

US ARMY CORPS OF ENGINEERS ROCK ISLAND DISTRICT

Illinois Waterway 2023 Closures Update

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Illinois Waterway Ports Annual Meeting

Peoria, IL
31 AUG 2023



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WHY DO WE CARE ABOUT INLAND WATERWAYS?



- Most cost-effective mode of bulk goods transportation
- Our international competitiveness depends on them!
 - » (62% of US grain exports are shipped down the Mississippi on barges)
 - » Post-Panamax is open for business!
- Reduce road congestion (and wear)
- Safest
- Most environmentally sound / least polluting
- Alternative to rail & road (no monopoly)
- Reliable navigation pools provide ancillary benefits (water supply, cooling water, recreation, improved environmental habitats)



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ILLINOIS WATER CLOSURES 2020 & 2023



- To maintain reliable navigation
- Avoid unscheduled long-duration closures in the future
- Major repair and maintenance efforts required
- Schedules discussed and coordinated with stakeholders
- Resulted in two phases of consolidated closures
- 5 Locks shutdown for repairs in 2020: 1 JUL to 29 OCT
- 3 Locks shutdown for repairs in 2023: 1 JUN to 29 SEP
- District Number 1 priority, a VERY large effort, and years in the making



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ILLINOIS WATER CLOSURES 2020 & 2023



- Challenges? – Plenty!!!
- Shear amount of work involved
- USACE resources required
- Contractor resources required
- Coordination of work within USACE and with contractors
- Economic inflationary effects
- Bid Risk - Money
- Schedule Risk - Time
- Performance Risk - Execute/Quality Product
- Height of Covid in 2020
- Flood of 2020



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ILLINOIS WATER CLOSURES 2020



- Lagrange Lock – Dewatering to rehabilitate the lock chamber and install new miter gate machinery
- Peoria Lock – Dewatering to inspect the lock chamber, install new bubbler system and miter gate hydraulic cylinders
- Starved Rock Lock – Dewatering to install 4 new miter gates and anchorages and modify the concrete gate upper sill



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ILLINOIS WATER CLOSURES 2020



- Marseilles Lock – Dewatering to install 2 new upper miter gates and anchorages and modify the concrete gate upper sill
- Dresden Lock – Lock restrictions/closure to install new upper bulkhead recesses needed to dewater for planned 2023 work
- Brandon Road Lock – Lock restrictions/closure in 2022 to install new upper bulkhead recesses needed to dewater for planned 2023 work



19 MAY 2020 – STARVED ROCK LOCK





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FLASHBACK – LAGRANGE LOCK



- Unsafe conditions for both Towing Industry and Lock personnel
- Steeply decreasing reliability of service
- Delays in restoring service after flooding conditions



Was the Nation's "Poster Child" for decaying infrastructure



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2020 LAGRANGE MAJOR REHABILITATION / MAJOR MAINTENANCE



Vertical concrete pre-cast panel installation



New gate machinery base







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ILLINOIS WATER CLOSURES 2020



Estimated 2020 Project Costs

- Lagrange Lock – \$134M (contract amount)
- All other project costs - \$81M (USACE efforts @ Marseilles, Peoria, Starved Rock, Dresden)



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- Brandon Road Lock – Dewatering to install 2 new upper miter gates and anchorages, modify the concrete upper gate sill, and install new miter gate machinery
- Dresden Lock – Dewatering to install 2 new miter gates and anchorages, modify the concrete upper gate sill, install new miter gate machinery, and replacement of the entire lock electrical system



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ILLINOIS WATER CLOSURES 2023

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- Marseilles Lock – Dewatering to install new electrical cross-over. Budget issues WRT miter gate machinery installation and new electrical cables and equipment.
- Starved Rock Lock – Budget issues WRT miter gate machinery installation. Repaired tow damage to upper left miter gate.



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- Starved Rock Lock
- Damaged Gate Repairs Performed by District Assets





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- Marseilles Lock
- Initial Dewatering



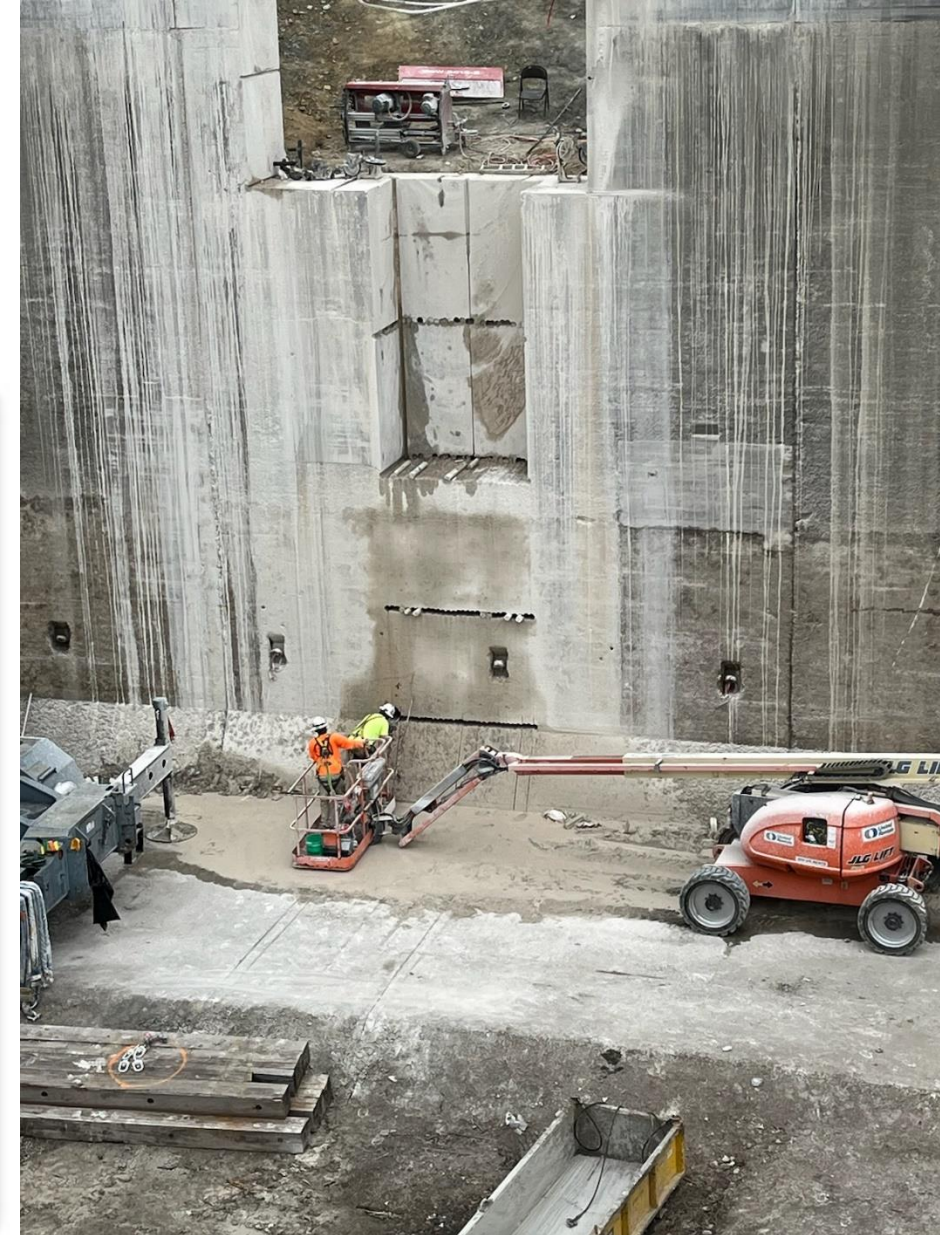


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ILLINOIS WATER CLOSURES 2023



- Marseilles Lock
- Crossover Concrete Demo





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- Marseilles Lock
- Crossover Concrete Blocks Removed





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- Marseilles Lock
- Crossover Excavation





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- Marseilles Lock
- Crossover Conduit Installation





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- Marseilles Lock
- Crossover: Forming Backside of Landwall





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- Marseilles Lock
- Crossover on Riverwall: Closer to Completion





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- Marseilles Lock
- SURPRISE! SURPRISE!
- Cracks Found on Lower Pintle Area of Gates During Inspection
- Found At All Lower Gates of Dresden and Brandon Road As Well





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- Brandon Road Lock
- Upper Right Gate and Anchorage Installation





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- Brandon Road Lock
- Upper Right Gate Installation





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- Brandon Road Lock
- Upper Right Gate Installation





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- Brandon Road Lock
- Upper Miter Gate Sill Modification





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- Brandon Road Lock
- Partial Miter Gate
Miter Gate Machinery
Installation: Bull Gear





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- Brandon Road Lock
- Looking Downstream After Rewater
- Upper Left Gate Awaiting Installation





ILLINOIS WATERWAY CLOSURES 2023



DRESDEN ISLAND LOCK





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ILLINOIS WATER CLOSURES 2023



Estimated 2023 Project Costs

- Starved Rock Lock – \$400K (USACE efforts for tow damage repairs.)
- Dresden Lock – \$48M (contract amount)
- Brandon Road – \$24M (contract amount)
- All other project costs - \$50M (USACE efforts @ Marseilles, Brandon Road, Dresden)



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THANK YOU

for the opportunity to speak with you today!

are there any
QUESTIONS?

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