Appendix D: Technical Requirements for Reporting and Crediting of Impervious Area Disconnection in Scenario Builder and the Phase 6.0 Watershed Model

Presented to the WTWG for Review and Approval: TBD

Background: In accordance with the *Protocol for the Development, Review, and Approval of Loading and Effectiveness Estimates for Nutrient and Sediment Controls in the Chesapeake Bay Watershed Model* (WQGIT, 2015) each BMP expert panel must work with CBPO staff and the Watershed Technical Workgroup (WTWG) to develop a technical appendix for each expert panel report. The purpose of this technical appendix is to describe how the Impervious Disconnection Expert Panel's recommendations will be integrated into the Chesapeake Bay Program's modeling tools including NEIEN, Scenario Builder and the Watershed Model.

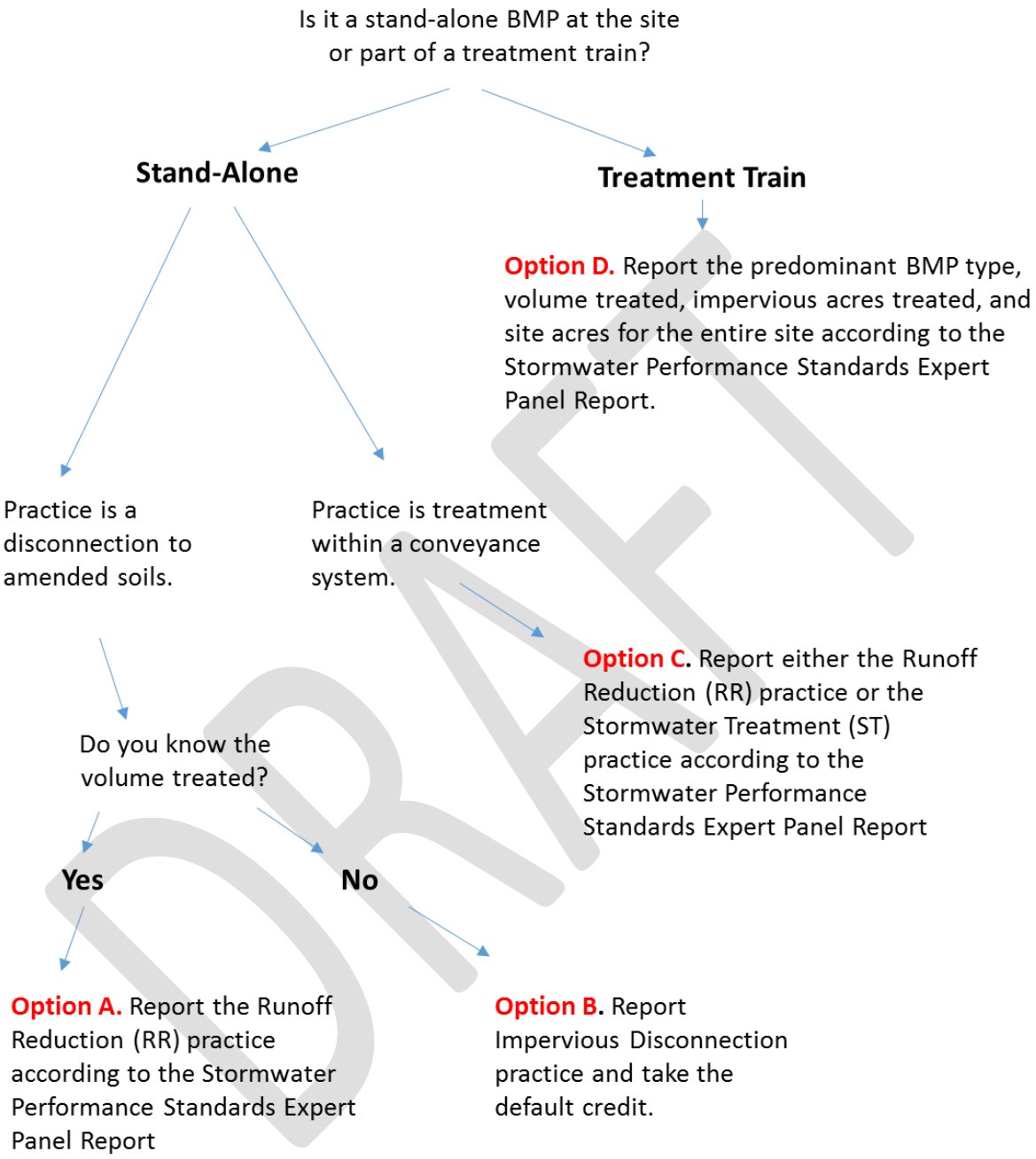
Q1. How are the new Impervious Disconnection BMPs defined in the Chesapeake Bay Watershed Model?

A1. The expert panel defined impervious disconnections as the redirection or otherwise spread of stormwater runoff from impervious cover to an acceptable area of pervious cover or other BMP to provide filtering and infiltration. This definition includes impervious surface disconnection to amended soils and treatment within the conveyance system, however, only impervious surface disconnections to amended soils may be reported for credit in the Phase 6 Model. Treatment within the conveyance system is credited through the Stormwater Performance Standards Expert Panel report (Stormwater Retrofit Expert Panel, 2012) and impervious surface disconnection to un-treated soils is considered to be an Urban Filter Strip, and follows the recommendations of the Expert Panel to Define Removal Rates for Urban Filter Strips (UFS EP, 2014). Additional qualifying conditions and assumptions are outlined in Section 2.2 of the report.

Q2. How do I determine whether to report an impervious disconnection BMP, or another stormwater BMP?

Q2. Please use the following figure to determine which BMP to report for crediting in the Phase 6 Model:

Figure D1. Method for determining which stormwater BMP to report in Phase 6.



Q3. What should jurisdictions submit to NEIEN to receive credit for impervious disconnections in the Phase 6 Model?

A3. If practice falls under **Option A** in Figure D1., jurisdictions should report the following information to NEIEN:

- *BMP Name:* Runoff Reduction (New or Retrofit)
- *Measurement Names:*

    - Site Area (Acres)
    - Impervious Area (Acres)
    - Volume (Acre Feet)
- *Geographic Unit:* Qualifying NEIEN geographies including: Latitude/Longitude; *or* County; *or* Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); *or* State
- *Date of Implementation:* Year the practice was installed

Land Uses: Urban

If practice falls under **Option B** in Figure D1., jurisdictions should report the following information to NEIEN:

- *BMP Name:* Impervious Disconnection
- *Measurement Names:*
    - Impervious Area (Acres)
- *Geographic Unit:* Qualifying NEIEN geographies including: Latitude/Longitude; *or* County; *or* Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); *or* State
- *Date of Implementation:* Year the practice was installed

Land Uses: Urban Impervious

If practice falls under **Option C** in Figure D1., jurisdictions should report the following information to NEIEN:

- *BMP Name:* Runoff Reduction or Stormwater Treatment (New or Retrofit)
- *Measurement Names:*
    - Site Area (Acres)
    - Impervious Area (Acres)
    - Volume (Acre Feet)
- *Geographic Unit:* Qualifying NEIEN geographies including: Latitude/Longitude; *or* County; *or* Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); *or* State
- *Date of Implementation:* Year the practice was installed

Land Uses: Urban

If practice falls under **Option D** in Figure D1., jurisdictions should report the following information to NEIEN:

- *BMP Name:* Runoff Reduction or Stormwater Treatment (New or Retrofit)
- *Measurement Names:*
    - Site Area (Acres)
    - Impervious Area (Acres)
    - Volume (Acre Feet)
- *Geographic Unit:* Qualifying NEIEN geographies including: Latitude/Longitude; *or* County; *or* Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); *or* State
- *Date of Implementation:* Year the practice was installed

Land Uses: Urban

Q4. What are the nutrient and sediment reductions a jurisdiction can claim for impervious surface disconnections in the Phase 6 Watershed Model?

A4. Impervious disconnections to amended soils will be credited in Scenario Builder using the efficiency reductions derived from the stormwater performance standard and retrofit adjuster curves found in the expert panel's report located at: http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2012/10/Final-CBP-Approved-Expert-Panel-Report-on-Stormwater-Performance-Standards-SHORT_0120151.pdf

Jurisdictions will also have the option to claim a default credit for impervious surface disconnections to amended soils. The default is a conservative reduction estimate calculated based upon a water treatment value of 0.1 inches per impervious acre that is used with the Runoff Reduction (RR) curve.

Table 1. Default Nutrient and Sediment Removal for Impervious Area Disconnection Coupled with Soil Amendments

TN	TP	TSS
12.3%	14.6%	15.6%

Q6. Are Impervious Disconnection BMPs an annual or cumulative BMP?

A6. The credit of this BMP is cumulative, which means that the acres reported in a previous year carry over into the next year.

Q7. What is the credit duration for Impervious Disconnection BMPs in the Phase 6 Model?

A7. The credit duration for the impervious disconnection will be 5 years. The panel recommends that heavily utilized areas have surface compost amendments applied annually and inspected more frequently. The credit can be extended if a field inspection verifies the BMP(s) are still performing.

Q8. Is there a risk of double counting nutrient and sediment reduction credits associated with Impervious Disconnection BMPs?

A8. Given the sequential implementation of BMPs in the CBWM, the Expert Panel does not foresee any double counting related to impervious area disconnection. If Impervious Area Disconnection is used as part of a treatment train approach to urban stormwater management, it is reported using the Stormwater Performance Standards Expert Panel Report in order to avoid potential double counting. Given the qualifying conditions for fertilizer management for Impervious Area Disconnection, pollutant load reductions for Urban Nutrient Management

(UNM) may not be applied to the area of an impervious area disconnection, however, any pervious areas draining to the disconnection may be eligible for UNM.

Q9. If I am reporting "Runoff Reduction" for Impervious Disconnection BMPs, will they be tracked separately from other retrofit BMPs?

A9. No. Many states may still be tracking the individual practice names (e.g., wet pond or impervious disconnection) because they lack information on volume treated at a site. However, when submitting to NEIEN for Phase 6, jurisdictions should simply report sites as treated by the appropriate performance standard practice (e.g., Runoff Reduction or Stormwater Treatment).