

Bancroft Pedestrian Bridge over the Brandywine River



Date: October 27, 2022

Introduction to Speakers



Barry Benton, PE
Project Director
GPI



Christie Bonniwell, PWS
Environmental Scientist
GPI



Melody Abbott
Archaeologist / Cultural
Preservation Specialist,
DNREC

Introduction to Speakers

- Project Role: Project Director
- Education: BS/Civil Engineering/University of Delaware
- Professional Registrations: PE (DE, MD, NY)
- Experience: 30 years in the industry
 - Retired from DelDOT after 25 years
 - Served as the State Bridge Engineer for 5 years
 - Served on AASHTO Committee of Bridges and Structures for 13 years, including 3 years on the Executive Committee
 - Panel Chair for 2 NCHRP projects (culvert joints and ancillary structures)
 - Bridges, pedestrian bridges (steel, concrete, timber), roadways, culverts, H&H



Introduction to Speakers

- Project Role: Environmental Scientist
- Education: BS/Natural Resources/Delaware State Univ.
- Professional Registrations: PWS
- Experience: 14 years in the industry
 - Public and private sector natural resource and transportation experience
 - Wetlands, rare, threatened & endangered species, natural resource permitting, wetland mitigation, stream restorations
 - NEPA expert

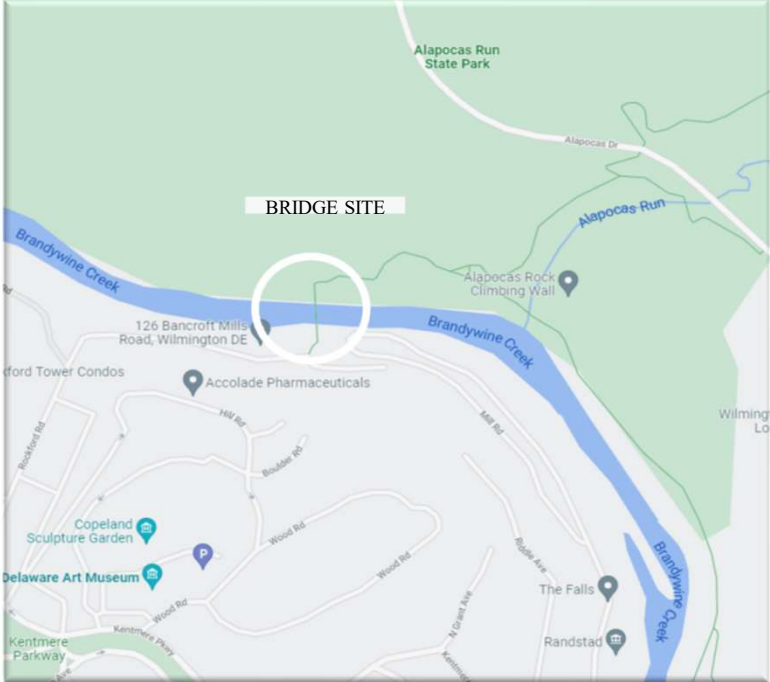
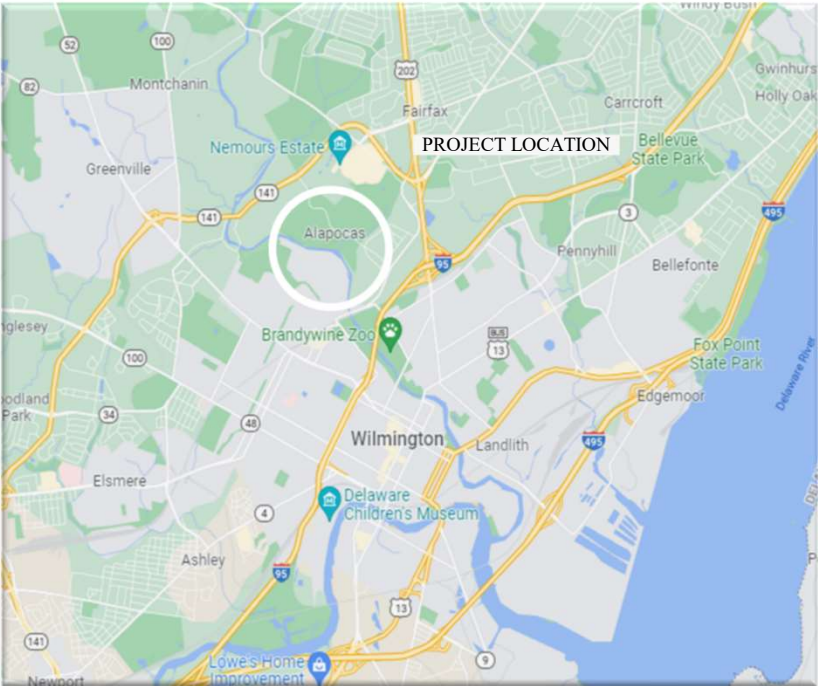


Introduction to Speakers

- Project Role: Archaeologist / Section 106 Coordinator
- Education: Master of Arts
- Professional Registrations:
 - Archaeological Institute of America, Archaeological Society of Delaware
- Experience: 4 years in the industry
 - Working professional in Archaeology
 - Public and Private Sector experience in Archaeology
 - Archaeological Investigations
 - Section 106 Coordination



Bancroft Pedestrian Bridge over the Brandywine River



Timeline of Events

8/26/21
- 9/4/21

Heavy rains and flooding from Hurricane Ida

9/7/21

Preliminary damage inspection performed by DNREC.
Bridge closed.

9/13/21

Storm damage assessment by Century Engineering.
Recommended bridge remain closed.

10/21

GPI commissioned to evaluate alternatives to get the bridge reopened.

Timeline of Events

11/21

Section 106 coordination with Delaware SHPO began and ongoing

1/22

Bridge Alternatives Report submitted to DNREC with recommended alternative

2/22

Public Meeting to discuss GPI's findings, recommended alternative and path forward

Alternatives Analysis - Options

Option 1: Repair the existing bridge (\$2.8 to \$3.3 million)

Option 2: Replace with a historic truss owned by DNREC (\$4.0 to \$4.8 million)

Option 3: Replace with a new prefabricated truss bridge (\$1.8 to \$2.2 million)

Alapocas Park Pedestrian Bridge (Bancroft Bridge) over Brandywine Creek
Wilmington, Delaware

Bridge Alternatives Report



Submitted to:
Delaware Department of Natural Resources and Environmental Control (DNREC)



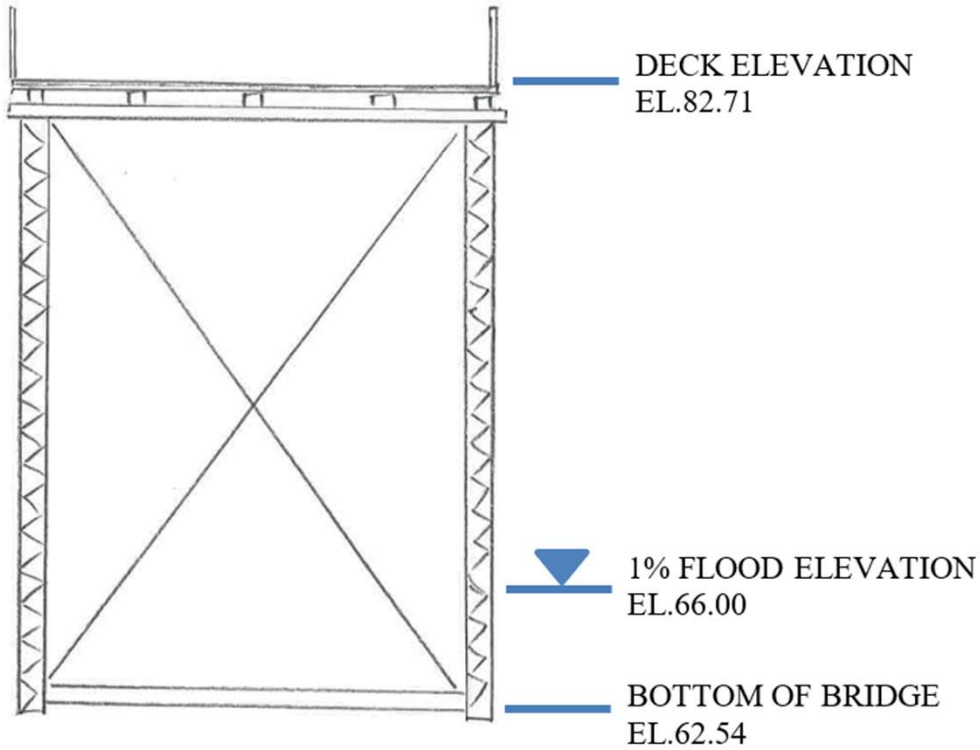
Submitted by:
Greenman-Pedersen Inc. (GPI)
550 South DuPont Boulevard,
Suite F
Milford, DE 19963

January 2022

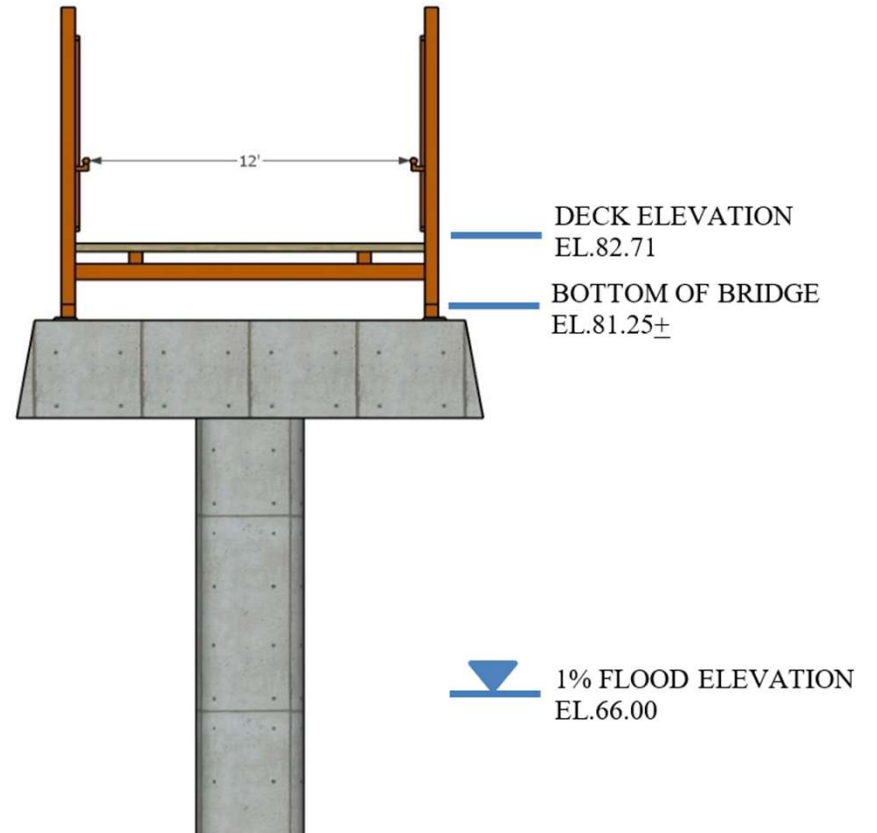
Option 3 Visualization



Option 3 Visualization



Existing Typical Section



Option 3 Typical Section

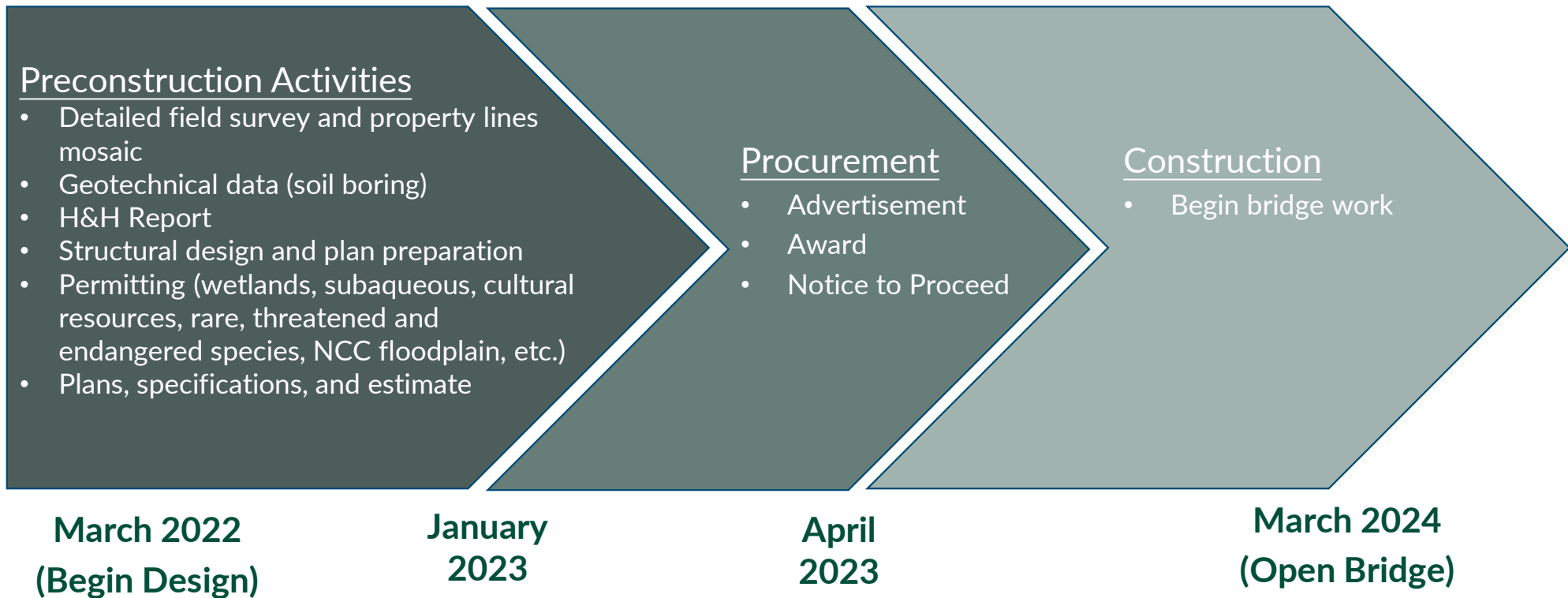
Option 3 Visualization



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Project Schedule from February 2022 Public Meeting



Timeline of Events

1/14/22

Bridge Alternatives Report submitted to DNREC with recommended alternative

2/10/22

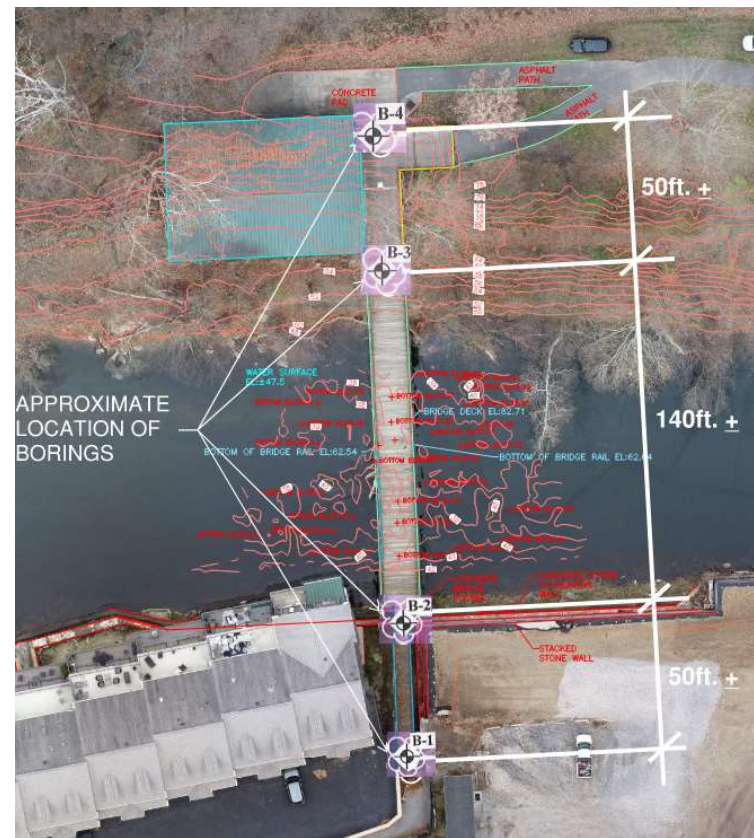
Public Meeting to discuss GPI's findings, recommended alternative and path forward

06/22

GPI received Notice to Proceed to begin work on Survey, Soil borings and Environmental disciplines

07/22

Soil borings taken at South end near Condos, and North end in the Alapocas Park; Soil testing to determine design parameters



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Timeline of Events

07/22

Environmental assessment begins, wetland and waterway delineations, tree survey in the Alapocas Park

08/22
and
09/22

Survey work begins in Alapocas Park, and at South end near the condos

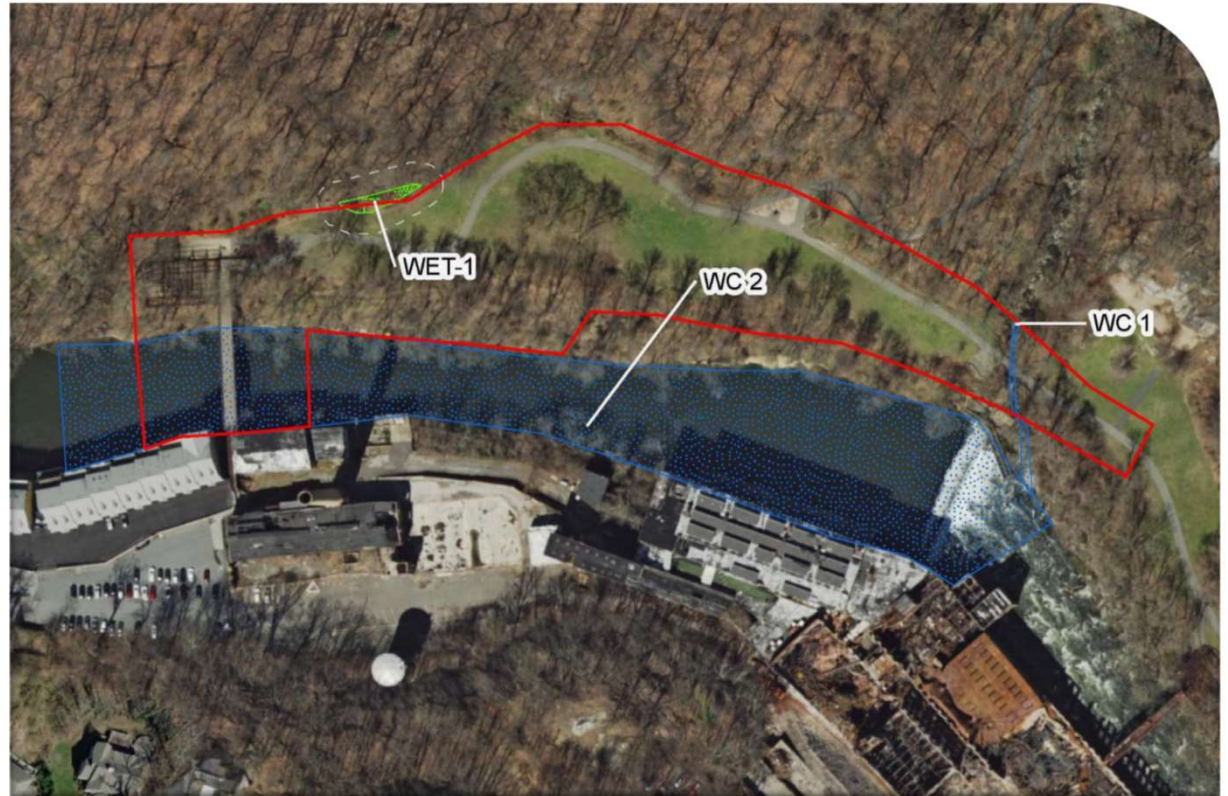
Environmental Assessment

- Wetland/waterway delineation and tree survey performed August 2022
- Evaluating best construction access alternatives



Environmental Assessment

- 1 Wetland identified
- 2 Streams identified
 - WC 1 (Alapocas Run)
 - WC 2 (Brandywine Creek)



Tree Survey

- Located trees 6" DBH and greater
- 236 trees identified within project study area



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Timeline of Events

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08/22
and
09/22

Survey work begins in Alapocas Park, and at South end near the condos

08/22
and
09/22

Assessment of Constructability, Access methods, Crane sizing, impacts to Environment

Crane Access Alternatives



Crane Access Alternatives

Causeway

- All stone construction (Class I and II)
- Typically uses CMP/RCP pipes, sized based on the 2-year flood elevation and streambed elevation
- Require sandbag dikes to divert stream flow during installation
- Potential dam removal downstream may lower water levels enough to lessen impacts to the waters.
- Any impacts should be considered temporary



Crane Access Alternatives



Trestle

- May involve slightly less grading and disturbance on stream bank
- Require sandbag dikes to divert stream flow during installation
- Potential removal of dam downstream may lower water levels enough to lessen impacts to the waters
- May impose permanent impacts
- Will require a temporary causeway in order to construct

Timeline of Events

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and
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Assessment of Constructability, Access methods, Crane sizing, impacts to Environment

09/22

Historic Architectural Evaluation begins

Section 106 evaluation

- Part of the National Historic Preservation Act (NHPA)
- Requires all federal undertakings to include the effect of the project on cultural resources



Section 106 evaluation

- Requires consultation with the State Historic Preservation Office (SHPO) and other consulting parties to come to an agreement on the proposed project
- Evaluate how to best avoid negative impacts to historic properties or mitigate any adverse effects
- General Findings
 - No Adverse Effect (no impact to Historic properties)
 - No Historic Properties Affected (historic properties present, but not negatively impacted)
 - Adverse Effect (negative impact to historic properties)

Section 106 evaluation

Option 1: Repair Bridge	Option 2: Replace with Historic Bridge	Option 3: Replace with New Bridge
Keeps historic bridge intact, conducts repairs on bridge to maintain its historic integrity	Replace historic bridge with different historic bridge	Replace historic bridge with new bridge
<p>Expected Finding: No Adverse Effect</p> <ul style="list-style-type: none"> - BUT must consider integrity of bridge after repairs—is it still considered historic if most of the bridge must be replaced with new materials - Functionality of Bridge 	<p>Expected Finding: Adverse Effect</p> <p>Mitigation measures</p> <ul style="list-style-type: none"> - Still using historic bridge - Recording existing Bancroft Bridge before demolition - Waysides 	<p>Expected Finding: Adverse Effect</p> <p>Mitigation measures</p> <ul style="list-style-type: none"> - Recording existing Bancroft Bridge before demolition - Waysides - Can include aspects of Bancroft Bridge in new design

Section 106 evaluation

Current Consulting Parties

Delaware State Historic
Preservation Office



FEMA



Other Informed Parties

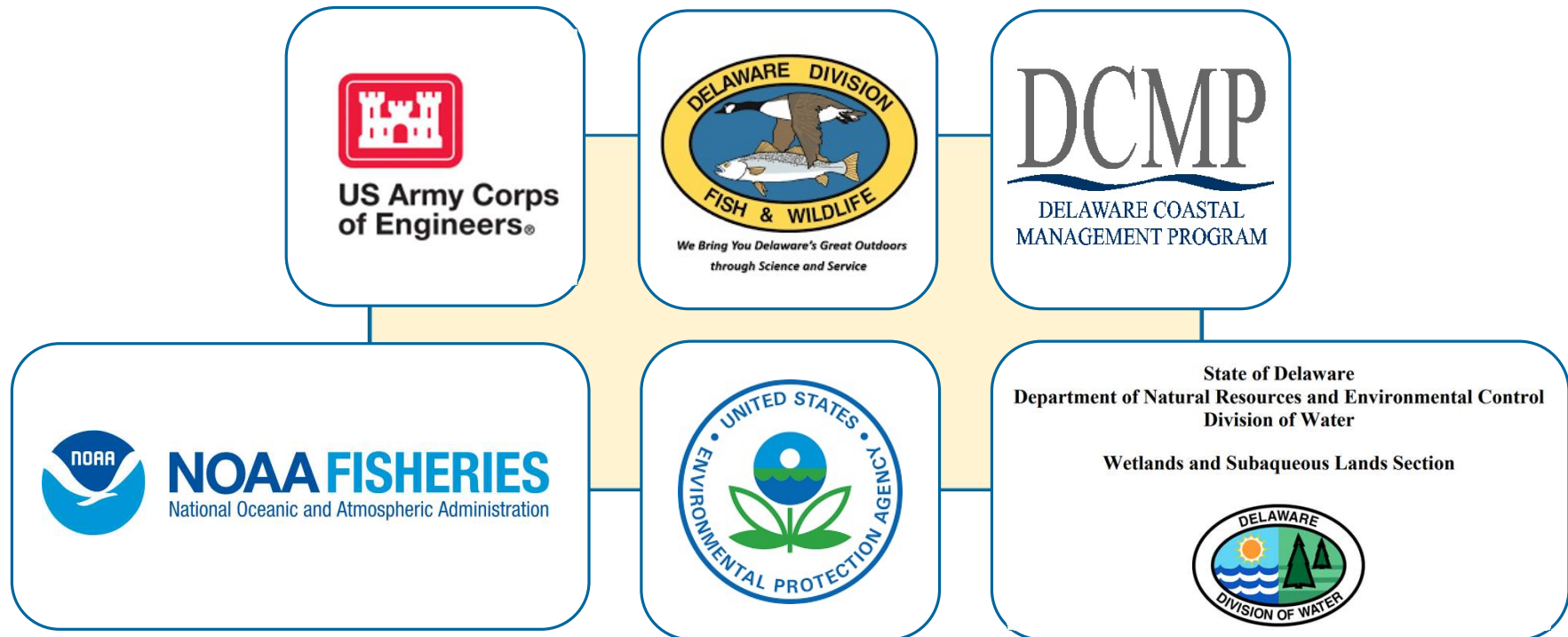
- Friends of Wilmington Parks
- 8th District Planning Council
- Councilman Nathan Field (8th District)
- Mill Road Property Owners
- Delaware Zoological Society
- Senator McBride
- Representative Griffith
- Delaware Greenways
- Highlands Community Association
- Brandywine Condos
- The Pointe

Timeline of Events

07/22	Environmental assessment begins, wetland and waterway delineations, tree survey in the Alapocas Park
08/22 and 09/22	Survey work begins in Alapocas Park, and at South end near the condos
08/22 and 09/22	Assessment of Constructability, Access methods, Crane sizing, impacts to Environment
09/22	Historic Architectural Evaluation begins
09/22	Environmental Permitting Work begins

Permitting

- Joint Permits Processing Meeting on September 15th, 2022



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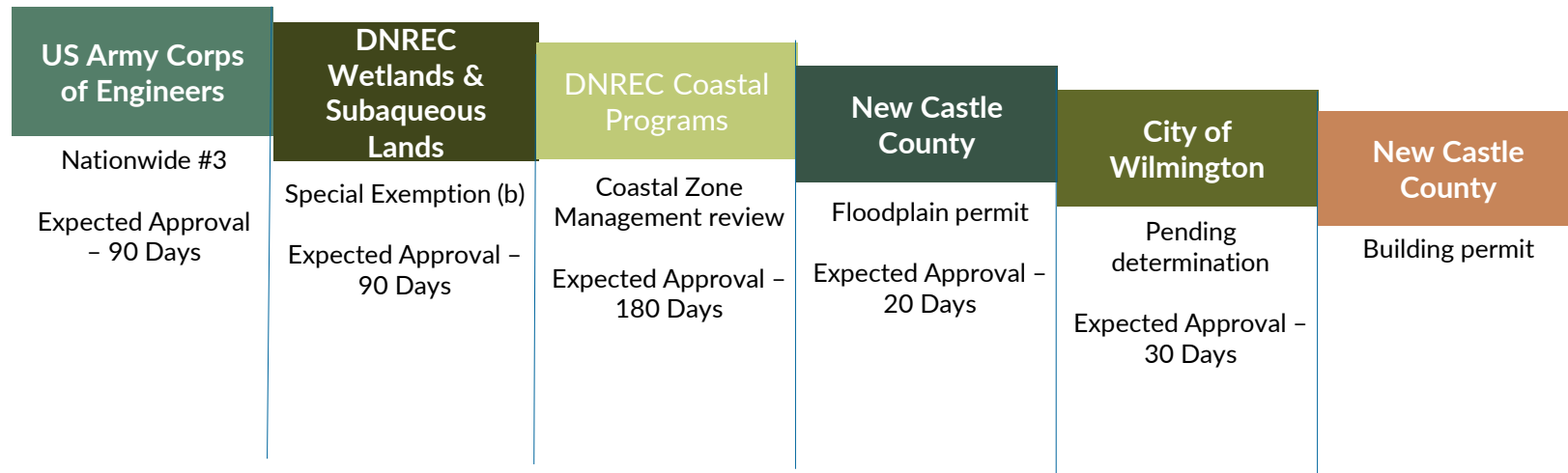
Permitting

- Additional Permitting Agencies



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Permitting – Concurrent activities

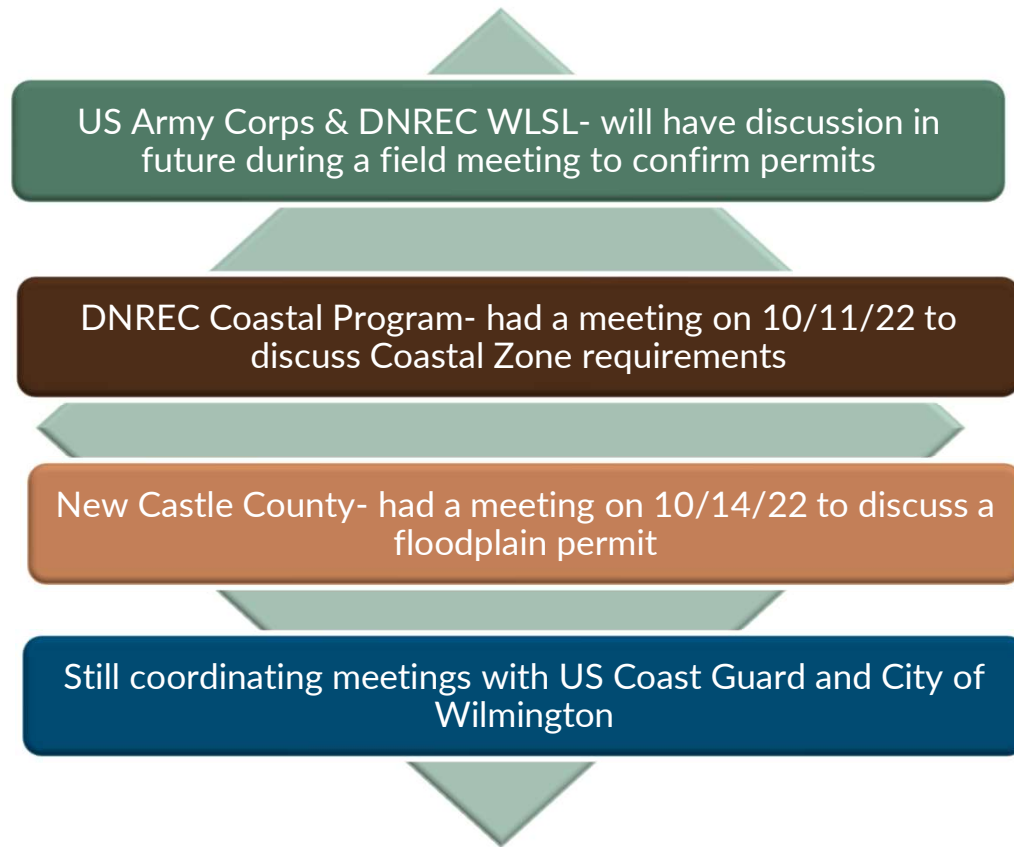


United States Coast Guard

Coast Guard permit

Expected Approval – 210 Days
after approval of all other permits

Permitting



Anticipated Time of Year Restrictions during construction



Northern Long Eared Bat



Migratory Birds



Anadromous fish species



Northern Copperhead

Anticipated Time of Year Restrictions during construction

RTE Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Anadromous Fish				█								
Migratory Birds				█								
Northern Long Eared Bat						█						
Northern Copperhead				█								
Nesting Birds				█								



Anticipated Construction Window



Anticipated Construction Window

Path Forward.....

- Finish Historic Architectural Evaluation and Section 106 evaluation
- Complete design of Option 1 / Option 3 per Section 106 outcome
- Procure all permits
- NEPA evaluation
- Advertise to Contractors
- Begin Construction

Thank you for your time and attention

QUESTIONS ?

Contact Information

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