, a "Maintenance #" field (empty, circled in red) is now visible. The "Structure #" and "Archive Box #" fields remain empty. The "Work Dropped" checkbox is still unchecked. The "Drawings", "Accompanied", and "CalcBooks" buttons are at the bottom.

Figure 6.2 4

Note that now a **Maintenance #** field is displayed.

When the details have each been entered accordingly, double-check the data entered. Finally, click on the **Update** Button located at the bottom of the screen.

There will now be new work added to the structure, to which drawings can be attached when available.

## Section 6.3 – Definitions/Descriptions of Structure Work Details

Figure 6.3 1

### All Work

<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
<b>Work Dropped</b>		When checked, indicates that the work on the structure was not done.
<b>Structure Work #</b>		System generated number
<b>Year</b>		Year the work was requested (auto-filled)
<b>Work Type</b>	Project (requires PCS Key) Maintenance (requires maintenance EA number) Prior Work (should not be used)	Default is Project. Project work should be selected for work that has a PCS Key Number. Maintenance Work that does not have a PCS Key is work done as part of maintenance or emergency repair work. The Maintenance number is the Maintenance EA number (repair, upgrades, etc.). Prior Work is work done prior to the creation of the BDS database.
<b>Archive Box #</b>		To be entered when Structure Work is being archived and when archive box number is known. The administrative staff supporting the Bridge Section will be the contact for this.
<b>Description</b>		A specific description of the work being done to the structure should be entered. Examples of descriptions are: <ul style="list-style-type: none"> <li>- Installation of Sign Pole</li> <li>- Paving</li> <li>- Rail Retrofit</li> <li>- Flood Damage Repair</li> <li>- Bridge Replacement</li> </ul> Do not enter vague descriptions, such as Sign Pole, Shop Drawing, Design, and Plan and Elevation.

Table 6.3 1

Figure 6.3 2

### Project Work

<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
<b>PCSKey</b>		Project identifier
<b>Project</b>		Auto-filled

Table 6.3 2

Figure 6.3 3

### Maintenance Work

<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
<b>Maintenance</b>		The EA Charge Number for maintenance work done.

Table 6.3 3

# CHAPTER 7: STEP 3 - GETTING DRAWING NUMBERS

New drawings or documents associated with structure work will require drawing numbers (numbers automatically assigned to drawings or documents when details are entered into the system). Drawing numbers will be obtained by searching for the structure first, finding the structure work, and then using the “Structure Work Tree” to add drawings directly to the work and the structure.

## Section 7.1 – Understanding Drawing Numbers

---

***Do not obtain drawing numbers until just prior to the printing of Final Plans. This will reduce the possibility of getting numbers for sheets that are eliminated.***

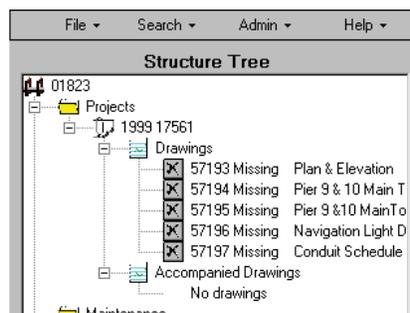


Figure 7.1 1

A drawing may be associated to other structures in a contract plan as an *Accompanied* drawing. Accompanied drawings were previously assigned another structure or a standard.

## Section 7.2 – Get Drawing Numbers

**Important:** Avoid reserving Drawing Numbers in advance of Final Plans. However, if it is necessary for drawing numbers to be obtained prior to Final Plans, obtain numbers only for completed drawings. (It is not required for drawing numbers to be in consecutive numerical order, or even in the same number range.)

**Warning:** Non-existent drawings that are assigned drawing numbers can cause confusion later and drawing numbers are permanent and cannot be reused.

1. Search for the structure and double-click on it. Search for the Structure Work in the “Structure Work Tree”. See [Part 1, Chapter 2](#).
2. Once the structure work is displayed, expand the applicable Work Type folder (Projects or Maintenance).
3. Highlight the appropriate work:

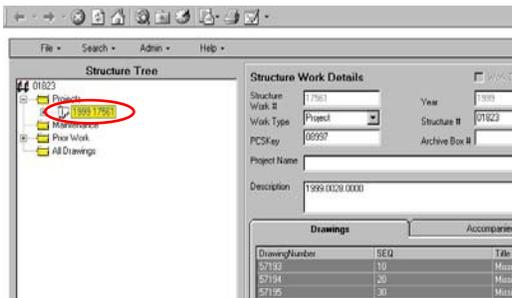


Figure 7.2 1

4. Click “**Edit**”:

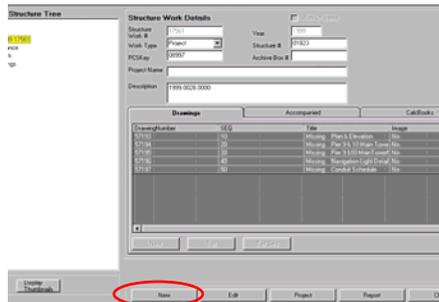


Figure 7.2 2

5. Click “**New**”:

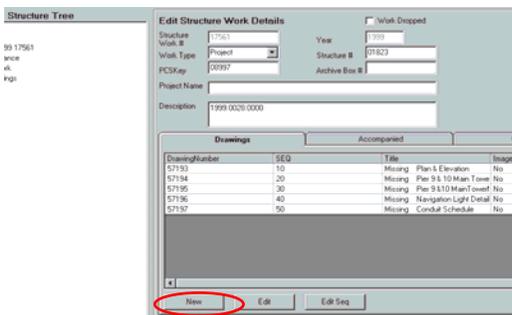


Figure 7.2 3

6. The “Add New Drawing(s)” screen now appears:

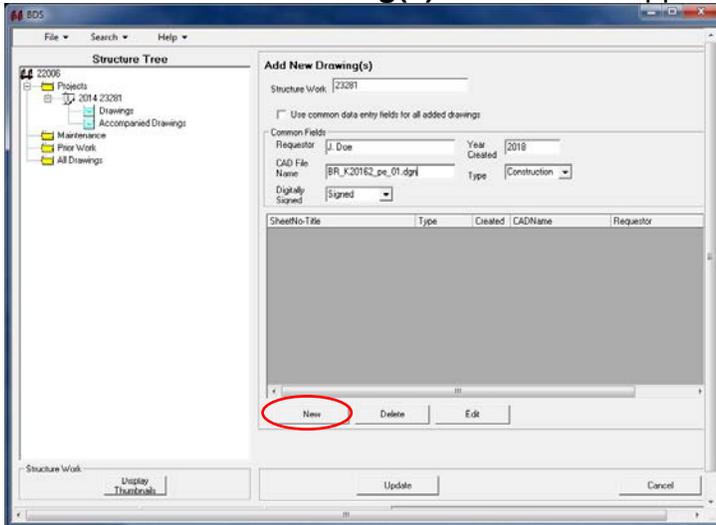
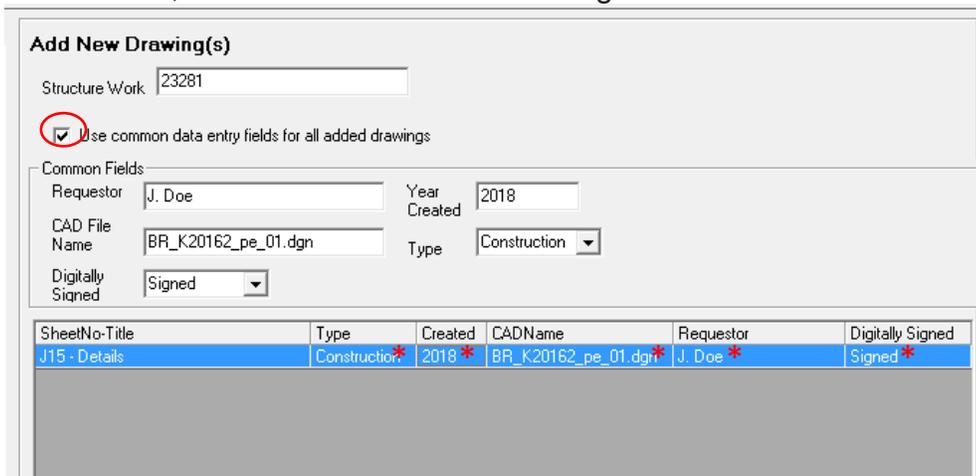


Figure 7.2 4

Enter the information for the five fields in the top portion of the screen. Checking the “Use common data entry fields for all added drawings” checkbox can auto-fill the common fields for each drawing added. See [Section 7.3 – Definitions/Descriptions of Drawing Data](#) for help with entering data.

Once the data fields in the top portion of the screen have been filled-in, drawings can be added.

7. Click on “New” and five additional fields will appear. If “Use common data...” has been checked, the screen will look something like this:



\* Auto-filled when checkbox is checked.

Figure 7.2 5

8. Type in drawing data appropriately. If the Requestor, Year Created, CAD File Name, and Digitally Signed fields have been auto-filled, only the Drawing Description remains. The description is the sheet number and sheet title of the drawing (J## - Sheet Title).

9. Continue adding each drawing by clicking on “**New**” for the next drawing. If a mistake was made in the data entry, use the Edit button to revise the appropriate record. If, for some reason, the edit caused problems with the entry, use the “**Delete**” button to delete the incorrect record and then re-enter (as “New”) the drawing. The *New*, *Delete*, and *Edit* options can be used successfully to manage the data entered until the **UPDATE** button is used. Once used, the data is permanently updated to the system, and depending on the user’s administrative rights, may have to be corrected by System Administrators (a time consuming process).
10. Remember, if it is necessary to edit or delete drawings, the numerical sequence of the drawings may become out-of-order, and that is acceptable.
11. Once all drawings are entered, click the **UPDATE** button. A **REPORT** button is available to print out a report with the newly assigned Drawing Numbers.

A “**Structure Work Details**” screen will be displayed when the structure details have finished updating. Five options are available once in this screen. These five options and their actions are listed in the following table:

<i>Option</i>	<i>Action Desired</i>
New Edit	Add more structure work to this structure
Project	Edit Structure work details OR Edit/Add drawings
Report	Display project details, if any, related to this structure work Print a Report
Close	of the structure work details and drawings Close screen

Table 7.2 1

### Section 7.3 – Definition/Description of new drawings data

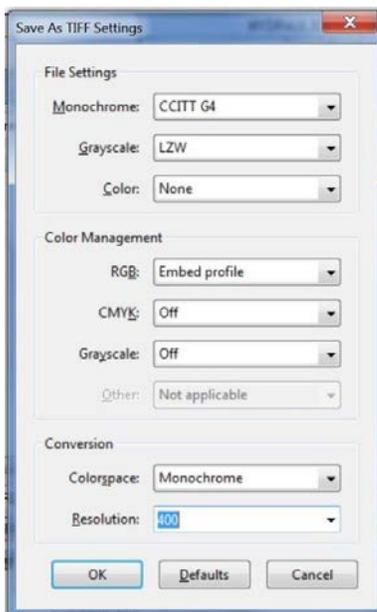
<i>Field</i>	<i>Options</i>	<i>Information/Requirements</i>
Structure Work		Auto filled in when adding work through the Structure Work itself.
Use common data entry fields for all added drawings		When checked, all fields (except for the drawing description) will be auto-filled-in with the same data entered in the top portion of the screen.
Requestor		User places first and last name here. If a consultant, place first initial, last name, and Consultant firm abbreviation.
CAD File Name		Pulled from data entered into “Add Drawing Number” screen. (see <a href="#">No. 3, Section 7.2</a> ). Can be edited from this screen.
Year Created		Pulled from data entered into “Add Drawing Number” screen. (see <a href="#">No. 3, Section 7.2</a> )
DrawingDesc		Description of the drawing. Taken from the Title Block of the drawing. (i.e., Plan and Elevation)
Type	Construction Maintenance Shop	
Digitally Signed	Signed Unsigned Unset	Signed – original PDF was digitally signed and evidence of the signature is visible in the seal Unsigned – original PDF was digitally signed, but no evidence of the signature is visible in the seal Unset – seal was signed by hand (usually ink on mylar)

Figure 7.3 1

## CHAPTER 8: STEP 4 - CONVERT DIGITALLY SIGNED PDF TO TIFF

Because BDS requires a 400 dpi TIFF, the digitally signed PDF must be converted.

1. Export an unmanaged copy of the digitally signed PDF outside of ProjectWise.
2. Open the PDF in Adobe Acrobat.
3. Select File > Save As...
4. Change "Save as type:" to "TIFF (\*.tiff, \*.tif)".
5. Select Settings and make the changes as shown (manually key-in the Resolution):



6. Rename the files according to their drawing numbers.
7. Internal Users: If you have access, move the files to to: \\scdata\brdgshar\bridge\reprographics\
8. External Users: Send files to Bridge Headquarters.
9. Upload the image into the BDS System (see [Chapter 9: Step 5 – Add images to the system](#)).

# CHAPTER 9: STEP 5 - ADD IMAGES TO THE SYSTEM

## Section 9.1 – Adding Images to the System

1. Select **“Drawing”** from the **“Search”** menu. Then enter the first drawing number in the range in the **“From”** field and the last drawing number in the range in the **“To”** field. Click on **“Search”** at the bottom of the screen. This will display the results to the right of the screen.
2. Double-click on the first drawing.

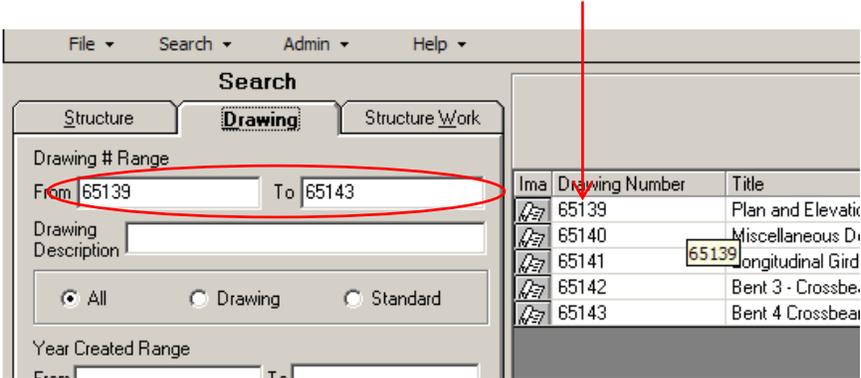


Figure 9.1 1

The following screen will be displayed to the right:

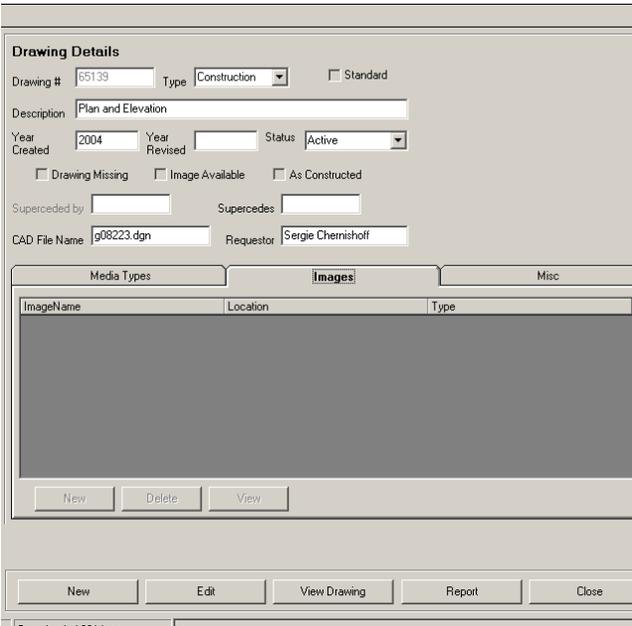


Figure 9.1 2

- To add an image to this drawing, click on **“Edit”** and select the **“Images”** tab. The screen now displays additional options.

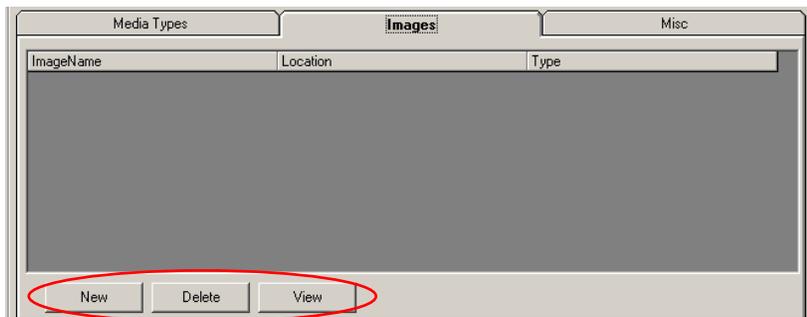


Figure 9.1 3

- Click on **“New”**. A screen, similar to the following, now appears to the left:

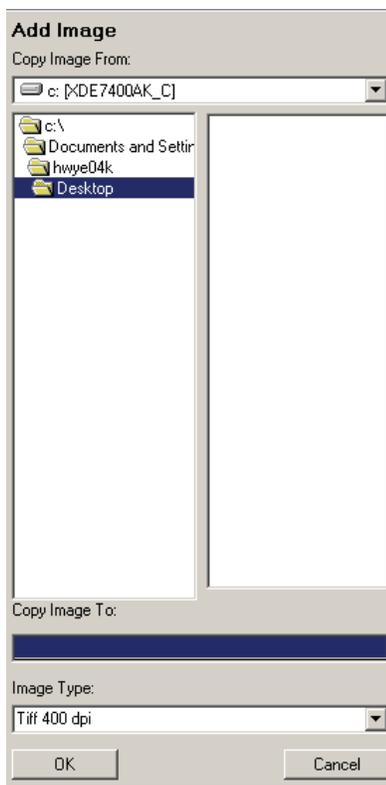


Figure 9.1 4

- Using the pull down menu, select the appropriate drive that contains the images.
- Continue selecting appropriate folders and sub-folders until the folder the images are stored in is highlighted.
- Double-click on that folder to display its contents to the right.

The screen should now look something like this:

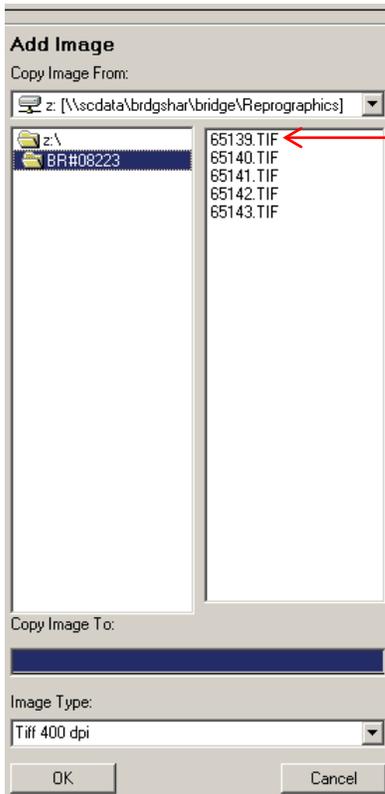


Figure 9.1 5

8. Highlight the first drawing in the range by single-clicking on it.
9. Click on the “Copy Image To” box to reveal a drop-down menu. Select the appropriate number range. The appropriate range will be the one in which the image numerically resides.

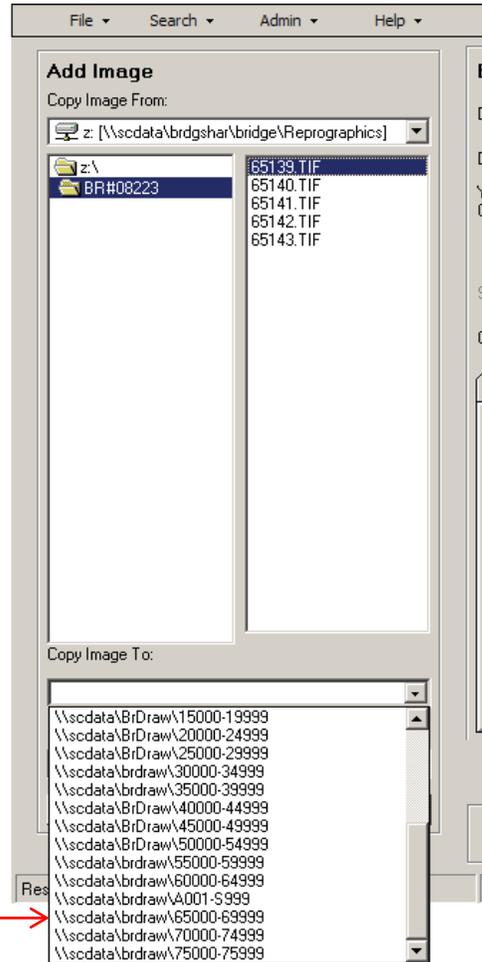


Figure 9.1 6

For instance, drawing number 65139 would reside here, in the range “...65000- 69999”:

The image will now be copied to an associate database, linking the image to the correct structure work for future viewing and access.

10. The image type will default to TIFF 400 dpi, which is the preferred setting.
11. Click on “OK” to attach the image.
12. The new image data will appear on the right side of the screen, in the “**Images**” tab. Select “**Update**” at the bottom of the screen – only when everything has been verified:

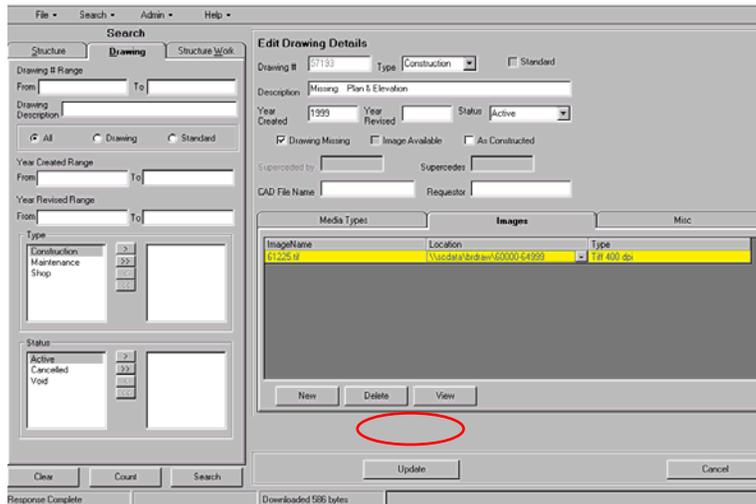


Figure 9.1 7

If the “Update” button has not been activated, it is not too late to cancel and begin again if necessary. Repeat this process for each drawing.

# CHAPTER 10: STEPS 6 TO 11 - EDIT OR UPDATE STRUCTURE, WORK, AND DRAWING DETAILS

## Section 10.1 – Edit Structure Details

---

Search for the structure and double-click on it. [See Part 1, Chapter 2.](#)

Click Edit. Click on the corresponding details tab where edits or updates are necessary.

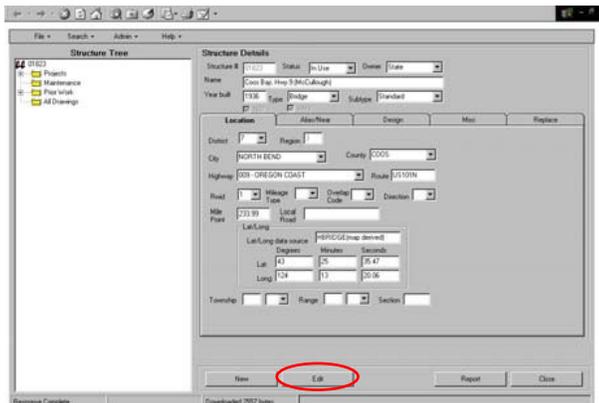


Figure 10.1 1

Make necessary changes and click “Update”. To print a report of the changes, click “Report” at the bottom of the screen.

## Section 10.2 – Edit Work Details

Search for the structure and then the structure work. See [Part 1, Chapter 2](#). Click Edit.

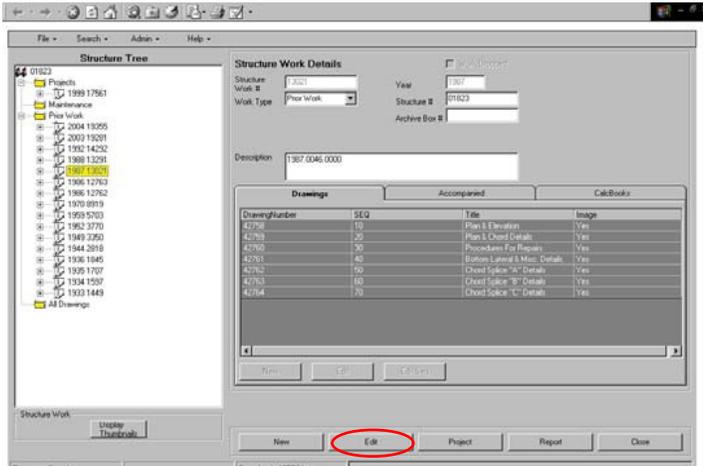


Figure 10.1 2

The following screen is now displayed on the right side of the screen:

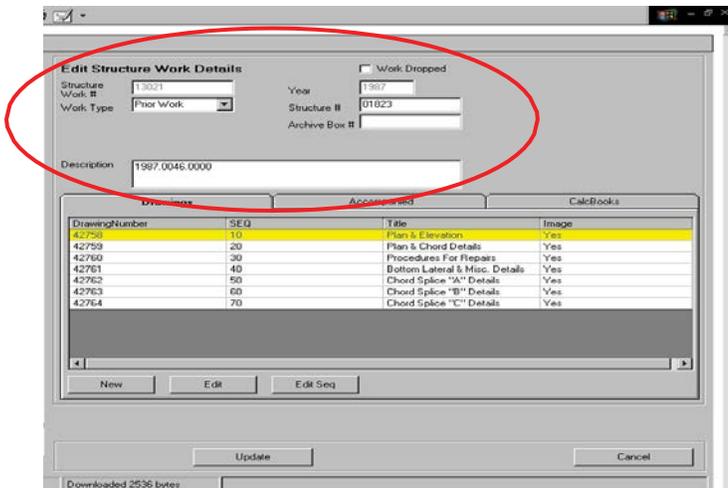


Figure 10.1 3

Edit the Structure Work Details only.

Click **“Update”** to finalize the changes.

## Section 10.3 – Edit Drawing Details

Search for the structure and then the structure work. See [Part 1, Chapter 2](#).

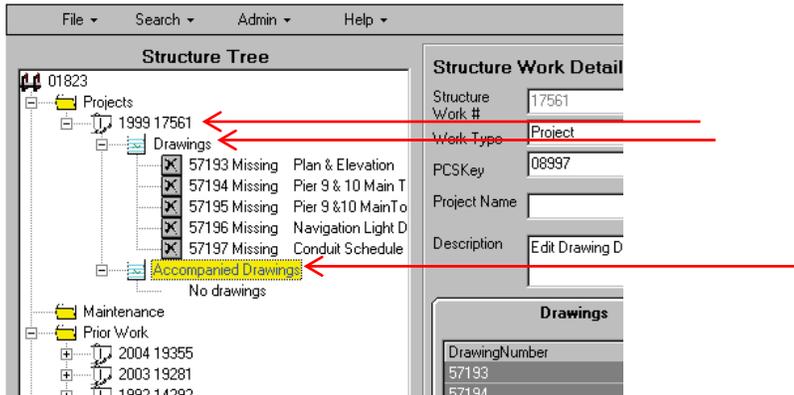
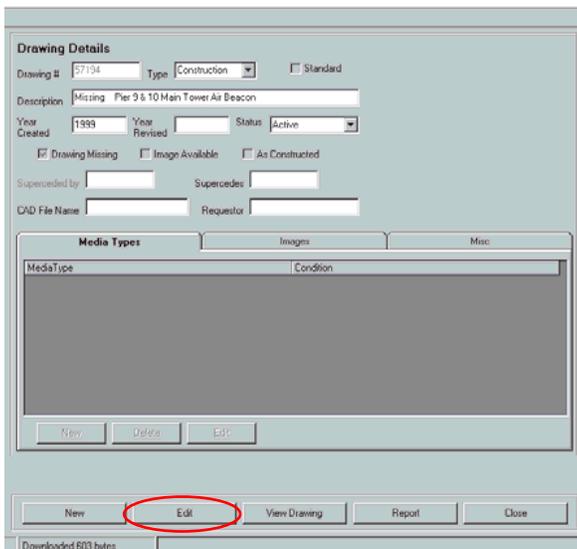
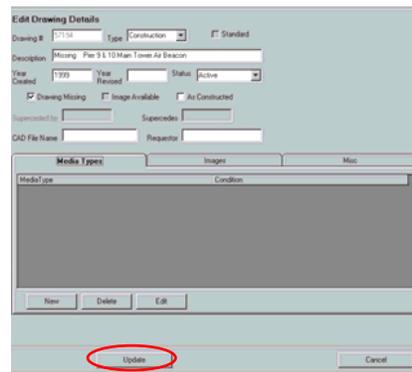


Figure 10.3 1

Expand the Drawings and Accompanied Drawings folders to view the drawings. Select the drawing that requires updates/edit by highlighting it. The following screen is displayed on the right. Click “Edit”. Change drawing details as needed.



Then click “Update” to finalize the changes.



## Section 10.4 – Replace the Available Image

1. Search for the drawing number range of the drawing images that need to be uploaded. Select **“Drawing”** from the **“Search”** menu. Then enter the first drawing number in the range in the **“From”** field and the last drawing number in the range in the **“To”** field. Click on **“Search”** at the bottom of the screen. This will display the results to the right of the screen.
2. Double-click on the appropriate drawing.

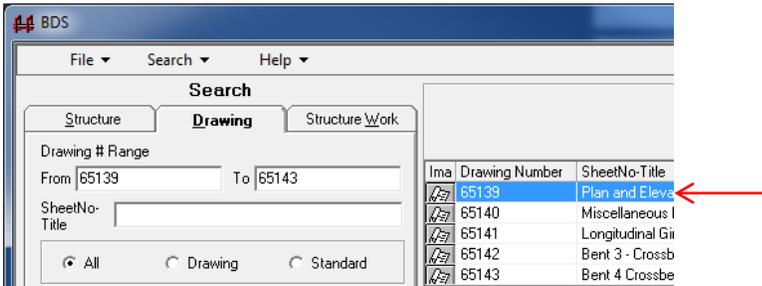


Figure 10.4 1

3. Click **“Edit”**.

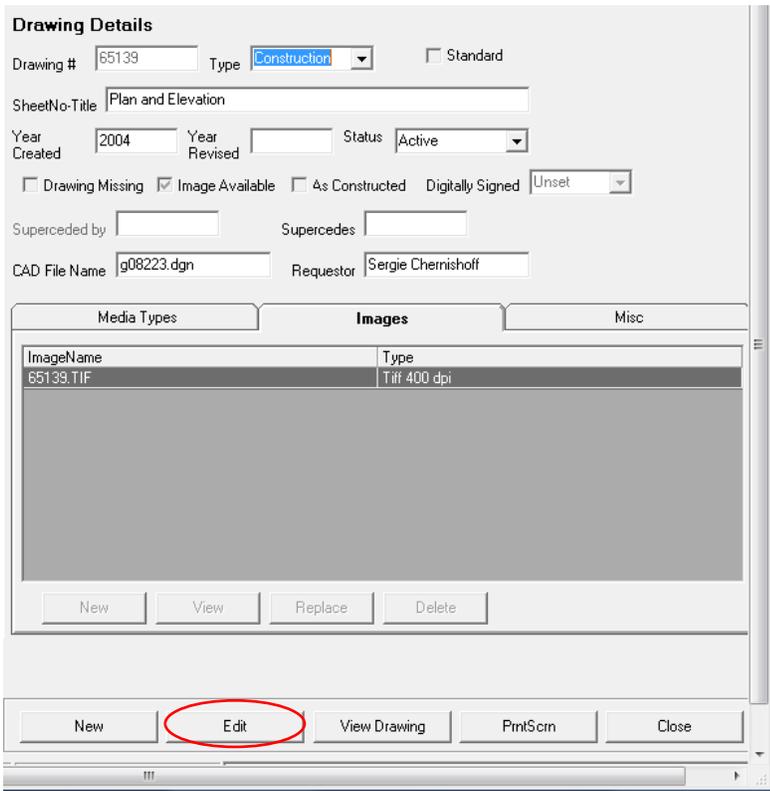
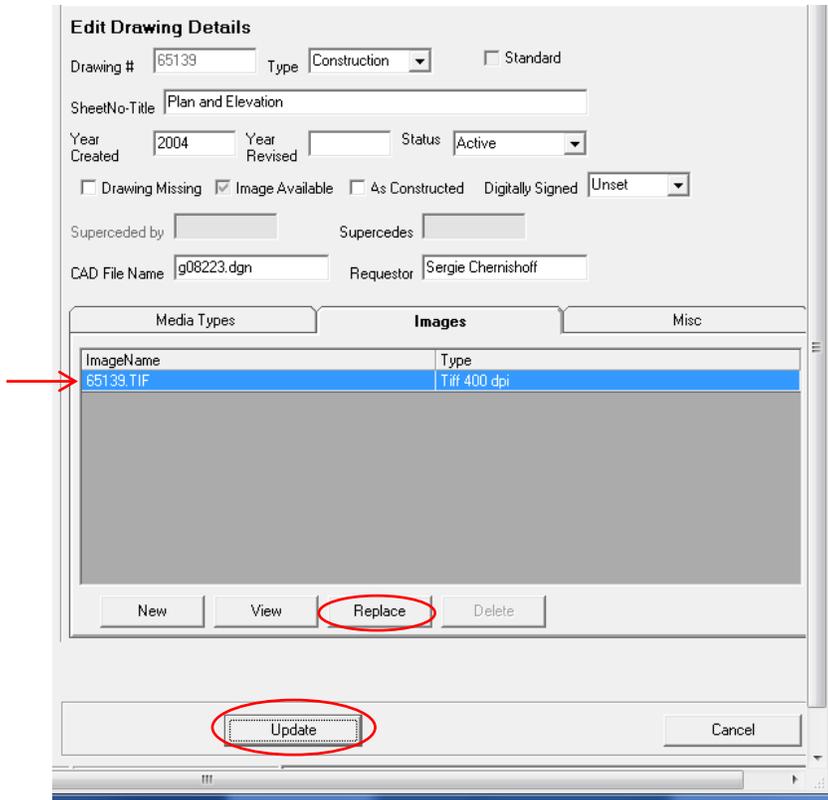


Figure 10.4 2

4. Click on the Images tab. The following screen will be displayed.



5. Highlight the image.

6. Click “Replace”. (View the image first to be absolutely sure this is the drawing that is to be replaced.)

7. Click “Update” to finalize the replacement.

Figure 10.4 3

# PART 2

## QUICK HITS

### Edit Drawing Details

---

#### ***By structure***

1. Find Structure
2. Find Structure Work
3. Expand Drawings or Accompanied Drawing folder
4. Select appropriate drawing > Edit
5. Change details as needed > Update

#### ***By drawing number***

1. Search > Drawing
2. Enter Drawing Number > Search
3. Edit
4. Change details as needed > Update

### Add New Structure

---

1. **New** > Structure
2. Enter all data > Update
3. Structure number will be provided. Click "Report" if desired.

## **Add New Structure Work**

---

1. Search > Structure
2. Enter Structure Number > Search
3. Double-click appropriate Structure
4. Expand the appropriate work type folder > Add Work
5. Enter all data > Update, OR – if getting drawing numbers at this time
6. Click New (Structure Work number now provided)
7. Continue to “Add New Drawings”, Step 5.

## **Add New Drawings**

---

1. Search > Structure
2. Enter Structure Number > Search
3. Double-click appropriate Structure
4. Expand the appropriate work type folder
5. Highlight the appropriate structure work folder
6. Click Edit
7. Click New
8. Enter all data
9. Click New
10. Enter all data
11. Click Update
12. Drawing numbers will be provided. Click on “Report” if desired.

## Add New Images

---

1. Map to drive containing images
2. Search > Drawing
3. Enter drawing number range > Search
4. Double-click a drawing
5. Click Edit
6. Select "Images" tab
7. Click New
8. Find the folder the images are stored in
9. Find image and highlight
10. Copy image to appropriate range folder
11. Click OK
12. Click Update and wait for the record to update
13. Click Close
14. Double-click next drawing and repeat Steps 5-13

## Replace an Image

---

1. Map to drive containing images
2. Search > Drawing
3. Enter drawing number range > Search
4. Double-click a drawing
5. Click Edit
6. Highlight the current image
7. Click Replace
8. Find the folder the images are stored in
9. Find image and highlight
10. Click OK
11. Click Update and wait for the record to update
12. Click Close

## Get Digitally Signed PDF Converted to TIFF

---

1. Get PDF with drawing numbers and digital signature
2. Convert PDF to TIFF format([Chapter 8: Step 4 – CONVERT DIGITALLY SIGNED PDF TO TIFF](#))
3. Rename TIFF to their drawing numbers
4. Upload image into the BDS System ([Chapter 9: Step 5 – ADD IMAGES TO THE SYSTEM](#))

# **APPENDIX A: REQUIRED STRUCTURE DATA**

## **System Requirements**

The following data fields are required to process structure additions and/or changes:

- Structure Number (auto-assigned)
- Type/Subtype
- Status
- Owner
- City (if owner is a city)
- County
- Structure Name
- Township, Range, Section (all required if one is entered)
- Region
- District
- Lat (Degrees Minutes, Seconds) (all required if one is entered)
- Long (Degrees Minutes, Seconds) (all required if one is entered)