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I. Introduction

Concerns about the water quality and impacts of current and historic land use practices in the Swartz Creek Watershed (SCW) led stakeholders in the watershed to initiate the development of a watershed management plan. The following plan was created through a collaborative effort between local units of government, Flint River Watershed Coalition, the University of Michigan - Flint's Center for Applied Environmental Research (CAER), concerned citizens and several other partners. The plan includes information gleaned from reviews of previous research, a public involvement process, and field investigations. The plan that follows is intended to address the current and potential future water quality conditions in the watershed. Funding and grant administration was provided by the Michigan Department of Environmental Quality.

II. Planning Process

The management of water resources is a complex and difficult task that requires the coordination of numerous individuals, organizations and various technical and or policy issues. As the lead agency involved with the development of the Swartz Creek Watershed Management Plan (SCWMP), CAER inevitably had a significant influence on the planning process and its outcomes. Because of that influence we felt it is important to take a moment to briefly identify several of our guiding principles in the management of the Swartz Creek Watershed.

Guiding principles:

- Watershed planning must be done using an iterative and adaptive approach
- Providing public access to the river resource is critical to protection of water quality
- Watershed planning should be integrated into master planning, parks and recreation planning, and infrastructure planning
- Land use within the watershed is a major consideration because of its effects on the hydrology of the watershed
- Source control is key to protection of water quality
- Protection of streams is more cost-effective than restoration of degraded streams
- BMPs should consist of a blend of structural, vegetative and managerial BMPs
- Public involvement and education are crucial to water resource sustainability

III. Public Involvement

Water resources, like all natural resources, are held in the public trust and require public input when management decisions are being made. This principle is especially important when dealing with water resources and non-point source (NPS) pollution because of the voluntary nature of NPS pollution mitigation. Involving the public in the development of the management plan provides advantages by identifying alignment between community visions and research goals. An open planning process ensures those responsible for implementation are comfortable with responsibilities and provides watershed managers with important information about the community's understanding of their water resources and its management. The public was involved in this project through public meetings and communication with individual residents and decision makers.

Public Concerns & Desired uses

Public concerns and involvement were the catalysts that began the process of seeking funding to develop the SCWMP. Over the course of the project various organizations and individuals played instrumental roles in defining how the project was to be managed, used and evaluated. Concerns involving the condition of the watershed were identified through several methods including formal public meetings and informal conversations among committee members and stakeholder groups. During the planning process three public meetings were conducted to both educate the public and gather information about the public's concerns. The three meetings were conducted with a total attendance of 41 individuals. The public identified several specific water quality concerns that were the focus of the physical inventory phase of the project. These concerns included:

- Poor fishing
- Flooding
- Low flows
- Aesthetics
- Bacteria from human waste
- Eroding stream banks

In addition to concerns expressed by individuals about the historic and current problems within the watershed, efforts were made to facilitate the identification of a vision for the future of the watershed and to establish desired uses. These concepts and desires were incorporated into the planning process and final plan. The desired uses included:

- Preserve rural character in portions of the watershed
- Encourage economic sustainability of watershed communities
- Protect drinking water
- Use stream corridors in a greenways system
- Use SCW as an education tool for school aged children
- Improve public access to the stream
- Develop organizational capacity for watershed planning efforts in the Flint River Watershed

- Recreation
- Develop a stewardship ethic among citizens and local government about local water resources

Public Involvement Observations

During the planning process, CAER strived to document successful strategies and areas/issues that need significant improvements relating to public involvement. During the planning process, the following observations were by made by CAER staff and will be used and/or addressed in the implementation plan for the SCW.

- There was a need for increased public outreach and education
- Local elected officials were able to generate citizen turnout to watershed planning sessions
- There was a lack of understanding about water pollution and the role local governments and individuals play in watershed management

Steering Committee

The Center for Applied Environmental Research at the University of Michigan-Flint led the planning initiative and provided project coordination services. In an effort to ensure the planning process was representative of the community, a SCWMP steering committee was established that included:

- Michigan State University Extension (Genesee County)
- Flint River Watershed Coalition
- Genesee County Drain Commissioner
- Genesee County Health Department
- University of Michigan-Flint
- Mundy Township
- Flint Township
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources
- USDA-NRCS
- Genesee County Conservation District
- City of Swartz Creek

The above members of the steering committee did not meet on a regular schedule but were consulted throughout the project for input on elements of the project that impacted them. These steering committee members also were instrumental in the three public meetings that were held during the planning process.

Stakeholders

The geographic nature of a watershed is such that it crosses numerous political and social boundaries. In beginning the watershed planning process, efforts were made to include as many stakeholders of the community as possible. This public process was conducted to ensure that a common vision for the watershed was identified. Communication with this group yielded information about a range of issues from watershed wide concerns to site specific problems. Increased involvement by these organizations and additions to this group of stakeholders should be a goal in following iterations of the watershed management planning process.

The key stakeholders included:

Flint Township Gaines Township Mundy Township Genesee County Drain Commissioner City of Swartz Creek Michigan State University Extension Michigan Department of Natural Resources Oakland County Road Commission Saginaw Bay Watershed Initiative Network Natural Resources Conservation Service Citizens Disposal Genesee Valley Shopping Center Greater Flint YMCA **Carman-Ainsworth Schools** Grand Blanc Schools Genesee County Land Bank

City of Flint Grand Blanc Township Holly Township Fenton Township Flint River Watershed Coalition North Oakland Land Conservancy Genesee County Road Commission Swartz Creek Schools Bishop Airport Baker College Seven Lakes State Park General Motors Genesee Institute Holly Schools