



MUSKINGUM WATERSHED CONSERVANCY DISTRICT

MAINTENANCE ASSESSMENT METHODOLOGY

History of the Muskingum System

The Muskingum Watershed Conservancy District (MWCD) was created in 1933 to carry out a comprehensive flood control and water conservation program in the Muskingum River watershed. The Official Plan of the MWCD called for the construction of 14 large dams and reservoirs to provide a coordinated system of flood control and water conservation throughout the watershed. The dams were constructed by the federal government as part of the depression era public works program and have since been operated and maintained by the U.S. Army Corps of Engineers.

Since 1933, the MWCD has operated the reservoirs and adjoining property by providing recreational opportunities with the Atwood Lodge, marina operations, camping, cabin rentals, cottage site leases, along with oil, gas and timber leases. Revenue from these sources has generally equaled expenditures leaving only limited funds for maintenance of the reservoirs and dams.

The Amendment to the Official Plan adopted by the MWCD Board of Directors and Conservancy Court in 2005 provides the framework to update and maintain the flood control system and in the process improve water quality in area lakes and streams.

Purpose of the Maintenance Assessment

The 14 dams of the MWCD system are more than 70 years old and require major safety upgrades. The US Army Corps of Engineers has listed four of the MWCD dams, Mohawk, Dover, Beach City and Bolivar as being among the most critical structures in the United States requiring major safety improvements. The Corps estimates that costs to repair these structures and additional upgrades to the other dams could exceed \$500 million, which the MWCD as the local sponsor must provide local matching funds. In addition, the reservoirs are filling with sediment which needs to be removed, lake and stream bank erosion should be reduced and acid mine drainage and stream pollution from antiquated sewage treatment and septic systems must be eliminated to keep the reservoirs viable.

The MWCD has identified six major areas of increased maintenance in the watershed including:

1. Dam Safety and Flood Control
2. Sediment Removal
3. Shoreline Protection
4. Water Quality Improvements
5. Watershed Management
6. Reservoir Operations

The estimated cost of this work is \$270 million over 20 years.

Methodology

The assessment is based on the estimated contribution of runoff from each of the 745,800 parcels within the MWCD.

To develop the methodology, a Geographic Information System (GIS) was prepared. A GIS map might be called a “smart map” as it includes the location of each parcel from the County tax maps, and each parcel has been attributed with the Auditor’s data including owners name, address, parcel identification, parcel area and land use code.

The assessment is then computed from the parcel area, a runoff factor taken from TR-55 (Technical Report No. 55), prepared by the Soil Conservation Service, which is used extensively to compute runoff, and the Assessment Use Code, which indicates if the parcel is residential, commercial, agricultural or industrial. Typical runoff factors are shown in the following table.

Parcel Use	% Impervious
Residential	0.25
Commercial	0.85
Industrial	0.72
Parks, etc.	0.01
Mobile Home	0.25

A statistical sample of 600 residential parcels in the 18 counties within the MWCD produced an average impervious area of 3,300 square feet. Impervious area is the amount of hard surface such as buildings, sidewalks and driveways that produce much of the runoff to area rivers and streams. All residential, agricultural and vacant properties would be assessed the same amount, 1 ERU (Equivalent Residential Unit). Commercial, Industrial and other parcel classifications will be assessed based upon their estimated contribution of runoff to the watershed. The following example illustrates how this assessment would be determined:

For a 1 acre commercial property, the estimated percent impervious area would be 85%.

$$1 \text{ acre} = 43,560. \text{ ft.}$$

$$43,560 \times 0.85 = 37,026 \text{ sq. ft.}$$

$$37,026 / 3,300 = 11 \text{ ERU}$$

$$\text{If one ERU} = \$12.00 \text{ per year}$$

$$\text{Then } 11 \text{ ERU} = 11 \times \$12.00 \text{ or } \$132 \text{ per year assessment.}$$

Board of Appraisers

The three member Board of Appraisers is appointed by the Conservancy Court to ***“appraise all benefits and damages accruing to all lands within or outside the district and all benefits accruing to public corporations as entities by reason of the execution of the Official Plan.”*** To accomplish this requirement the MWCD Board of Appraisers has met monthly over the past eight months to evaluate issues relative to levying the maintenance assessment.

The MWCD Board of Appraisers has established a definition of a parcel as:

“For purposes of this appraisal of benefits, a parcel is defined as one or more contiguous, (adjoining) tracts of land with similar assessment use codes (AUC) and the same owner of record, as determined by the County Auditors. Such parcel may be divided by public or private roads or streams and still be considered one parcel under this Plan.” *

*Note: Combining parcels across a road or stream is a manual process which will not be completed before the Appraisal Record is filed, but will be accomplished prior to levying the assessment.

The Board of Appraisers has adopted a number of “Rules” to describe how the assessment will be established. These include:

- Use one (1) equivalent residential unit (ERU) for residential properties, defined as 1, 2 or 3 family.
- Agricultural properties be treated the same as residential properties, and should be identified based upon the land use code in the Auditor’s database;
- Undeveloped properties will be assessed the minimum of 1 equivalent residential unit (ERU) .
- Consolidate parcels whose assessment use code (AUC) is either Residential (R), Vacant (V) or Agricultural (A) and whose owner names match exactly and are adjacent to each other and bill just one of the parcels. Provide for correction of consolidation errors during the process.

- The “land Use” method should be adopted as the methodology for computing the annual assessment
- A sample of residential properties will be used to determine the ERU (Equivalent Residential Unit) for residential properties.
- A single residential ERU should be established as the basis for evaluating all other land use classifications
- The ERU will be computed for other parcel use codes based on the methodology described later in this paper.
- Round the ERU to the nearest whole number using conventional rounding protocol;
- All Federal and certain properties currently designated by the legislature as exempted from assessments are exempted. No other exemptions from the assessment charge will be accepted.
- Public roadways, sidewalks located in the right-of-way, driveway aprons located in the right-of-way, and bike paths/trails are defined as part of the storm water conveyance system and will not be assessed.
- The MWCD should allow for retroactive billing adjustments for any and all types of discovered billing errors, for a period not to exceed three years following the billing date that precedes discovery of the error. Exceptions and variations to this policy are expected as good customer service benefits should be applied whenever possible.
- For Condominiums, if County Auditor records show that individual condo owners are taxed based upon a recorded deed, then the estimated impervious area of the total parcel will be prorated across each individual owners parcel and assessed accordingly, otherwise, the condominium association or management company will be assessed.
- Assessment for apartments to be billed to the complex owner, not individual tenants.
- The assessment for land leases to be billed to the property owner, not the tenant.
- For those parcels that overlap the MWCD boundary, if more than 50% of the parcel is inside the MWCD then an assessment will be levied against the entire parcel.
- The methodology proposed to distribute the benefit across all the property within the MWCD is based on the estimated runoff produced by each parcel as determined by its Property Use Code, the parcels gross area, as determined by the Auditors records, and the estimated impervious area for that Parcel Use Code, based on TR-55 average values. This runoff produces the flooding and water quality problems that are addressed under the Addendum to the Official Plan which was approved by the Conservancy Court on June 11, 2005.
- The percent impervious for open space, including lawns, parks, golf courses and cemeteries be established as 1%.
- The 1% impervious factor be applied to camp grounds (PUC 416).
- The 5% impervious factor should also be used for mines and quarries (PUC 380).
- Based on a statistical sample of trailer or mobile home parks (PUC 415), the average percent impervious area was found to be 25%.
- Based on statistical sampling, 3,300 square feet of impervious area be adopted as one ERU.
- For purposes of this assessment process, any R, Ag or V parcel in excess of one section (640 acres) is considered a large parcel and the assessed value will be determined by dividing the total parcel area by 640 and billing according to the rounded results.
- For larger parcels, where potential assessments would exceed \$1,000, impervious area will be measured from available aerial photography and the results used to compute the assessment.

- Property owners who believe the assessment based on TR-55 values are not representative of the actual impervious area on their properties may submit additional information in the form of recent aerial photography or certified site plans to the MWCD and their assessment will be re-evaluated, and if justified, modified accordingly.
- All parcels contribute runoff, even those that are vacant. Runoff implies not only quantity but also timing. Compared to residential property where runoff occurs quickly, vacant property typically would absorb rainfall until saturated and then contribute runoff to the stream system. Based upon this contribution of runoff to the watershed, for this assessment vacant parcels will be assessed 1 ERU.
- The Auditor's parcel area will be used to compute the assessment unless the Auditor's area exceeds the GIS area by more than 20% then the smaller of the two areas will be used for the assessment computation. Also, if the Auditor's parcel area is blank or zero then the GIS area would be used.

Projected Cost per Parcel

All one, two or three family residential parcels will be assessed one (1) ERU. All vacant and agriculture parcels will also be charged one ERU, which will amount to \$12.00 per year per parcel. Commercial, Industrial and other Parcel Use Codes will be assessed based upon their area and parcel use code. The average assessment by parcel use code varies and typical examples are shown in the following table:

Parcel Use	% Impervious	ERU	Assessment
Residential	0.25	1	\$ 12.00
½ Acre Commercial	0.85	6	\$ 72.00
6 Acre Industrial	0.72	57	\$ 684.00
1 Acre Church	0.40	5	\$ 60.00
4 Acre School	0.40	21	\$ 252.00
100 Acre Golf Course	0.01	13	\$ 156.00

Preliminary Benefit Analysis

The Conservancy Act (ORC6101) requires that benefits must exceed costs for a project to be considered viable. An economic analysis of benefits has been completed which indicates that total benefits from the proposed work will exceed \$2.5 billion, producing a benefit cost ratio of \$16.00 in benefits for every \$1.00 expended.

Contact Information

The MWCD will establish a web portal to assist local property owners in determining the assessment for each parcel. This site will be located at mwcd.org

Owners can enter their name, address or parcel identification number to locate their property and determine the proposed assessment.

Property owners can also obtain information about their property by contacting the MWCD toll free hot-line at **(866) 755-MWCD**. In addition, copies of the Appraisal Record for each County will be filed with each County Auditor. These paper copies will be available for public inspection in each County.