

## RESEARCH DESIGN

### GENERAL WORK PLAN

The goal of this Phase IA investigation is to assess whether or not the APE has the potential to contain previously undocumented archaeological resources. For purposes of this investigation, a more broadly defined study area — generally corresponding to the study area for the NEPA analysis — has been investigated to provide a general historic context. The more narrowly defined APE associated with the Orange B alignment is defined to include properties along the alignment where significant ground excavations or ground-disturbing activities may be expected; these would include abutments or foundations for the bridge and major intersection improvements areas where subsurface utility locations may be necessary. For much of the APE, improvements associated with the Orange B alignment will be confined to existing areas of pavement.

### ARCHIVAL RESEARCH

Research for this study focused on documentary/cartographic analysis of the APE and surrounding study area. Research began with a review of information that was readily available from previous and ongoing studies conducted by DelDOT and others, including mapping of current conditions, mapping of the alignment, a narrative description of the overall project, and all supporting studies associated with the study area, especially information on the historical development and previous industrial uses of the properties along the alignment. Among these studies the most important were a site investigation of the Christina River Bridge project that focused on potential sources of contaminated soils (Brightfields, Inc. 2009) and an architectural resource study on South Market Street (Zug-Gilbert et al. 2011). These studies contained a wealth of information concerning the industrial history of the study area.

Additional information on the study area was sought at the archives of the Delaware State Historic Preservation Office (DESHPO), supplemented by local sources at the city/county and regional levels. Much useful information was available at the Delaware Historical Society (DHS) and the New Castle County Recorder of Deeds Office. Historical map research conducted at DHS focused on street maps and atlases, fire insurance maps, and other maps of Wilmington and New Castle County dating to the nineteenth and twentieth centuries. These maps provided a broad understanding the developmental history of the properties and the evolution of ownership and built resources. Nineteenth- and twentieth-century city directories available at DHS provided additional information regarding ownership and historical land use patterns. City directories were also accessed at the DHS, providing a chronology of property owners and types in the APE.

Detailed information about the river shoreline (elevation and location) was sought, as the immediate shoreline areas were considered especially important for Native American and early historic settlement, as well as the subsequent industrial development of Wilmington. As part of cartographic research, digital copies of maps were collected and assembled for the study and put into a Geographic Information System (GIS) project file. Other geographic datasets that were

incorporated into the GIS include aerial imagery, contours, soil data, and information about existing utilities.

As the Christina River was maintained as a navigation channel by the U.S. Army Corps of Engineers (USACE), another valuable source of information was USACE maps of the river, accessed at the National Archives in College Park, Maryland (Record Group 77), along with Record Group 23 (U.S. Coast and Geodetic Survey maps).

#### FIELD INVESTIGATION

After gaining familiarity with the historical development of the study area, a pedestrian survey was undertaken to assess and document conditions along the entire APE. Areas of modern disturbance were noted, along with evidence of historical land use patterns. Narrative notes and digital photographs were used to document field conditions. Subsurface utilities were noted in the field on a base map of the study area, supplemented by available utility mapping that is publicly available in GIS format.