



MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION

Request for Board Action

Attachment 6.1

Agenda Item: 11CHF Hydrologic and Water Quality Model Update

Presenter: Nancy Stowe

Meeting Date: 12 May 2026

Flexibility: Yes No

Estimated Time: Consent Agenda 10 Min. 15 Min. 30 Min. 45 Min. 1 Hour

Action Request: Information/Review Motion to approve Budget Change Other

Board Action: Approved Denied Tabled Accepted Report Other

Date of Action: 12 May 2026

Background (Attach Supporting Documents as needed)

In 2013, the MWMO began an initiative to develop detailed stormwater quantity and quality models throughout the entire watershed. The goal of this effort was to develop an integrated network of models which would allow the MWMO and member cities to identify flood-prone areas, evaluate the impact of flooding, identify areas contributing the largest amount of sediment and nutrients to the river, assess the performance of existing stormwater infrastructure and water quality projects, evaluate the impact of development and redevelopment within the watershed, and prioritize areas for infrastructure upgrades and BMP implementation.

The models were an MWMO capital investment and need to be maintained, updated, and/or improved upon, which may include the incorporation of:

- new impervious surfaces added through development and redevelopment,
- new stormwater projects,
- new technical information available, such as LiDAR elevation data, more recent rainfall and temperature data, and updated land use cover

- more recent monitoring data for improved model calibration
- improved modeling software

The Minnesota DNR is currently updating flood risk data for FEMA Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FIS) for much of the area covered by the 11CHF model which was developed in 2015 and covers parts of the cities of Fridley, Hilltop, and Columbia Heights. Since the results of their flood maps dictate which homes need to be covered by flood insurance, it is critical that the tools available to the DNR are as accurate as possible. The homes near Jackson Pond (west of 4300 Central Ave.) in the City of Columbia Heights are especially sensitive to the results of the FIRMs.

MWMO staff is therefore recommending the update and improvement of the 11CHF water quantity and quality models, including the addition of new stormwater infrastructure, the conversion to a more reliable software, and a calibration to more recent monitoring data at the outfall to the river, with the addition of calibrating to monitored water level data in Jackson Pond.

MWMO staff is therefore requesting approval of a not-to-exceed amount of \$150,000 from the Watershed Assessment fund to support updating the 11CHF model.

Mississippi Watershed Management Organization

RESOLUTION 2023-013

A RESOLUTION APPROVING 11CHF HYDROLOGIC AND WATER QUALITY MODEL UPDATE

WHEREAS, The MWMO uses models in the planning and prioritization of capital projects that improve stormwater management, reduce localized flooding and improve water quality; and

WHEREAS, The MWMO has partnered with its cities to develop hydrology and hydraulic (H&H) and Water Quality (WQ) models across its jurisdiction; and

WHEREAS, This model area is completely within the MWMO boundary; and

WHEREAS, The MWMO has funds available in the Watershed Assessment fund to cover the costs of the 11CHF modeling update.

NOW THEREFORE BE IT RESOLVED, the Board of Commissioners of the Mississippi Watershed Management Organization approves up to \$150,000 for updating the 11CHF model and authorizes MWMO staff to take all necessary administrative actions to implement this resolution.

Adopted this the 12th day of May, 2026.

Review for the Board: _____

Connie Buesgens, Chair

Review for Administration: _____

Kevin Reich, Executive Director