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ILLINOIS STATE WATER SURVEY

The Illinois State Water Survey is a division of the Prairie Research Group at the University of Illinois. This Group does not make or enforce policy, as opposed to the Illinois Department of Natural Resources – Office of Water Resources. Instead research is conducted here which is intended to be advisory for the betterment of the people of Illinois.

The Coordinated Hazard Assessment and Mapping Program (CHAMP), research staff assess local flood hazards, identify high risk areas, and engage community partners with the purpose of informing, educating, and empowering others.

CHAMP researchers prepare the flood studies for the State of Illinois. In the process of preparing flood studies, they identify additional research needs. These can include the following: trends in peak flows, effects of urbanization, storm water management, climate change impacts, and better detailing in the preparation of models.

The CHAMP team maintains an online map which shows the locations of publicly funded studies. Engineers can refer to this site to identify work in progress.

Another task of CHAMP staff is to review applications for Letters of Map Revision and Conditional Letters of Map Revision. Mapping changes are always necessary as more precise detail is provided, the land topography changes, or flood control structures come on-line.

Mr. Glenn Heistand is the Director of CHAMP. He is a professional engineer with 27 years of experience in floodplain and stormwater management. Mr. Heistand has held board leadership positions in the Illinois Association for Floodplain and Stormwater Management and is Chair of the Association of State Floodplain Managers.

Mr. Heistand will be presenting to us on CHAMP on August 17, 2022 at 12 noon via a TEAMS presentation.



President's Message

Our fearless leader is on vacation. I have it on good authority he is working on future President's Messages while enjoying his respite



Calendar and Upcoming Events

The Quad City Section leadership is working on a full slate of section meetings and tours to advance our members and the profession. The following Section calendar indicates activities currently in planning.

Date	Time	Topic	Speakers	Location
August 17, 2022	12 Noon to 1:00 PM	ISWS - CHAMP	Glenn Heistand, P.E., CFM	TEAMS Virtual Presentation
Sept. 21, 2022	12 Noon to 1:00 PM	Ethics – Our Duty to be Competent	NSPE On-Demand Webcast	TEAMS Virtual Presentation
October 21, 2022	12 Noon to 1:00 PM	Traffic Signal Mast Arm Attenuation	Valmont	TEAMS Virtual Presentation
Nov.	12 Noon to 1:00 PM	Iowa DNR PERMT	Iowa DNR	TEAMS Virtual Presentation

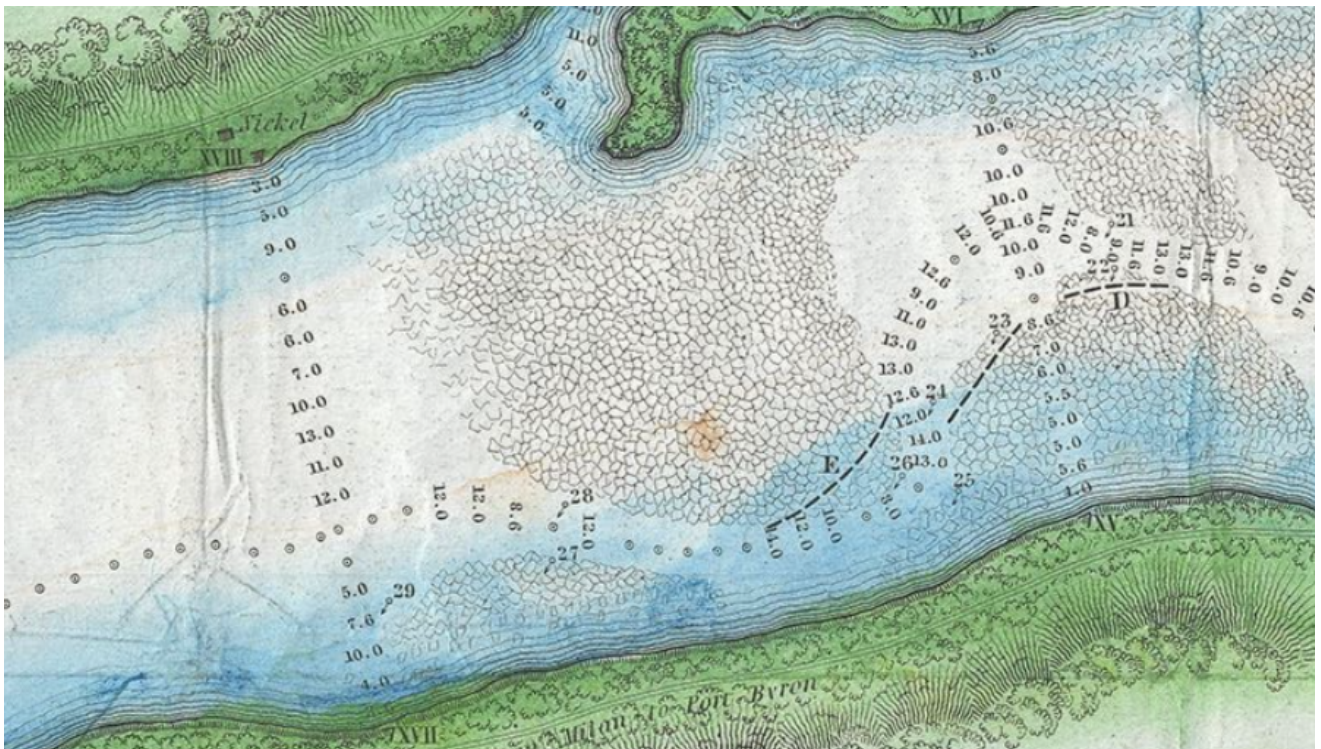
In order to reduce expenses, the Quad City Section sends its newsletters in electronic format only. If you are aware of a fellow Quad City Section Member that does not receive the newsletter, it means that ASCE National does not have their email address. To receive the newsletter, members must keep their email information current by contacting ASCE at 800.548.2723 or by visiting the Members Only section of the ASCE website at <http://www.asce.org/membersonly>. The Quad City Section does not sell email information to anyone. ASCE's Privacy Statement is available on the ASCE website.

ENGINEERING 101 FOR ANY QC CIVIL ENGINEER

Since my arrival in the Quad Cities, I have not met one native civil engineer who does not understand the purpose of Lock and Dam 14 and 15, the engineering that occurred prior to these, as well as navigation hazards, that was required to move river traffic through the area. But, being I am a transplant, I was not aware of this. So, humor me.

The history of urban settlements in the Quad Cities was driven by easy access to the Mississippi River. For the stretch of the Mississippi between LeClaire and Rock Island, the Mississippi flowed across a series of finger like rock projections protruding from both banks. These rock projections formed rapids that made it very difficult to navigate steamboats through this area. As river traffic increased so did concerns for navigating this area.

A minor industry grew in the area to meet the needs of the steamboat navigation and their transport needs. Boat crews needed rest areas to stop before encountering the rapids, places to hire expert pilots, such as Phillip Suiter, who was the first licensed pilot on the upper Mississippi River, to guide the boat through the rocky waters, or, when the water was low, places where goods could be removed and transported by wagon on land past the Rock Island Rapids.



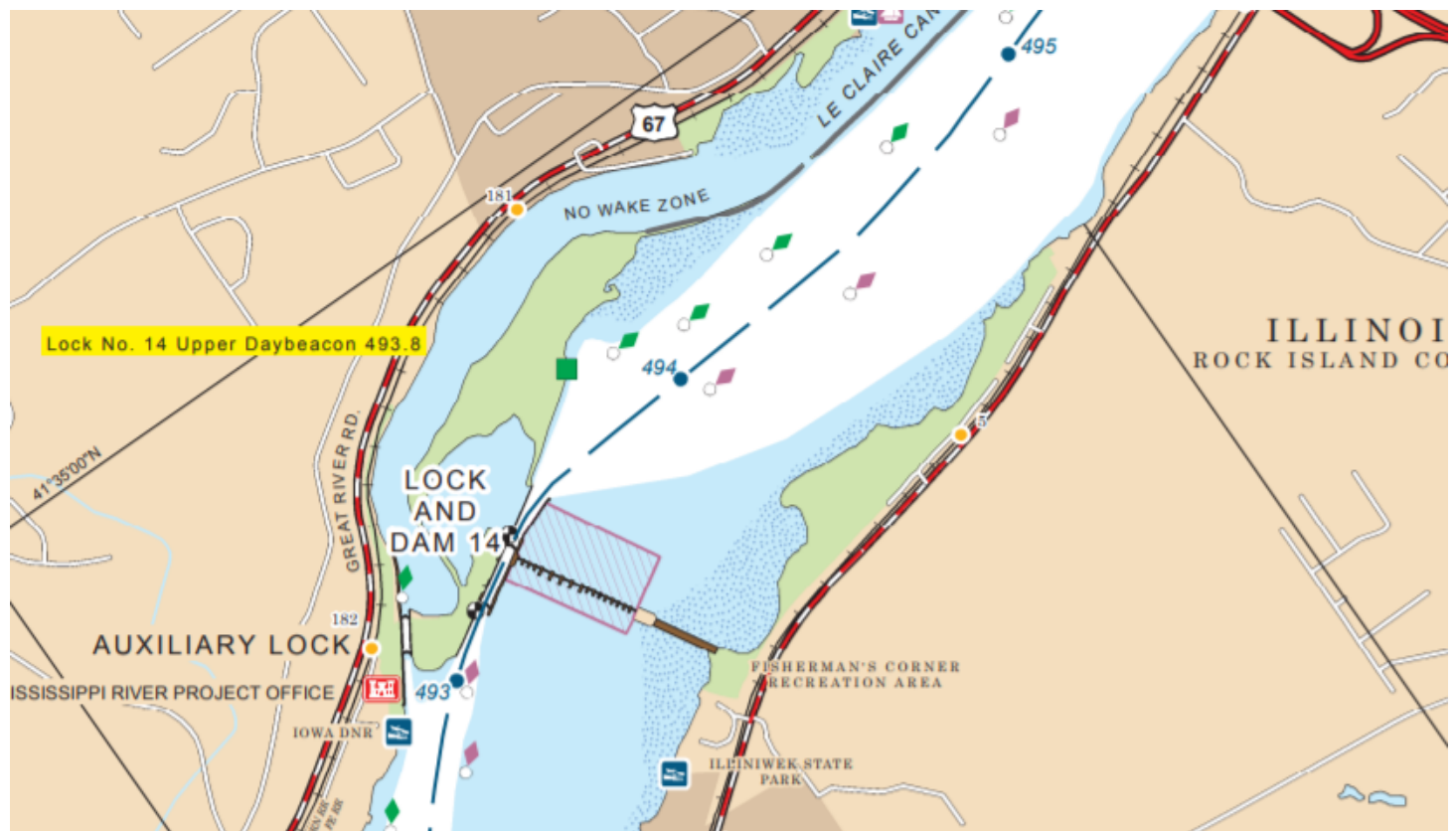
*A portion of the 1837 Rock Island Rapids navigation channel map prepared by then Army Corps Engineer,
First Lieutenant Robert E. Lee.*

*This portion of the map shows the navigation channel in the area of the current Lock and Dam 14.
The entire map covered from Fort Armstrong on Rock Island to the town of LeClaire.*

In 1907, in the first attempt to tame this section of the Mississippi, the Moline lock was built on the north east side of Arsenal Island. If you look across the river to the Illinois side, you can still see what remains of this lock today.

This lock was built on the downstream end of a long man-made wall. This wall divided the river and created a deeper channel for boats to pass around the rapids rather than having to pass through them. The lock was only 325 feet long and 80 feet wide, but it had a depth of 6 feet which was what the steamboats needed.

In the early 1930's, the Moline lock and steamboat canal were abandoned with the construction of the existing lock and dam system, built by the U.S. Army Corps of Engineers, to maintain a 9-foot depth year-round. This system backed up the water to the minimum 9-foot depth, making navigation possible outside of the Moline canal. Since the lock and canal were no longer needed, the lock gates were removed, and the canal area became an open passageway used mostly by recreational boats today.



Today's navigation chart of the area of Lock and Dam 14 shows a straightforward route for watercraft to travel. Gone is the sinuous path of travel earlier boats had to travel to get through the area.