



# VDOT Form LD-458 Job Aid

## Redevelopment & Surplus Tracking Form

This is a guide to document redevelopment and surplus credits from VDOT projects using the LD-458 Form. Through the normal delivery of projects that include a redevelopment component, there is a SWM requirement per VSMP regulations, to reduce existing pollutant loads. For projects that fall under the Part IIB technical criteria, a 20% reduction is required. For projects that fall under Part IIC technical criteria, a 10% reduction may be realized. These reductions are already required of SWM plans by the VSMP regulations; they are also creditable towards VDOT's MS4 Chesapeake Bay (CB) TMDL requirements and are therefore important to capture.

Note that reductions associated with new construction and activities that fall under routine maintenance are not typically creditable towards CB TMDL if no reductions are realized beyond the minimum requirements. Conversely, a "surplus" may be realized for various reasons. Examples include a project SWM plan that achieves reductions "above and beyond" the minimum reduction requirements, or a BMP that is converted from one type to another that has greater pollutant removal efficiency. This Job-Aid focuses on Part IIB technical criteria as more projects fall under this category.

### Part IIB Technical Criteria & Runoff Reduction Spreadsheet

1. Complete the Virginia Runoff Reduction Method (VRRM) Spreadsheet for your project.

Pre-ReDevelopment Land Cover (acres)					
	A Soils	B Soils	C Soils	D Soils	Totals
<b>Forest/Open Space (acres)</b> -- undisturbed forest/open space				5.00	5.00
<b>Managed Turf (acres)</b> -- disturbed, graded for yards or other turf to be				10.00	10.00
<b>Impervious Cover (acres)</b>				15.00	15.00
					30.00
Post-Development Land Cover (acres)					
	A Soils	B Soils	C Soils	D Soils	Totals
<b>Forest/Open Space (acres)</b> -- undisturbed, protected forest/open space				0.00	0.00
<b>Managed Turf (acres)</b> -- disturbed, graded for yards or other turf to be				7.00	7.00
<b>Impervious Cover (acres)</b>				23.00	23.00
<b>Area Check</b>	OK.	OK.	OK.	OK.	30.00

In this example, the project includes the construction of an interchange and re-alignment of an existing roadway. Under existing conditions, there are 5 acres of forest, 10 acres managed turf, and 15 acres impervious cover. The post re-development condition adds an additional 8 impervious acres.

2. Scroll down to the bottom of the “Site” tab. While, the total “Linear Project TP Load Reduction Required” for the project is **22.81 lbs/yr**, the “TP Load Reduction Required for New Impervious Area” portion is **14.05 lbs/yr**. Enter both these values into Section 4 of the LD-458 form and take the difference between the two to determine the “TP Load Reduction Required for Redevelopment Areas”. In this case, it is **8.76 lbs/yr**, which is the portion associated with redevelopment that is creditable for CB TMDL purposes.

TP Load Reduction Required for Redeveloped Area (lb/yr)	7.30	TP Load Reduction Required for New Impervious Area (lb/yr)	14.05
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Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	21.35
Linear Project TP Load Reduction Required (lb/yr):	22.81

Site D.A. A D.A. B D.A. C D.A. D D.A. E Water Quality Compliance Runoff Volume and CN Summary Notes

3. Next, complete the D.A. tab(s) to enter the BMPs that will be utilized to meet the water quality technical criteria for the project.
4. Once the BMP information has been entered, visit the “Water Quality Compliance” tab. In this case, there was an overtreatment of **2.62 lbs/yr**, which is above and beyond the minimum required. This amount is also creditable for CB TMDL purposes as a “surplus”.

Total Phosphorus		LINEAR PROJECT:	
FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	--		53.82
TP LOAD REDUCTION REQUIRED (lb/yr)	--		22.81
TP LOAD REDUCTION ACHIEVED (lb/yr)	--		25.43
TP LOAD REMAINING (lb/yr):	--		28.40
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	--	0.00	** TARGET TP REDUCTION EXCEEDED BY 2.62 LB/YEAR **

## Transferring to LD-458 Tracking Form

5. Download Form LD-458 from this site: <http://www.virginiadot.org/stormwater> under *Technical Resources* to ensure the current copy is being used.
6. Section 1: Fill in basic project and contact information.

7. Section 2: Qualifying Criteria – If a project was completed before 7/1/09, it is not creditable, stop here. If the project is not within the Chesapeake Bay watershed, it is not creditable, stop here. Part IIB and IIC may be creditable; if a project is Part IIC, there may be reductions creditable towards TMDL, however this Job Aid focuses on IIB.
8. Section 3: Complete basic site summary information regarding existing and post-redevelopment land cover conditions. This should match those used in VRRM.
9. Section 4: Summary of Crediting –
  - a. Fill in the TP values of Section 4. In the example presented above, there are **8.76 lbs/yr** from redevelopment and **2.62 lbs/yr** of surplus that were identified in the VRRM spreadsheet. These are both creditable towards the Chesapeake Bay TMDL and reported in this section for a total of **11.38 lbs/yr TP**, as shown below.

<b>Section 4: Summary of Crediting</b>					
<small>(include only the creditable portion associated with redevelopment or surplus that was not offsetting new development, reference VRRM spreadsheet and see Job Aid for details)</small>					
<b>Summary of Nutrient Crediting</b>					
	TP Load Reduction Required for NEW Impervious (A)	Total MIN TP Load Reduction Required (B)	TP Load Reduction Required for REDEV. Areas (C)=(B)-(A)	Surplus TP Reduction above MIN Req'd (D)	*TP Reduction Portion Creditable to TMDL (E) = (C)+(D)
TP Credit (lbs/yr):	14.05	22.81	8.76	2.62	<b>11.38</b>

- b. Next, compute the “TN Equivalent Reduction for NEW impervious” acreage, or (F) in the LD-458 form. This is computed by multiplying “TP Load Reduction Required for NEW Impervious” acreage, or (A) in the form, by the event mean concentration (EMC) of Nitrogen, and then dividing by the EMC for Phosphorus, as shown below:

$$A \times \frac{1.86mg/L}{0.26mg/L} = G$$

For this example:

$$14.05 \frac{lbs}{yr} TP \times \frac{1.86mg/L}{0.26mg/L} = \frac{100.51 lbs}{yr} TN$$

This will be entered in Section 4 of the LD-458 form as shown below:

<b>Section 4: Summary of Crediting</b>	
<small>(include only the creditable portion associated with red</small>	
<b>Summary of Nutrient Crediting</b>	
	TP Load Reduction Required for NEW Impervious (A)
TP Credit (lbs/yr):	14.05
	TN Equivalent Reduction for NEW Imp. (F)=(A)x1.86/0.26
TN Credit (lbs/yr):	100.51

- c. Next, go to the Water Quality Compliance tab and find the “Nitrogen Load Reduction Achieved (lb/yr). In this example, **191.98 lbs/yr TN**.

**Total Nitrogen (For Information Purposes)**

POST-DEVELOPMENT LOAD (lb/yr)	385.06
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	191.98
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	193.07

D.A. B   D.A. C   D.A. D   D.A. E   **Water Quality Compliance**

- d. Enter these values in the TN Credit row of Section 4 in the LD-458 form and take the difference to compute the TN Reduction portion creditable to CB TMDL. In this case, it is **91.47 lbs/yr TN**.

	TN Equivalent Reduction for NEW Imp. (F)=(A)x1.86/0.26	Total TN Load Reduction Achieved	*TN Reduction Portion Creditable to TMDL (H) = (G) - (F)
TN Credit (lbs/yr):	100.51	191.98	<b>91.47</b>

- e. Next, if TSS reductions creditable towards CB TMDL have been computed and are available to report, enter that in Section 4. This Job Aid does not cover TSS in detail at this time, as VRRM does not compute load contributions or BMP % mass load removal by BMP type for TSS. By providing supporting documentation in the Location of Documents (next section), this can be back-calculated at a later time.

10. Section 5: Location of Documents – This section is to identify the location of supporting documents. This may be needed for future reference and/or to assist with computing the TSS credit reductions if not provided.

Link to VRRM spreadsheet (or attach copy)	
Link to Plans in Projectwise	
Link to SWM/Drainage Report if in Projectwise	

11. Section 6: Implementation Information – This section documents whether the project has been completed or not, and if not the estimated implementation date. Credit will be reported by Central Office once the project has been installed and reductions realized.

## Submitting the Form

1. Load to the InsideVDOT Monthly VPDES Submittals folder if submitted at the same time the LD-445C and other documents are submitted for CGP coverage (preferred).  
<https://insidevdot.cov.virginia.gov/div/ld/HYD/MS4/Monthly%20VPDES%20Submittals>
2. Alternatively, load to Projectwise and provide link via email to contacts below.
3. Alternatively, email as attachment (not preferred) to contacts below.
4. Notify VDOT Central Office L&D MS4 Program via email:  
Alex Forasté: [alex.foraste@vdot.virginia.gov](mailto:alex.foraste@vdot.virginia.gov) (804-786-2548) and  
Jeff Hancock: [jeff.hancock@vdot.virginia.gov](mailto:jeff.hancock@vdot.virginia.gov)

## Part IIC Technical Criteria

These projects may also have reductions associated with the redevelopment component if there is a SWM water quality technical criteria situation that required a 10% reduction below the existing conditions load and/or a surplus reduction 'above and beyond' the minimum VSMP requirement. These reductions can be reported in a similar manner in Section 4 of LD-458.

## References

VDOT SHED 3 – Completion of Redevelopment/Surplus Credit Tracking Form  
DEQ Virginia Runoff Reduction Method Re-development Compliance Spreadsheet – Version 3.0  
DEQ, GM15-2005 Chesapeake Bay TMDL Action Plan Guidance 05/18/2015