REINSTITUTING THE BRANDYWINE STYLE
- A Picturesque Approach to Brownfield and Stormwater Remediation

1638: Swift and rapid Brandywine Creek, however is unsuitable for shipping.

1638 - 1730: Newcomers turned riverfront land into farmers’ markets.

1730 - 1840: Built thousands of mills along with the Brandywine Creek.

1730 - 1840: Built transshipment center nearby Brandywine.

1840: Brandywine School of Art was founded to delineate riverfront life.

1840 - 1890: Popularity of the Brandywine School raised environmental awareness.

1840 - 1890: Utilized steam power to facilitate industry manufacture.

1840 - 1890: Constructed ship builder factory along with Brandywine area.

Nowadays: Left as brownfields or vacant land near the river.
There are five watersheds in Wilmington. Total impaired length is 47.86 km which majorly caused by pesticide, pathogens, organic enrichment and habitat alteration. There is 6.04 km of lower Brandywine Creek impaired. Phosphorus, Nitrogen and bacteria exceed normal amount.
REGионаl Mapping

Wilmington, Delaware

Within the city, there are 17 historical districts, scattered with 50 properties.

Brandywine Village Historic District

Eastside Brandywine Village Historic District

30 Minutes Walking

20 Minutes Walking

Disease Rate Comparison

- Arthritis: Wilmington: 23%, Northern Site: 26%, Southern Site: 28%
- High Cholesterol: Wilmington: 32%, Northern Site: 36%, Southern Site: 40%
- Teeth Loss: Wilmington: 24%, Northern Site: 36%, Southern Site: 40%
- Obesity: Wilmington: 40%, Northern Site: 45%, Southern Site: 49%
- High Blood Pressure: Wilmington: 40%, Northern Site: 49%, Southern Site: 50%

Compared with the unhealthy rate of Wilmington, 4.4% higher in North Census Block, 3.5% higher in South Census Block.
**HISTORICAL FLOODING EVENTS**

- **March 6, 1920**
  40 city blocks were underwater, from Brandywine River to Due Street.

- **July 9, 1942**
  A rapid rise of 5ft in Brandywine River and more than $25,000 equipment damaged.

- **August 20, 1955**
  At least one million US dollar worth of damage.

- **June 23, 1972**
  Water on some streets were 5ft deep.

- **September 17, 1999**
  Brandywine creek reached its 100 year discharge.

- **May 1, 2014**
  A rapid rise of 5ft in Brandywine River.

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![Map showing historical flood events](image-url)
SITE ANALYSIS

Land Use

- Commercial: 40.0 Acres (25.0%)
- Low density residential: 24.4 Acres (15.2%)
- High density residential: 31.5 Acres (19.7%)
- Industrial: 21.9 Acres (13.7%)
- Green land: 21.7 Acres (13.6%)
- Office/public: 16.3 Acres (10.2%)
- Vacant land: 24.4 Acres (15.2%)

Site Area
The site is located in Wilmington, Delaware, with Brandywine Creek wandering through. And the general study area is about 130 acres.

Brownfield
In the northern of Brandywine Creek, there are three brownfields requiring further cleaning up and one has been cleaned up.

Greenspace

5.4% of Wilmington

Surrounding Districts
The general study area includes two historical districts in the western part. Also it is adjacent to one of the largest metropolitan parks of Wilmington.

Historical District

6.2% of Wilmington

Pollutant Source
A. Salvage Site (4.25 acres)
- PCB and lead.

B. Quarry (11.26 acres)
- PCB, cobalt, lead, thallium and vanadium.

C. Maintenance Yard (2.77 acres)
- PAH, lead, arsenic, benzene, petroleum, chinker, slag, asphalt, coal and ash.

D. Wiley Cork Site (8 acres)
- Cleanup completed. Used to be manufacturing lot and left with water tower, no buildings and hard pavement.

Flooding Events

- March, 1920
  40 city blocks were flooded

- July, 1952
  $25,000 equipment damaged

- August, 1955
  More than $1,000,000 property loss

- June, 1972
  Thousands of basement underwater

- September, 1999
  Caused $8.37 million property loss

- May, 2014
  Number of roads and schools flooded

Floodplain
There are 61.4 acres (38%) of the land covered by 500-year and 100-year floodplain; and 58% of it is 100-year floodplain.
I. Wastewater Treatment & Pigment Manufacture
1. Research & Administration Bldg
2. Solid Handling & Maintenance Bldg
3. Pump Station
4. Primary Filtration
5. Primary Clarifier
6. Aeration Basin
7. Disinfection House
8. Quarry Rention Lake
9. Pigment Testing Lab
10. Pigment Testing Lab
11. Pigment Reaction Area
12. Pigment Drying Vessel
13. Education Lawn
14. Pigment Drying Water Feature

II. Commercial Zone
1. Pigment Packing House
2. Pigment Exhibition & Store
3. Art Market
4. Public Education Center
5. Skywalk
6. Gathering Plaza

III. Artist Colony
1. Exhibition Hall
2. Floodable Artist Studio
3. Sculpture Plaza
4. 1st Fl Retail Residential

IV Residential
1. New Boys & Girls Club
2. Affordable Condo
3. Existing Single-Family House

V. Riverfront Green Belt
1. Terrace Wetland
2. Event Lawn
3. Wetland Bridge
4. Island Wetland
5. Riverfront Commercial
6. Gathering Plaza
7. Waterfront Trail
8. Water Taxi Wharf
9. Big Steps
10. High Water Channel / Sunken Park
11. Community Farm

Master Plan
To Historic District
Green System
Building Landuse
Floodplain
Zone Guide