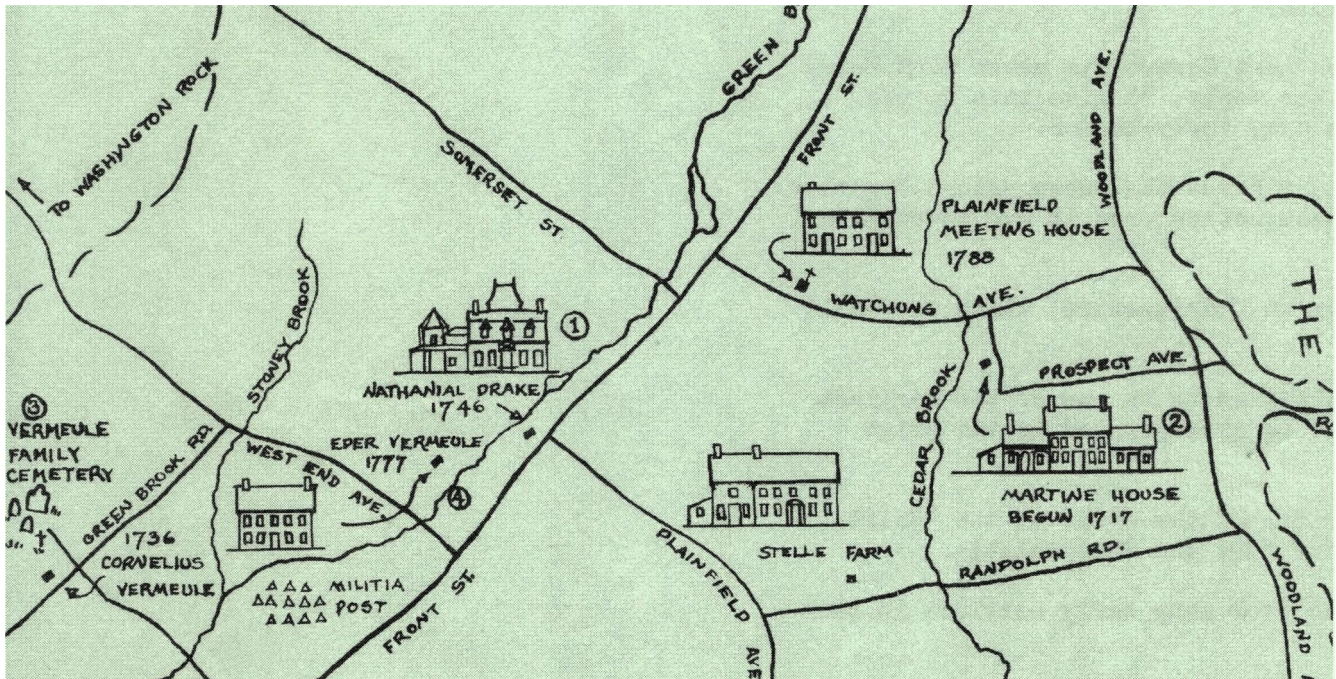


Putting Plainfield On The Map



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About the Workbook



Program Accreditation

The American Association for State and Local History, the American Historical Association, the Federation of State Humanities Councils, the National Council for the Social Studies, and the Organization of American Historians endorse National History Day. The National Association of Secondary School Principals has placed National History Day on the NASSP National Advisory List of Contests and Activities.

Acknowledgments

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Eliabeth Keating Education Program

Written by Jesse Levine, Educational Program Coordinator the Historical Society of Plainfield and Graduate Student in Museum Professions at Seton Hall University.

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About the Elizabeth Keating Education Program at the Drake House

The Elizabeth Keating Education Program was named in honor of the late Elizabeth Keating, a past president of the Historical Society of Plainfield, who began the education program in 1960.

The Elizabeth Keating Education Program meets the New Jersey Core Curriculum Content Standards for Social Studies, listed below:

6.1 All students will learn democratic citizenship and how to participate in the constitutional system of government of the United States.

6.2 All students will learn democratic citizenship through the humanities, by studying literature, art, history and philosophy, and related fields.

6.3 All students will acquire historical understanding of political and diplomatic ideas, forces, and institutions throughout the history of New Jersey, the United States, and the world.

6.4 All students will acquire historical understanding of societal ideas and forces throughout the history of New Jersey, the United States, and the world.

6.5 All students will acquire historical understanding of varying cultures throughout the history of New Jersey, the United States, and the world.

6.6 All students will acquire historical understanding of economic forces, ideas, and institutions throughout the history of New Jersey, the United States, and the world.

6.7 All students will learn acquire geographical understanding by studying the world in spatial terms.

6.8 All students will learn acquire geographical understanding by studying human systems in geography.

6.9 All students will learn acquire geographical understanding by studying the environment and society.

Putting Plainfield on the Map

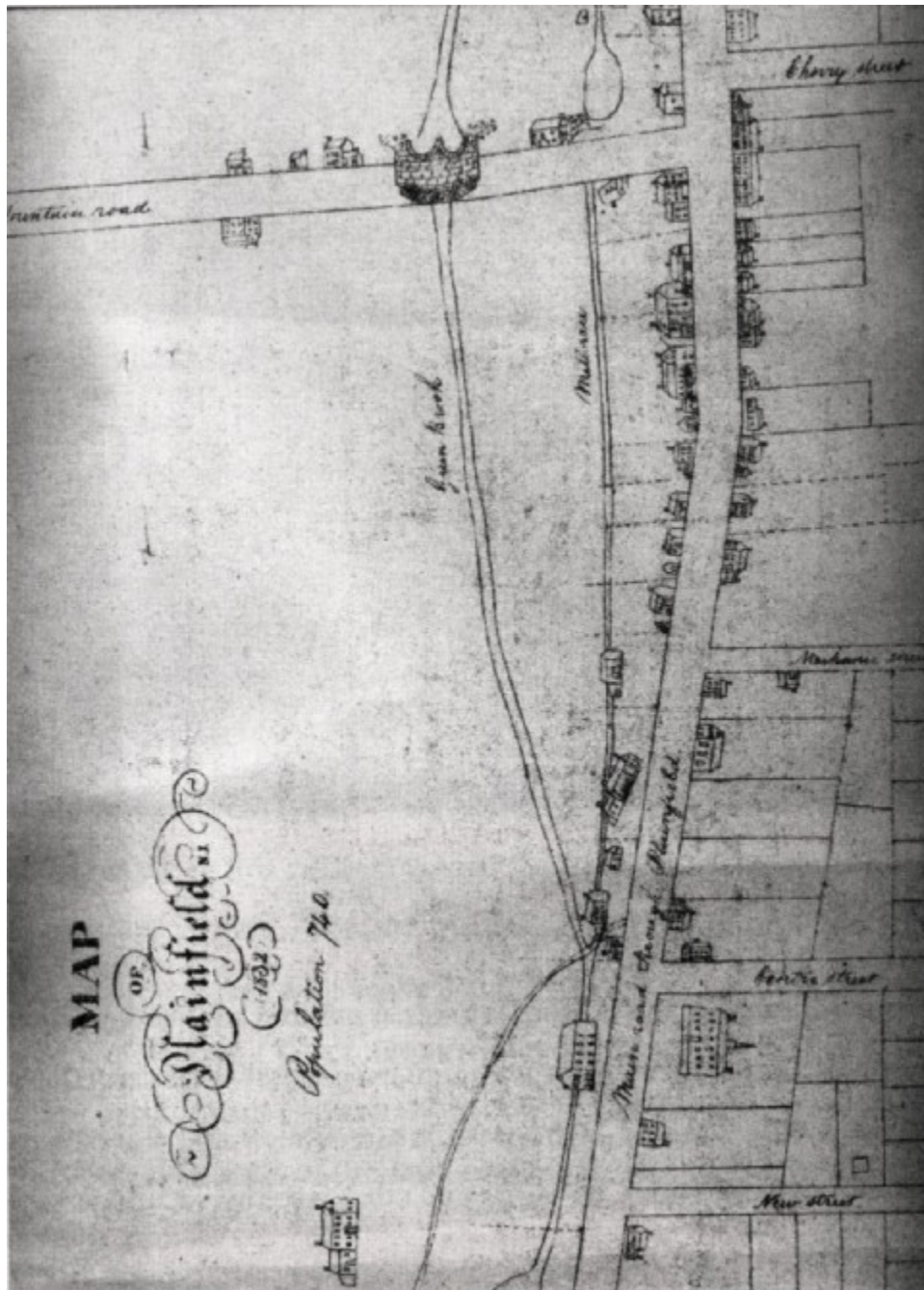
This book is intended to complement the Historical Society of Plainfield's map collection at the Drake House Museum. It is also an educational tool that teaches students how to read and analyze maps. This manual provides a brief history and description of the map-making process. Important terms are printed in **bold** letters and defined in the glossary that begins on page 21.

We recommend using this guide during or after viewing the collection at the Drake House Museum. You can also use this workbook to reinforce geographical and local history lessons.

The maps in this workbook present a unique picture of the growth and development of the Plainfield area. Several of the maps date before 1857, in the days before Union County was formed. You will notice that the 1853 map – Map 2-- of the center of the city, is titled “Map of Plainfield, Essex County, New Jersey.” Other maps depict rural Plainfield before the Central Railroad of New Jersey came through.

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(Map 1) 1832



(Map 3) 1874

If you compare Map 1 and 3, you'll notice a number of changes, including the addition of four train stations and numerous hotels that served a varied clientele, including farmers, businessmen and travelers; while others catered to New York City's elite and other wealthy vacationers.

New York City was becoming increasingly polluted and overpopulated in the latter half of the 1800s. To escape the noise and crowds, more and more people took vacations outside New York and traveled to resorts like the Netherwood Hotel (Map 5). Many who spent their summers here often became residents of Plainfield, including Mr. John Harberger, the President of the Bank of Manhattan, who

purchased the Nathaniel Drake House in 1864 as his summer home.

Plainfield was known for its clean air and fresh water, and this environment appealed to health-conscious citizens. Sanitariums for tuberculosis and other ailments found their homes here. Try to find reference to these facilities on Map 7 from 1899, and Map 2 from 1853.

This region was also home to many Revolutionary War incidents. Maps 11 and 12 show the sites of key battles, meetings and other events in Plainfield's history.

Even before the railroad, Plainfield was a center of commerce and a critical hub along the main route that connected New York City and Philadelphia. The maps in this collection span 19th and 20th centuries, but some depict earlier periods, like the American Revolution. Plainfield historians C.D. Wardlaw and J.P. Wells Taylor plotted sites of importance such as the Drake House (Washington's Headquarters). On Map 9 of Plainfield in 1685, and Map 11, a copy of a map by Captain Vermule in 1778, you will find the names of the land owners during the Revolutionary Era.

We use maps for numerous purposes. They can help us to navigate through a specific area, can depict a room, building, development, city, state, country, or even the whole Earth. Reading a map requires a certain level of knowledge and the ability to interpret different symbols. Most maps contain **keys**, or legends. These keys provide a list of the symbols found on the map, and define the map's content and **scale**. Some keys help us understand an environment or route. Others show particular aspects of an area, including **topography** (elevation above sea level), population, agriculture, landmarks, places of

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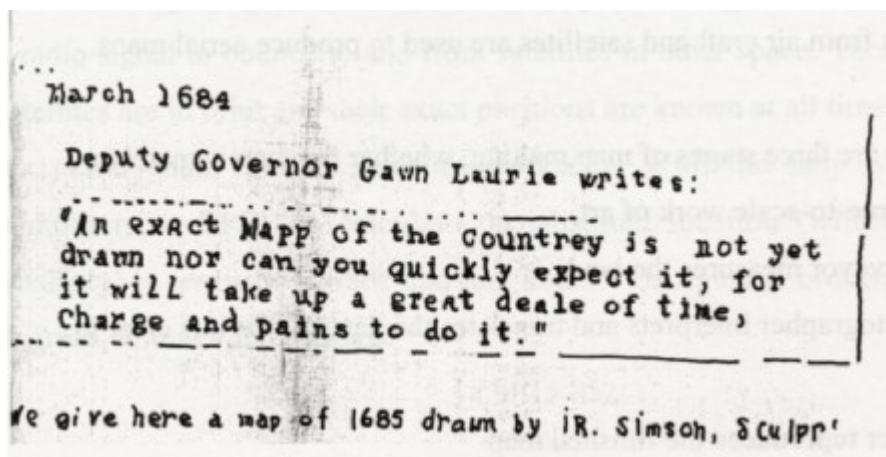
interest or natural features. Notice the symbols used to show terrain in the Cyclist Road Book of New Jersey, 1890.

Creating Maps - Then and Now

The oldest, surviving maps were unearthed from the Egyptians and Sumerian civilizations, and date earlier than 3000 B.C. By 1400 A.D., copper and woodcut printing made it easier to reproduce maps. In 1570 the first **atlas** (collection of maps) was produced. Note the Atlas of Plainfield from 1894.

The earliest maps of the United States often were mere sketches, as you can see from the 1832 Map on page 5 (Map 1), the oldest-surviving map of the region.

Map 8 includes a caption from the a letter that describes the early maps of the area.



The Surveyor



Over the last few centuries, technological advances in **surveying** and printing equipment have led to the mass-production of more accurate maps. In the late 1800's the U.S. Geological Survey created the first accurate surveys of America. These were produced with information provided by **surveyors** who hovered above the ground in helium balloons. Today, photos taken from air craft and satellites are used to produce aerial maps.

There are three stages of map-making, whether the map is merely a sketch or a true-to-scale work of art:

1. The surveyor measures the land
2. The cartographer interprets and translates the data so that it is clear to others
3. A printer reproduces the finished map

In order to create an accurate map of an area, the land is surveyed by measuring angles and distances

from a point of reference. The sciences of geometry and trigonometry can be applied to determine other angles and distances. The result is an accurate, proportionate model that is true-to-**scale**.

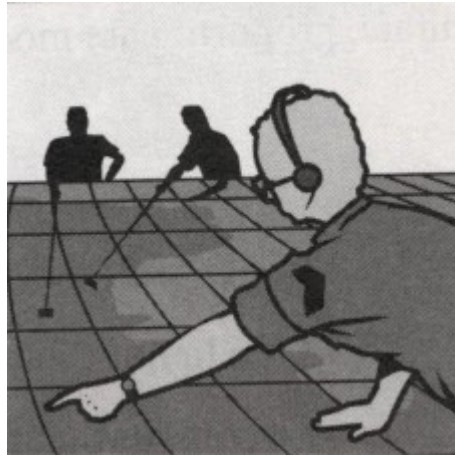
You will find a **sextant** on the second floor of the Drake House Museum. The sextant works by sighting light from a celestial object through an index mirror and then through the unsilvered portion of a horizontal mirror. The index arm is adjusted until the image of the object lines up. The object will appear to rest on the horizon.

Today these instruments are being phased out by modern technology such as Global Positioning System (GPS). Instead of measuring angles, the GPS computes your **absolute location** by measuring the time it takes for a radio signal to bounce to and from satellites in outer spaces. Thousands of satellites are in orbit and their exact positions are known at all times, so now it's easier than ever to measure distances. With the help of special computers, a GPS can calculate the absolute location (within feet of accuracy) in terms of latitude and longitude. This figure is broken down in degrees, minutes and seconds:

(30:15:85)

Some still prefer the old tools, such as sextant, in the collection. While it takes much longer than a computer to use, it does provide accurate data. Some surveyors still prefer sighting a star, noting the time, referencing the almanac and making the calculations to determine **absolute location**.

The Cartographer



The cartographer interprets the surveyor's data, plots the map on a grid, and draws it to scale. If you look on a globe or map of a continent, you will see lines running horizontally, from east to west. These are the lines of **latitude**. The numbers refer to distances north or south of the equator. The lines running vertically, from north to south, are the lines of **longitude**. Coordinates on this grid are called **absolute locations**. These numbers are recognized worldwide.

Since the environment is ever-changing, new maps must be created to reflect changes in an area over time. The region know as “Plainfield,” for example, has changed greatly since 1832. (Refer to Map 1) Consider population expansion: in 1832 only 730 people lived in Plainfield and North Plainfield. How many people live in these towns now?

Other factors such as natural disasters, construction and commerce have caused the land to change. The flood of 1973 partially destroyed Wetumpka Falls located alongside the Somerset Extension.

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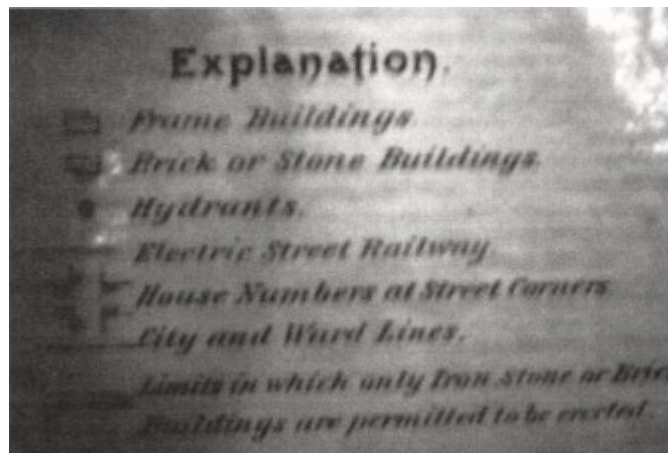
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During the 1700's, Plainfield was considered the Plain Field of the West Fields – west in relation to the city of Elizabeth. In 1857, Union was the last county formed from the western portion of Essex County, and encompassed Elizabeth and these West Fields. At this point, Plainfield was divided by new county lines. South Plainfield became part of Middlesex County and North Plainfield part of Somerset County. The term “Plainfield” covered all three of the present day Plainfields - North Plainfield, South Plainfield and Westfield, as well as Warren and Watchung.

Map Legends

Look closely at most maps and you will see a small box, or legend, on or near the map's edge of symbols that describe features to help you read a map.

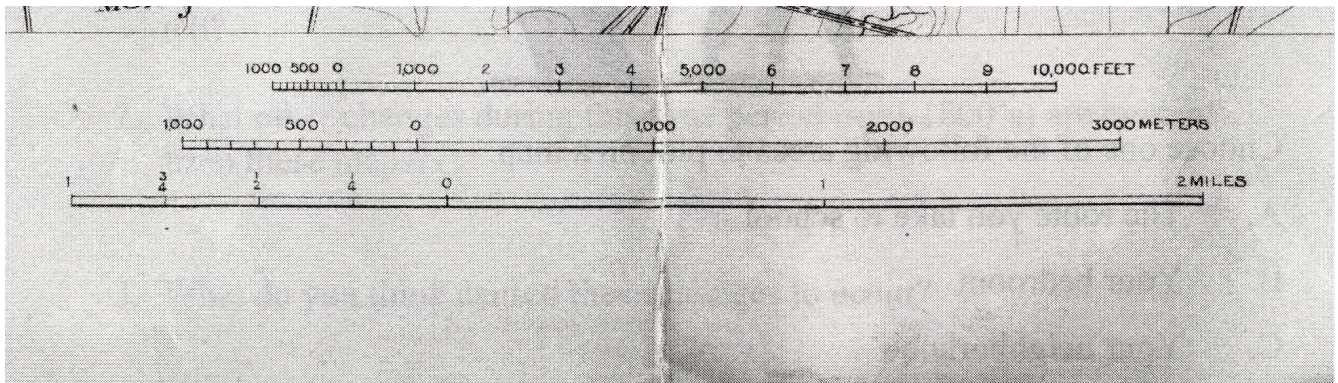
Below is the legend from the large 1894 map located on the second floor of the Drake House (Map 5).



Natural features such as rivers, lakes forests, mountains and swamps receive conventional symbols on most legends. Landmarks like hospitals, schools, industries, railroads, tunnels, highways and buildings are also given signs so that no matter what map you are viewing, you can understand the symbols.

Scale

In order to show a large area on a smaller surface while maintaining accuracy, a cartographer must plot the map to scale. To draw objects in the correct proportion, a map maker uses a scale that often looks like:



Scales are sometimes written as ratios, as follows:

Scale 1 inch = 300 feet

Activity 1 - Making a Map



Choose one of the following areas to plot on a map:

- A. The route you take to school
- B. Your bedroom
- C. Your neighborhood
- D. The inside of your school, so that a new student could use your map to find important rooms

Be sure to create a key, or legend, of the symbols on your map. Determine the approximate scale. For example, 1 inch = 1 mile.

Activity 2 - Comparing Maps and Using Historical Documents

Look at Map #1 from 1832 and compare it to Map #3 of Plainfield in 1874.

1. Notice what the population of Plainfield was in 1832. Do you think this number changed greatly over the next 42 years? How can you tell?
2. What other changes during this time period (mid-1800's) are evident from these maps?
3. What do you think caused these changes to occur?
4. What do you see in the center of Map #3 that was not shown on Map #1? (Hint: This man-made innovation attracted New Yorkers to move to this area.)
5. What natural features might have affected where people lived and where businesses were built?
6. On Map #1, notice the mill race that ran between Front Street (Main Street through town) and the Green Brook. How did the brook and mill race affect the city's growth?
7. If you live in Plainfield, can you locate your neighborhood on either of these maps?

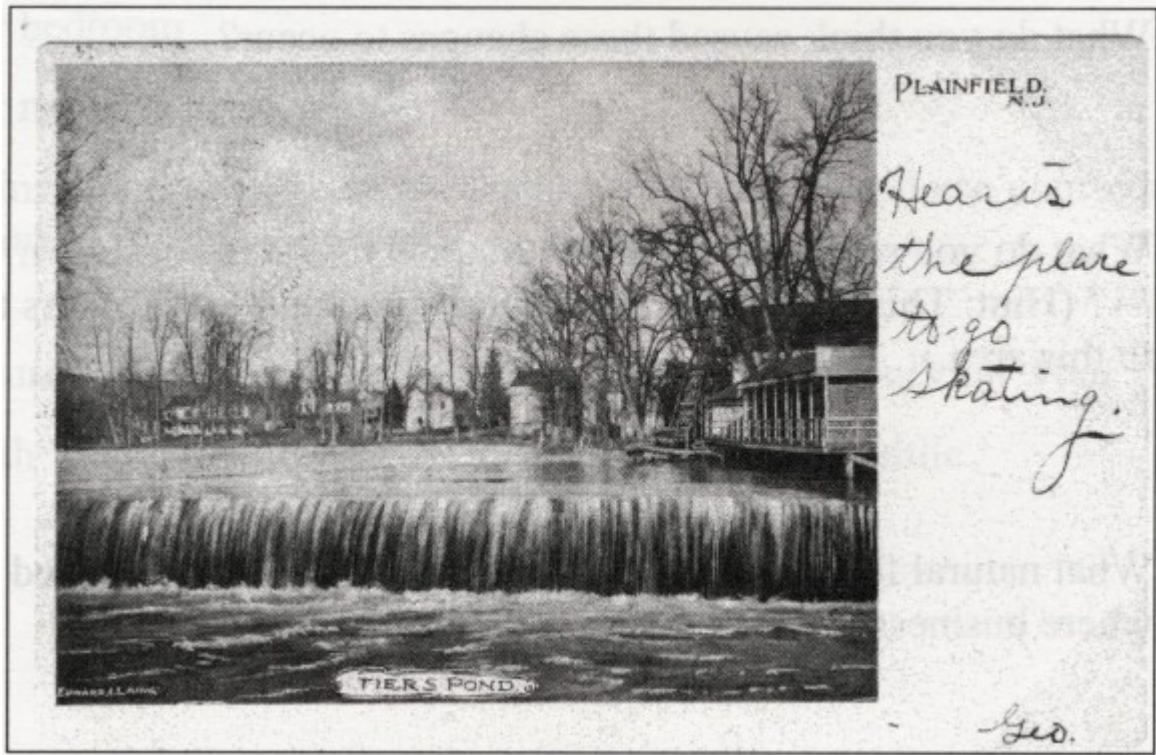
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8. Give directions using the terms North, South, East and West. Look for the North symbol on the maps.

a. Give directions from the Plainfield Library to the Drake House Museum.

b. Provide directions from the Netherwood Train Station to the site of Tier's Pond. (As seen in this postcard from 1906.)

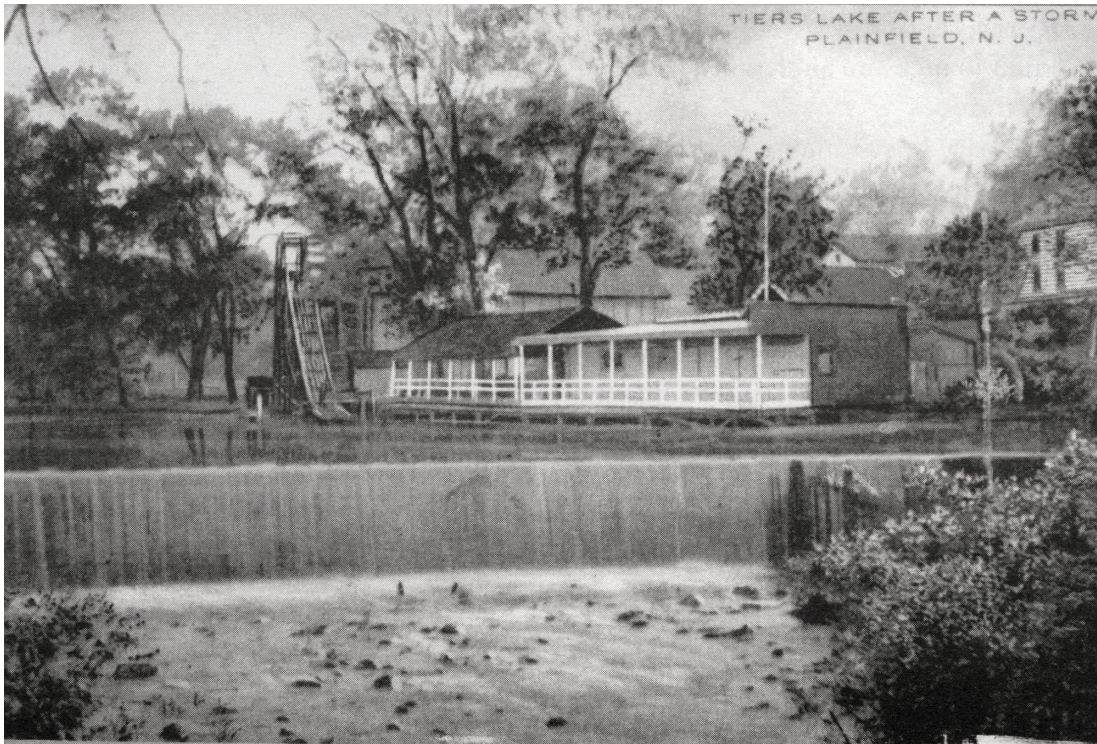


c. Explain the original location of Muhlenberg Hospital as seen in Maps 3 and 4. (Hint: The need for a hospital was realized after a train wreck in the 1850s.)

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9. In the heat of the summer, cold drinks were made from large slabs of ice that were stored in the Tier's Pond ice house during the last freeze of winter. The boardwalk pictured below could serve cold drinks during the summer before the days of electricity. Today, this area is occupied by parking lots for downtown shoppers. Look at all the maps of the region in the collection and list various names for Tier's Pond.



Glossary

Absolute Location

A reference to the exact location on the grid of longitude and latitude.

Atlas

A collection of maps.

Cartographer

A person who produces maps.

Degree

A unit to measure angles.

Latitude

Imaginary lines running parallel to the equator that measure how far north or south a location is from the Equator.

Legend

A key to the symbols being used on a map.

Longitude

Imaginary lines that run north to south connecting the poles that measure how far east or west of the Prime Meridian a location is. Greenwich England is on the line 0.

Scale

A proportional relationship that allows one to show a large area accurately on a small surface.

Sextant

An astronomical instrument used to measure angles and distances.

Topographical Map

Shows a particular type of feature, such as elevation.

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<http://www.pbs.org/wgbh/nova>