

HAMPTON CREEK BOG

APPORTIONMENT METHODOLOGY

Assessing property owners will be necessary to cover project costs. The method used to determine apportionments must be clear, equitable, and defensible. Apportionments are generally based factors such as parcel size and land-use (zoning) but must also take other factors into consideration as necessary to establish fair and equitable apportionments. Factors such as lot density (imperviousness), proximity and anticipated benefit from a project may also be considered. Establishing a reasonable number of apportionment factors is desired to ensure the apportionment process does not become exhaustive and overly convoluted. Typically, establishing four to five factors for the basis of the apportionment is reasonable. Once base factors are established, adjustments can be made to further refine apportionments. For example, adjustment for lot density may be appropriate for a 5-acre residential parcel that has minimal impervious surface cover.

Basis

Fishbeck recommends an apportionment method for Hampton Creek Bog (Bog) that begins with parcel size. Certain parcels may be exempt from special assessments per state or federal laws and should be identified as such.

- Parcel Acreage - acreage of parcel located within the assessment district or watershed.
- Exempt – identify exempt parcel with a zero (0) and assessed parcels with a one (1).

Recommended Apportionment Factors

The following factors are recommended to be applied for each parcel:

- Runoff – accounts for percent impervious based on land use zoning (contribution and benefit of use).
- Land Use Adjustment – adjusts for variations in parcel density within a land use class.
- Connectivity – accounts for benefit to properties with a direct discharge (connectivity) to the Bog.
- Proximity – accounts for parcel proximity to the Bog and associated benefit.
- Flood Relief – applied to those parcels receiving a measurable flood relief benefit from the project.

Runoff Factor

A runoff factor is applied on land use and uses the Assessors Property Class Code. Runoff factors are provided in Table 1. Runoff factors are derived from *Design and Construction of Sanitary and Storm Sewers*, Joint Committee of the American Society of Civil Engineers and the Water Pollution Control Federation, 1986 (first printing 1969), p. 51. Classification codes ending in “1” are considered improved, and those ending in “2” are considered vacant. The adjustment factor for vacant property classes reflects the development potential for the land class.

Table 1 – Runoff Factor

Class Code	Description	Runoff Factor
101	Agriculture Improved	0.20
102	Agriculture Vacant	0.15
201	Commercial Improved	0.80
202	Commercial Vacant	0.25
401	Residential Improved	0.40
402	Residential Vacant	0.20

701	Public Schools (EXEMPT)	0.50
701	Church	0.50
701	Apartments	0.60
701	City of Portage	0.70
701	Road Commission	Public Act 51, Sec 14A calculations
701	MDOT	Public Act 51, Sec 14A calculations

Land Use Adjustment Factor

This factor is used to correct for land use density, and special circumstances as determined by aerial review. Residential improved parcels are adjusted for density based on total parcel acreage, as shown in Table 2. Commercial (and other) parcels are adjusted individually as determined appropriate, in accordance with runoff factors. All parcels with no adjustment receive an adjustment factor of 1.

Table 2 – Residential Land Use Adjustment Factor

Class Code	Description	Factor
401	Residential Improved	
	0.01-0.99 acre	1.00
	1-5 acres	0.80
	>5 acres	0.60

Connectivity Factor

This factor is applied to those parcels with direct discharge to the Bog via a storm sewer system or drainage channel. Review of site plan and field verification of the same is recommended to ensure this factor is appropriately applied. Parcels with direct discharge receive a higher factor for their contribution of runoff to the Bog. Parcels would receive an adjustment factor of 2 given connectivity. Stormwater from parcels without an identifiable direct discharge to the Bog would receive an adjustment factor of 1.

Proximity Factor

This factor is based on geographic location to account for how quickly stormwater reaches the Bog for both direct and indirect discharges (i.e. surface flow and associated shallow groundwater flow).

Table 3 - Proximity Factor

Section	Description	Factor
Section 12	Entire section	0.2
Section 13	Entire section	0.2
Section 14	Entire section	0.2
Section 18	Entire section	1

It should be noted that determining groundwater contribution is not considered for apportionment purposes as identifying a groundwater divides requires significant hydrogeologic studies and analysis, and typically does not yield substantive improvements to the methodology.

Flood Relief Factor

This factor is applied to parcels receiving a measurable benefit from the project in terms of water level regulation. Review of site topography and field verification of the same is recommended to ensure this factor is appropriately applied. Parcels receiving flood relief would receive an adjustment factor of 5. All other parcels would receive an adjustment factor of 1.