Appendix-8

Road Slope Management System (RSMS)

Manual Volume 4

GIS Operation Manual

Ver2.2 June 2007

The Department of Public Works and Highways
Notice

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RSMS

RSMS (Road Slope Management System) is an application software program, which was developed in the Study named “The Study on Risk Management for Sediment-related Disaster on Selected National Highways in The Republic of The Philippines.” This Study was undertaken by JICA (Japan International Cooperation Agency) Study Team, DPWH (The Department of Public Works and Highways in the Republic of the Philippines) Counterpart Team in cooperation with DPWH and JICA Philippine Office.
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Introduction

This manual provides the users of RSMS(Road Slope Management System) with an explanation of how to manipulate the map display functions developed in the GIS system of DPWH’s PS department.

A. Adding Survey Points

This section provides the user with basic information needed to view or add survey points from the RSMS to the GIS.

A.1 Adding the GIS Map Layers

1. Open ArcMap.
2. Create a new Blank Document.
3. Add **GIS data** to the document.
A.2 Setting up the VBScript

4. Click the Tools menu and point to Macros then select Visual Basic Editor.

5. In the Visual Basic Editor window select File and click Import File.
6. Browse the **ThisDocument** file and click **Open**.

7. Do the same to **MyForm** and **frmSurveyPoint** file and click **Open**.
8. Expand **ArcMap Object** folder and double-click **ThisDocument**.

9. Type the following text as can be seen from the figure below:

```vba
Public Sub CreateSurveyPoints()
    ThisDocument1.GetData
End Sub

Public Sub CreateRCDInventory()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub CreateRemainingRoad()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub ShowLabelMenu()
    ThisDocument1.showLabelMenu
End Sub
```
10. Click **Tools** menu and select **References**.
11. Find and check the **Microsoft ActiveX Data Object 2.0 Library**.

![Image of Microsoft ActiveX Data Object 2.0 Library](image1.jpg)

12. Find and check also the **Microsoft Excel 11.0 Object Library**. If you cannot find it then you must install Microsoft Excel and do it again.

![Image of Microsoft Excel 11.0 Object Library](image2.jpg)
13. Click **OK**.

14. Save the project by clicking **File** menu and select **Save Project**.

15. Close the **Visual Basic Editor** window.

**A.3. Setting up the ODBC Definition**

16. Go to **Control Panel** and open **Administrative Tools**.
17. In the **Administrative Tools** window open **Data Sources (ODBC)**.

![Administrative Tools window](image1.png)

18. In the **Data Sources (ODBC)** window click **System DSN** tab.

![Data Sources (ODBC) window](image2.png)

19. Then click **Add** button.
20. In the Create New Data Source window, find and select SQL Server and click Finish.

21. Type dsnRSMS as name select RSMSServer as server.

22. Select With SQL authentication option and check Connect to SQL Server.
23. Type the **Login ID** and **Password** of the Server or ask your server administrator then click **Next**.

24. Check the **Change default database**, then select **RSMS**

25. Click **Next**. Then click **Finish**.
26. Click the **Test Data Source** to check the connection. If you see the **Test Completed Successfully** message click **OK** else check your configuration or ask administrative assistance.

![ODBC Microsoft SQL Server Setup](image)

27. Then click **OK**.

### A.4 Running the VBScript to Load the Survey Points

28. Go back to **ArcMap**.

29. Click **Editor** tool and select **Start Editing**.
30. Click **Target** dropdown and select **Survey Points**.

![Image of ArcGIS interface showing Survey Points selected](image)

31. Click **Tools** menu and point to **Macros** then select **Macros**.
32. In the Macros dialog box, select **CreateSurveyPoints** and click the **Run** button.
B. Viewing survey points

This helps the user to view survey points from the GIS.

B.1 Adding the GIS Map Layers

1. Open ArcMap.

2. Create a new Blank Document.

![Image of ArcMap interface showing a new blank document being created.](image-url)
3. Add **GIS data** to the document.
B.2 Selecting the Survey ID for Display

4. Click the **Find** button and type the **Survey ID** that you want to view.

5. Then click **Find** button.

6. Right-click the result item and click **Select feature**, then right-click the result item again and select **Zoom to feature(s)**.
7. If the survey point is hard to see, then click the **Zoom In** tool and drag the selected part you want to zoom in.
8. After the survey point is already visible, Click **Identify** tool to display the attribute for that survey point.
9. Click also the **Hyperlink** tool to view the Inventory Sheet of that survey point. 

   **Note:** To view the Inventory Sheet, be sure that your computer is mapped to the server.
C. Creating RCD Inventory
This helps the user to add a line that has a Road Closure Disaster (RCD) from the excel sheet to the GIS.

C.1 Adding the GIS Map Layers

1. Open ArcMap.
2. Create a new Blank Document.
3. Add **GIS data** to the document.
C.2 Setting up the VBScript

4. Click Tools menu and point to Macros then select Visual Basic Editor.

5. In the Visual Basic Editor window select File and click Import File.
6. Browse the ThisDocument file and click Open.

7. Do the same to MyForm and frmSurveyPoint files and click Open.
8. Expand **ArcMap Object** folder and double-click **ThisDocument**.

9. Type the following text like in the pictures:

```vbnet
Public Sub CreateSurveyPoints()
    ThisDocument1.GetData
End Sub

Public Sub CreateRCDInventory()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub CreateRemainingRoad()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub ShowLabelMenu()
    ThisDocument1.ShowLabelMenu
End Sub
```
10. Click **Tools** menu and select **References**.
11. Find and check the **Microsoft ActiveX Data Object 2.0 Library**.

![Microsoft ActiveX Data Object 2.0 Library](image1)

12. Find and check also the **Microsoft Excel 11.0 Object Library**. If you cannot find it then you must install Microsoft Excel and do it again.

![Microsoft Excel 11.0 Object Library](image2)
13. Click **OK**.

14. Save the project by clicking **File** menu and select **Save Project**.

15. Close the **Visual Basic Editor** window.
C.3 Running the VBScript

16. Then go back to ArcMap.

17. Click Editor tool and select Start Editing.
18. Click **Target** dropdown and select **RCD Inventory**.

19. Click **Tools** menu and point to **Macros** then select **Macros**.
20. In the **Macros** dialog box, select **CreateRCDInventory** and click **Run** button.

21. The system will prompt you to enter the file directory of the RCD Inventory sheet.
22. The system will prompt you a message “Please Wait...”.
23. Close the message box.

24. Then wait until the message box closes.
25. Click **Editor** toolbar and select **Start Editing**.
26. Click **Target** dropdown and select **Remaining Road**.

27. Click **Tools** menu and point to **Macros** then select **Macros**.
28. In the **Macros** dialog box, select **CreateRemainingRoads** and click **Run** button.

29. The system will prompt you to enter the file directory of the RCD Inventory sheet.
30. The system will display a message “Please Wait...”.
31. Close the message box.

32. Then wait until the message box will disappear.
D. Viewing Road with RCD

This helps the user to view roads with Road Closure Disaster (RCD).

D.1 Adding the GIS Map Layers

1. Open ArcMap.
2. Create a new Blank Document.
3. Add **GIS data** to the document.
4. Click **Find** button and type the **Road Name** that you want to view.

![Image of a software interface with a 'Find' button highlighted and a search bar with a road name inputted.]

5. Then click **Find** button.

6. Right-click the result item and click **Select feature(s)**, and then right click result item again and click **Zoom to feature(s)**.
7. If the survey point is hard to see, then click the **Zoom In** icon and drag the selected part you want to zoom in.
8. After the survey point is already visible, Click **Identify** button to display the attribute for that survey point.

**E. Printing Maps**

This helps the user print particular part of the maps.

**E.1 Adding GIS Map layers**

1. Open **ArcMap**.
2. Create a new **Blank Document**.
3. Add **GIS data** to the document.
E.2 Setting up the VBScript

4. Click **Tools** menu and point to **Macros** then select **Visual Basic Editor**.

5. In the **Visual Basic Editor** window select **File** and click **Import File**.
6. Browse the **ThisDocument** file and click **Open**.

![Image of ThisDocument file open]

7. Do the same to **MyForm** and **frmSurveyPoint** files and click **Open**.

![Image of MyForm and frmSurveyPoint files open]
8. Expand ArcMap Object folder and double-click ThisDocument.

9. Type the following text:
Public Sub CreateSurveyPoints()
    ThisDocument1.GetData
End Sub

Public Sub CreateRCDInventory()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub CreateRemainingRoad()
    ThisDocument1.CreateRCDInventory
End Sub

Public Sub ShowLabelMenu()
    ThisDocument1.ShowLabelMenu
End Sub
10. Click **Tools** menu and select **References**.

11. Find and check the **Microsoft ActiveX Data Object 2.0 Library**.
12. Find and check also the **Microsoft Excel 11.0 Object Library**. If you cannot find it then you must install any Microsoft Excel and do it again.

13. Click **OK**.
14. Save the project by clicking **File** menu and select **Save Project**.
15. Close the **Visual Basic Editor** window.

**E.3 Running the VBScript**

16. Then go back to **ArcMap**.

17. Select part of the map that you want to print by using **Zoom In** tool or **Zoom Out** tool to adjust the visibility of the items in the map.

18. Once you’ve finished adjusting the visibility of your selected part of the map, click **Tools** menu and point to **Macros** and select **Macros**.
E.4 Displaying the Labels and Symbols

19. In the Macros dialog box, select ShowLabelMenu and click Run to appear the Label Menu.
20. In the **Label Menu**, select **On** option in the **Symbol on the road section** category to view the symbol of the survey points on the road section or select **Off** option if you don’t want to view the symbol on the road section.

Select also **On (arrow with north/south direction)** option in the **Label (Symbol) with pointing arrow** category to view the label of the survey points if the road is a north/south direction, or select **On (arrow with east/west direction)** option to view the label of the survey points if the road is an east/west direction or select **Off** if you don’t want to view any label of the survey points. After selecting an option from the two categories, click the **Apply** button to apply the selected option or **Cancel** button to close.
21. Once you’ve finished selecting the appropriate label, click **Layout View** button to switch view of the map.
22. If you want to adjust that map so that other item will be visible use the **Pan** tool.
23. After you are finished adjusting your map, click File menu and select Print to print your map or Print and Print Setup to change the configuration of your paper size and orientation of your printout.