

# Preventing Property Damage

**Goal 1** To prevent property damage from flooding, erosion or degraded water quality

- Objectives**
- 1.1 To minimize public capital expenditures needed to correct flooding and water quality problems
  - 1.2 To conserve natural resources through land use planning, flood control and conservation projects
  - 1.3 To identify and evaluate damage-producing events causing threat to life or property, site deterioration, or water pollution; and to plan appropriate corrective actions on the affected watersheds.
  - 1.4 To respond quickly and effectively to alleviate the effects of natural disasters and reduce the threat to life, public health, and property

**Introduction** Property damage involves the injury to real or personal property through another's negligence, willful destruction, or by some act of nature. Property damage may include harm to an automobile, a fence, a tree, a home, or any other possession. The amount of recovery for property damage may be established by evidence of replacement value, cost of repairs, loss of use until repaired or replaced, or, in the case of personal items (e.g. trees or landscape features) by subjective testimony as to value.

**Property Damage Concerns** Three types of property damage are of concern to the watershed district:

**Damage to life and safety** People injured or killed by District or other water management facilities or actions.

**Structural Damage** Loss of property. Most efforts have focused on mitigation of damage to bridges and roads, houses, and crop land.

**Functional or Operational Damage** Loss of this component results in an interruption of service. Nonstructural damage will make it difficult or impossible to carry out the functions that were normally accomplished in a facility.

**Current Situation** In 2010 the watershed contained 21,943 acres of flood prone land with a market value of \$3.6 to 2.7 billion dollars. In addition, the District includes approximately 1,000 parcels valued at \$283 million where the

quality of the adjacent lake waters is critical to property values.

Property damage within the watershed is typically a result of:

- Flooding**
1. Slowly rising water level fluctuations resulting from
    - a. Heavy rainfall
    - b. Melting snow and ice
    - c. Complete or partial obstruction of an outlet or drainage system
    - d. Sediment buildup in the channel
    - e. Clogged storm drains
    - f. Rises in groundwater
  2. Rapidly rising water levels resulting from:
    - a. High intensity storms
    - b. Sudden release of water from an upstream impoundment
    - c. Ice jams within culverts during spring runoff
    - d. Beaver dams
  3. Strong currents associated with above two conditions
  4. Fallen trees and damaged structures

- Poor Water Quality**
1. Bacteria and other pathogens
  2. Loss of top soil
  3. Heaving or slumping of soil slopes or ditch banks
  4. Sedimentation restricting recreational use and aquatic life
  5. Degraded water quality of natural water bodies restricting recreational use, aquatic life or enjoyment
  6. Nitrate – Nitrogen endangering drinking water in groundwater recharge areas

- Natural Disasters**
1. Straight line winds
  2. Tornados
  3. Floods
  4. Drought

- Aquatic Invasive Species**
1. Eurasian water milfoil
  2. Curly leaf pond weed
  3. Zebra mussels – Not yet found within the watershed

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**Strategies to Achieve the Goal**

To prevent property damage from flooding, erosion or degraded water quality the watershed District will:

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**Development Regulation**

Continue to enforce erosion and sediment control rules to prevent the loss of top soil and sedimentation restricting recreational use and aquatic life of waters within the watershed.

Regulate the low floor and low entry point to structures to prevent flooding from ground water and flooding.

Protect the water and related land resources of the Coon Creek Watershed from the adverse effects resulting from poor or incompatible land use activities.

Regulate land-disturbing activities affecting the course, current, cross section and quality of ditches and water courses.

Regulate improvements by riparian property owners of the bed, banks, and shores of lakes, streams, and wetlands for preservation and beneficial use.

Regulate crossings of ditches and watercourses in the District to maintain channel profile stability and conveyance capacity.

Limit permit holder responsibility to that necessary for the intended use. Avoid assigning responsibility for major repair.

Avoid adverse impacts that may be associated with the occupancy and modification of floodplains and with the destruction, loss, or degradation of wetlands. Avoid filling of land within floodplains and wetlands wherever practicable.

Do not permit floodplain development and new construction in wetlands wherever there is a practicable alternative.

Promote nonstructural flood protection methods to reduce flood hazard and flood loss.

Preserve and, where needed and feasible both economically and technically, enhance the natural and beneficial function and values of wetlands.

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## Operations and Maintenance

AIS Detection & Control	Continue existing control programs
General	Promote nonstructural flood protection methods to reduce flood hazard and flood loss
Repairs	Continue bank stabilization & repair projects
Routine Maintenance-Inspections	<p>Access Management: Inspect and manage access to District infrastructure for maintenance and repair purposes.</p> <p>Annually inspect 20% of the drainage system for sediment build up and significant changes from the 'approved' elevation of the ditch.</p> <p>Annually inspect all structures owned and operated by the watershed district to determine structural condition and the chance of a sudden release of water that could cause property damage downstream.</p> <p>Develop an automated reporting system for ditch inspection results.</p> <p>Increased frequency of inspection in 'critical reaches' of the drainage system to ensure agricultural drainage. (2x per year)</p> <p>Perform surveys to evaluate flood hazards and storm damage occurrences and their hazards and to develop treatment programs where needed.</p> <p>The public ditch system needs to be managed for both drainage and conveyance with an awareness of the water quality impacts and varying maintenance needs of both.</p> <p>Maintain ditch and conveyance systems within the watershed to fulfill the role identified within the policies and procedures for drainage and conveyance and the drainage law.</p> <p>To respond quickly and effectively to alleviate the effects of natural disasters and reduce the threat to life, public health, and property.</p> <p>Corrective Maintenance: Steam jetting frozen or ice blocked culverts on public ditches.</p> <p>Remove beaver and Beaver Dams obstructing public ditches and creating flooding.</p>

Remove trees from ditches and public channels that are obstructing or slowing flows.

Assist in preventing, treating and controlling aquatic invasive species where they have degraded the water quality of natural water bodies restricting recreational use, aquatic life or enjoyment.

Annually inspect 20% of the drainage system for sediment build up and significant changes from the 'approved' elevation of the ditch.

Annually inspect all structures owned and operated by the watershed district to determine structural condition and the chance of a sudden release of water that could cause property damage downstream.

Annually conduct an early spring inspection of the watershed to assess the snow pack, its water content and the depth of frost to assess flooding potential under various weather scenarios.

Maintain an issue log and map of the location and type water related issues, problems and concerns including but not limited to: Clogged storm drains; Ice jams within culverts during spring runoff; Falling trees and debris; Beaver dams.

Repair public ditches through the removal of sediment buildup in the channel.

Protect stream channels from degradation.

To maintain in operable condition all drainage and Stormwater improvements in the Watershed and other lands controlled by the Watershed District.

Where appropriate, assign through Stormwater permits or Stormwater agreements responsibility for Stormwater improvement maintenance to Stormwater permittee.

Assign current maintenance in annual operating plans.

Limit Watershed District responsibility for financing maintenance work to those instances in which the Stormwater permittee realizes no direct benefit or in limited, short term situations, such as natural disasters.

Investigate all significant disasters promptly, appraise their impacts upon goals and targets, and recommend program adjustments for consideration by the Operations and Maintenance Coordinator and District Engineer.

Perform surveys to evaluate flood hazards and storm damage occurrences and their hazards and to develop treatment programs where needed.

Promote nonstructural flood protection methods to reduce flood hazard and flood loss.

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**Planning,  
Programming &  
Budgeting**

Budget & Annual  
Program Plan

Completion of budget process

Invest in cost-effective drainage and stormwater improvements to achieve objectives established in water and resource management plans.

Review screening and ranking criteria. Document the screening and ranking process and use the uniform comparative method to make funding allocations.

Comprehensive Plan

Encourage compatibility between land use activities upstream and downstream.

Identify and map the private drainage systems within the watershed

Recognize floodplains and wetlands as specific areas

Inventory water quality on all Coon Creek Watershed System lands as needed for management of all District resources

Remain actively involved in the development of the Upper Mississippi River Bacteria TMDL.

Recognize floodplains and wetlands as specific areas

Work collaboratively with the MPCA in the development of a Watershed Restoration and Prevention Plan (WRAPP) for

1. Biota
2. Sediment & Turbidity
3. Total Phosphorus
4. E. coli & Bacteria
5. Flow Alteration & Volume
6. Fishery

Plan for Critical events (high intensity storms that cause flooding and/or

lead to a disruption of public services).

Continue Watershed Management Planning for ‘Drinking Water Watersheds’ with an eye on Nitrate – Nitrogen endangering drinking water in groundwater recharge areas.

Plan and coordinate with Cities and Anoka County to prevent catastrophes and natural disasters that could result in the sudden release of water upstream from flood prone property.

Manage Watershed District water resources for multiple-uses by balancing present and future resource use with domestic water supply needs.

Identify minor sub-watersheds providing water within the drinking water supply Management Area as defined in the City’s well-head protection plan or 1 year travel time of municipal and other public wells and water supplies during land management planning.

Encourage compatibility between land use activities upstream and downstream.

Develop prescriptions on a case-by-case basis to ensure desired multiple-use outputs while recognizing domestic water supply needs.

To plan and execute a coordinated program of water resource development to maximize public benefits within the Watershed.

Coordinate flood and other natural disaster surveys with resource planning among Cities, and with similar efforts of other Federal, State, and area wide agencies.

Analyze environmental impacts.

Ensure District participation in State and local early flood warning systems.

Cooperate and participate to the extent feasible in Federal and State developed flood forecasting and flood warning systems. When Watershed District participation is requested, execute a written agreement with the agency involved and state the kind and extent of assistance the Watershed District will furnish, and the manner in which it will be provided.

Policy and Identify and map areas where easements presently exist or are needed.

## Procedures

Review Policy & Procedures

Standard Operating Procedure (SOP): Data & Monitoring - Develop quality assurance and control procedures and standards for weather data collection and storage

Standard Operating Procedure (SOP): Develop and implement standard operating procedures and policies for inspections and minor repairs to be reviewed and updated every 5 years

Standard Operating Procedure (SOP): Development Regulation & Enforcement

Standard Operating Procedure (SOP): Operations & Maintenance

Standard Operating Procedure (SOP): Public & Governmental Relations- develop methods to assess public knowledge, awareness, and attitudes

Update Policy & Procedures

Update District Rule

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## Public and Governmental Relations

**Education** Provide for the placement of appropriate signs to enhance public awareness of and knowledge about flood hazards.

Enhance public awareness and knowledge of flood hazards by placing appropriate signs or other means of conspicuous delineation showing the highest past flood level and probable 100-year flood heights in identified flood hazard areas and in public use areas which have suffered flood damage. Place priority on those areas within the Watershed District where the probability of rapid rises of water level (flash floods) is greatest, where flood warning time is minimal, or where critical structures and facilities are involved.

**Information** Prioritize the review and replacement of Information and Education exhibits and media, and submit proposals for permanent, wayside, temporary and traveling exhibits.

Increase local TV, radio and newspaper media coverage.

Prepare public service announcements to be used during flood events, cautioning against strong currents and under tows that may exist in the



watershed during times of high water.

Although there may be no formal agreements for flood warning, program coordinators should notify individuals and communities of potential flood situations when such conditions are known.

Notify affected local agencies when the survey shows the possibility that a flood hazard exists.

Directly alert home and property owners occupying possible flood paths.

**Involvement** Cooperate with other agencies to the extent feasible to secure water measurement data.

Work with the engineering and public works departments of the Cities within the watershed to identify danger areas during flood events and the need to identify special target audiences.

To integrate water resource management with Watershed District land and resource management planning and to coordinate Watershed District water resource protection, development, and improvement programs with similar programs of other Federal, State, and local agencies.

Execute an Interagency Agreement specifying actions and other terms of agreement, when water measurement data is furnished to another agency on a regular schedule.

When other agencies request studies or data, in addition to that normally provided, request equitable reimbursement for additional studies.

Provide opportunity for early public review of plans or proposals for actions in floodplains.

Provide technical assistance to local floodplain and wetland programs.

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**Research and  
Monitoring**

AIS Monitoring Assess current and long-term monitoring of the District's waters for early detection opportunities.

Monitor locations with a high invasion rate.

Support increased research on the baseline biology of AIS, the ecological and economic impacts of invasions, and control options to improve management.

Continue to assist in monitoring for the presence of aquatic invasive species.

Lake Water Quality  
Monitoring

Continue to monitor lake water quality.

Precipitation  
Monitoring

Continue to monitor frequency and duration of precipitation events to track the effect of heavy rainfalls.

Identify critical events and conditions that lead to local flooding and water quality problems.

Continue to monitor precipitation intensity throughout the watershed to assess the rates and volumes that contribute to local flooding and water quality problems.

Identify critical events and conditions that lead to local flooding and water quality problems.

Arrange for obtaining quantitative precipitation forecasts and assisting with timely flood or high water warnings to expedite damage control activities.

Stream Water  
Quality Monitoring

Continue to collect water quality samples at select locations within the watershed.