

## **II. ENVIRONMENTAL SETTING**

The Camp Wright Project APE is located on both the east and west sides of Mill Creek. The property is located at 3850 Mill Creek Road and is New Castle County tax parcel 08-025.00-011 (**Figure 1**).

### **A. Geologic Setting**

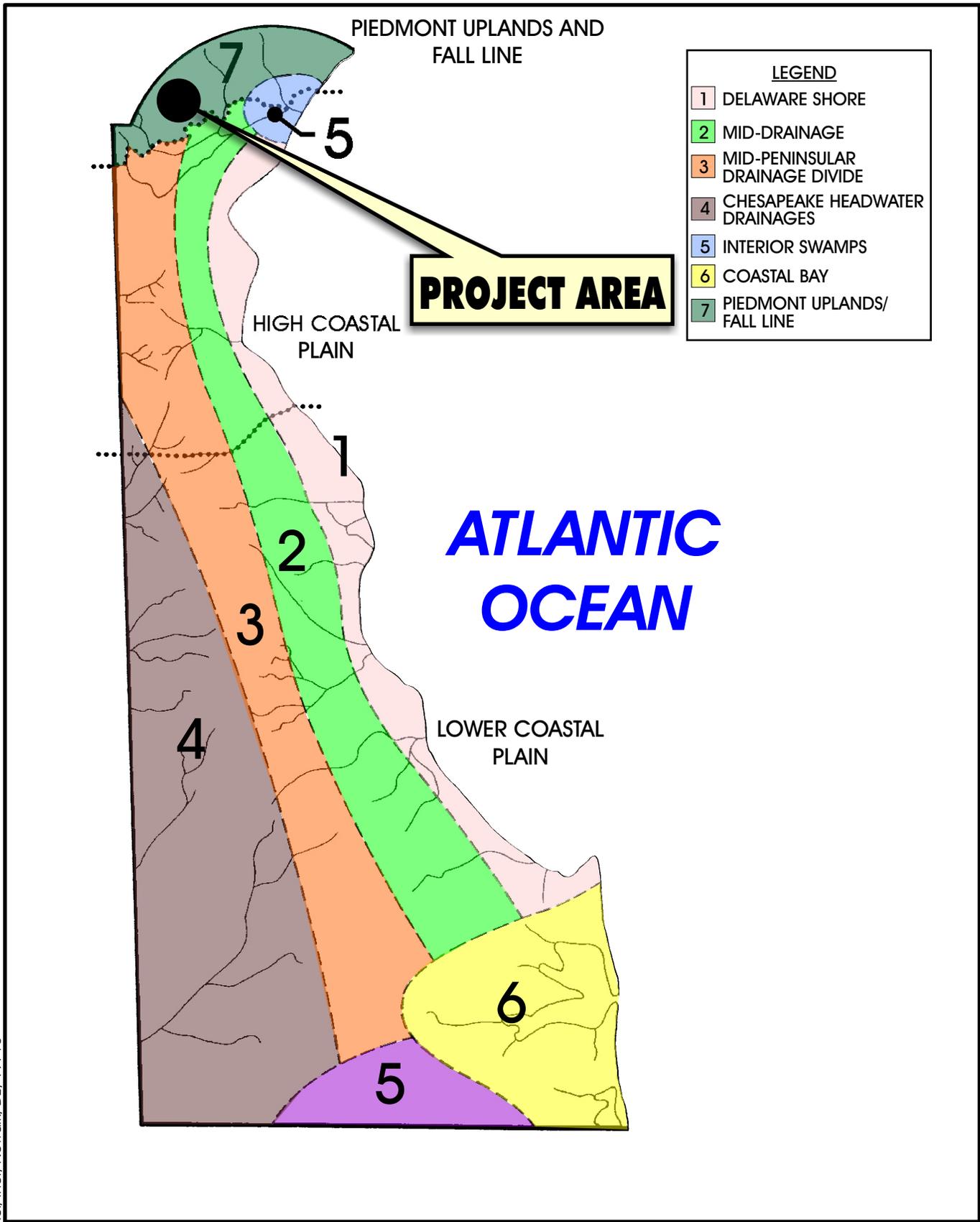
The Camp Wright Project APE is located in the Piedmont Upland/Fall Line physiographic zone of Delaware, which encompasses the upper one third of New Castle County (**Figure 3**).

Delaware's Piedmont Uplands/Fall Line is a part of a larger physiographic zone that embodies the foothills of the Appalachian Mountains. In its entirety, the Piedmont consists of a 1000-mile long stretch of land that extends from New York to Alabama. At its widest, the Piedmont measures roughly 125 miles across. The Piedmont physiographic zone of the eastern United States is divided into several sections. The only section of the Piedmont that crosses Delaware is the Piedmont Uplands/Fall Line. The Piedmont Uplands/Fall Line is also often referred to as the Eastern Piedmont (Widmer 1964).

Overall, the Piedmont is comprised of various igneous and metamorphic rocks. Generally, differences between various sections of the Piedmont are defined by geologic histories, geographic development, and topographic characteristics. For example, bedrock of the Piedmont Uplands is composed primarily of gneiss, schists, gabbros, as well as other highly metamorphosed sedimentary and igneous rocks of probable volcanic origin. In contrast, the bedrock in the Piedmont west of its Uplands tends to be more diverse and includes slates, marbles, and assorted moderately to slightly metamorphosed volcanic rocks.

Narrow and deep stream walls with assorted isolated knolls that rise above the upland level characterize the Piedmont Uplands/Fall Line. Unlike other portions of the state, few large tributaries are contained within the Piedmont Uplands. Instead, waterways of the Piedmont Uplands/Fall Line tend to consist of assorted low-order tributaries, and overall, large floodplains are uncommon. Aside from poorly-drained floodplains of tributaries and occasional patches in upland flats, soils of the Piedmont Uplands/Fall Line are well drained (Custer 1989, 1996a; Robichard and Buell 1973).

Along the slopes of the Piedmont Uplands/Fall Line, erosional processes have been accelerated by agricultural activities, and as a result, the various floodplains and low-lying terraces of the Piedmont Uplands/Fall Line are mantled with thick deposits of historic alluvium.



**LEGEND**

1	DELAWARE SHORE
2	MID-DRAINAGE
3	MID-PENINSULAR DRAINAGE DIVIDE
4	CHESAPEAKE HEADWATER DRAINAGES
5	INTERIOR SWAMPS
6	COASTAL BAY
7	PIEDMONT UPLANDS/ FALL LINE

**PROJECT AREA**

**ATLANTIC OCEAN**

McCormick Taylor, Inc., Newark, DE, 19713

Not to scale



**Physiographic Zones of the Project Area**

FIGURE 3

Within the Piedmont Uplands/Fall Line, the project APE is situated north of the Fall Line, which is the boundary between Delaware's Piedmont Uplands/Fall Line and Coastal Plain physiographic zones. This general vicinity, known as the Fall Line Zone, is of geologic interest as it marks the change between the rolling hills of the Piedmont and the flat terrain of the Coastal Plain<sup>1</sup>. Cobble beds, deposited by streams flowing across this boundary, are scattered throughout the Fall Zone. In Delaware and Maryland, this transitional area closely coincides with the course of I-95.

## **B. Soil Stratigraphy**

Soils within the project APE are of the Glenelg-Manor-Chester association (United States Department of Agriculture, Soil Conservation Service (USDA) and Delaware Agricultural Experiment Station (DAES) 1970) (**Figure 4**). This association comprises fifteen percent of the soils in New Castle County. The soils in this association are gently sloping to moderately sloping.

The soils identified are from the Glenelg series and the Hatboro series. The Glenelg series is the largest series in the Glenelg-Manor-Chester association encompassing forty-three percent of the association. The Hatboro series is one of the most important minor series of the association. Soils of the Glenelg series are generally great for farming activities because the soils are well drained, with gentle slopes and are fairly deep. Hatboro series soils developed in erosionally deposited soils. This soil series is usually found in floodplains, at headwaters or along streams (USDA/DAES 1970).

There are two soils identified within the project area: Glenelg and Manor loams, 15 to 25 percent slopes, moderately eroded (GmD2) and Hatboro silt loam (Ha). The Glenelg and Manor loams, variant within the APE is very deep and unsuitable for most farming activities. The Hatboro silt loam within the APE is typical for the series. This soil is usually located in floodplains and depressions (USDA/DAES 1970).

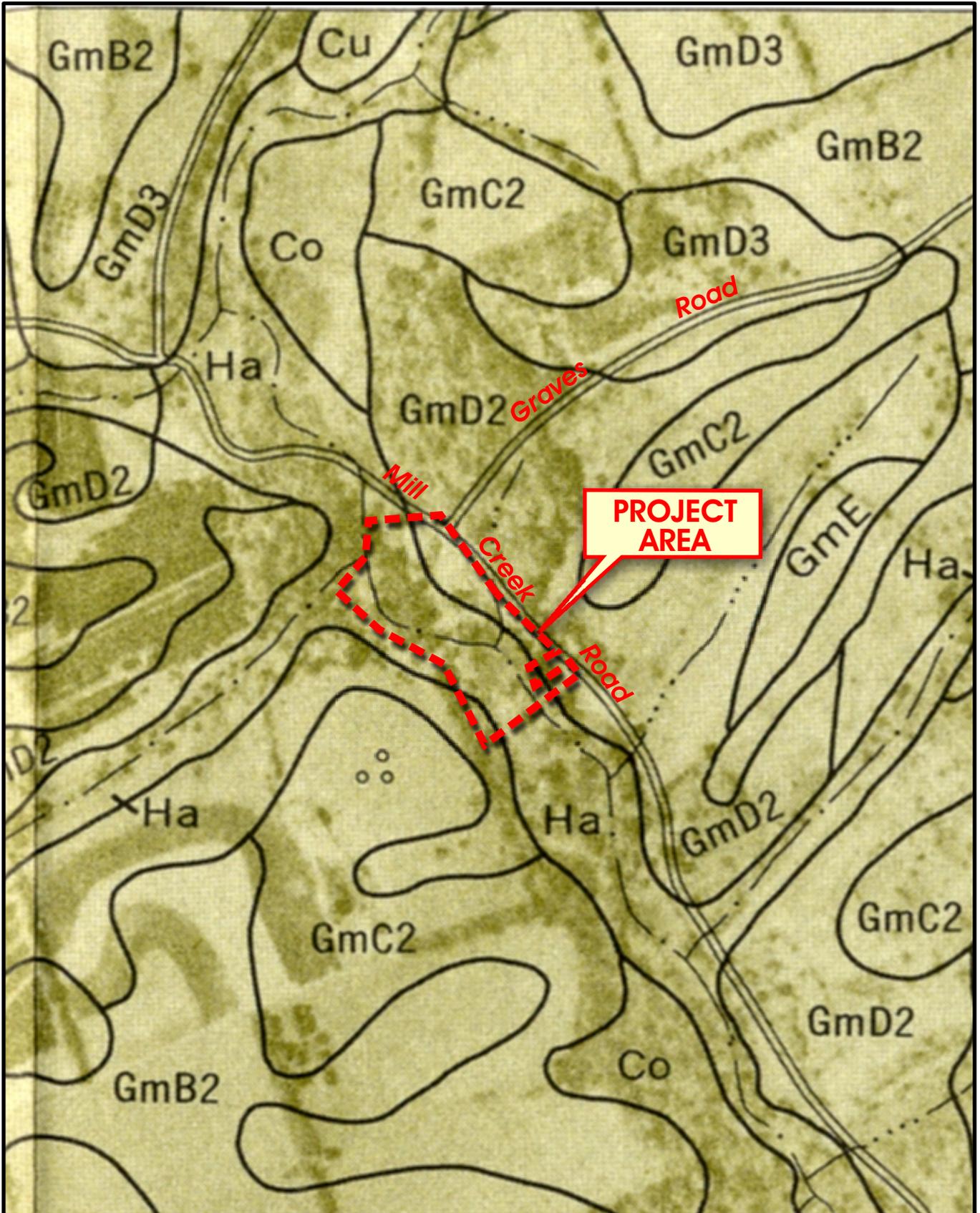
## **C. Project Setting**

Camp Wright is located west of Mill Creek Road (Road 282). The majority of the property is located on the floodplain of Mill Creek. Structures for Camp Wright are located on both the east and west banks of Mill Creek. There is a bridge over Mill Creek connecting the east and west banks. There are nine structures located on the property. In addition, there are numerous other facilities located on the property (i.e. rope course, basketball court,

---

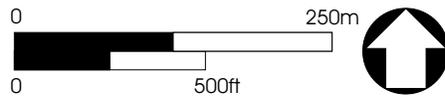
<sup>1</sup> Like Delaware's Piedmont Uplands, Delaware's Coastal Plain is part of a larger physiographic province, which is divided into various sections. The Coastal Plain spans much of the eastern seaboard of the United States and encompasses most of southern New Castle County, as well as all of Kent and Sussex Counties. In Delaware, the Coastal Plain is comprised of two sections, the High Coastal Plain and the Low Coastal Plain. The Smyrna River is the division between Delaware's High and Low Coastal Plains.

playground equipment, swimming pool, barbeque pit, and springhouse). A portion of the property is on a steep hillside. One of the structures is located high on the hillside. Representative views of Camp Wright and its associated structures are located in **Appendix III: Plates 1 through 35**.



McCormick Taylor, Inc., Newark, DE, 19713

Base Mapping Source:  
USDA and DAES, 1970



**Environmental  
Setting of the  
Project Area**

FIGURE 4