

## Modeling a No Management Condition

The model file represents the project area without stormwater control measures applied. This file can be compared to the files with stormwater control measures to evaluate the runoff and pollution reduction from the measures. The project is located in Madison, Wisconsin, U.S.A. Soils in the project area are silty. A schematic of the project site can be found at the end of this document.

This example will set up the "No Management Condition" WinSLAMM Model File. The project area is a 7.29 acre commercial development. The data on the following pages is the data needed to describe the land use and source areas for the project area in the WinSLAMM model. Figures of the project area and source areas are found at the end of the example text.

Enter the following data into a new WinSLAMM model file.

*Note: You cannot save a file until at least one source area is entered.*

### **Parameter Files:**

Select "Current File Data"

Site Description: "No Controls, Commercial Development" (anything descriptive can be used)

Seed: -42 (a negative seed value disables the random pollutant generator and uses mean pollutant concentrations only)

Rain File: WisReg – Madison WI 1981.ran

Rain Start Date: 01/01/81

Rain End Date: 12/31/81

Winter Season Date Range: December 2nd – March 12th

The following parameter files are the most recently calibrated files available:

Pollutant Probability Distribution File: WI\_GEO02.ppdx

Runoff Coefficient File: v10 WI\_SL06 Dec06.rsv

Particulate Solids Concentration File: WI\_AVG01.pscx

Street Delivery File:

Residential LU:	WI_Res and Other Urban Dec06.std
Industrial LU:	WI_Com Inst Indust Dec06.std
Institutional LU:	WI_Com Inst Indust Dec06.std
Other Urban LU:	WI_Res and Other Urban Dec06.std
Commercial LU:	WI_Com Inst Indust Dec06.std
Freeways:	Freeway Dec06.std

Select "Continue" when finished to save your edits and leave the form.

*Note: Screen Captures of the entered data are found on the subsequent pages.*

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Current File Data

**SLAMM Data File Name:**

L:\group\WaterResources\Presentations and Papers\WinSLAMM\2012 StormCon Denver\Model Files\No Management Condition.mdb

Site Descript.: No Management Condition

**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\_GEO02.ppd

**Edit** Runoff Coefficient File: C:\WinSLAMM Files\v10 WI\_SL06 Dec06.rsv

**Edit** Particulate Solids Concentration File: C:\WinSLAMM Files\WI\_AVG01.psc

**Edit** Street Delivery File (Select LU) C:\WinSLAMM Files\Freeway Dec06.std

☐ Residential LU ☐ Other Urban LU

☐ Institutional LU ☒ Freeways

☐ Commercial LU

☐ Industrial LU

Change all Street Delivery Files to Match the Current File

Use Cost Estimation Option ☐ Select Cost Data File

Replace Default Values with these Current File Data Values

Use Default Values

Replace all Particle Size Distribution Files with the Program Default file

Cancel Continue

## Modeling a No Management Condition

### **Pollutants:**

Select "Pollutants".

Check the box next to Total Phosphorus (Particulate Solids (or TSS) will always be checked).

Select "Continue" to exit the form.

**Pollutant Selection**

	Particulate	Dissolved	Total
Solids	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Nitrates		<input type="checkbox"/>	
TKN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform Bacteria		<input type="checkbox"/>	
Chromium			
Copper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 1 (#/100 ml)		<input type="checkbox"/>	
Other 2			
Other 3			
Other 4			
Other 5			
Other 6			

The pollutants listed above are in the file  
C:\WINSLAMM FILES\CENTRAL.PPDX

Select a pollutant to evaluate it.

Select All ☐  
Clear All ☐

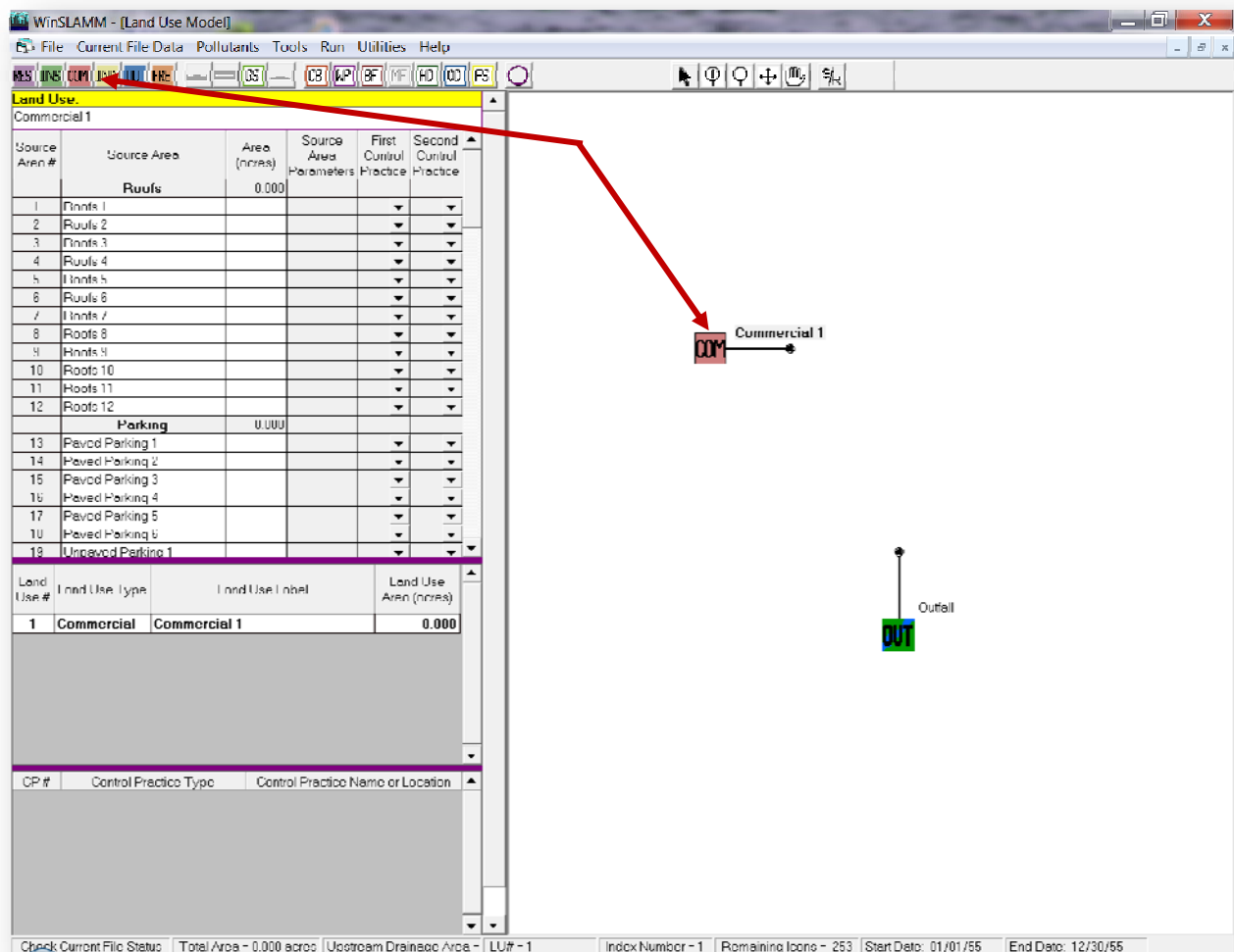
**Continue**

## Modeling a No Management Condition

Next, set up the model network. Our project area has one land use and one drainage basin. Therefore, we will be setting up one modeled land use.

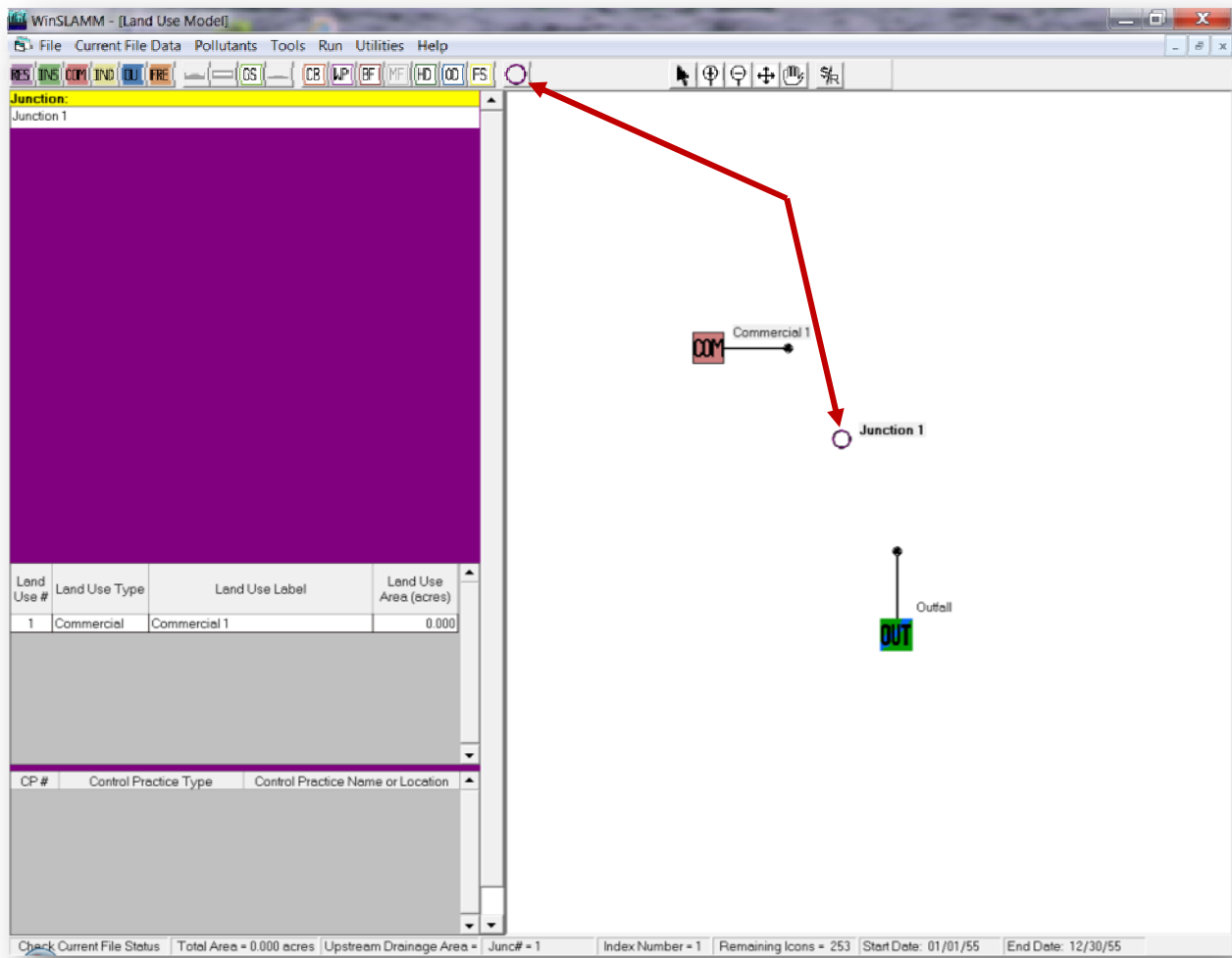
Select the land use the source areas are associated with by clicking on the land use icon. Because the project area is a commercial development, choose the Commercial Land Use Icon.

Next, click anywhere on the white map area. The land use icon will appear.



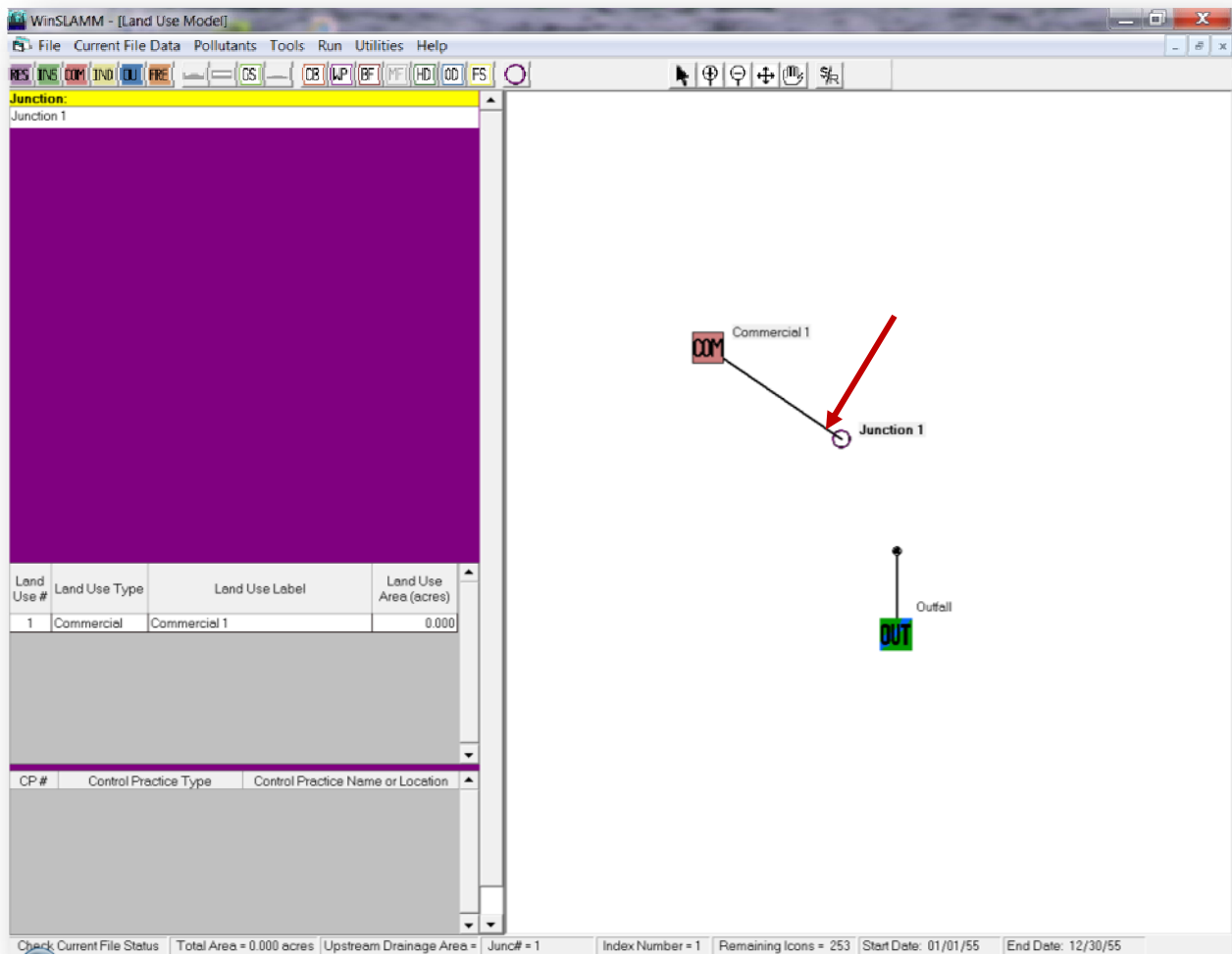
## Modeling a No Management Condition

Notice the “tails” or “handles” on the icons. All “handles” must be connected to Junctions. Junctions are represented by the “O” Icon on the main tool bar. Click on the “O”, then click anywhere in the white map space.



## Modeling a No Management Condition

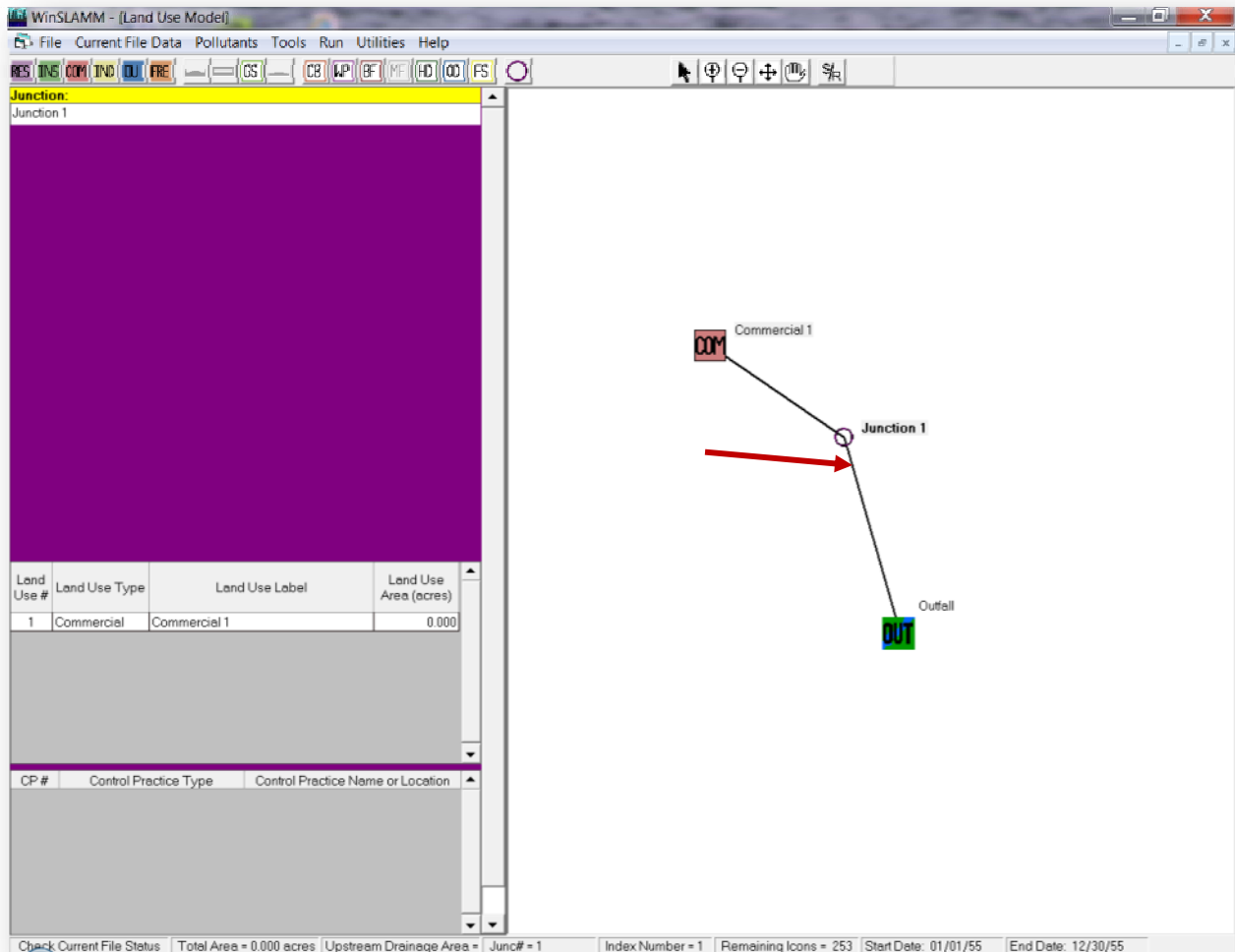
To connect the handle to the Junction, click the left mouse button on the Commercial Icon handle and drag the handle over to, and on top of, the Junction Icon. Release the hold. The Commercial Icon is now connected to the Junction.



## Modeling a No Management Condition

Now, connect the Outfall handle to the Junction just as you connected the Commercial Land Use to the Junction.

*Note: All model files can only have one Outfall and all Icons must eventually be routed to the Outfall.*



This model file will not include Control Practices. Therefore, there are no other Icons to add.

## Modeling a No Management Condition

### **Source Area Data:**

Next, enter the data describing the source areas in the model. The Table 1 describes the source areas.

**Table 1 - Project Source Areas**

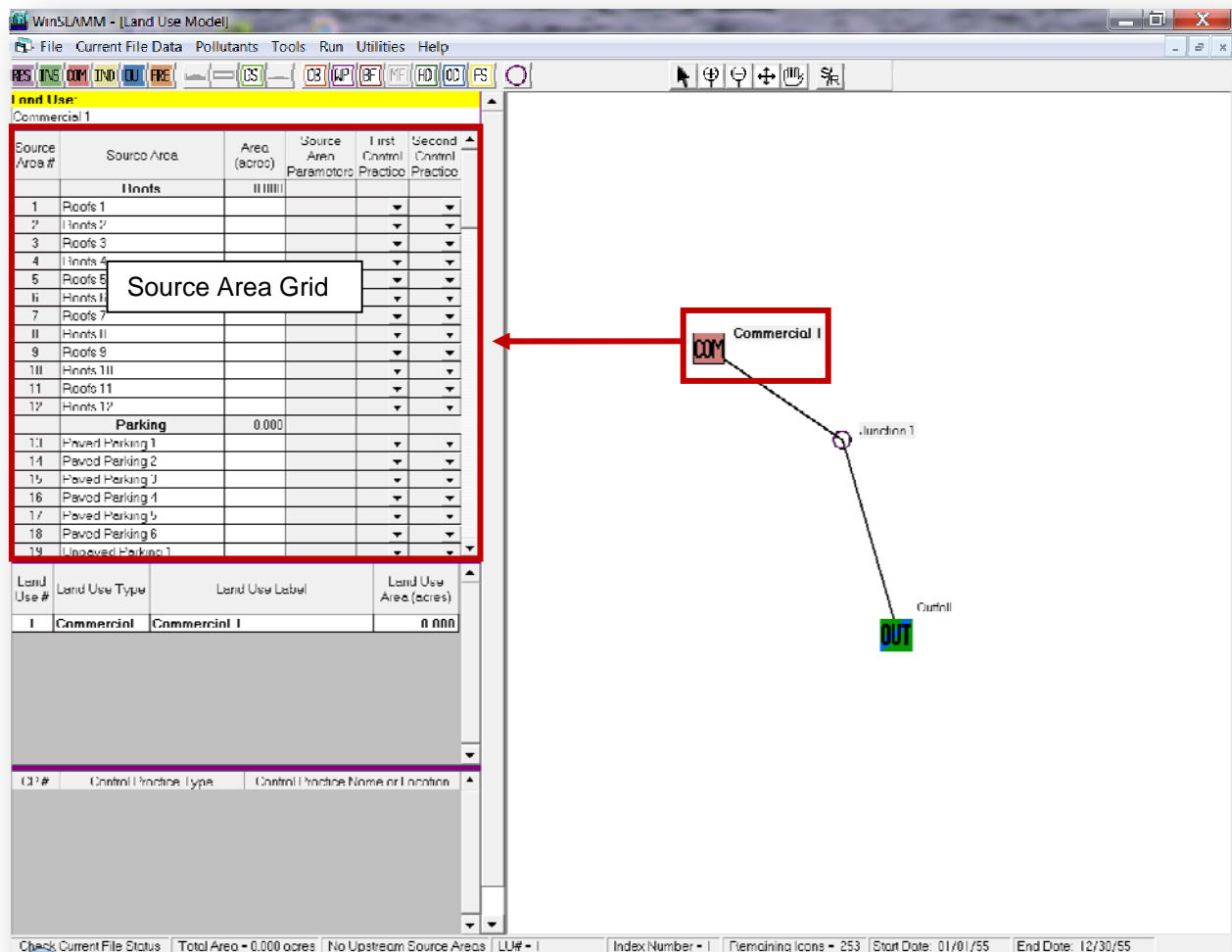
Source Area	Area (acres)	Description	Directly connected?	Other needed information
Roof	0.68	Flat Roof	Directly connected or draining to a directly connected area	
Paved Parking	2.85		Directly connected or draining to a directly connected area	
Driveway	0.17		Directly connected or draining to a directly connected area	
Sidewalk	0.32		Drainage to a Pervious Area	Clayey soil; Low building density
Large Landscaped 1	2.14			Clayey soil; Low building density
Small Landscaped 1	0.63			Clayey soil; Low building density
Small Landscaped 2 (Islands)	0.50			Clayey soil; Low building density
<b>Total</b>	<b>7.29</b>			



## Modeling a No Management Condition

To enter the commercial source area data, click on the Commercial Land Use Label next to the Commercial Icon.

When the Label is clicked on (or selected), the Land Use name becomes bold and the source areas available in the land use appear in the Source Area Grid on the left side of the screen.



## Modeling a No Management Condition

Next, click on the cell that intersects the Source Area name row and Area (acres) column.

The screenshot displays the WinSLAMM software interface. The 'Land Use' table is visible, showing source areas and their corresponding areas in acres. A red box highlights the 'Roofs' source area (Source Area # 1) and its area value (0.000). A red arrow points from this cell to a 'Commercial 1' node on the map. The map shows a network of nodes and links, including 'Commercial 1', 'Junction 1', and 'Outfall'.

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

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

CP #	Control Practice Type	Control Practice Name or Location
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Map View: Commercial 1 (COM) -> Junction 1 -> Outfall (OUT)

Status Bar: Check Current File Status | Total Area = 0.000 acres | No Upstream Source Areas | LU# = 1 | Index Number = 1 | Remaining Icons = 250 | Start Date: 01/01/99 | End Date: 12/31/99

## Modeling a No Management Condition

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. The project source area parameter data is shown on the Table on Page 8.

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
<b>Roofs</b>					
1	Roofs 1	0.680			
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				
<b>Parking</b>					
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				

Land Use #	Land Use Type	Land Use Label
1	Commercial	Commercial 1

CP #	Control Practice Type	Control Practice Name or Location
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Enter the remaining data listed in the table for the source area. Select “Continue” to leave the form.

Enter the remaining data for the project area.

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When you are finished entering data, check that the land use totals in the Land Use grid match and that the Total Area in the Status Bar matches.

The screenshot shows the WinSLAMM - [Land Use Model] window. The 'Land Use' table is expanded, showing a detailed breakdown of areas. A red box highlights the 'Land Use' table, and another red box highlights the 'Initial Area = 7290 Acres' status bar. A red arrow points from the 'Initial Area' status bar to the 'Land Use' table.

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.680			
	Parking	2.000			
	Driveways/Sidewalks	0.490			
	Streets	0.000			
	Landscaped Areas	3.270			
	Other Areas	0.000			

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Commercial	Commercial 1	7.290

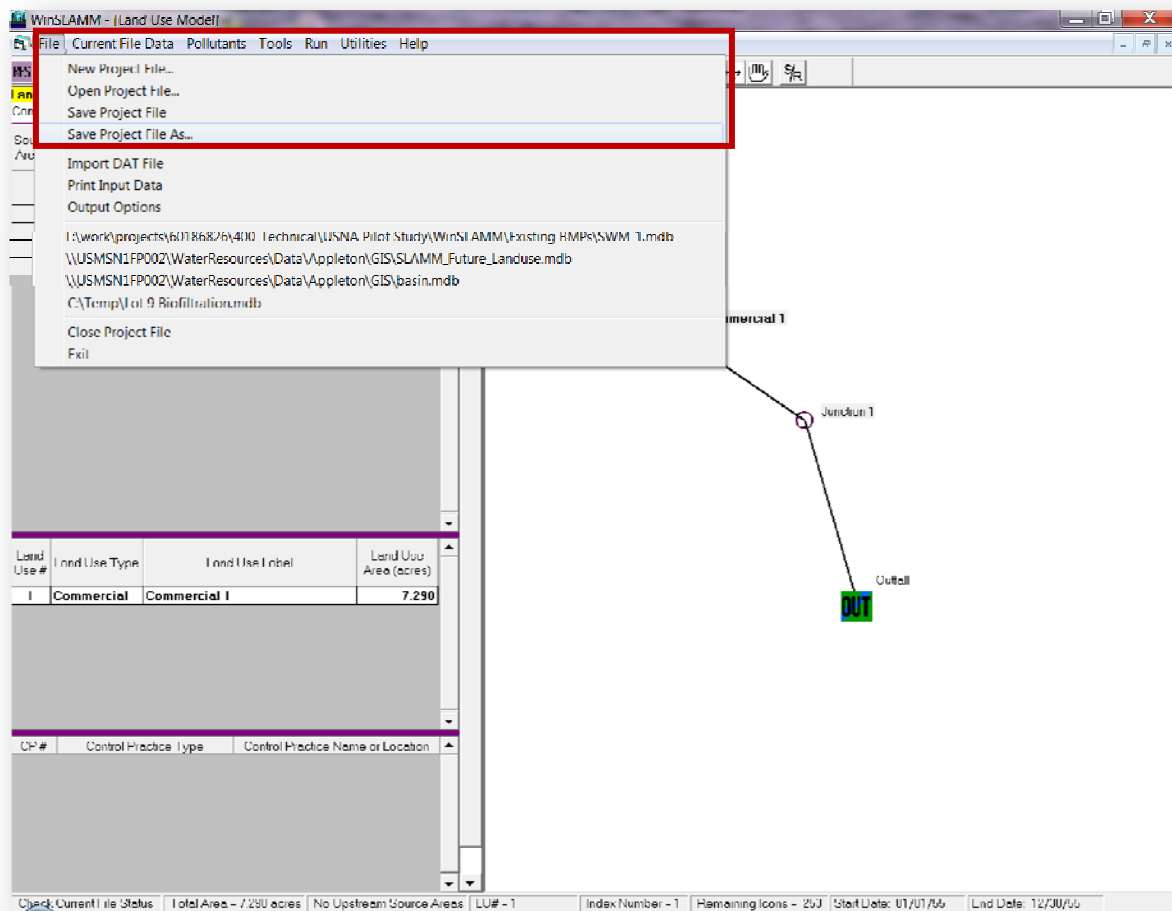
CP # Control Practice Type Control Practice Name or Location

Check Current File Status Initial Area = 7290 Acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 2/53 Start Date: 10/11/55 End Date: 12/31/55

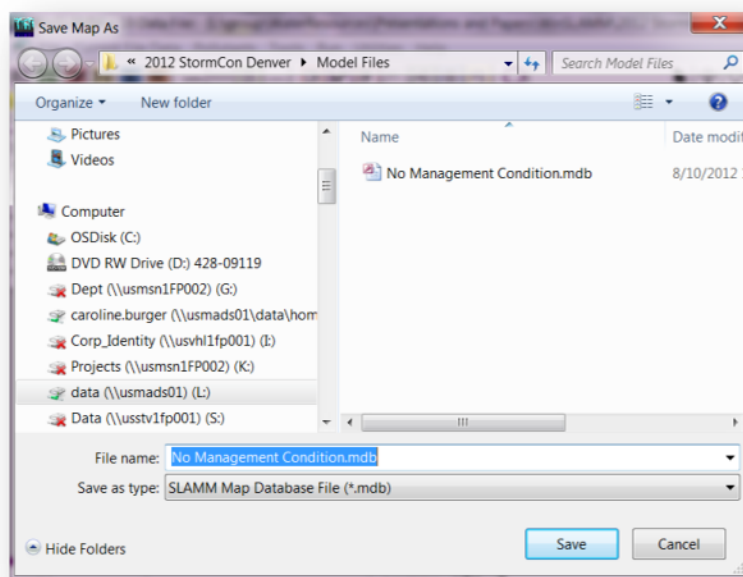
*Note: To show only the totals of each major source area heading, either double click on each major source area heading or right-mouse click anywhere on the source area grid and select "Collapse Source Area List" from the popup menu.*

## Modeling a No Management Condition

Save the File by selecting “File”, then “Save Project File As...”



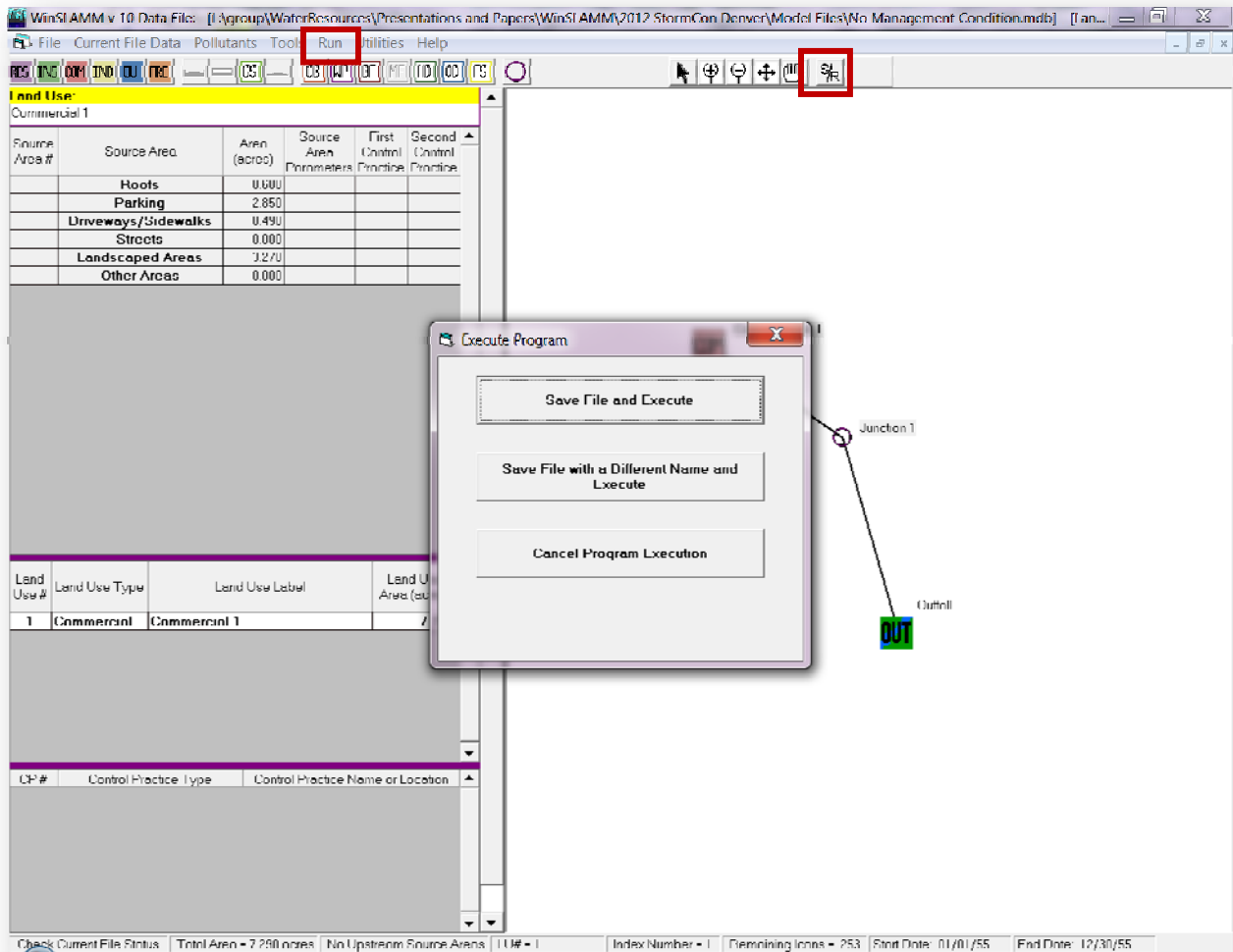
Navigate to your project folder, name the model file, and select “Save”.



## Modeling a No Management Condition

### Running the File:

To run the file either select “Run”, then “Current Project File”. Then, select “Save File and Execute”. Or, select the “S/R” Icon in the Main Tool Bar



It will resave the file with the same name originally chosen in the project directory it was created.

## Modeling a No Management Condition

### Results:

Runoff Volume: 333,043 cu ft  
 Particulate Solids Concentration: 119.1 mg/L  
 Particulate Solids Yield: 2,476 lbs  
 Particulate Solids Percent Reduction: N/A  
 Total Phosphorus: 7.12 lbs  
 Rv: 0.39  
 Approx. Urban Stream Classification: Poor

Land Uses	Junctions	Control Practices	Outfall	Output Summary			
File Name: C:\WinSLAMM\Documentation\Examples\1a No Management Condition.mdb							
<b>Outfall Output Summary</b>							
	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 without Controls	333043		0.39	119.1	2476		
Outfall Total with Controls	333045	0.00 %	0.39	119.1	2476	0.00 %	
Current File Output: Annualized Total After Outfall Controls		333960	Years in Model Run:	1.00	2483		
Pollutant	Concen- tration - No Controls	Concen- tration - With Controls	Concen- tration Units	Pollutant Yield - No Controls	Pollutant Yield - With Controls	Pollutant Yield Units	Percent Yield Reduction
Particulate Solids	119.1	119.1	mg/L	2476	2476	lbs	0.00 %
Total Phosphorus	0.3423	0.3423	mg/L	7.117	7.117	lbs	0.00 %
Print Output Summary to Text File		Print Output Summary to .csv File		Total Area Modeled (ac)			
				7.290			
Total Control Practice Costs				Receiving Water Impacts Due To Stormwater Runoff (CwP Impervious Cover Model)			
Capital Cost	N/A			Approximate Urban Stream Classification			
Land Cost	N/A						
Annual Maintenance Cost	N/A						
Present Value of All Costs	N/A						
Annualized Value of All Costs	N/A						
Perform Outfall Flow Duration Curve Calculations				Without Controls			
				Calculated Rv			
				0.39			
				With Controls			
				0.39			
				Poor			
				Poor			

*Because this is a model file without control practices the Total of All Land Uses without Controls will be the same as the Outfall Total with Controls.*

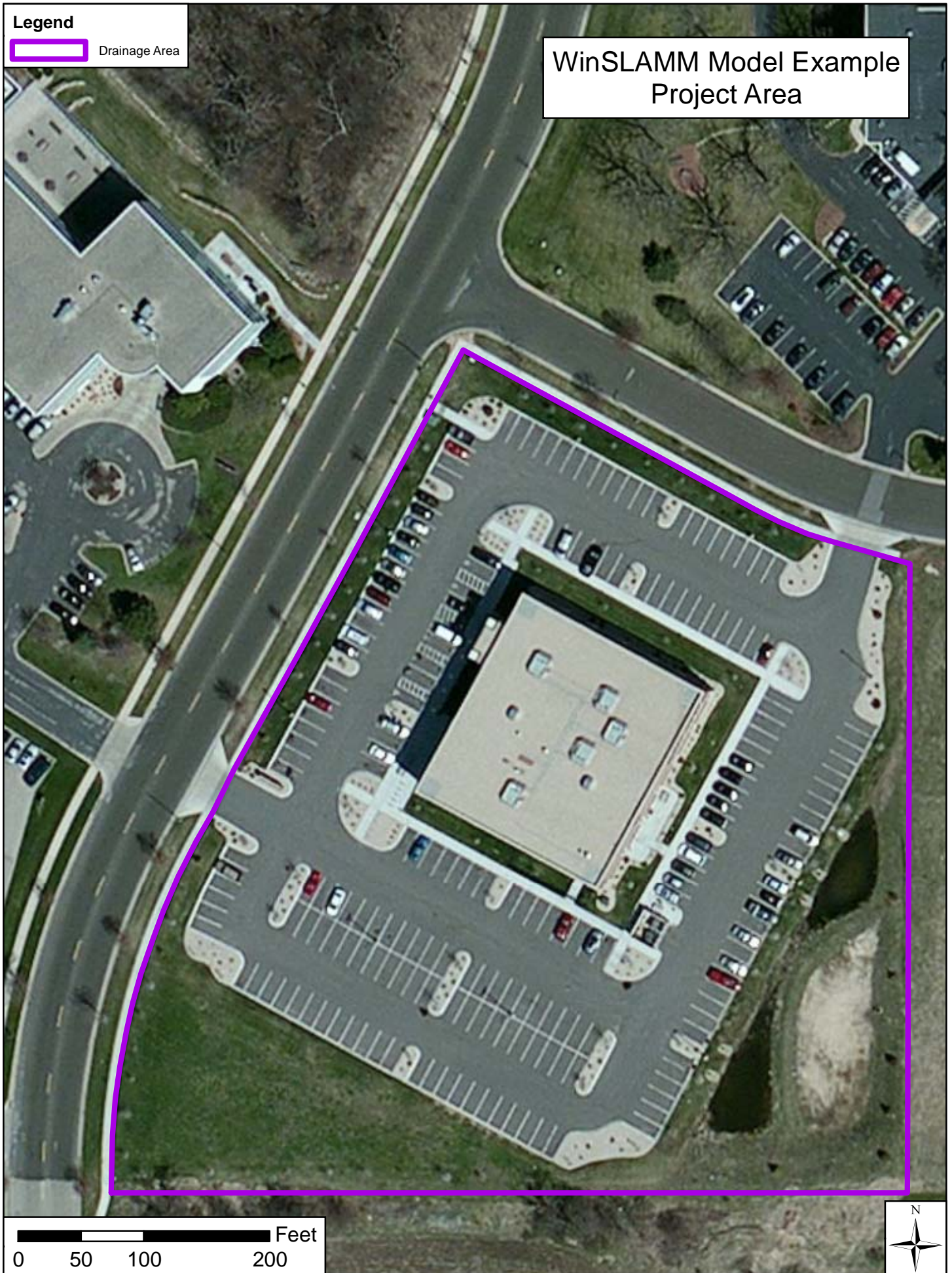
*The various output tabs display results at various locations in the modeled network.*



**Legend**

 Drainage Area

WinSLAMM Model Example  
Project Area



0 50 100 200 Feet





## Legend

### Source Areas

- Roof
- Paved Parking
- Driveway
- Sidewalk
- Large Landscaped 1
- Small Landscaped 1
- Islands
- Drainage Area

## WinSLAMM Model Example Project Area

