



CHESAPEAKE AND DELAWARE CANAL MAY 16, 2009

Please join us in a visit to the Historic C&D Canal. Our plan is to car pool to Chesapeake City which is a 60 mile drive from Easton. Once there we will have a tour of the C&D Canal Museum which would start at about 1100. After the visit to the museum we would have lunch at the Baynard House. After lunch there will be a guided walking tour of Historic Chesapeake City and of course shopping after the tour for the ladies. Please contact Stephanie Sokso at sokso@verizon.net or 410-886-2784 or Joan Collins at jpsmitrv@goeaston.net or 410-820-7841. We will begin taking reservations in mid April.

Welcome

Welcome ... to one of only two commercially vital sea-level canals in the United States. The Chesapeake & Delaware Canal runs 14 miles long, 450 feet wide and 35 feet deep across Maryland and Delaware, connecting the Delaware River with the Chesapeake Bay and the Port of Baltimore. The C&D Canal is owned and operated by the U.S. Army Corps of Engineers, Philadelphia District. The project office in historic Chesapeake City, Md., is also the site of the C&D Canal Museum and Bethel Bridge Lighthouse



Looking East at Chesapeake City, Maryland



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The Early Years

C&D Canal: Charting the course that began with mapmaker's dream

As early as the 17th century, settlers to the New World realized the nation's growth through industry and commerce would depend upon economical transportation of goods across both land and water. In the mid-1600s Augustine Herman, a Dutch envoy and mapmaker, observed that two great bodies of water, the Delaware River and Chesapeake Bay, were separated only by a narrow strip of land. Herman proposed that a waterway be built to connect the two. The canal would reduce, by nearly 300 miles, the water routes between Philadelphia and Baltimore.

More than a century passed, however, before any action was taken. In the mid 1760s surveys of possible water routes across the Delaware/ Maryland Peninsula were made, but a canal would not become a reality for decades.

The issue of constructing the waterway was raised again in 1788 by regional business leaders, including noted Philadelphians Benjamin Franklin and Benjamin Rush. In 1802, following actions by the legislatures of Maryland, Delaware and Pennsylvania, the Chesapeake and Delaware Canal Company was incorporated. More surveys followed, and in 1804 construction of the canal began including 14 locks to connect the Christina River in Delaware with the Elk River at Welch Point, Md. But the project was halted two years later for lack of funds.



Artist's depiction of early canal barge traffic

A Vision is Realized

The canal company was reorganized in 1822, and new surveys determined that more than \$2 million in capital was needed to resume construction. Eventually the Commonwealth of Pennsylvania purchased \$100,000 in stock, the State of Maryland \$50,000 and Delaware \$25,000. The federal government's investment was \$450,000 with the remainder subscribed by the public.



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The U.S. Army Corps of Engineers played a vital yet unofficial role for the canal company in 1823 and 1824, providing two senior commissioned officers to assist in determining a canal route. The engineer officers and two civilian engineers recommended a new route with four locks, extending from Newbold's Landing Harbor (now Delaware City, Del.), westward to the Back Creek branch of the Elk River in Maryland.



Spectators line the canal in Delaware City at the original eastern entrance lock, which is still in place.

Canal construction resumed in April 1824, and in several years some 2,600 men were digging and hauling dirt from the ditch. Laborers toiled with pick and shovel at the immense construction task, working for an average daily wage of 75 cents. The swampy marshlands along the canal's planned route proved a great impediment to progress as workers continuously battled slides along the soft slopes of the "ditch" being cut. It was 1829 before the C&D Canal Company could, at last, announce the waterway "open for business." The near \$2.5 million construction cost made it one of the most expensive canal projects of its time.

Herman's vision finally was realized!

C&D Operations, 1829 to 1919

The Chesapeake Bay and Delaware River were now connected by a navigation channel measuring nearly 14 miles long, 10 feet deep, 66 feet wide at the waterline and 36 feet wide along the channel bottom. A covered wooden bridge at Summit, Del., spanned the canal across the "Deep Cut," measuring 250 feet between abutments. The bridge floor was 90 feet above the channel bottom. Three wooden swing bridges also crossed the canal.

Locks to pass vessels through the waterway's various levels were constructed at Delaware City and St. Georges, Del., and two at Chesapeake City, Md. Each measured 100 feet long and 22 feet wide and was eventually enlarged to 220 feet in length and 24 feet in width.



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Teams of mules and horses towed freight and passenger barges, schooners and sloops through the canal. Cargoes included practically every useful item of daily life: lumber, grain, farm products, fish, cotton, coal, iron, and whiskey. Packet lines were eventually established to move freight through the waterway. One such enterprise - the Ericsson Line - operated between Baltimore and Philadelphia, and continued to carry passengers and freight through the canal into the 1940s. The cargo tonnage peaked in 1872 with more than 1.3 million tons transiting the canal.



**Original 247-foot span at Summit, Del., is dismantled, with new, lower replacement alongside.
Note towpath at water's edge.**

Loss of water in the locks was a problem from early on. As boats passed through at Chesapeake City, the equivalent of a full lock of water was lost to the lower-lying portion of the canal. This loss due to locking vessels through the canal, compounded by leakage through the canal banks and normal evaporation, made it necessary to devise a means of lifting water into the project's upper part.

A steam operated pump was purchased in 1837 to raise water from Back Creek and in 1852 a steam engine and large waterwheel were installed at the pumphouse in Chesapeake City. Measuring 39 feet in diameter and 10 feet wide, the iron and wood waterwheel had 12 troughs which filled with water as it turned; the water then spilled over the hub into the raceway and into the uppermost canal level. By 1854 a second steam engine was in use. The two 150-horsepower engines consumed eight tons of coal daily while lifting 170 tons of water per minute into the canal. (The waterwheel and steam engines remained in continuous use through the mid-1920s.)

Throughout the 19th century the canal's use continued to change with the New Castle and Frenchtown Railroad being its only major competitor. Steam power brought larger and deeper-draft vessels that could not pass through the restricting locks. By the turn of this century the decline in canal traffic and great cost of operation and repairs brought a downward trend in canal profits. Clearly a larger, wider and deeper waterway was needed.



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At the time, however, little thought was given to improving the existing canal. New companies were formed instead, with at least six options to consider for a new canal route. Various committees and commissions appointed to study the issue failed to agree on a plan. President Theodore Roosevelt then appointed a commission in 1906 to report on the feasibility of converting the canal to a "free and open waterway."

Uncle Sam Buys a Canal

In 1919 the canal was purchased by the Federal government for \$2.5 million and designated the "Intra-coastal Waterway Delaware River to Chesapeake Bay, Delaware and Maryland." Included were six bridges plus a railroad span owned by the Pennsylvania Railroad. They were replaced during the 1920s by four vertical lift spans and a new railroad bridge. Responsibility for operating, maintaining and improving the waterway was assigned to the Corps of Engineer's Wilmington (Del.) District. By 1927 the eastern entrance at Delaware City had been relocated several miles south at Reedy Point, Del. All locks (except the one at Delaware City) were removed and the waterway was converted to a sea-level operation at 12 feet deep and 90 feet wide. These improvements cost \$10 million. Two stone jetties at the new eastern entrance were completed in 1926.

The "new" canal opened in May 1927 with great celebration, yet plans already were underway for further expansion as the sizes of ships and amounts of cargo continued to increase. The Philadelphia District took over operation of the canal in 1933. Between 1935 and 1938 the channel was again improved deepened to 27 feet and widened to 250 feet - at a cost of nearly \$13 million. The project was also expanded to include a federal navigation channel 27 feet deep and 400 feet wide for some 26 miles in the Upper Chesapeake Bay, from the Elk River to Poole's Island.

Through the years, as the sizes and tonnages of ships using the canal continued to grow, accidents and one-way traffic restrictions strained the canal's capacity. Between 1938 and 1950 alone, eight ships collided with bridges. In 1954 Congress authorized further expansion of the channel to 450 feet wide and 35 feet deep. These improvements began in the 1960s and were completed in the mid-1970s.





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New bridges to accommodate highway traffic crossing the canal also became necessary as deepening and widening progressed. Two mechanical lift bridges at St. Georges and Chesapeake City, toppled by ship collisions, were replaced in the 1940s with high-level highway spans. Two other high-level vehicular traffic bridges, Summit Bridge in 1960 and Reedy Point Bridge in 1968, were constructed as part of the 1954 improvement authorization.

In 1966 a new railroad lift bridge was also completed by the Corps and turned over to the Pennsylvania Railroad to carry freight across the canal. The railroad and Summit spans were recognized by the American Institute of Steel Construction as the most beautiful bridges of their types in the years they were completed.

Thus the Chesapeake and Delaware Canal approached 175 years of service as a vastly improved waterway, far different from its 19th century predecessor.

The Canal Today

Today's canal is a modern sea-level, electronically controlled commercial waterway, carrying 40 percent of all ship traffic in and out of the Port of Baltimore.

Since 1933 the Corps' Philadelphia District has managed canal and highway bridge operations from a two-story white frame building on the canal's southern bank at Chesapeake City, Md. Cargo ships of all sizes, tankers, container-carrying vessels, barges accompanied by tugboats, and countless recreational boats create a steady flow of traffic. Through state-of-the-art fiber optic and microwave links, dispatchers use closed-circuit television and radio systems to monitor and safely move commercial traffic through the waterway.

Navigating oceangoing vessels requires extensive maritime skills, with strong currents or bad weather conditions adding to the risks. A U.S. Coast Guard certified pilot is required for vessels engaged in foreign trade transiting the canal, the Delaware River and Bay, and Chesapeake Bay. Many shipping firms use pilots from the Delaware River and Bay or Maryland pilots' associations.

Typically a Delaware River and Bay pilot boards a ship as it passes Lewes, Del., entering the Delaware Bay, and guides the vessel up the bay and into the canal to Chesapeake City. A Maryland pilot then takes over and continues the ship's transit into the Chesapeake Bay to Baltimore or Annapolis, Md. The procedure is reversed for eastbound ships. At Chesapeake City a "changing of the pilots" takes place, while the pilot launch



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maneuvers alongside a vessel as it continues its journey without stopping. The pilots use the ship's gangway, Jacob's Ladder or port entrance to climb aboard or leave the vessel.

C&D Attractions

The Chesapeake and Delaware Canal is listed on the National Register of Historic Places and is designated as a National Historic Civil Engineering and Mechanical Engineering landmark. The canal is unique as the sole major commercial navigation waterway in the United States built during the early 1800s still in use.

The C&D Canal Museum

The Corps also maintains a Canal Museum at Chesapeake City which provides visitors with a glimpse of the canal's early days. The waterwheel and pumping engines remain in the original pumphouse (now the museum). These steam engines are the oldest of their type in America still on their original foundations. Other artifacts and exhibits in the museum detail and illustrate the canal's history. In March 1996 a \$400,000 exterior and interior renovation project was completed at the museum, including access ramps and a restroom for physically challenged visitors. New exhibits include interactive videos and a television monitor which gives visitors up-to-the minute locations on ships as they travel through the canal.

The admission-free museum is open year-round, Monday through Friday from 8 a.m. until 4 p.m. The museum is closed Government Holidays, Saturdays, and Sundays.



Museum visitors can learn about canal history and operations by way of interactive video.



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Bethel Bridge Lighthouse

In October 1996 the district accepted into the museum inventory a full-sized replica of the 30foot Bethel Bridge Lighthouse - the reconstruction sponsored by the Chesapeake City, Md., Lions Club. The original was one of the many wooden light-houses used to warn vessels of locks and bridges in the days before the 1927 canal changes made it sea level. The lighthouse is located on Corps property, a short walk from the museum.



The Future

The canal is significantly important to the ports of the Delaware River, Baltimore, and others along the northern Atlantic trade routes. Millions of tons of cargo are transported through it annually by container and other bulk-carrying and general cargo vessels.



The C&D's eastern terminus at Reedy Point on the Delaware.

A Corps feasibility study to investigate improvements for the canal and the Baltimore connecting navigation channels of Tolchester, Brewerton Eastern Extension and Swan Point was completed in December 1996 with the signing of the Chief of Engineers' report. The study, co-sponsored by the Maryland Department of Transportation, investigated deepening of the channel to 40 feet from its current 35 foot depth, plus additional navigation improvements and environmental initiatives. (NOTE: On Jan. 22, 2001, the Philadelphia District announced that this study was being suspended based on recent downturns in Port of Baltimore container ship traffic.

Through the efforts of federal, state and local agencies, all aspects of canal improvements recommended at the conclusion of the study were analyzed for environmental, cultural, economic and engineering concerns. The Chief's report concluded the plan was sound



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from an engineering aspect, but certain economic and environmental concerns needed to be resolved before the design of a project could be initiated.

These issues are being addressed as the project continues through the three-year Preconstruction Engineering and Design phase, which is being cost-shared with the Maryland Port Administration. Technical research, supplemented by extensive public involvement, will provide a strong foundation for decision making in any further improvements to this valuable resource. Such efforts reflect the U.S. Army Corps of Engineers' commitment to enabling the Chesapeake and Delaware Canal to continue its leading role in serving the nation's North Atlantic ports.

How to Reach Us

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Brief History & Area Museums and Tours

As early as the 17th century local settlers, including the famous Dutch surveyor and map maker Augustine Herrman, recognized the possibility of connecting the Chesapeake Bay with the Delaware River. In the mid 1760s, possible canal routes were surveyed along a conceptual route stretching across the Delmarva Peninsula from the headwaters of the Chesapeake Bay to the Delaware River. Not until 1824, after an unsuccessful first start further to the north, did construction begin at the Chesapeake City location. At its completion in October of 1829, two structures were reported to have been standing in the town (then known as Bohemia Village): a pre-revolutionary building known as Chick's Tavern House and a lock house for collecting tolls. The town subsequently grew in response to the needs of the canal operations and commerce. In 1839, the town changed its name to Chesapeake City in anticipation of big things to come and incorporated in 1849 when the population reached 400.



In 1927 the canal was made sea level and a new vertical lift bridge spanned the waterway linking the end of George Street to the North side of Chesapeake City. On July 28, 1942 a tanker, the "Franz Klasen" struck the lift bridge, completely destroying it (pictured at left).

The current suspension arch bridge (pictured below) was completed in 1949.



Old Bayard House as "Harriott's Hotel" circa 1910

Pictured at left is a photograph (circa 1910) of Harriott's Hotel (known today as The Bayard House). Compare this view with the recent picture in color at right. Notice the buildings on the right side in the old photo do not exist in the new one. Both pictures were taken from the same vantage point. The old

buildings (and several streets and many homes) were sacrificed to the widening of the canal. The "new" span bridge can be seen in the second photo. The Bayard House is now waterfront property, and patrons enjoy a wonderful view of the canal from both upstairs and downstairs dining areas. The "Hole in the Wall" bar located on the lower floor has not been changed from its original canal the U.S. Army Corps of Engineers maintains a wonderful



location. For more details on the evolution of the historical account of the canal project as well as current developments on their web site [The Chesapeake & Delaware Canal](http://www.chesapeakeanddelawarecanal.com).



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Many of the homes and storefronts in Chesapeake City have been renovated. Pictured here is a view of George Street which includes the Beiswanger-Henn House (Circa 1849), The Beiswanger Shop (Circa 1896), and the Banks Steele House (Circa 1854). This was taken about 1985 after a fire partially destroyed the center shop and damaged the Beiswanger Henn House. All three buildings were beautifully restored (new picture). Homes are still

being restored today under the watchful eye of the town's Historic Committee to preserve the historic charm of these old buildings.



Chesapeake City's historic area is on the National Historic Registry, as well as Maryland's Historic Registry. The town has many restored historic homes and shops and galleries, featuring hand-painted originals and prints, antiques, collectibles, clothing, gifts and crafts. Additional sights include the Canal Museum, art galleries, summer concerts, boat tours, and tours of the nearby horse country. There are also many fine restaurants and bed and breakfasts and transient and seasonal boat dockage availability.

Most of the facts for the brief history above and much more are wonderfully related along with photos and illustrations in a little book called "Brief History & Walking Tour of Historic Chesapeake City, Maryland" written by Jack L. Shagena. The book is available



through stores in town.

Museums and Historical Tours in Chesapeake City and Vicinity

The following information was gleaned from various local publications, pamphlets and notices. Where possible we have provided telephone numbers in case the posted hours may have changed.

C&D Canal Museum, Chesapeake City

Depicts the history and operation of the 165-year-old canal which joins the Chesapeake and Delaware bays. Open Monday - Friday 8 a.m. to 4 p.m. Call 410-885-5621

Chesapeake City Historical District

Guided tours are available of this restored 19th-century town. Call 410-885-2415 for information.

Hersch Mini Museum, Chesapeake City

Features household items dating from the late 19th century and an extensive collection of irons. Tours by appointment. Call 410-885-5889.

Horse Country Tour

Take a guided tour of historic Chesapeake City, magnificent thoroughbred horse farms, the C&D Canal Museum, and historic area churches. For reservations and half day or full day tour itineraries call Uniglobe Hill Travel in Chesapeake City at 410-885-2797 or 1-800-466-1402.

St. Francis Xavier Shrine, Warwick

One of the earliest Catholic foundations in America. Seven masses are held annually, plus special events and tours by appointment. Call 410-275-2866.

Mt. Harmon Plantation, Earleville



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Restored tobacco plantation dating from 1651 offers guided tours of the house and self-guided tours of the nature trails. Open Tuesday and Thursday, 10 a.m. to 3 p.m., Sunday 1 to 4 p.m. Call 410-275-8819.

Historical Society Museum, Elkton

Exhibits range from a country store and colonial kitchen to a revolving gallery exhibit and research library. Open Monday noon to 4 p.m., Tuesday 6 to 8 p.m., Thursday 10 a.m. to 4 p.m., and the fourth Saturday of each month from 10 a.m. to 2 p.m. Call 410-398-1790.

Elk Landing, Elkton

Located at 590 Landing Lane Elkton, this local landmark was a busy portal for north-south travelers in the late 1700s, including Washington, Jefferson, and Lafayette. In process of restoration, the site is open to the public for special events and pre-arranged tours. Call 410-620-6400 or visit www.elklanding.org.

John F. DeWitt Military Museum, Elkton

Military artifacts from the American Revolution through Desert Storm. Follows schedule of Historical Society. Call 410-398-1790.

Historic Driving Tour Vol. I

Elkton to the Sassafras River; Drive back in time to capture the rich heritage of historic eastern Cecil County, with a 60 min. audio tape and map set. Order by phone, or call for sale locations: 1-800-CECIL-95 or 410-996-5303.

Gilpins Falls Bridge, North East

A 119-foot long covered bridge recently restored to its original splendor, supported by long wooden arch Burr trusses. Call 410-996-5300.

Upper Bay Museum, North East

Collection of Bay area hunting, fishing, boating, artifacts. Open weekends Memorial Day - Labor Day, Saturday 10 a.m. to 3 p.m., Sunday 10 a.m. to 4 p.m. Call 410-287-2675.

Tory House, Charlestown

This restored colonial kitchen tavern is open for tours the third Sunday of each month from 2 to 4 p.m. May through September. Call 410-287-8262.

Charlestown Historic District

Established 1742, this riverside town remains nearly untouched by modern developments. Visit historic houses and taverns. Call 410-287-8262.

Rodgers Tavern, Perryville

Restored 18th century tavern that was frequented by the nation's forefathers, including George Washington. Tours by appointment. Call 410-642-6066.