STORM WATER UTILITY DEVELOPMENT

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

The Borough of Greenville owns, operates and maintains the public storm water collection system within its municipal boundaries. Observations by the Borough's Department of Public Works began indicating that portions of the storm sewer system were beginning to show signs of distress, a fact made evident on August 20, 2014 when more than three inches of rain fell in little more than one hour and a 200-foot section of the 48-inch storm sewer beneath Brackin Alley suffered a catastrophic collapse. The Borough has since undertaken a project to replace the Brackin Alley storm sewer, but this event demonstrated the need to adequately address this often overlooked but critical public infrastructure system.

Historically, funds to construct, operate and maintain the storm sewer system have been derived from the general tax revenues generated by the Borough, primarily derived via property taxes. As is commonplace throughout the United States, storm sewer systems are the "forgotten" infrastructure. Since, an underground system functions only during rainfall events, storm sewer systems are most often far down the list of needs behind public safety concerns such as police, fire, and snow removal and public services such as trash removal, parks and recreation.

The 2014 storm, which also caused widespread flooding throughout the Borough brought the critical public safety factor of resilient storm water controls to the forefront. The Greenville Borough Council commissioned this report in order to examine an equitable alternative to generate a dedicated revenue source for the Borough's storm water system to assess and repair the system's aging infrastructure and undertake improvements to address adequate capacity.

1.1 BACKGROUND

Geography and Demographics

Greenville is a Borough in Mercer County, Pennsylvania, United States. Located along the Shenango River, Greenville is roughly 1.89 square miles in area. Greenville is located in northwest Pennsylvania at 41°24'18"N by 80°23'12"W (41.40500°N 80.38667°W) astride the Shenango River. Its altitude is approximately 945 feet (288 m) above sea level. The population in the 2010 United State Census survey was 5,919, a decrease of approximately 7% since 2000. The mean household income as of July 1, 2015 is reported to be $35,303. Housing data, also from July 1, 2015, reported 2,586 total housing units with 1,215 (47.0%) being owner occupied, 975 (37.7%) being renter occupied and 396 (15.3%) being vacant.

Watersheds

Mercer County is part of the Ohio River Basin. Each basin is divided into sub-basins, and these are divided into watersheds and sub-watersheds. Greenville is located in the Shenango River watershed of the Beaver River sub-basin. The Shenango River is feed by numerous tributary streams. Within the immediate vicinity of Greenville, the Shenango River receives water from streams such as the Little Shenango River, Saul Run, Mathay Run and Big Run.

Exhibit 1-1 indicates the limits of each sub-watershed and the municipal boundary of Greenville Borough.

Land Use and Zoning

Greenville Borough is heavily urbanized. The majority of the developed area within the Borough is residential homes, with a central business district, and the Thiel College campus located in the northern portion of the Borough.

The Borough is zoned, with the latest zoning ordinance being adopted October 11, 2005.

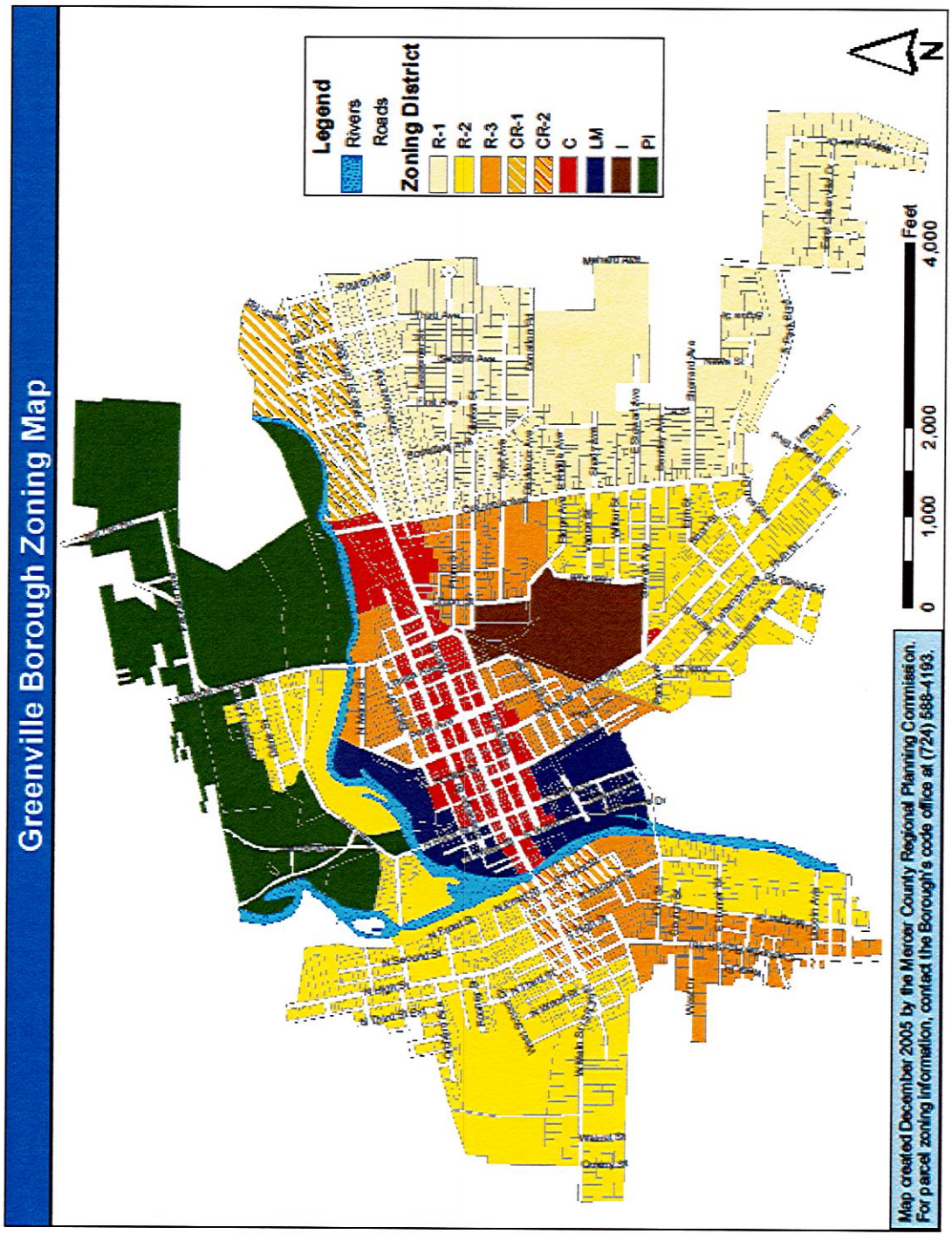
Table 1-1 – Greenville Borough Zoning Districts

District Abbreviation	District Title
R-1	Residential
R-2	Residential Family
R-3	Residential Medium Density
PI	Public Institution
CR-1	Commercial – Residential 1
CR-2	Commercial – Residential 2
C	Central Business
LM	Light Manufacturing
I	Industrial

Greenville is divided into nine zoning districts as shown in Exhibit 1-2.

Exhibit 1-1 – Sub Watershed

Exhibit 1-2 – Zoning District



1.2 CONDITION OF BOROUGH STORM SEWER SYSTEM

In general, the Borough's storm sewer system consists of catch basins and inlets located along public streets that collect storm water runoff from the street gutter system. Cross drains connecting the catch basins and inlets to collection storm sewers and storm sewer interceptors further concentrate the storm water runoff from the collection storm sewers and outfalls to the various water courses that run through the Borough. Several streets have storm water ditches in lieu of catch basins and collection sewers. Additionally, several of the water courses have large diameter storm sewers that convey the open channel flow beneath roads (or channels). Larger streams flow under various spanning bridges.

Currently, there is no comprehensive map of the Borough owned storm sewer system. Information on the age, size or pipe material is very limited. In most instances, field observation at catch basins, inlets or junction manholes is required to ascertain any information on the storm sewers.

A majority of the Borough storm sewers are located within the right-of-way of public streets. The ownership of storm sewers within PennDOT owned roads is a matter of some conjecture with differing opinions based upon the agency involved. The issue is much the same on storm sewers that are located on private property. Data may be available in deeds, agreements and recorded right-of-ways, but is not readily accessible.

The Borough Department of Public Works (DPW) does routinely sweep the public streets and gutters to prevent debris from blocking inlets and being carried into the storm sewers. The DPW also repairs or replaces inlets and catch basins that are deteriorated or damaged on an "as needed" basis. In the event of a small storm sewer collapse, the DPW does perform isolated repairs. There is no routine cleaning or inspection of the underground storm water pipes are currently performed, so no data is available on the condition, size and material of the storm sewers, if any have reduced capacity due to debris or sediment or if preventive maintenance is required.