



WinSLAMM v 10.2

User's Guide

Introduction

Building a No Management Conditions Model File



WinSLAMM v10 routes hydrographs and particle size distributions through the network from control device to control device.

Pollutant reduction by particle size and hydrograph attenuation are tracked and reported for each land use, junction, and control device.

WinSLAMM v10 has a database format, meaning each model file can be opened in database programs such as Microsoft Access.

Direct import from programs containing databases such as ArcGIS is available for some applications of WinSLAMM.

WinSLAMM began in the 1970s and has been continuously updated as new research becomes available.

Thank you for taking the time to review this User's Guide.



SLAMM for Windows

Source Loading and Management Model

WinSLAMM Version 10.2

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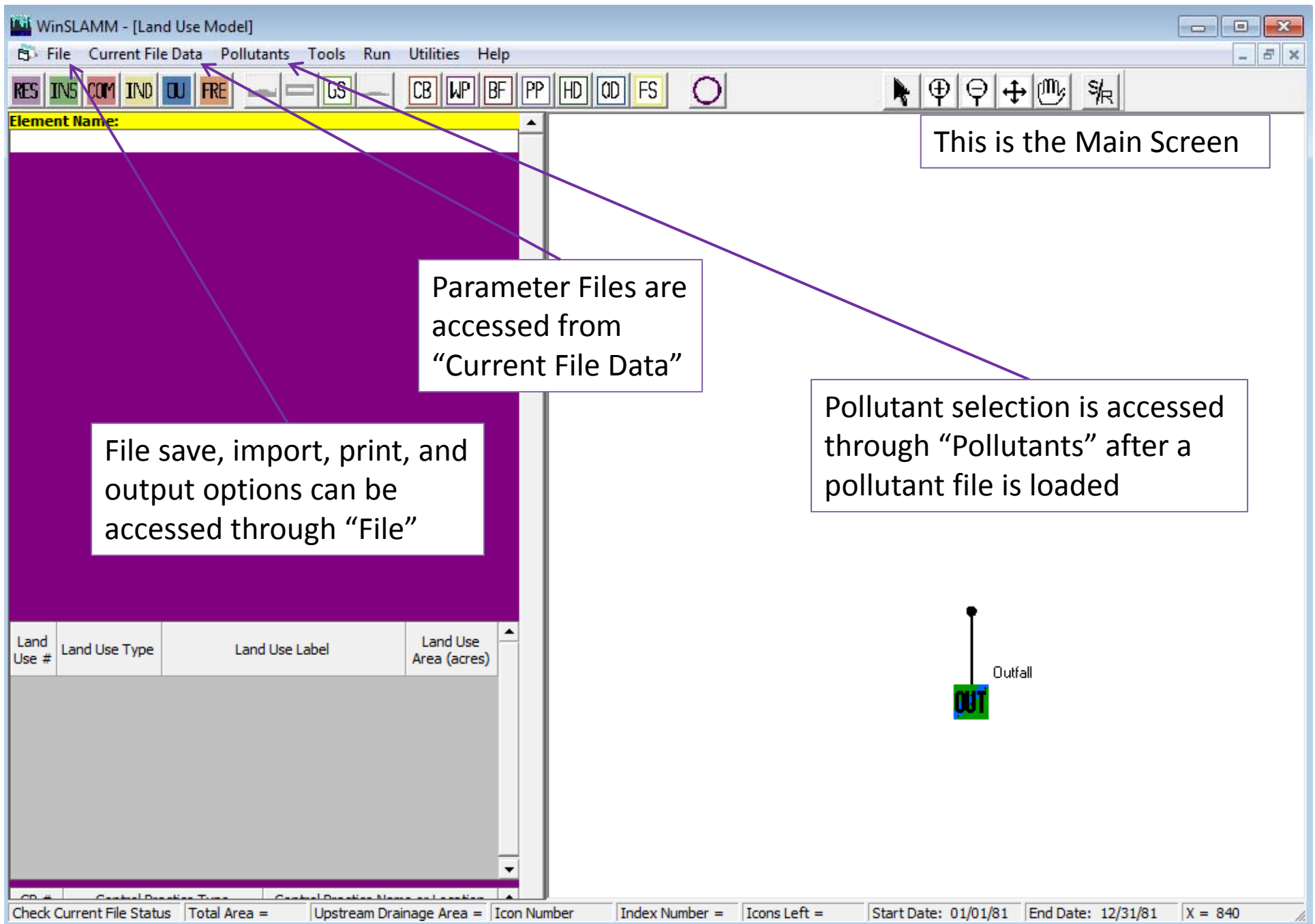
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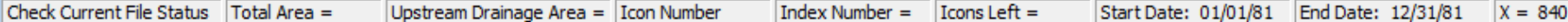
Select "Enter Main Screen"
to enter the program.

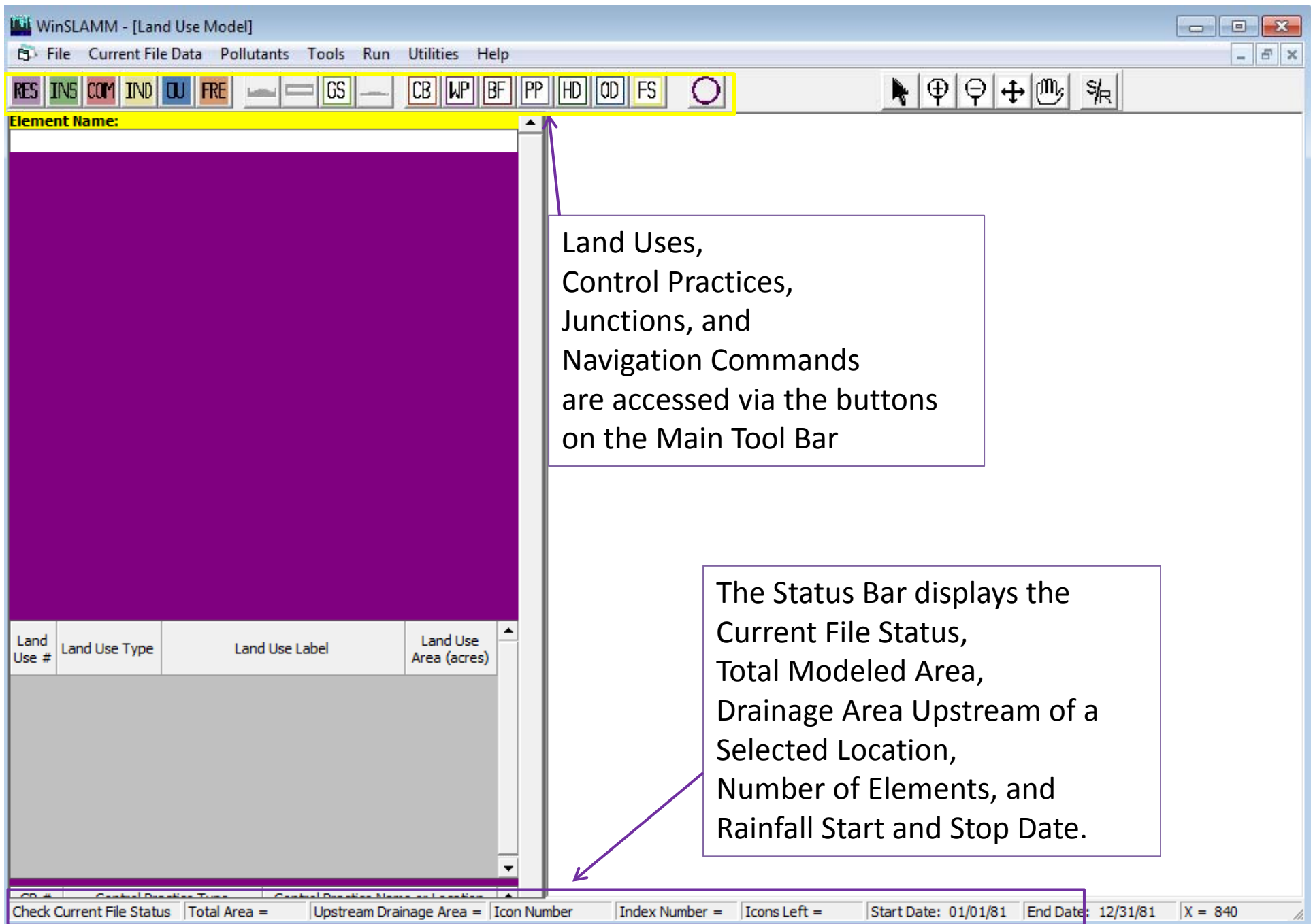
Exit Program

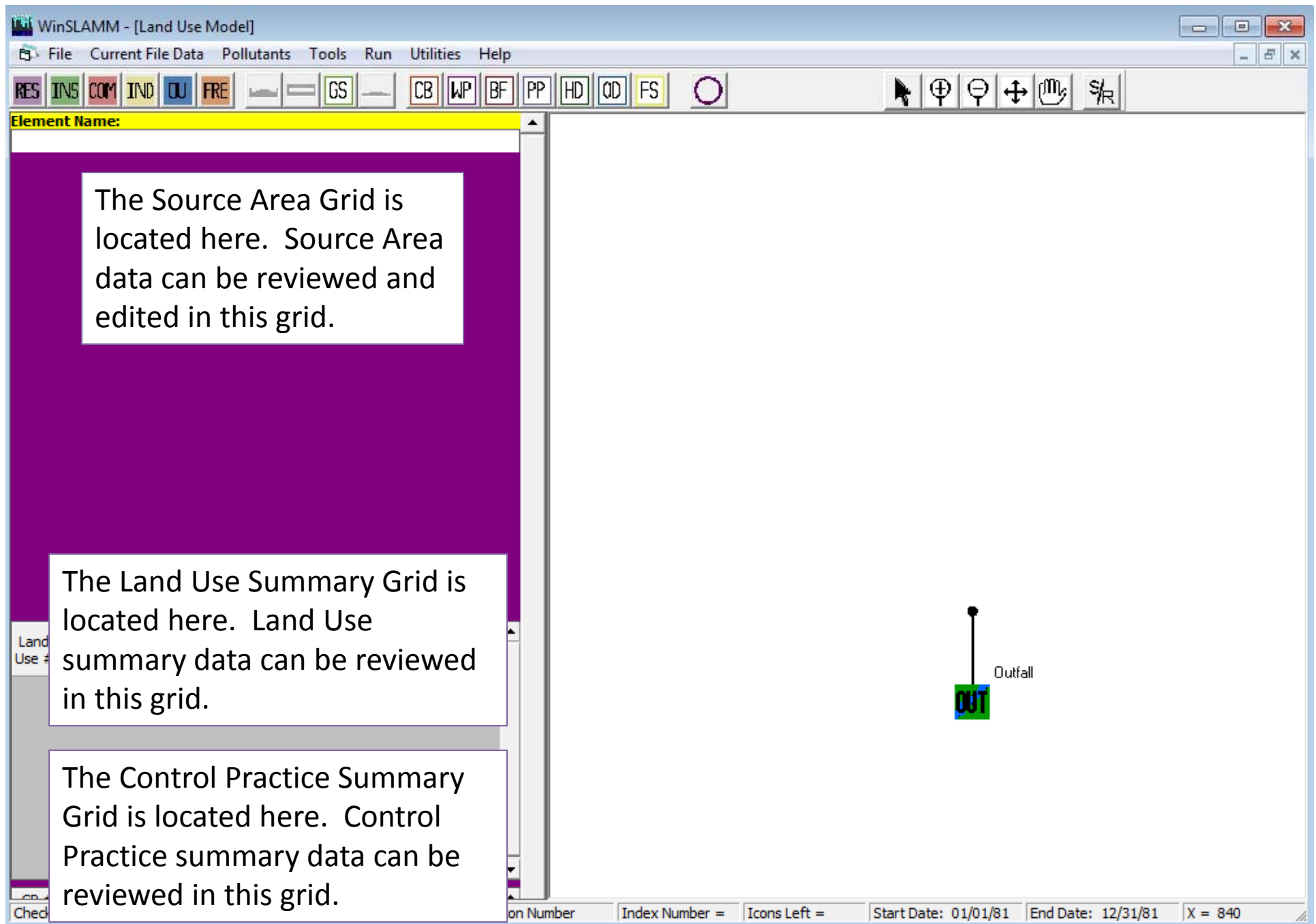
Enter Main Screen

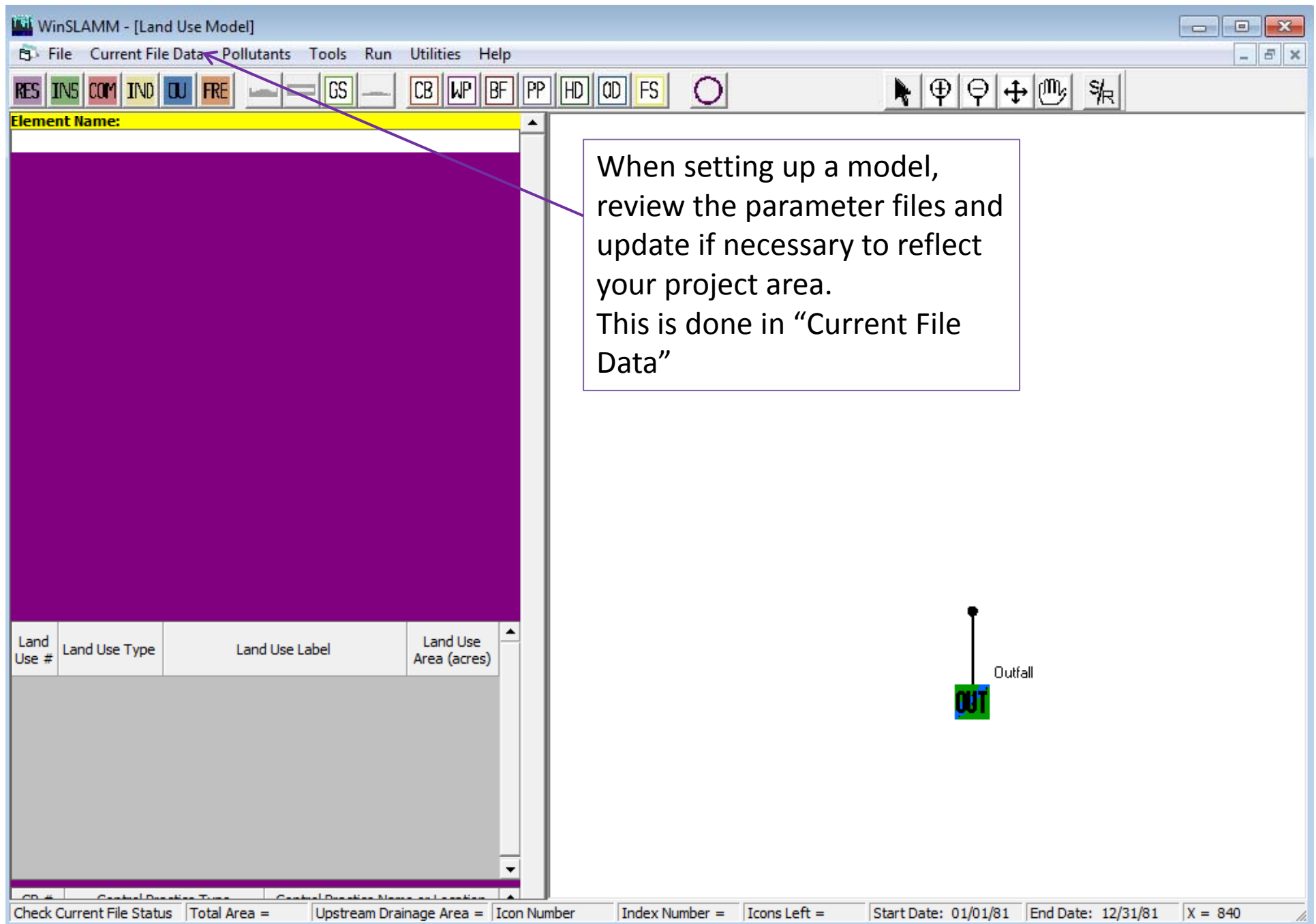
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Current File Data

SLAMM Data File Name:

Site Descript.:

Edit Seed: -42

Edit Rain File: C:\WinSLAMM Files\Rain Files\WisReg - Madison\WI 1981.RAN

Edit Start Date: 01/01/81 ☒ Winter Season Range
Edit End Date: 12/31/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\WI_GEO03.ppd

Edit Runoff Coefficient File: C:\WinSLAMM Files\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\y10.1\WI_AVG01.psc

Edit Street Delivery File (Select LU)
☒ Residential LU ☐ Other Urban LU
☐ Institutional LU ☐ Freeways
☐ Commercial LU
☐ Industrial LU
Change all Street Delivery Files to Match the Current File

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Use Cost Estimation Option ☐ **Select Cost Data File**

Replace Default Values with these Current File Data Values Use Default Values Replace all Source Area Particle Size Distribution Files with the Source Area PSD and Peak to Average Flow Ratio File Listed Above

Cancel Continue

Check Current File Status Total Area = Upstream Drainage Area = Icon Number Index Number = Icons Left = Start Da

This form is where the parameter files are reviewed and updated

The model file name will appear here

The Site Description is entered here

The Seed is entered here. Select "Edit" to update. The Seed is usually a negative number. A positive number or 0 initializes the Monte Carlo random number generator

The Rain File is entered here. Select "Edit" to update

The Start Date and End Date are entered here. Select "Edit" to update.

Current File Data

SLAMM Data File Name:

Site Descript:

Edit Seed: -42

Edit Rain File: C:\WinSLAMM Files\Rain Files\WisReg - Madison\WI 1981.RAN

Edit Start Date: 01/01/81 ☒ Winter Season Range
Edit End Date: 12/31/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\WI_GEO03.ppd

Edit Runoff Coefficient File: C:\WinSLAMM Files\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\WI_AVG01.psc

Edit Street Delivery File (Select LU)
☒ Residential LU ☐ Other Urban LU
☐ Institutional LU ☐ Freeways
☐ Commercial LU
☐ Industrial LU

Change all Street Delivery Files to Match the Current File

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Use Cost Estimation Option ☐ **Select Cost Data File**

Replace Default Values with these Current File Data Values Use Default Values Replace all Source Area Particle Size Distribution Files with the Source Area PSD and Peak to Average Flow Ratio File Listed Above

Cancel Continue

Outfall

Check Current File Status | Total Area = | Upstream Drainage Area = | Icon Number = | Index Number = | Icons Left = | Start Date: 01/01/80 | End Date: 12/30/72

This form is where the parameter files are reviewed and updated

The Winter Season Date Range is entered here. Check the box and then enter the dates.

The Pollutant Probability Distribution File is entered here. Select "Edit" to update.

The Runoff Coefficient File is entered here. Select "Edit" to update.

The Particulate Solids Concentration File is entered here. Select "Edit" to update

WinSLAMM - [Land Use Model]

Current File Data

SLAMM Data File Name:

Site Descript.:

Edit Seed: -42

Edit Rain File: C:\WinSLAMM Files\Rain Files\WisReg - Madison\W

Edit Start Date: 01/01/81 ☒ Winter Season Range
Edit End Date: 12/31/81 Start of Winter (mm/dd) 12/02 End of W

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\WI_GE003.ppd

Edit Runoff Coefficient File: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\w10.1\WI_AVG01.pscx

Edit Street Delivery File (Select LU) C:\WinSLAMM Files\WI_Res and Other Urban Dec06.st

☒ Residential LU ☐ Other Urban LU
☐ Institutional LU ☐ Freeways
☐ Commercial LU
☐ Industrial LU

Change all Street Delivery Files to Match the Current File

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Use Cost Estimation Option ☐ **Select Cost Data File**

Replace Default Values with these Current File Data Values Use Default Values Replace all Source Area Particle Size Distribution Files with the Source Area PSD and Peak to Average Flow Ratio File Listed Above

Cancel Continue

Check Current File Status | Parameters | Open/Close Drainage Area | Room Number | Element Number | Element Code | Start Date: 01/01/81 | End Date: 12/31/81

This form is where the parameter files are reviewed and updated

The Street Delivery Files are entered here. Each land use has its own file. Select the radial button next to the land use and then select "Edit". This must be done for each land use.

If only one land use is being modeled, the "Change all Street Delivery Files..." can be selected. This will update all Street Delivery Files to be the one shown in the window.

Each source area has its own particle size distribution. To select the file with the appropriate project, select "Edit"

If Costs are to be calculated for each Control Practice modeled, check the box and select "Select Cost Data File"

WinSLAMM - [Land Use Model]

Current File Data

SLAMM Data File Name:

Site Descript:

Edit Seed: -42

Edit Rain File: C:\WinSLAMM Files\Rain Files\WisReg - Madison\

Edit Start Date: 01/01/81 ☒ Winter Season Range
Edit End Date: 12/31/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd)

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\WI_GEO03.ppd

Edit Runoff Coefficient File: C:\WinSLAMM Files\WI_SL06\Dec06.rsvx

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\WI_10.1\WI_AVG01.pscx

Edit Street Delivery File (Select LU)
☒ Residential LU ☐ Other Urban LU
☐ Institutional LU ☐ Freeways
☐ Commercial LU
☐ Industrial LU
Change all Street Delivery Files to

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD and Peak to Average Flow Ratio File

☐ Use Cost Estimation Option **Select Cost Data File**

Replace Default Values with these Current File Data Values

Use Default Values

Replace all Source Area Particle Size Distribution Files with the Source Area PSD and Peak to Average Flow Ratio File Listed Above

Cancel **Continue**

This form is where the parameter files are reviewed and updated

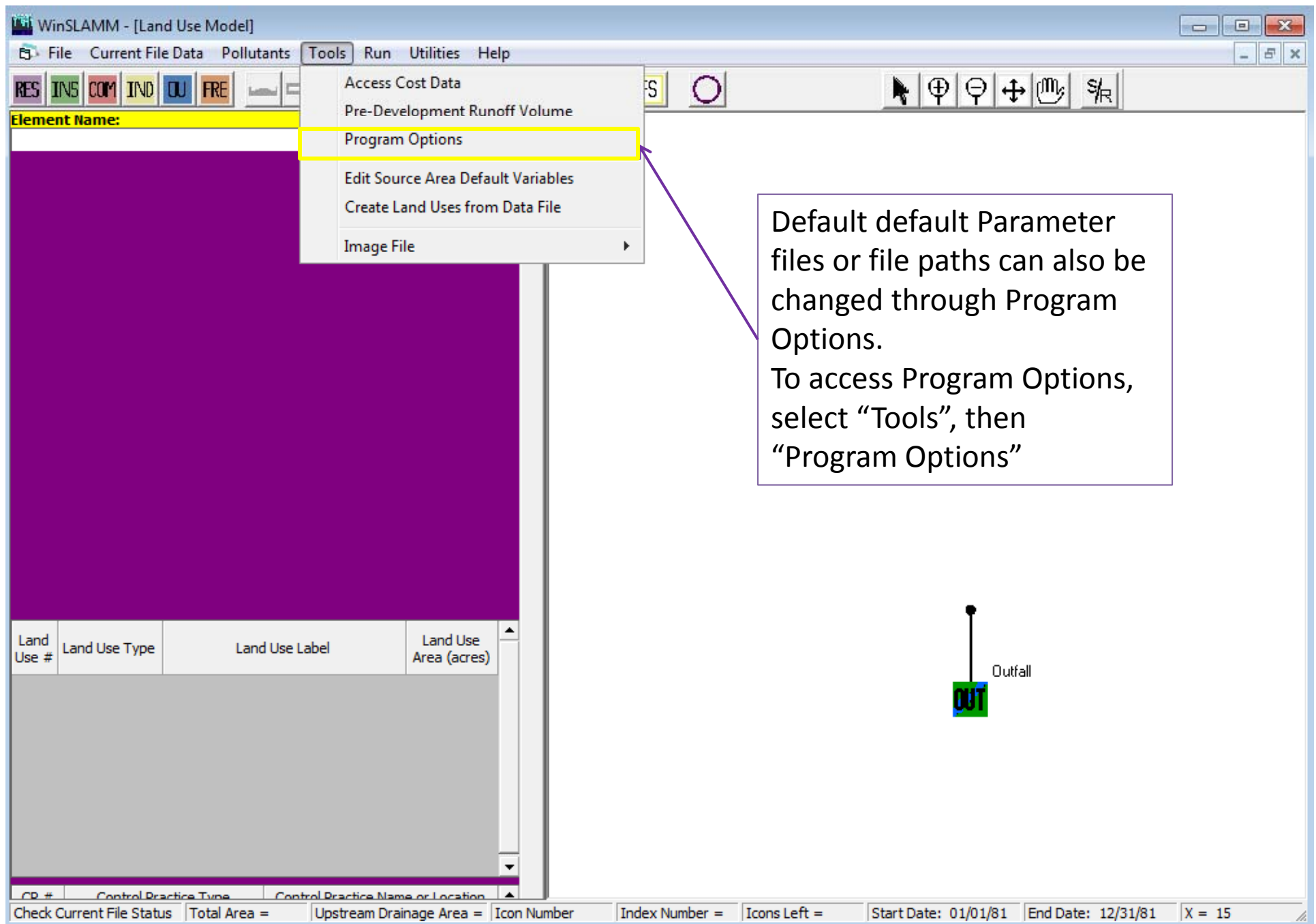
If you are using the same parameter files for several projects, after you've updated the parameter files in this form, you can select "Replace Program Default Values with these Current File Data values". This will make the files shown in the form your default values for future model runs.

If you are starting a new model, or, you want to change the parameter files back to the default values, select "Use Default Values".

To use the default particle size distribution file, select "Replace all Particle Size Distribution Files with the Program Default file"

Select "Cancel" to leave the form without saving changes.

Select "Continue" to save changes and exit the form.



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

Program Options

Detailed Output File Options Default Model Options **Default Current File Data**

Rain File Name: **Select File** C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Rain File Dates

Start Rain Date (mm/dd/yy) 01/01/81

End Rain Date (mm/dd/yy) 12/31/81

Winter Season

☒ Activate Winter Season Option

Start of Winter (mm/dd) 12/02

End of Winter (mm/dd) 03/12

Parameter File Type

☒ Pollutant Probability Distribution (.PPDx) ☐ Particulate Solids Concentration (.PSCx) ☐ Source Area PSD and Peak to Avg Flow Ratio (.CSV)

☐ Runoff Coefficient (.RSVx) ☐ Particle Size Distribution (.CPZ)

Select .PPDx File

Street Delivery File Land Use

☒ Residential ☐ Institutional ☐ Commercial ☐ Industrial ☐ Other Urban ☐ Freeways

Select File C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

☐ Perform Cost Analysis

Select File

File Update Options **Cancel Changes** **Save .INI File**

Check Current File Status Total Area = 0.000 acres Upstream Drainage Area = CP# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/55 End Date: 12/30/55

Select the "Default Current File Data" tab. All default parameter files and file paths can be edited in the "Default Current File Data" form. Select "Select File" next to the parameter you wish to modify, navigate to the location the new one is stored on your computer, and select "Open". After all changes are made, select "Save .INI File" to save the changes and leave the form. All new model files will use the default parameter files. entered here.

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD ES

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
	Parking	0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

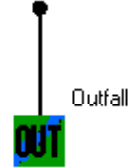
To enter model data, select the land use the modeled source area(s) are associated with.

RES = Residential
 INS = Institutional
 COM = Commercial
 IND = Industrial
 OU = Other Urban
 FRE = Freeway

For example, if the source area is residential roof, click on the "RES" icon.

Next, click anywhere on the white map space.

The Residential Icon will appear.



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS 

Land Use:

Residential 1

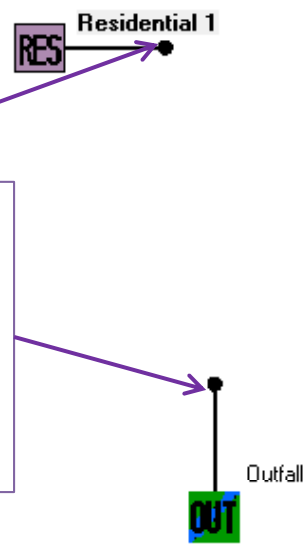
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

A junction is represented by the "O" icon in the main tool bar. Click on the "O", then click on the map space to add a junction.

Notice the "tails" of the icons. Each "tail" must be connected to a junction.



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

Check Current File Status | Total Area = 0.000 acres | No Upstream Source Areas | LU# = 1 | Index Number = 1 | Remaining Icons = 253 | Start Date: 01/01/81 | End Date: 12/31/81

Diagram illustrating the connection of the Residential Land Use tail to the Junction 1 icon. A purple arrow points from the Residential 1 icon to the Junction 1 icon. A text box explains the process: "To connect the Residential Land Use tail to the Junction, click and hold on the Residential Icon tail. While holding down, drag the tail over to the Junction Icon. Release the hold."

Diagram illustrating the connection of the Residential Land Use tail to the Junction 1 icon. A purple arrow points from the Residential 1 icon to the Junction 1 icon. A text box explains the process: "To connect the Residential Land Use tail to the Junction, click and hold on the Residential Icon tail. While holding down, drag the tail over to the Junction Icon. Release the hold."

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND CU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
	Parking	0			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # Land Use Type Land Use

1	Residential	Residential 1
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Check Current File Status Total Area =

Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

The Residential Icon is now connected to the Junction.

Add other land uses and connect them in a similar manner.

Each WinSLAMM model can analyze up to 255 Icons. An Icon is a Land Use, Junction, or Control Practice.

The status bar displays the number of Icons in each model file and the number of Icons remaining.

The diagram illustrates the connection of land use icons in the WinSLAMM model. A purple square icon labeled 'RES' (Residential) is connected by a line to a circular icon labeled 'Junction 1'. Below this, a green square icon labeled 'OUT' (Outfall) is shown with a line extending upwards to a junction point. The status bar at the bottom indicates 'Remaining Icons = 253', 'Start Date: 01/01/81', and 'End Date: 12/31/81'.

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # 1 Residential 1

Each model file can only have one Outfall.

Each Icon must be routed to the Outfall.

To connect the Icons to the Outfall, click on the Outfall "tail" and drag it to the Junction just as you did for the Land Use tails.

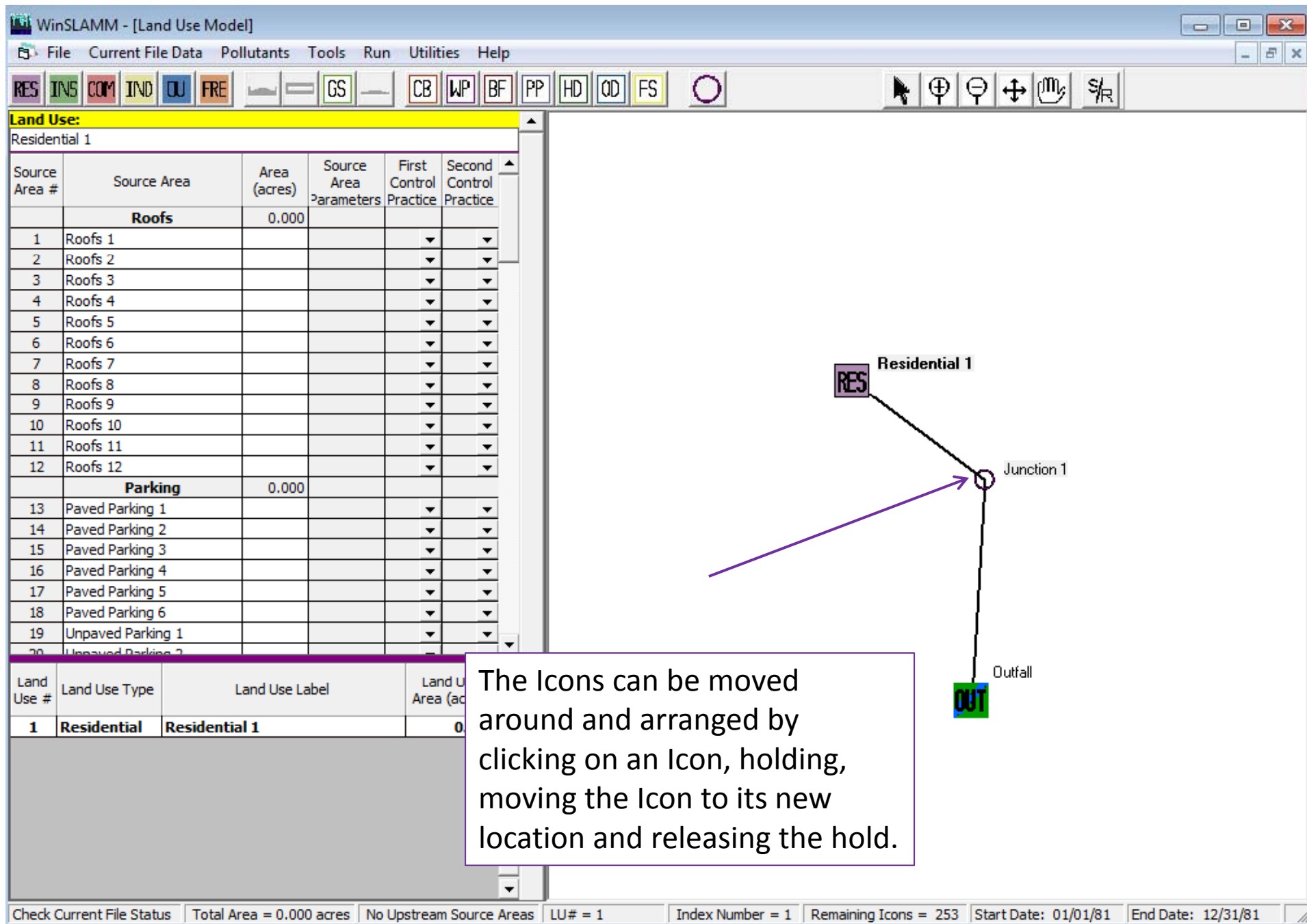
Residential 1

Junction 1

Outfall

OUT

Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # Land Use Type Land Use Label

1 Residential Residential 1

Check Current File Status Total Area = 0.000 acres No Un

Residential 1

Junction 1

Outfall

Out

To enter source area data, click on the Land Use Label associated with the Source Areas you want to enter. When the Label is clicked on (or selected), the name of the Land Use becomes bold and the source areas available in the land use appear in the Source Area Grid on the left side of the window.

ning Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # Land Use Type Land Use Label Land Use Area (acres)

1	Residential	Residential 1	0.000
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First, enter the area of the Source Area. Select the cell that intersects the Source Area label and Area.

Residential 1

Junction 1

Outfall

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

Enter the area of the Source Area in acres.

Select "Enter" on your keyboard to move to the next cell under "Source Area Parameters".

Select "Enter" again to enter the Source Area Parameter data.

Residential 1

Junction 1

Outfall

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:
Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters
	Roofs	1.000	
1	Roofs 1	1.000	
2	Roofs 2		
3	Roofs 3		
4	Roofs 4		
5	Roofs 5		
6	Roofs 6		
7	Roofs 7		
8	Roofs 8		
9	Roofs 9		
10	Roofs 10		
11	Roofs 11		
12	Roofs 12		
	Parking	0.000	
13	Paved Parking 1		
14	Paved Parking 2		
15	Paved Parking 3		
16	Paved Parking 4		
17	Paved Parking 5		
18	Paved Parking 6		
19	Unpaved Parking 1		
20	Unpaved Parking 2		

Land Use #	Land Use Type	Land Use Label
1	Residential	Residential 1

Source Area Parameters

Land Use: Residential 1 Total Area: 1.000

Source Area: Roof 1

Roofs: ☒ Flat Roof ☐ Pitched Roof

Is the Source Area:

☐ Directly Connected or Draining to a Directly Connected Area

☐ Draining to a Pervious Area (partially connected impervious area)

Soil Type: Normal ☐ Sandy ☐ Silty ☐ Clayey

Moderately Compacted ☐ Sandy ☐ Silty ☐ Clayey

Severely Compacted ☐ Sandy ☐ Silty ☐ Clayey

Building Density: ☐ Low ☐ Medium or High

Alleys present: ☐ Yes ☐ No

Source Area Particle Size Distribution File:

Select File C:\WinSLAMM Files\NURP.cpz

Apply Default PSD and Peak to Average Flow Ratio Values

Continue

al 1

Junction 1

Outfall

OUT

Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

Enter the data that describes the source area. Select "Continue" to leave the form.

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

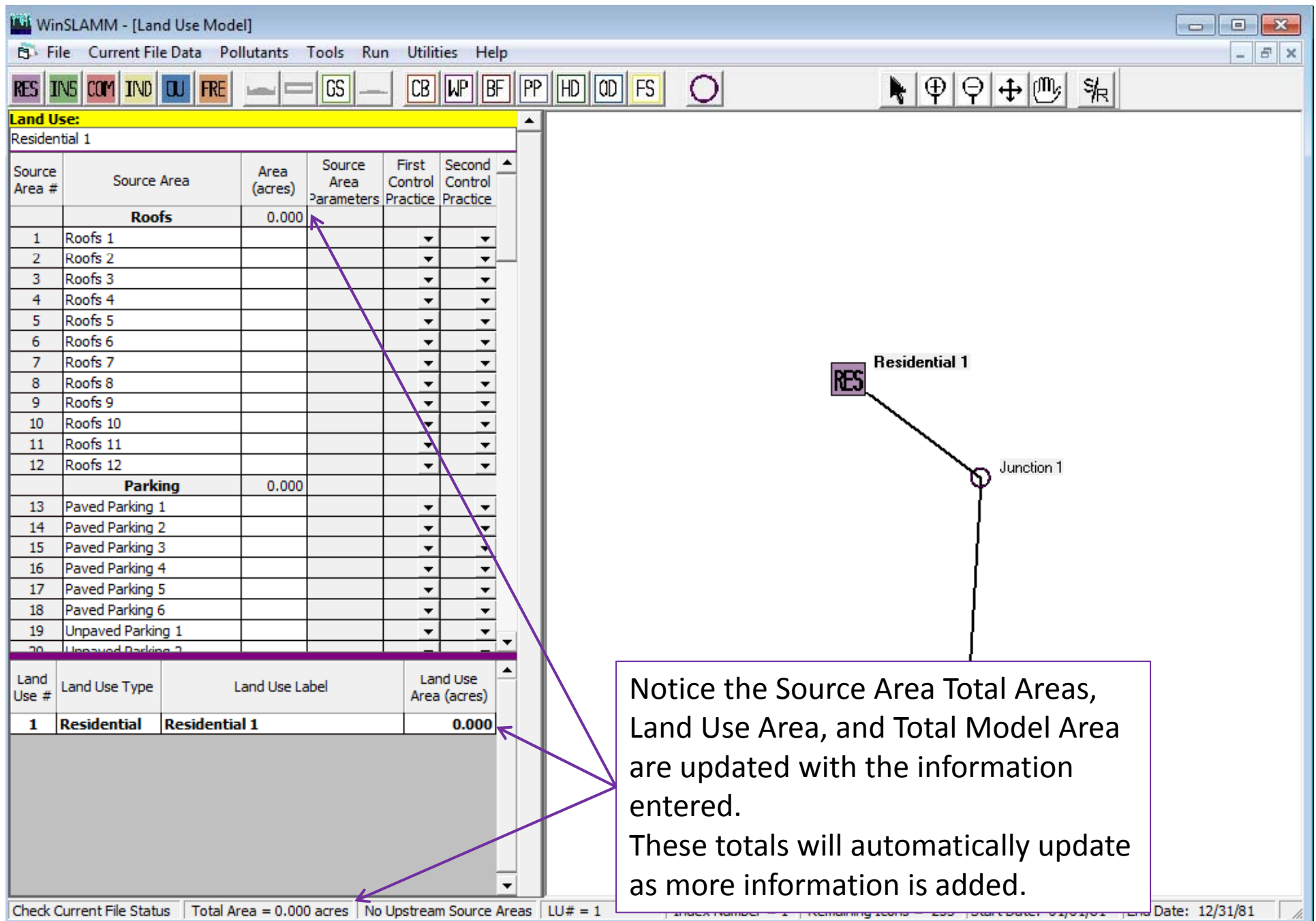
Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

Use the scroll bar to move up and down in the grid to add more data.

```

graph TD
    RES[RES Residential 1] --> J1((Junction 1))
    J1 --> OUT[OUT Outfall]
  
```

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
1	Roofs 1				
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
	Parking	0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	0.000

To view or add Pollutants to be analyzed, select "Pollutants".

Residential 1

Junction 1

Outfall

Check Current File Status Total Area = 0.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Cont. Prac.
	Roofs	1.000		
1	Roofs 1	1.000	Entered	--
2	Roofs 2			
3	Roofs 3			
4	Roofs 4			
5	Roofs 5			
6	Roofs 6			
7	Roofs 7			
8	Roofs 8			
9	Roofs 9			
10	Roofs 10			
11	Roofs 11			
12	Roofs 12			
	Parking	0.000		
13	Paved Parking 1			
14	Paved Parking 2			
15	Paved Parking 3			
16	Paved Parking 4			
17	Paved Parking 5			
18	Paved Parking 6			
19	Unpaved Parking 1			
20	Unpaved Parking 2			

Land Use #	Land Use Type	Land Use Label
1	Residential	Residential 1

Pollutant Selection

	Particulate	Dissolved	Total
Solids	☒	☐	☐
Phosphorus	☐	☐	☐
Nitrates		☐	
TKN	☐	☐	☐
COD			
Fecal Coliform Bacteria			
Chromium			
Copper	☐	☐	☐
Lead	☐	☐	☐
Zinc	☐	☐	☐
Cadmium (ug/L)	☐	☐	☐
Pyrene	☐		
Other 3			
Other 4			
Other 5			
Other 6			

The pollutants listed above are in the file
C:\WINSLAMM FILES\WL_GEO03.PPDx

Select a pollutant to evaluate it.

Select All ☐ Clear All ☐

Continue

Check Current File Status | Total Area = 1.000 acres | No Upstream Source Areas | LU# = 1 | Index Number = 1 | Remaining Icons = 253 | Start Date: 01/01/81 | End Date: 12/31/81

Check the boxes next to the pollutants you would like to analyze.

Particulate Solids will always be checked.

The pollutants available for selection are those included in the *.ppdx file chosen.

To select all pollutants, select the radial button next to "Select All".

Select "Continue" when finished.

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

New Project File...
 Open Project File...
 Save Project File
 Save Project File As...
 Import DAT File
 Print Input Data
 Output Options

C:\Users\cburger\Documents\Projects\Janesville\SWMP Update\WinSLAMM\2015 Swales\LDR_CLAY SW.mdb
 C:\Users\cburger\Documents\Projects\Janesville\SWMP Update\Existing SCMs\WP14 - Copy.mdb
 C:\Users\cburger\Documents\Projects\Janesville\SWMP Update\Existing SCMs\WP14 w Residential Development.mdb
 C:\Users\cburger\Documents\Projects\Janesville\SWMP Update\Existing SCMs\WP14.mdb

Close Project File
 Exit

	Parking	0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	1.000

Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

Save the file with a new name by selecting "File", then "Save Project File As..."

If the file has already been named, and you only want to save updates to the file, then select "File", then "Save Project File"

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools **Run** Utilities Help

Current Project File ...
Set of Project Files

Land Use:
Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs					
1	Roofs 1	1.000	Entered	--	--
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking					
13	Paved Parking 1	0.000			
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	Residential 1	1.000

Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

To run a file, select "Run", then "Current Project File..."

Or

Select the "S/R" Icon on the main tool bar.

Outfall

OUT

WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		1.000			
1	Roofs 1	1.000	Entered	--	--
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # Land Use Type Land Use Label Land Use Area (ac)

1	Residential	Residential 1	1.000
---	-------------	---------------	-------

Execute Program

Save File and Execute

Save File with a Different Name and Execute

Cancel Program Execution

OUT

Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

If the first option was used, then select "Save File and Execute" when the next form pops up.

If the second option was used, the program will automatically save the file and begin the analysis.

WinSLAMM v 10 Data File: [C:\Users\cburger\Documents\Projects\WinSLAMM\2015 Madison October\Screen Captures\Model.mdb] - [WinSLAMM Model Output]

File View

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs					
1	Roofs 1	1.000	Entered	--	--
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking					
13	Paved Parking 1	0.000			
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Land Use # Land Use Type Land Use Label Land Use Area (acres)

1	Residential	Residential 1	1.000
---	-------------	---------------	-------

Land Uses Junctions Control Practices Outfall **Output Summary**

File
C:\Users\cburger\Documents\Projects\WinSLAMM\2015 Madison October\Screen Captures\Model.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses	80221		0.69	37.00	185.3	
Outfall Total with Controls	80218	0.00 %	0.69	37.00	185.3	0.00 %
Current File Output: Annualized Total After	80438				185.3	
Years in Model			1.00			

Print Output Summary to File
Print Output Summary to .csv File

Total Control

Capital Cost	N/A
Land Cost	N/A
Annual	N/A
Present Value of All	N/A

Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1

Output is summarized at many locations within the modeled network. Use the tabs to select the desired output.

To exit the Output forms, select the lower "X".
Output is not saved, therefore, if you exit and want to look at the output again, you will need to re-run the model file.

WinSLAMM v 10 Data File: [C:\Users\cburger\Documents\Projects\WinSLAMM\2015 Madison October\Screen Captures\Model.mdb] - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF PP HD OD FS

Land Use:

Residential 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		1.000			
1	Roofs 1	1.000	Entered	--	--
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking		0.000			
13	Paved Parking 1				
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				

Expand Source Area List
Collapse Source Area List
Show Active Source Areas Only

Land Use # Land Use Type Land Use Label Land Use Area (acres)

1	Residential	Residential 1	1.000
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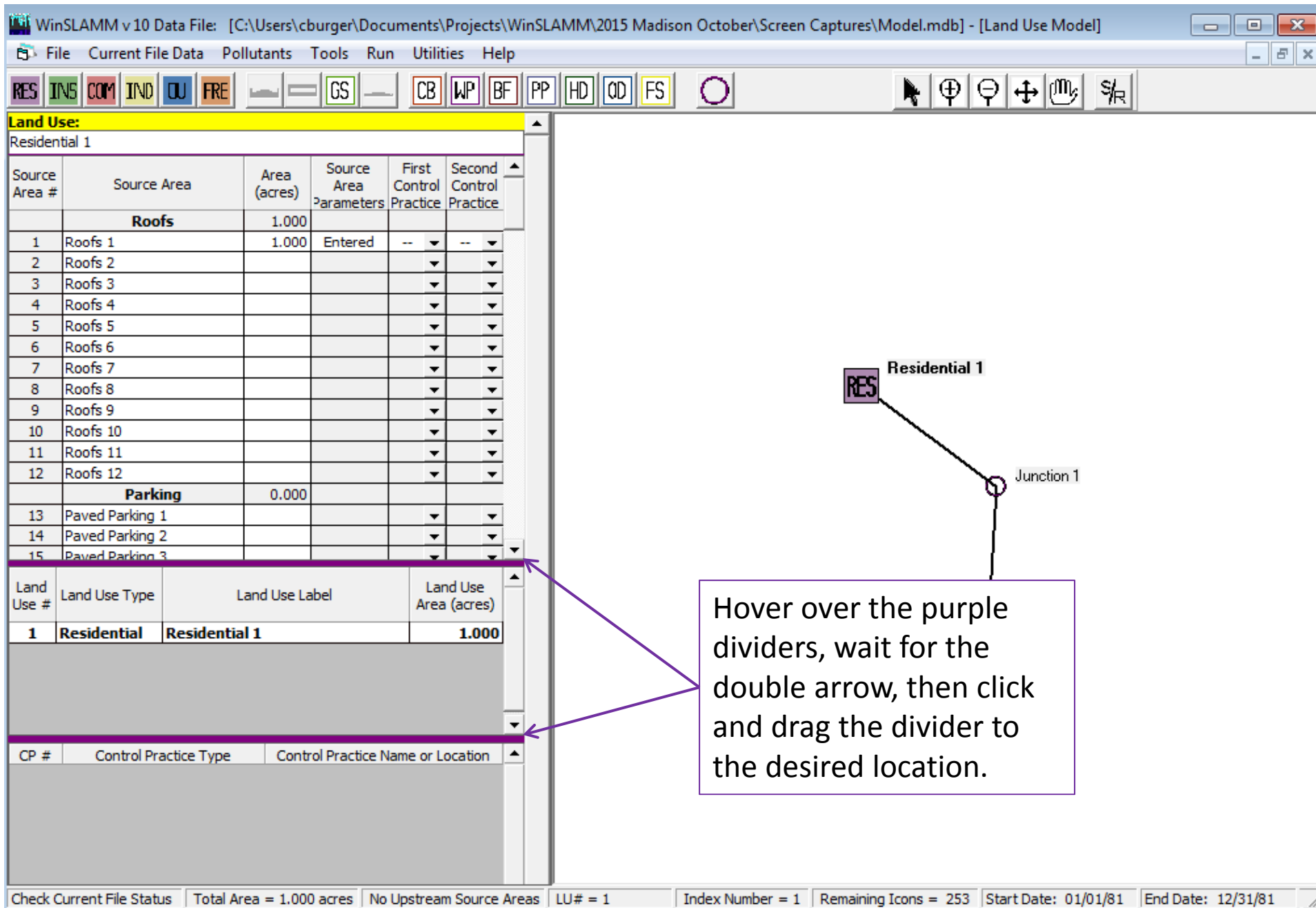
Check Current File Status Total Area = 1.000 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/81 End Date: 12/31/81

Residential 1

Certain aspects of the Main Window can be customized to allow for easier viewing of entered data.

To collapse or expand the Source Area data:

- Right click on the grid and select the appropriate command, or
- Double click on the Source Area major headings.



WinSLAMM - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

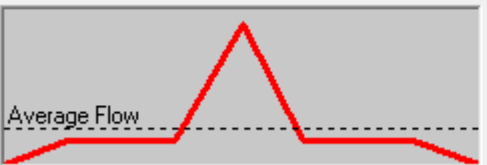
RES INS COM IND OU FRE Access Cost Data

Program Options

Detailed Output File Options **Default Model Options** Default Current File Data

Default Monthly Stormwater Temperature (degrees F)

January	41
February	41
March	51
April	51
May	61
June	61
July	61
August	61
September	51
October	41
November	31
December	31

☐ Turn 'Save File Upon Exit' Message Off
☐ Suppress the Wet Detention Pond Overflow Warning Message
☒ Save Backup File
☐ Save Outfall Runoff and Particulate Loading for WinDETPOND Analysis
 Maximum allowable biofilter surface ponding duration (hrs): 72
☒ If Other control device concentration reduction value is set to 1, remove off-site pollutant loads from pollutant load percent reduction calculations.
 Default Peak Flow to Average Flow Ratio: 3.8

 Flow
 Average Flow
 Time (1.2 * Rainfall Duration)
 Standard Land Use File: C:\WinSLAMM Files\StandardLandUses.000
☒ Route Hydrographs and Particle Sizes Between Control Practices
☐ Create Hydrograph and Particle Size Distribution .csv Files
☒ Use Default Time Increment for all Hydrograph Analyses (required for hydrograph routing between control practices)
 Default Time Increment (min): 15
 Soil Compaction Infiltration Factor

	Sandy	Silty
Moderately Compacted	0.50	0.20
Severely Compacted	0.20	0.10

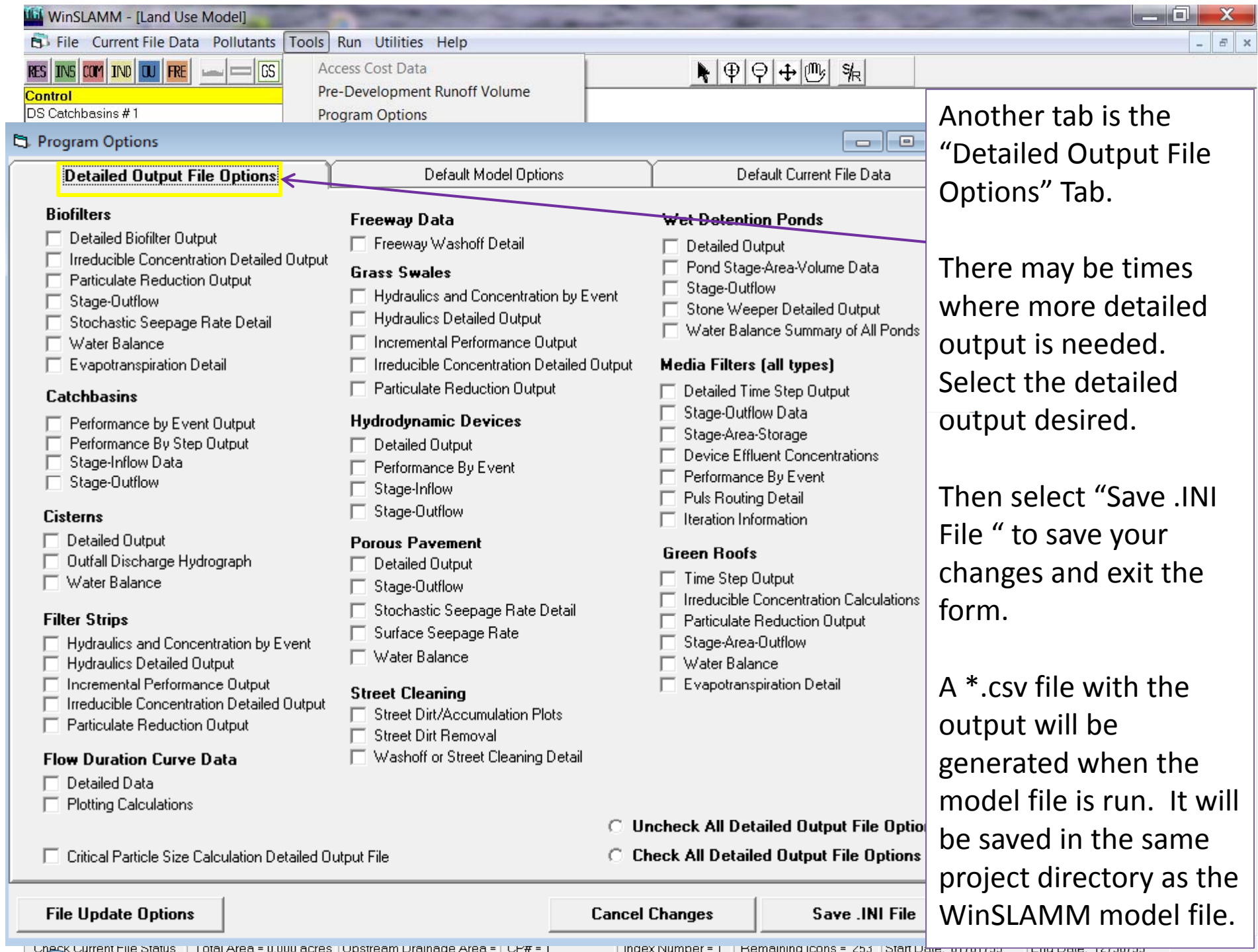
File Update Options Cancel Changes Save .INI File

Check Current File Status Total Area = 0.000 acres Upstream Drainage Area = CP# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/55 End Date: 12/30/55

There are two other tabs that may be accessed often from Tools.

One tab is the Default Model Options tab. Use this to change many of the defaults in the program such as Warning Messages, Time Steps, and using the "Other Device" for off-site runoff calculations.

Select "Save .INI File" to save your changes and exit the form.



Another tab is the “Detailed Output File Options” Tab.

There may be times where more detailed output is needed. Select the detailed output desired.

Then select “Save .INI File” to save your changes and exit the form.

A *.csv file with the output will be generated when the model file is run. It will be saved in the same project directory as the WinSLAMM model file.

WinSLAMM v10 Data File: [C:\Users\cburger\Documents\Projects\Janesville\SWMP Update\Proposed SCMs\Rockport Pond.mdb] - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE

control
Rockport Pond

Access Cost Data
Pre-Development Runoff Volume
Program Options
Edit Source Area Default Variables
Create Land Uses from Data File

Image File

Insert Image File
Remove Image File

GB0567MDRNA
GB0567LDR
GB0567HDRNA
GB0567OFFPARK
GB0567OPEN
Junction 5
GB0567GRNBLT
HDRNA
MDRNA
GRNBLT
DUPLICATE
DS Other Device # 1
MFR
MOBH
MI
SHOPCENT
OFFPARK
PARK
Junction 1
Junction 2
Junction 3
WP28
WP28MDRNA
WP28LDR
DS Grass Swales # 1
Rockport Pond

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Other Urban	GB0567GRNBLT	7.535
2	Residential	GB0567HDRNA	0.634
3	Residential	GB0567LDR	7.916
4	Residential	GB0567MDRNA	181.557
5	Commercial	GB0567OFFPARK	1.335
6	Other Urban	GB0567OPEN	10.146
7	Residential	DUPLEX	48.292
8	Other Urban	GRNBLT	0.782
9	Residential	HDRNA	23.158
10	Residential	HDRWA	11.832

CP #	Control Practice Type	Control Practice Name or Location
1	Wet Detention Pond	Rockport Pond
2	Wet Detention Pond	WP28
3	Other Device	DS Other Device # 1
4	Grass Swales	DS Grass Swales # 1
5	Street Cleaning	SA Device, LU# 1,SA# 37
6	Street Cleaning	SA Device, LU# 1,SA# 38
7	Street Cleaning	SA Device, LU# 2,SA# 37
8	Street Cleaning	SA Device, LU# 2,SA# 38
9	Street Cleaning	SA Device, LU# 3,SA# 37
10	Street Cleaning	SA Device, LU# 3,SA# 38

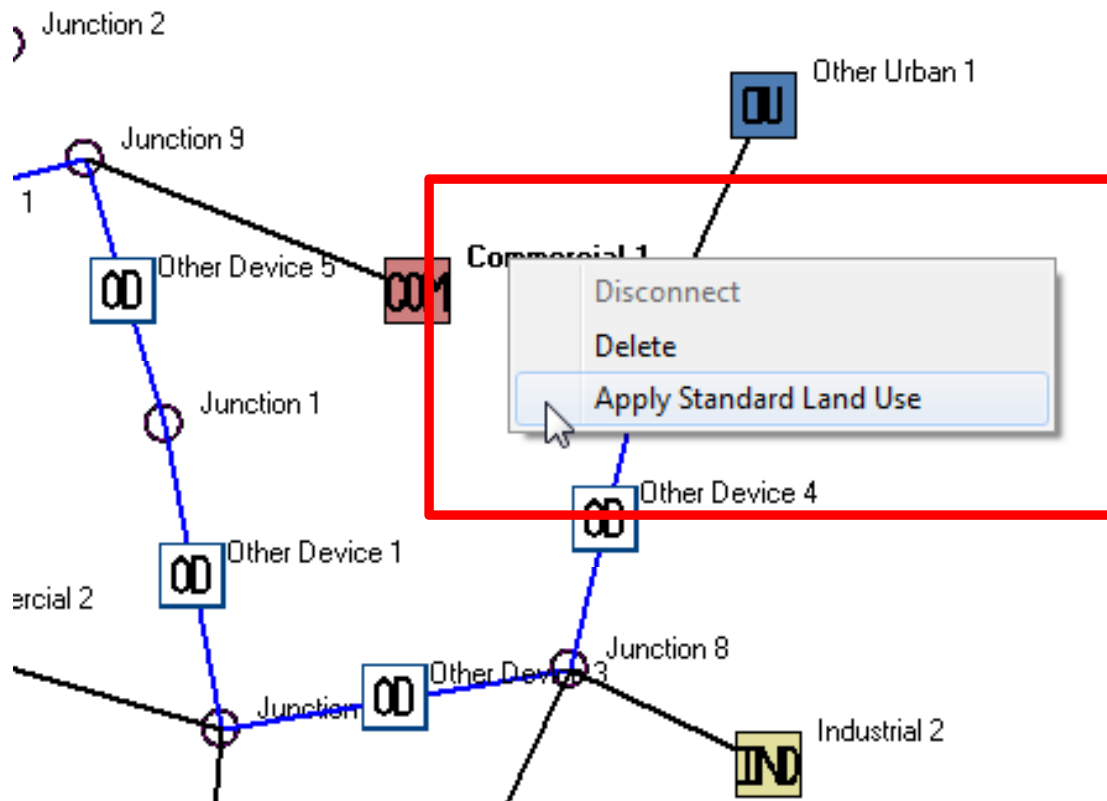
Current File Data Entered | Total Area = 1179.299 acres | Upstream Drainage Area = 1179.300 acres | CP# = 1 | Index Number = 1 | Remaining Icons = 250 | Start Date: 01/02/80 | End Date: 01/01/85 | X = 465 | Y = 15

An image can be added by going to "Tools", "Image File", then "Insert Image File."

Jpeg or bmp file types can be imported at this time.

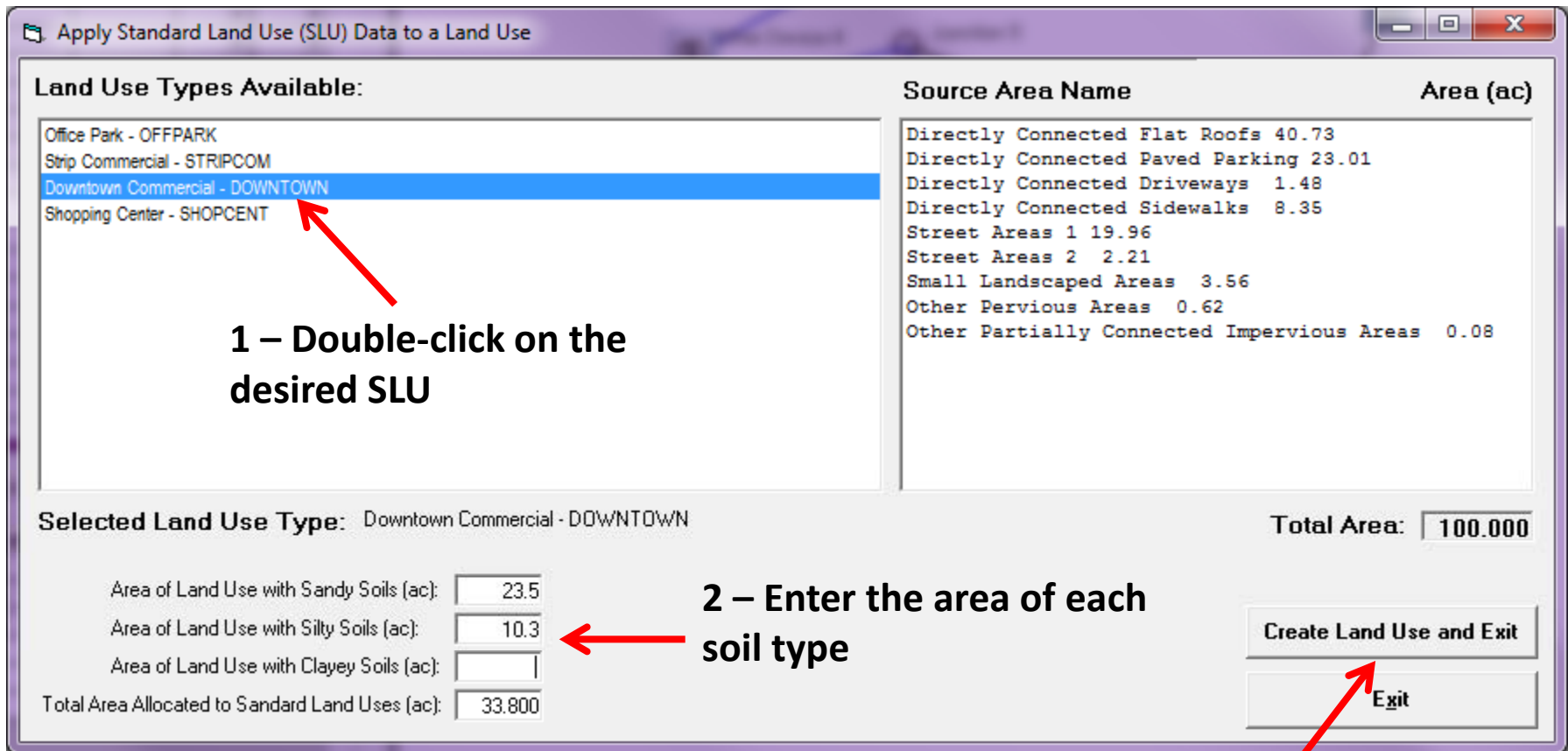
Future versions will accommodate file types such as shapefiles or CADD files.

Standard Land Uses



To Access a Standard Land Use, select an Icons' Land Use Label, right-mouse click to get the pop-up menu, and then select the 'Apply Standard Land Use' option

Applying Standard Land Use data to a Land Use



Land Use Types Available:

- Office Park - OFFPARK
- Strip Commercial - STRIPCOM
- Downtown Commercial - DOWNTOWN**
- Shopping Center - SHOPCENT

Source Area Name **Area (ac)**

- Directly Connected Flat Roofs 40.73
- Directly Connected Paved Parking 23.01
- Directly Connected Driveways 1.48
- Directly Connected Sidewalks 8.35
- Street Areas 1 19.96
- Street Areas 2 2.21
- Small Landscaped Areas 3.56
- Other Pervious Areas 0.62
- Other Partially Connected Impervious Areas 0.08

Selected Land Use Type: Downtown Commercial - DOWNTOWN

Total Area: 100.000

Area of Land Use with Sandy Soils (ac): 23.5

Area of Land Use with Silty Soils (ac): 10.3

Area of Land Use with Clayey Soils (ac):

Total Area Allocated to Standard Land Uses (ac): 33.800

Create Land Use and Exit

Exit

3 – Press the 'Create Land Use and Exit' button

Standard Land Use Source Areas applied to the Downtown Commercial Land Use

WINSLAMM V 10 Data File: [C:\Files\SLAMM\WINSLAMM\V10\Current\04

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF

Land Use:

Downtown Commercial

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	13.767			
1	Roofs 1	13.767	Entered	--	--
	Parking	7.777			
13	Paved Parking 1	7.777	Entered	--	--
	Driveways/Sidewalks	3.322			
25	Driveways 1	0.500	Entered	--	--
31	Sidewalks 1	2.822	Entered	--	--
	Streets	7.493			
37	Streets 1	6.746	Entered	--	--
38	Streets 2	0.747	Entered	--	--
	Landscaped Areas	1.204			
51	Small Landscaped Areas 1	0.837	Entered	--	--
52	Small Landscaped Areas 2	0.367	Entered	--	--
	Other Areas	0.237			
71	Other Pervious Areas 1	0.146	Entered	--	--
72	Other Pervious Areas 2	0.064	Entered	--	--
78	Other Part Con Imp Areas 1	0.019	Entered	--	--
79	Other Part Con Imp Areas 2	0.008	Entered	--	--

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Commercial	Downtown Commercial	33.800
2	Commercial	Commercial 2	1.000
3	Institutional	Institutional 1	1.000
4	Commercial	Commercial 3	1.000
5	Industrial	Industrial 1	1.000
6	Industrial	Industrial 2	1.000
7	Other Urban	Other Urban 1	1.000

CP #	Control Practice Type	Control Practice Name or Location
1	Other Device	Other Device 1
2	Other Device	Other Device 3
3	Other Device	Other Device 4

All Standard Land Uses are stored in an Access Database

Microsoft Access - [NonFreewayLandUses : Table]

File Edit View Insert Format Records Tools Window Help

LandUseType	Streets1_Texture	LandUseTypeNumber	StandardLandUseCode	StandardLandUseDescription	Roof_FlatDirectlyConnected	Roof_Flat
Residential	Smooth	1	SUBR	Suburban Residential	0	
Residential	Smooth	1	HDRWA	High Density Res. with Alleys	0	
Residential	Smooth	1	HDRNA	High Density Res. No Alleys	0	
Residential	Smooth	1	MOBH	Mobile Homes	16.9	
Residential	Intermediate	1	DUPLEX	Duplex	0	
Residential	Smooth	1	MDRNA	Medium Density Res. No Alleys	0	
Residential	Intermediate	1	MDRWA	Medium Density Res. With Alleys	0	
Residential	Smooth	1	MFR	Multi Family Residential	3.4	
Residential	Smooth	1	LDR	Low Density Residential	0	
Residential	Smooth	1	HRR	High Rise Residential	19	
Institutional	Smooth	2	INST	Misc. Institutional	5.39	
Institutional	Smooth	2	SCH	Schools	15	
Institutional	Smooth	2	HOSP	Hospital	31.8	
Commercial	Smooth	3	OFFPARK	Office Park	13.17	
Commercial	Smooth	3	STRIPCOM	Strip Commercial	19.7	
Commercial	Smooth	3	DOWNTOWN	Downtown Commercial	40.73	
Commercial	Smooth	3	SHOPCENT	Shopping Center	21.61	
Industrial	Smooth	4	LI	Light Industrial	20.51	
Industrial	Smooth	4	MI	Medium Industrial	16.8	
OpenSpace	Smooth	5	CEM	Cemetary	0.55	
OpenSpace	Smooth	5	OPEN	Open Space	0.55	
OpenSpace	Smooth	5	PARK	Parks	0.1	

Record: 1 of 22

Datasheet View

For additional model information, go to www.winslamm.com

Remember to Press the “F1” to access the Help File