

## Appendix H.3: Water Quality Goals and Pollutant Loading Analysis Guidance for Discharges to **Impaired** Waters “Stormwater Compensation Method”

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Impaired waters are those waters of the State that are not meeting water quality goals established by the Department in accordance with the federal Clean Water Act. The *RI Stormwater Design and Installation Standards Manual* (the “Manual”) states in H.3.1 “that on a case by case basis, the permitting agency may require applicants to document that a particular project does not unduly contribute to, or cause water resource degradation.” The RIPDES Construction General Permit (exp 9/25/2018) section I.B.3.d states that if there is a discharge to an impaired waterbody, the RIPDES permit is not authorized unless the project plan incorporates measures or controls that meet the requirements of the Department to address pollutants of concern. In these cases, three questions are asked: What is the pollutant of concern?; How much do I need to treat?; and How do I prove it to the Department?

Currently a Pollutant Loading Analysis (PLA) is required, but the questions about water quality goals can still create uncertainty. This stormwater “compensation method” provides predictability and reliability to site planning and stormwater treatment requirements. This method is simplified to meet water quality treatment goals for impaired waters (i.e. antidegradation) in accordance with Rule 8 of the Water Quality Regulations. Antidegradation for impaired waters is applied as “no increase of pollutants of concern”. It is important to note that all TMDL waters are considered impaired until they meet water quality criteria. Therefore, this method can be used for discharges to TMDL waters unless the site is identified as a Significant Contributor within the TMDL. This method can also be used to achieve a “no net increase” whenever higher water quality treatment goals are required by the permitting agency for special resource protection. Therefore, if the applicant chooses this “compensation method”, the Pollutant Loading Analysis requirement is waived. For clarity, it is important to recognize that a Pollutant Loading Analysis is still a valid option that the applicant may choose at any time

How it works: Typically, the “no increase of pollutants of concern” goal has been met by the applicant by designing two and three BMPs in series, and if necessary, minimal offsets. After much consideration, the Department’s conclusion is that more impervious cover treated with one water quality BMP is a more beneficial way to reduce pollutants and meet water quality goals in the environment than treating the same stormwater in a series of BMP treatment trains. In keeping with that concept, this method steps the applicant through a series of calculations to provide them with the quantity of impervious cover that must be treated both on-site and then if necessary, offsite to compensate for the increased impervious cover proposed in the project.

**Step 1: Is the receiving water impaired?** The Departments 303(d) list for impaired waters is available online at: <http://www.dem.ri.gov/pubs/303d/index.htm>. Additionally, the map server at the RIDEM website has information on impaired waters.

- **The answer is NO?:** Follow the standard practices in the Stormwater Manual to meet Minimum Standard 3 and the rest of this guidance is not necessary.
- **If the answer is YES?:** Identify pollutants of concern in the receiving water and continue to Step 2.

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**Step 2: Does your project qualify for reduced water quality and recharge requirements?** For detailed instructions follow the redevelopment guidance

<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/redevcrit.pdf>

through Step 3 to determine if the your site is > than 40% impervious.

- **The answer is YES?** : Treat 50% of the redeveloped area plus follow the table below to determine the compensation required for any net increased impervious cover on the project site.
- **The answer is NO?**: Follow the treatment requirements below for all disturbed surfaces that become impervious.

The water quality assumptions for Table 1 are as follows:

- redevelopment (treating 50% of the impervious cover where no treatment was applied prior) results in a benefit to water quality;
- offsets include greening a previously impervious site;
- infiltrating the WQv to treat bacteria, metals and phosphorus is equivalent to 100% treatment and results in no increase of pollutants of concern;
- Nitrogen cannot be removed through infiltration and require additional compensation to offset the loads;
- if the impairment includes Nitrogen, the offset for N supersedes all other requirements;
- the order of priority when looking for offsets shall be on-site, upstream, and if not available, within the watershed.

**TABLE 1: Treatment Requirements for New or Increased Impervious Surfaces  
Discharging to Impaired Receiving Waters**

<i><b>Pollutant of Concern</b></i>	<i><b>Treatment Options and Offset Requirements</b></i>
Phosphorus/Metals/Bacteria	Infiltrate 100% of the Water Quality Volume for any new or increased impervious surface. <ul style="list-style-type: none"> <li>• No Offset is required</li> </ul>
Phosphorus/Metals/Bacteria	If the WQv is NOT infiltrated - treat 100% of any new or increased impervious PLUS compensate 1:1 <ul style="list-style-type: none"> <li>• All BMP's must remove ≥ 50% of the Pollutant of Concern</li> </ul>
Nitrogen	Treat 100% of any new or increased impervious PLUS compensate 1.5:1 <ul style="list-style-type: none"> <li>• All BMP's must remove ≥ 40% removal of the Pollutant of Concern</li> </ul>