US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

DISTRICT HANDBOOK

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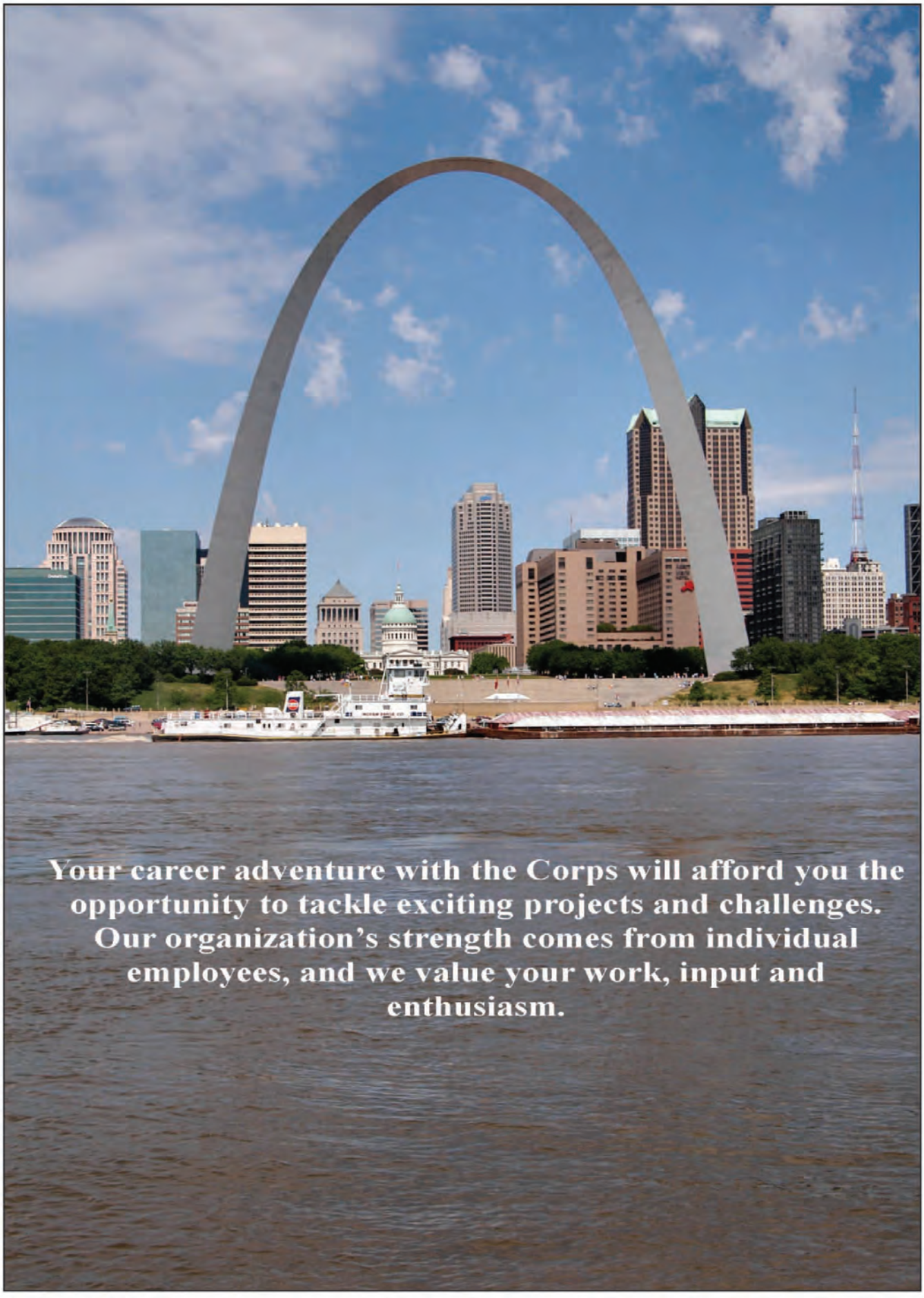
DP 690-1-2, August 2010


Your career adventure with the Corps will afford you the opportunity to tackle exciting projects and challenges. Our organization's strength comes from individual employees, and we value your work, input and enthusiasm.

STRATEGIC VISION & VALUES----------

Our vision conveys our view of what we want to be and how we want others to view the U.S. Army Corps of Engineers (USACE). Our values are the moral compass that guides us on a daily basis. They are the foundation of our individual and corporate identity. Our values are the Army values:

Loyalty
Duty
Respect
Selfless Service
Honor
Integrity
Personal Courage

We are the U.S. Army Corps of Engineers

ONE TEAM:

RELEVANT
READY
RESPONSIVE
RELIABLE

Proudly serving the Armed Forces and the Nation now and in the future.

BUILDING STRONG®

MISSION & VISION STATEMENTS----------

(Mark Twain Lake Project)

Mission Statement

Mission: The St. Louis District supports water resource development and provides engineering and technical services within the Mississippi River watershed, throughout the region and world to foster economic development, sustain the environment and provide for national security.

Vision Statement

Vision: The District is both employee and customer focused, and is much sought after as the provider of choice for water resource management, engineering and technical services with our region.

WHO'S WHO----------

Lieutenant General
Robert L. Van Antwerp
Commanding General, U.S. Army
Corps of Engineers

Major General
Michael J. Walsh
Commander, Mississippi Valley Division

Colonel
Thomas E. O'Hara, Jr.
Commander, St. Louis District

A REGIONAL PERSPECTIVE----------

USACE functions as a regional business entity comprised of Headquarters in Washington, D.C., Division offices, as well as all subordinate District offices and their field offices. The Mississippi Valley Division (MVD) operates as a single regional business entity comprised of six District offices and the Division office located in Vicksburg, Mississippi. Mission responsibilities are accomplished utilizing resources available within the region and the Corps to increase the efficiency and effectiveness of delivering products and services to our customers and stakeholders.

USACE Headquarters:	**http://usace.army.mil**
Mississippi Valley Division:	**http://www.mvd.usace.army.mil**
St. Louis District:	**http://www.mvs.usace.army.mil**

MISSISSIPPI VALLEY DIVISION Overview--------

The Mississippi Valley Division's (MVD) boundaries straddle the world's third largest river system as it meanders from north-central Minnesota to the Gulf of Mexico. The "Mighty Mississippi" serves as a continental funnel that collects vast flows from 41 percent of the nation's interior. As North America's most important waterway, the Division's civil works along the Mississippi represent critical investments in our nation's future. The Division's effectiveness in orchestrating the river's immense power greatly profits America's economy, environment and defense. Additionally, MVD has responsibility for the Red River of the North in the St. Paul District, which drains into Canada.

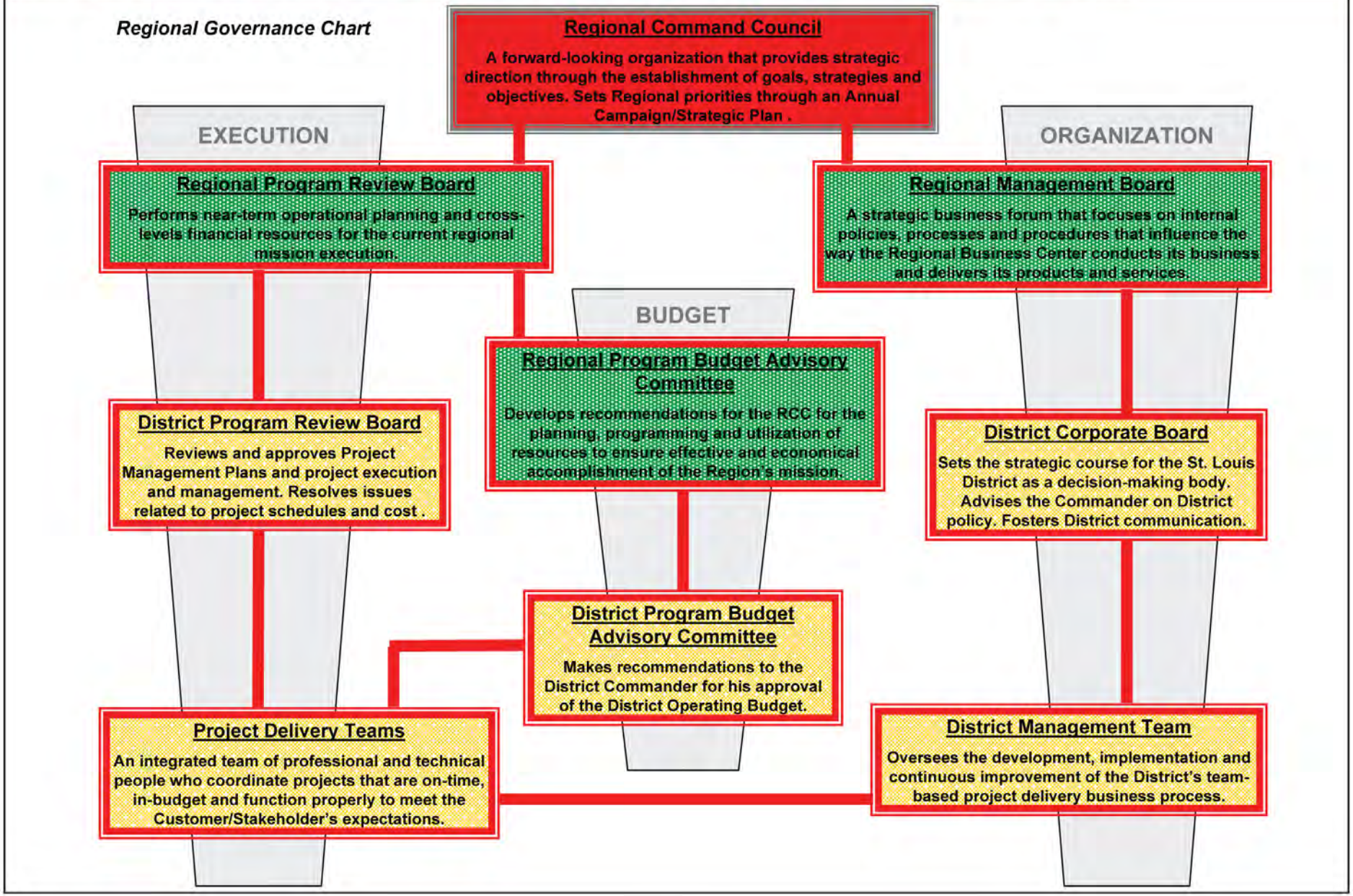
MVD manages approximately one quarter of the Army Engineers' civil works budget, an average of $1 billion annually. MVD's borders encompass 370,000 square miles, 28 million people and portions of 12 states bordering the 2,348-mile long Mississippi River.

The Division Commander is directly responsible to the Chief of Engineers. Within the authorities delegated, MVD Commander directs and supervises the District Commander, U.S. Army Engineer Districts, St. Paul, Rock Island, St. Louis, Memphis, Vicksburg, and New Orleans in performing the following missions:

Mississippi Valley Division

* Preparing engineering studies and design.
* Constructing, operating, and maintaining flood control and river and harbor facilities and installations.
* Administering the laws on civil works activities.
* Acquiring, managing, and disposing of real estate.
* Mobilization support of military, natural disaster, and national emergency operations.

MISSISSIPPI VALLEY DIVISION REGIONAL GOVERNANCE CHART----------



ST. LOUIS DISTRICT MAP----------

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ST. LOUIS DISTRICT OVERVIEW----------

FEATURES:

* 28,000 square miles of land, split almost evenly between eastern Missouri and southwestern Illinois.

* 416 miles of Navigable Waterways
  - Mississippi River - 300 miles
  - Illinois River - 80 miles
  - Kaskaskia River - 36 miles

* 5 Lock & Dam Sites

* 5 Multi-Purpose Reservoirs

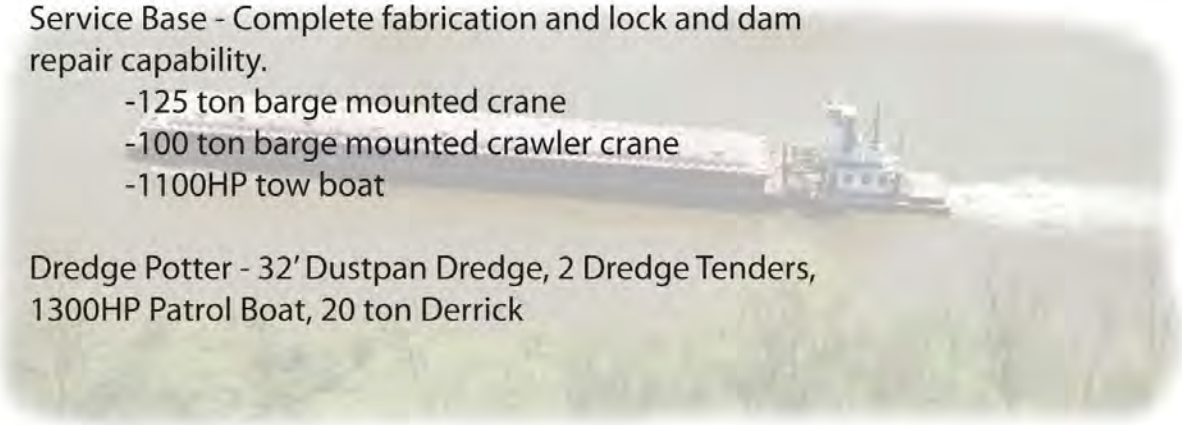
* 1 Hydropower Project

* Rivers Project - Includes the National Great Rivers Museum, Riverlands Migratory Bird Sanctuary, and Dresser Island Conservation Area

* Watershed for the following River Basins:
  - Big Muddy River (IL)
  - Cuivre River (MO)
  - Lower Cache River (IL)
  - Lower Illinois River (IL)
  - Lower Missouri River (MO)
  - Kaskaskia River (IL)
  - Meramec River (MO)
  - Mississippi River (IL-MO)
  - Salt River (MO)
  - Upper St. Francis River (MO)

* 89 Levees (47 Federal and 42 Non-Federal) comprising more than 700 miles of protective structures

* Service Base - Complete fabrication and lock and dam repair capability.
  - -125 ton barge mounted crane
  - -100 ton barge mounted crawler crane
  - -1100HP tow boat



* Dredge Potter - 32' Dustpan Dredge, 2 Dredge Tenders, 1300HP Patrol Boat, 20 ton Derrick

ST. LOUIS DISTRICT BUSINESS LINE MISSIONS---------

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Ecosystem Restoration:

The mission of the Ecosystem Restoration (ER) program is to implement ecosystem restoration projects that improve, protect, restore and / or create fish and wildlife habitats.

Emergency Operations:

The district maintains at full readiness a force with core competencies and other resources needed to respond rapidly and effectively to emergencies such as floods and other natural disasters, and ultimately to protect lives and property and facilitate a rapid recovery from damage.

Environmental Stewardship:

The mission of the Environmental Stewardship program is to manage and conserve natural resources consistent with ecosystem management principles, while providing quality public outdoor recreation experiences to serve the needs of present and future generations. The management of natural resources by utilizing a stewardship concept ensures the conservation, preservation, or protection of Corps land and water resources.

Flood Risk Management:

The Flood Risk Management (FRM) program coordinates a diverse group of flood risk management authorities, programs and projects in the St. Louis District in order to minimize flood risk to property and human life and to maintain the highest level of readiness and effectiveness of related programs and projects.

Formerly Utilized Sites Remedial Action Program (FUSRAP):

The mission of the district's FUSRAP team is to protect human health and the environment by addressing the risks at designated sites contaminated with radioactive waste from the Nation's early atomic weapons development and production activities, and then transferring long term management of the sites to the Department of Energy (DOE) as quickly and efficiently as possible.

Hydropower:

The Hydropower program provides reliable hydroelectric power services at the lowest possible cost, in a manner that is consistent with sound business principles, and in partnership with other Federal hydropower generators, the Power Marketing Administrations, and Preference Customers.

Navigation:

The Navigation Business Line applies engineering, scientific, and other resources to maintain a reliable, safe and efficiently managed waterway passage for navigation along the 300 mile Mississippi River navigation waterway above the Ohio River, and it does so in a manner that preserves and protects the integrity of the environment.

Recreation:

The St. Louis District recreation program provides quality outdoor public recreation experiences to ser needs of present and future generations and contribute to the quality of American life, while managing conserving natural resources consistent with ecosystem management principles.

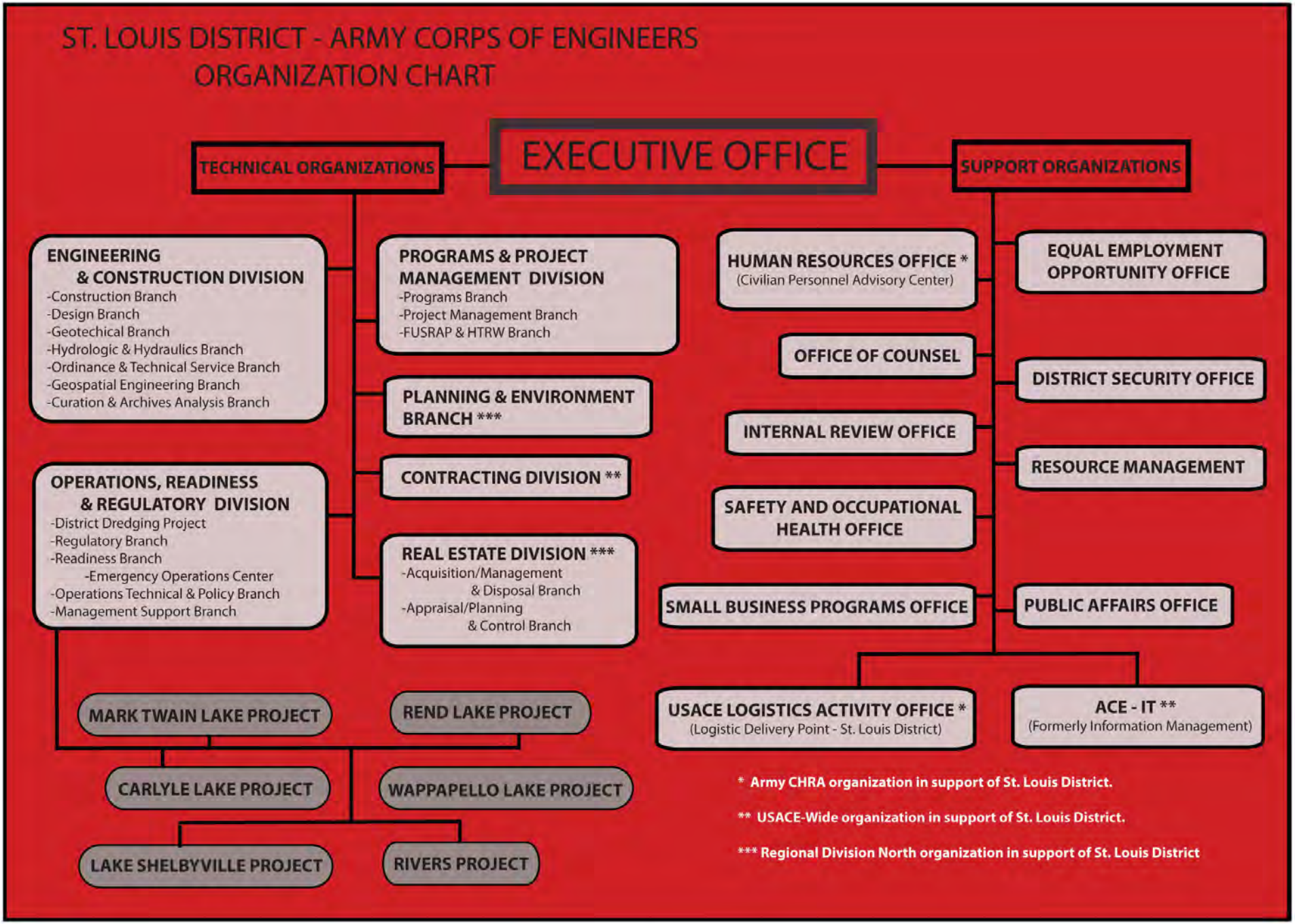
Regulatory:

The Regulatory business line issues construction and development related permits and enforces compli with regulatory laws through processes designed to protect and sustain the region's aquatic and other n resources while allowing reasonable development.

Water Supply:

The district's Water Supply program helps state and local interests supply cost effective, quality water to homes and business for both present and anticipated future needs.

ST. LOUIS DISTRICT - ARMY CORPS OF ENGINEERS
ORGANIZATION CHART



ST. LOUIS DISTRICT "A BRIEF HISTORY"----------

Two centuries ago, the Mississippi River strategically sat at the eastern edge of a primarily unexplored frontier. The river's main purpose was to serve as the highway and lifeline of competing empires. The "Mighty Mississippi" is an indispensable and balanced multi-faceted resource that supports a tremendous sphere of uses, ranging from navigation to recreation. With its network of locks and dams, channel improvement structures, abundance of wetlands, and diversity of wildlife habitat, the majestic river is a nationally significant ecosystem and commercial navigation system.

The St. Louis District was officially established in 1872. However, our roots date back to 1837, when Lieutenant Robert E. Lee, a recent graduate of the United States Military Academy at West Point, was assigned to St. Louis by Congress to study navigation-related harbor problems.

The mission of the St. Louis District expanded during the early twentieth century when Congress recognized the integral relationship between navigation and flood control on the nation's inland waterways. That realization ultimately led to the passage of the Flood Control Act of 1936. That act officially added flood control to the mission statement of the Corps of Engineers.

Today, the St. Louis District accomplishes an array of navigation, flood control, and environmental restoration projects.

USACE HISTORY - DID YOU KNOW----------

* The Corps' organizational structure was used to hide the development of the Atomic Bomb in WWII
* Army Engineers built one of America's most famous lighthouses: Cape Hatteras Lighthouse in North Carolina
* Thomas Jefferson established a permanent Corps of Engineers
* The Corps' first female HQ Director opened doors for women and minorities in 1978
* The Corps is steward to 12 million acres of land and water resources
* The Corps of Engineers built the Red Cross Headquarters Building as a memorial to Women of the Civil War
* 4,000 Corps of Engineers recreation areas exist in the U.S.
* From Lake Itasca to the Gulf of Mexico, the Mississippi River is 2,348 miles long
* The Corps of Engineers named vessels to honor members of the Lewis and Clark Expedition
* The U.S. Army Corps of Engineers has built eigth locks in the St. Louis District
* The Corps has helped solve urban water problems since 1824
* St. Louis District is home to a Mandatory Center of Expertise (MCX) for Curation and Management of Archaeological Collections
* The Corps of Engineers has built NASA facilities
* Under the pressure of war, the Corps built the Pentagon in 16 months

U.S. Army Corps of Engineers Flag...

The tradition of a scarlet engineer flag with castle dates back to 1866. This flag was to be scarlet with the castle in the center, "U.S." above and "Engineers" below the castle, all in silver, with a white fringe. This appears to have been the first use of the scarlet flag with castle for any engineer flag.

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St. Louis District

District Commander's Policy Statement on Safety and Occupational Health

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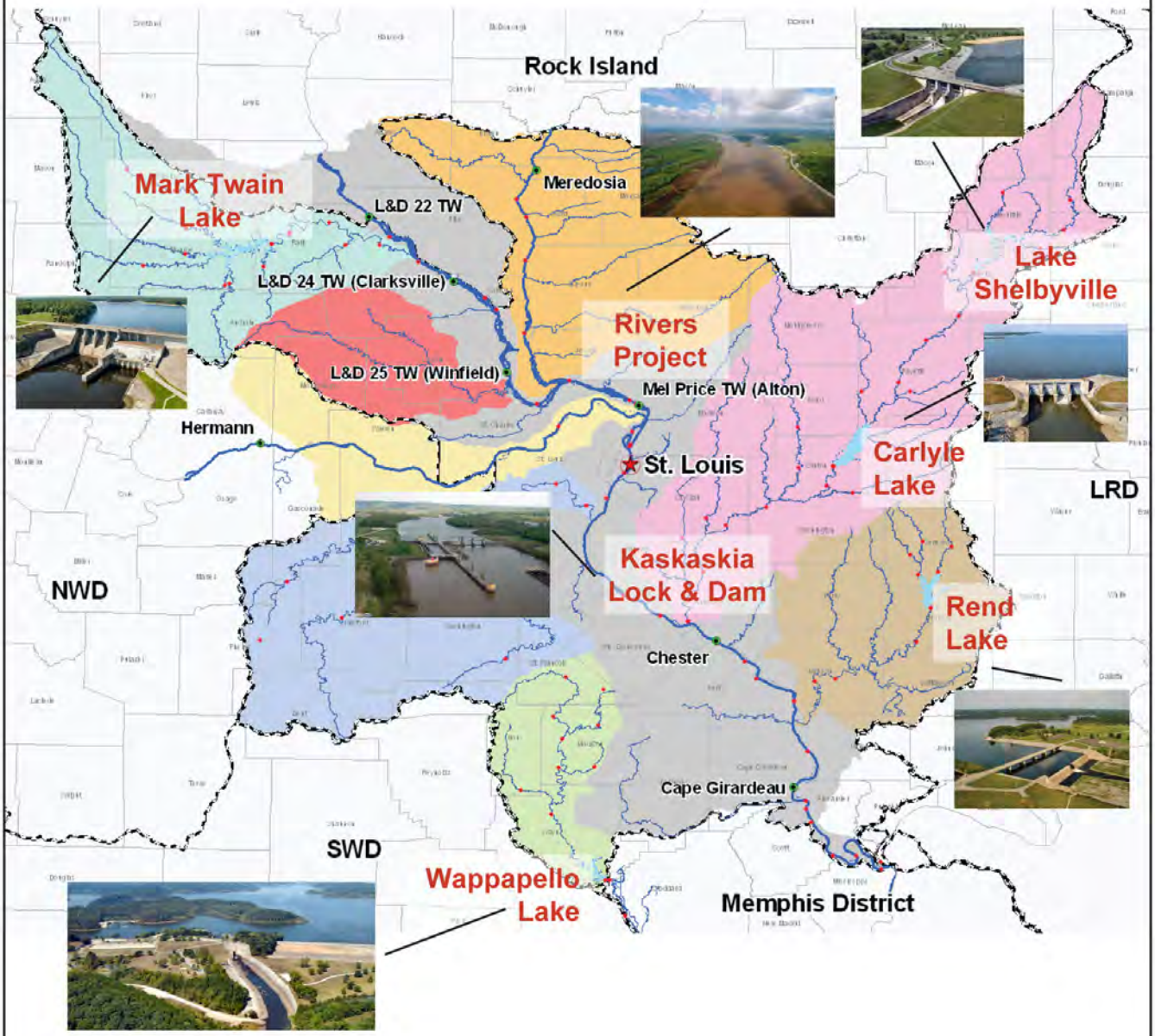
"I charge each employee of St. Louis District to commit to a positive safety culture. Working safely requires analyzing all risks and hazards associated with the tasks at hand, minimizing those hazards, and using the proper techniques, personal protective equipment and tools to perform the work without causing injury to yourself or others. A culture is a set of shared attitudes, values, goals, and practices that characterize an organization. A commitment to the safety and health of all employees is our first priority. Establishing a safety culture involves each employee taking personal responsibility for his/her safety and leadership taking care of team members. Performing work safely requires thinking about safety FIRST, before mission accomplishment."

-from Memorandum CEMVS-OD 11-09
"Safety Culture within St. Louis District"

ST. LOUIS DISTRICT LAKE & RIVERS PROJECTS----------

* The St. Louis District has Five Multi-Purpose Reservoirs:
  * Lake Shelbyville (IL)
  * Carlyle Lake (IL)
  * Rend Lake (IL)
  * Wappapello Lake (MO)
  * Mark Twain Lake (MO)

* ...and One Rivers Project



US Army Corps of Engineers ®
St. Louis District

Lake Shelbyville
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Lake Shelbyville Project Office
Rte 4, Box 128B
Shelbyville, IL 62565
217-774-3951
LakeShelbyville@usace.army.mil
http://www.mvs.usace.army.mil/Shelbyville/

Project Purposes:
- Flood Control
- Recreation
- Water Supply
- Water Quality
- Navigation
- Fish and Wildlife Conservation

Lake Statistics:

Length of Lake:	20 miles at summer pool
Average Width of Lake:	0.5 miles
Average Depth of Lake:	19 feet
Shoreline:	172 miles
Watershed:	488 square miles
Visitation:	3.5 million avg/year

Project Data:

Completed:	1970
Location:	113 miles from St. Louis
Total Acreage:	35,733 acres
Lake Surface Normal Pool:	11,100 acres - 599.7 NGVD
Lake Surface Top of Flood Pool:	25,300 acres - 626.5 NGVD
Recreation Areas:	13
Campgrounds:	5
Beaches:	4
Marinas:	3
Trails:	4

Main Dam Characteristics:

Length:	3,025 feet
Concrete in Dam:	129,000 cu. yds.
Earth in Embankment:	170,000 cu. yds.
Location:	221.8 miles upstream from confluence of Kaskaskia & Mississippi Rivers

US Army Corps of Engineers ®
St. Louis District

Carlyle Lake
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Carlyle Lake Project Office

801 Lake Road
Carlyle IL 62231
618-724-2493
carlyleinfo@usace.army.mil
http://www.mvs.usace.army.mil/Carlyle/

Project Purposes:

Flood Control
Water Quality
Water Supply
Recreation
Fish and Wildlife Conservation
Navigation

Carlyle Lake Project Office Manages:

Kaskaskia River Project

Lake Statistics:

Length of Lake:	15 miles at summer pool
Average Width of Lake:	3.5 miles
Average Depth of Lake:	11 feet
Shoreline:	83 miles
Available Water Supply for Area Residents:	50 million gallons
Visitation:	3.1 million avg/year

Project Data:

Completed:	1967
Location:	50 miles from St. Louis
Total Acreage:	37,000 acres
Lake Surface Normal Pool:	26,000 acres - 445.0 NGVD
Lake Surface Top of Flood Pool:	58,500 acres - 462.5 NGVD
Recreation Areas:	8
Campgrounds:	8
Beaches:	4
Marinas:	4
Trails:	7

Main Dam Characteristic:

Length:	6,570 feet
Distance upstream from confluence of Kaskaskia & Mississippi Rivers	94.2 miles

US Army Corps of Engineers ®
St. Louis District

Rend Lake
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Rend Lake Project Office

12220 Rend City Road
Benton, IL 62812
618-724-2493
618-439-7430 (Visitor Center)
rendinfo@usace.army.mil
http://www.mvs.usace.army.mil/Rend/

Project Purposes:

- Flood Control
- Water Supply
- Water Quality
- Fish and Wildlife Conservation
- Recreation
- Area Development

Lake Statistics:

Length of Lake:	13 miles at normal pool
Average Width of Lake:	1.5 miles
Average Depth of Lake:	8-10 feet
Shoreline:	162 miles
Watershed:	488 square miles
Available Water for Daily Use by Area Residents:	15 million gallons/day
Visitation:	3.1 million avg/year

Project Data:

Completed:	1970
Location:	110 miles from St. Louis
Total Acreage:	37,900 acres
Lake Surface Normal Pool:	18,900 acres - 405.0 NGVD
Lake Surface Top of Flood Pool:	24,800 acres - 410.0 NGVD
Recreation Areas:	8
Campgrounds:	4
Beaches:	1
Marinas:	1
Trails:	3

Main Dam Characteristics:

Length:	10,600 feet
Location:	103.7 miles upstream from confluence of Big Muddy River & Mississippi River

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St. Louis District

Wappapello Lake
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Wappapello Lake Project Office

10992 Highway T
Wappapello, MO 63966
573-222-8562
573-222-8773 (Visitor Center)
WappapelloLake@usace.army.mil
http://www.mvs.usace.army.mil/wappapello/

Project Purposes:

Flood Control
Recreation
Fish and Wildlife Conservation

Lake Statistics:

Length of Lake:	21 miles at summer pool
Average Width of Lake:	0.5 miles
Average Depth of Lake:	6.5 feet
Shoreline:	180 miles
Watershed:	1310 square miles
Visitation:	1.7 million avg/year

Project Data:

Completed:	1941
Location:	150 miles from St. Louis
Total Acreage:	44,349 acres
Lake Surface Normal Pool:	8,400 acres - 359.7 NGVD
Lake Surface Top of Flood Pool:	23,200 acres - 394.7 NGVD
Recreation Areas:	14
Campgrounds:	4
Beaches:	3
Marinas:	5
Trails:	4

Main Dam Statistics:

Crest Length:	2,700 feet
Earth in Embankment:	2,300,000 cu. yds.
Crown Width:	30 feet
Location:	145 miles upstream from confluence of St. Francis River & Mississippi River

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St. Louis District

Clarence Cannon Dam & Mark Twain Lake
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Mark Twain Lake Project Office

20642 Highway J
Monroe City, MO 63456
573-735-4097
marktwaininfo@usace.army.mil
http://www.mvs.usace.army.mil/MarkTwain/

Project Purposes:

Flood Control
Hydropower
Navigation
Water Supply
Fish and Wildlife
Recreation

Lake Statistics:

Length of Lake:	21 miles at normal pool
Average Width of Lake:	1 mile
Average Depth of Lake:	29 feet
Shoreline:	285 miles
Watershed:	2,300 square miles
Available Water for Daily Use by Area Residents:	9 million gallons/day
Visitation:	2.2 million avg/year

Project Data:

Completed:	1984
Location:	120 miles from St. Louis
Total Acreage:	54,730 acres
Lake Surface Normal Pool:	18,600 acres - 606 NGVD
Lake Surface Top of Flood Pool:	38,400 acres - 638 NGVD
Hydropower Generation:	58,000 kilowatts
Recreation Areas:	10
Campgrounds:	4
Beaches:	2
Marinas:	2
Trails:	2

Main Dam Statistics:

Length:	1,940 feet
Concrete in Dam:	450,000 cu. yds.
Earth in Embankment:	3,000,000 cu. yds.
Location:	63 miles upstream from confluence of Salt River & Mississippi River

US Army Corps of Engineers ®
St. Louis District

Rivers Project
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Rivers Project Office

301 Riverlands Way
West Alton, MO 63386
573-222-8562
618-462-6979 (Museum)
riversproject@usace.army.mil
http://www.mvs.usace.army.mil/Rivers/

Rivers Project Office Manages:

National Great Rivers Museum
Riverlands Migratory Bird Sanctuary
Lock & Dam 24
Lock & Dam 25
Melvin Price Locks & Dam
Locks & Dam 27
Cache River Diversion Channel

Project Purposes:

Navigation
Recreation
Environmental Stewardship
Flood Damage Reduction
Electric Generation/Hydropower

Project Data:

Completed:	1994
Location:	20 miles from St. Louis
Total Acreage:	169,000 acres
Surface Area Normal Pool:	63,000 acres
Refuge Areas:	4
Conservation Areas:	26
Marinas:	5
Length of Managed Navigation Channels:	416 miles
Shoreline:	180
Number of River Access Points:	85
Visitation:	2.6 million avg/year

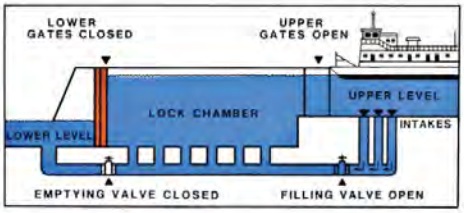
ST. LOUIS DISTRICT LOCKS & DAMS----------

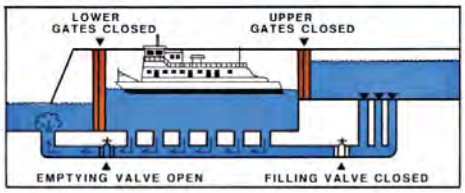
Lock and Dam 24
Lock and Dam 25
Melvin Price Locks and Dam
Locks and Dam 27
Kaskaskia Lock and Dam

Nine-Foot Navigation Channel

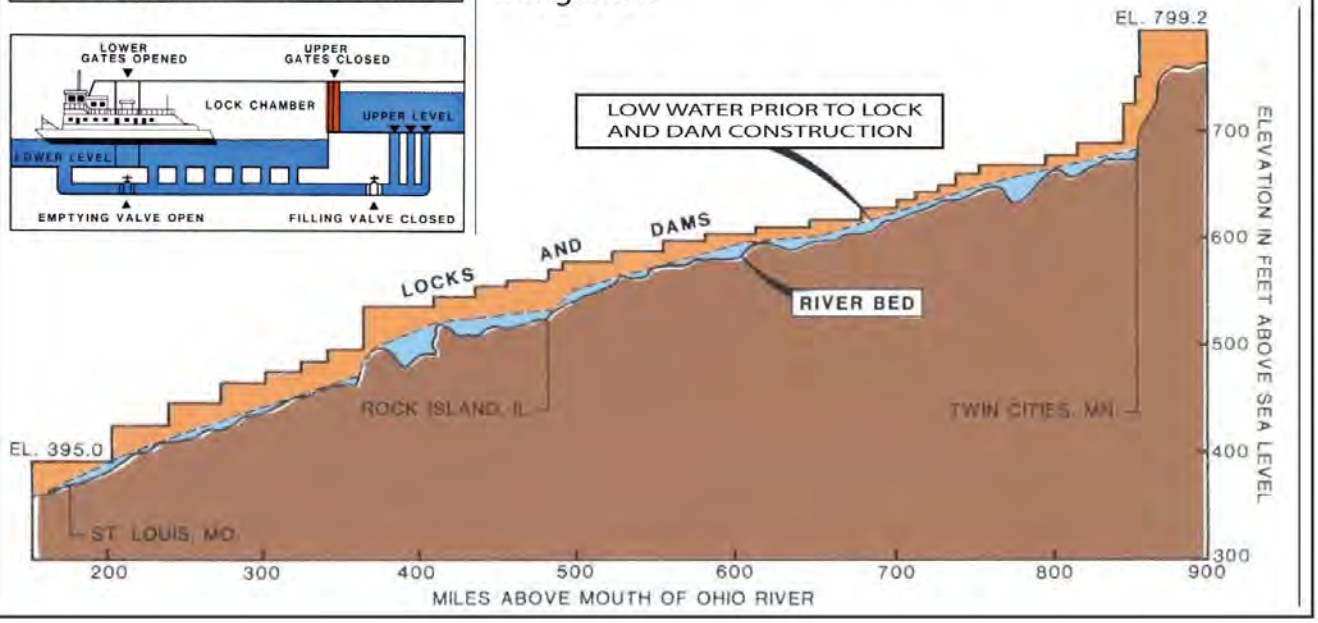
Each St. Louis District Lock & Dam is part of the Upper Mississippi River Nine Foot Navigation Project. The Projects, authorized by the Rivers and Harbors Act of 1930, created and ensured a nine-foot deep navigational river channel.

On the upper Mississippi River, a total of 29 lock and dam systems were constructed, forming a stairway of water from Minnesota to Illinois. From the first lock and dam at Minneapolis-St. Paul, Minnesota to the last one at Granite City, Illinois, there is a drop in elevation of 420 feet. The locks are necessary at each of the dams to allow boats to navigate from one pool (the water backed up behind each dam) to the next. These locks were constructed to aid in navigation only, they were not designed for flood control.





On the lower Mississippi, the river does not need locks and dams because, with the addition of the Missouri, Illinois, Arkansas, Ohio, and other rivers, it is naturally wide enough and deep enough for navigation.



US Army Corps of Engineers ®
St. Louis District

Lock and Dam 24
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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LD 24 Lock Office
350 North 1st St.
Clarksville, MO 63336
(573) 242-3524
Marine Radio Channel: 14
http://www.mvs.usace.army.mil/navigation1/l-d24.html

Technical Details

Lock Chamber: 110 feet wide by 600 feet long
Maximum Lift of Lock: 15 ft
Dam Length: 1,340 feet
Dam Tainter Gates: Fifteen-80 feet wide by 25 feet high
Overflow Dike Length: 2,720 feet
Pool Length: 27.8 miles
Pool Size: 13,000 acres
Tonnage Locked Through:
2005: 28,932,976
2006: 31,026,228
Upper Mississippi River Mile: 273.4

Construction on Lock and Dam 24 began on July 20, 1936 and was finished on March 12, 1940. A major rehab of the lock and dam was completed in 2005. This work consisted of replacing a large portion of the concrete in the lock chamber walls, walkways and work areas. Also, new gate and valve machinery was installed elevating the electrical components above the 1993 flood levels.

The dam consists of 15 fully submersible tainter gates. These gates pivot vertically to control water flow. In times of high water, these gates are raised completely and the river flows almost unimpeded, allowing a more natural flow of the river.

The lock chamber is only big enough for a half size tow (a normal tow is one towboat pushing 15 barges). The barges going through this lock must perform a double lockage. During a double lockage, the first set of barges (up to nine) are disconnected and put through the lock chamber. Since these barges are no longer connected to a towboat, they are pulled through using a tow-haulage (cable and hoist system). After the barges are locked through, the rest of the tow locks through and rejoins its entire load. This process can take up to two hours to complete. Recreational boats must also lock through the lock on their journeys up or down the river.

Locking Process

The lock chamber consists of four miter gates (two at each end of the chamber), and four valves (two at each end). All boats wishing to pass through a dam must lock through the lock chamber, even during open river conditions.

Lockage is completed by using a system of valves to raise and lower the water level in the lock chamber. This is an elevator system for boats, raising or lowering them to the same level as the pool they want to get to. There are two sets of valves, the filling valves (located at the upper pool) and the emptying valves (located at the lower pool). The filling valves are opened to allow water to enter the chamber, making it the same height as the upper pool, and the emptying valves are opened to allow water to drain out, making the chamber the same height as the lower pool. During the process, no pumps are used; the chamber is operated solely on gravity.

US Army Corps of Engineers ®
St. Louis District

Lock and Dam 25
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

LD 25 Lock Office
10 Sandy Slough
Winfield, MO 63389
(636) 566-8120
Marine Radio Channel: 12
http://www.mvs.usace.army.mil/navigation1/l-d25.html

Technical Details

Lock Chamber: 110 feet wide by 600 feet long
Maximum Lift of Lock: 15 ft
Dam Length: 1,296 feet
Dam Tainter Gates: Fourteen-60 feet wide by 25 feet high
Dam Roller Gates: Three-100 feet wide by 25 feet high
Overflow Dike Length: 2,566 feet
Pool Length: 32 miles
Pool Size: 18,000 acres
Tonnage Locked Through:
2005: 29,043,655
2006: 31,061,559
Upper Mississippi River Mile: 241.4

Operational on May 18, 1939 and located in Winfield Missouri, Lock and Dam 25 is the third southern-most dam in the system on the Upper Mississippi River. The dam, which is 1,296 feet long, consists of 14 tainter gates and 3 roller gates. The tainter gates pivot vertically and are raised or lowered to control the depth of the water in the pool upstream of the dam. In times of high water, these gates are raised completely and the river flows almost unimpeded, allowing a more natural flow of the river. The roller gates, located near the center of the dam, also restrict the water flow, but in a manner meant to reduce erosion.

Locking Process

The lock chamber consists of four miter gates (two at each end of the chamber), and four valves (two at each end). All boats wishing to pass through a dam must lock through the lock chamber, even during open river conditions. Lockage is completed by using a system of valves to raise and lower the water level in the lock chamber. This is an elevator system for boats, raising or lowering them to the same level as the pool they want to get to. There are two sets of valves, the filling valves (located at the upper pool) and the emptying valves (located at the lower pool). The filling valves are opened to allow water to enter the chamber, making it the same height as the upper pool, and the emptying valves are opened to allow water to drain out, making the chamber the same height as the lower pool. During the process, no pumps are used; the chamber is operated solely on gravity.

On the Upper Mississippi River, a full tow consists of a towboat and 15 barges, arranged 3 wide by 5 long. A full tow is around 1200 feet long, so at Lock 25 a double lockage must be performed. The first three rows of the tow's barges would be untied and locked through separately, using a tow haulage (cable and hoist system). Then, the remaining barges and the towboat would lock through and afterwards the barges would all be ratcheted back together. This process typically occupies up to two hours, which is why the U.S. Army Corps of Engineers is considering the addition of a 1200 foot lock chamber that would eliminate the need for a double lockage.

US Army Corps of Engineers ®
St. Louis District

Melvin Price Locks and Dam

Information Sheet

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Melvin Price Lock Office
#1 Lock & Dam Way
East Alton, IL 62024
(618) 462-1713
Marine Radio Channel: 14
http://www.mvs.usace.army.mil/navigation1/MelPrice.html

Technical Details

Main Lock Chamber: 110 feet wide by 1200 feet long
Auxiliary Lock Chamber: 110 feet wide by 600 feet long
Maximum Lift of Lock: 24 ft
Dam Length: 1,160 feet
Dam Tainter Gates: Nine-110 feet wide by 42 feet high
Overflow Dike Length: 2,000 feet
Pool Length: 40.1 miles of the Mississippi River & 80.2 miles of the Illinois River
Pool Size: 32,000 acres
Tonnage Locked Through:
2008: 56,295,661
2009: 56,403,840
Upper Mississippi River Mile: 200.8

Construction for the old Lock and Dam 26 officially began 13 January 1934 at river mile 202.9, at Alton, Illinois. The dam was first placed in use 1 May 1938. Full pool was first reached 8 August 1938. The replacement of Lock and Dam 26 was first known as Lock and Dam 26 Replacement. Congress soon declared that the Replacement would be known as Melvin Price Locks and Dam.

The construction of Melvin Price Locks & Dam consisted of three stages. The first stage, which started in November 1979, entailed three separate contracts. The first part, completed in November 1980, consisted of protecting the Illinois bank from erosion resulting from the necessary diversion of the river channel toward the Illinois shore. The second part was the construction of the first-stage cofferdam and was completed in December 1981. The third part was the construction of the first-stage dam. Operation of the 1200-foot main lock started October 1989, even though the river traffic was diverted to the Illinois side. The project was completed in November 1994 when the third-stage portion of the dam was completed and the auxiliary lock was placed into operation.

Locking Process

The lock chamber consists of six miter gates, 1 lift gate and eight valves. All boats wishing to pass through a dam must lock throug the lock chamber, even during open river conditions.

Lockage is completed by using a system of valves to raise and lower the water level in the lock chamber. This is an elevator system for boats, raising or lowering them to the same level as the pool they want to get to. There are two sets of valves, the filling valves (located at the upper pool) and the emptying valves (located at the lower pool). The filling valves are opened to allow water to enter the chamber, making it the same height as the upper pool, and the emptying valves are opened to allow water to drain out, making the chamber the same height as the lower pool. During the process, no pumps are used; the chamber is operated solely on gravity.

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St. Louis District

Locks and Dam 27
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

LD 27 Lock Office
3291 West 20th Street
Granite City, IL 62040
(618) 452-7107
Marine Radio Channel: 12
http://www.mvs.usace.army.mil/navigation1/L27.html

Technical Details

Main Lock Chamber: 110 feet wide by 1200 feet long

Auxiliary Lock Chamber: 110 feet wide by 600 feet long

Maximum Lift of Lock: 15 ft

Dam Length: 3,240 feet

Pool Length: 15.6 miles

Pool Size: 489 acres (Canal Only)

Tonnage Locked Through:
2005: 68,369,897
2006: 73,362,106

Upper Mississippi River Mile: 185.5

The Chain of Rocks Canal

In 1940 the Chain of Rocks Reach was the only obstacle that prevented the success of the nine-foot navigation project. This 17 mile stretch of the river was rife with rock ledges that rendered it naturally unnavigable. The Corps built the 8.4 mile long Chain of Rocks Canal to bypass this portion of the River.

Locks and Dam 27 is unique for several reasons. Constructed between 1946 and 1953, these locks are the only locks on the upper Mississippi River that are not directly attached to their respective dam. The dam was constructed between 1958-1963, after the Chain of Rocks Canal and Locks 27, and is located several miles away on the Mississippi River, whereas the locks are within the Chain of Rocks Canal. The dam itself is also unlike any of the other dams in the system. All other dams in the system were built to be moveable, so they could be adjusted according to the changing water level. Dam 27 is not so complex; it is a 2,500 foot non-movable low water dam extending across the river. Its main purpose is to help maintain a minimum of 10.5 feet at the tailwater of Melvin Price Locks and Dam. Both the main lock and the auxiliary lock have an upper lift gate and lower miter gates.

The lift gates lower to a predetermined depth to allow boats to pass over. The miter gates swing open and closed like doors to allow the boats through. Since these locks are the last on the upper Mississippi they lock the most commercial traffic. This is why Locks and Dam 27 has two chambers, of which the main lock can accommodate a full tow of 15 barges (3 wide by 5 long).

Locking Process

The lock chambers consist of 2 miter gates, one vertical lift gate, and four valves (two at each end). All boats wishing to pass through a dam must lock through the lock chamber, even during open river conditions when there is only a 10 or 12 inch difference between the upper and lower pools.

Lockage is completed by using a system of valves to raise and lower the water level in the lock chamber. The filling valves are opened to allow water to enter the chamber, making it the same height as the upper pool, and the emptying valves are opened to allow water to drain out, making the chamber the same height as the lower pool. There are two sets of valves, the filling valves (located at the upper pool) and the emptying valves (located at the lower pool). During the process, no pumps are used, the chamber is operated solely on gravity. This is an elevator system for boats.
and lowering the water adjusts the boat to the Raising necessary pool level. Without the locks the boats would face a drop of as much as 20 ft.

US Army Corps of Engineers ®
St. Louis District

Kaskaskia Lock and Dam

Information Sheet

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Kaskaskia Navigation Project

4800 Lock and Dam Rd
Modoc, IL 62261
(618) 284-7160
Marine Radio Channel: 14
http://www.mvs.usace.army.mil/navigation1/Kaskaskia.html

Project Purposes:

Navigation
Recreation
Environmental Stewardship

Technical Details

Lock Chamber: 84 feet wide by 600 feet long
Maximum Lift of Lock: 32 ft
Dam Tainter Gates: Two-60 feet wide by 30 feet high
Pool Length: 36 miles
Drainage Area: 5790 square miles
Tonnage Locked Through:
2008: 638,849
2009: 707,110
Upper Mississippi River Mile: 117.3
Kaskaskia River Mile: 0.80

The Kaskaskia River Navigation Project was authorized by Congress in October 1962. The lock chamber consists of four miter gates and four valves. The lock chamber is capable of locking 5 barges and a tow at a time.

Construction was initiated in August 1966. Diversion of the river from the natural river channel through the gates was accomplished on 13 November 1973. The project was opened to limited navigation in November 1974. Commercial navigation began limited use of the project on 12 July 1976.

Locking Process

The lock chambers consist of 2 miter gates and four valves (two at each end). All vessels wishing to pass through the must lock through the lock chamber, even during open river conditions when the Kaskaskia and Mississippi Rivers are equal in elevation.

Lockage is completed by using a system of valves to raise and lower the water level in the lock chamber. The filling valves are opened to allow water to enter the chamber, making it the same height as the upper pool, and the emptying valves are opened to allow water to drain out, making the chamber the same height as the lower pool. There are two sets of valves, the filling valves (located at the upper pool) and the emptying valves (located at the lower pool). During the process, no pumps are used, the chamber is operated solely on gravity. This is an elevator system for boats. Raising and lowering the water adjusts the boat to the necessary pool level. Without the locks the boats would face a drop of as much as 20 ft.

ST. LOUIS DISTRICT CENTERS OF EXPERTISE----------

US Army Corps of Engineers ®
St. Louis District

Centers of Expertise
Information Sheet

U.S. ARMY CORPS OF ENGINEERS

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Mandatory Center of Expertise

Curation & Management of Archaeological Collections
http://www.mvs.usace.army.mil/engr/curation/Home.htm

Technical Centers of Expertise

Photogrammetric Mapping
http://mvs-wc.mvs.usace.army.mil/tcx.html

Automated Performance Monitoring of Dams
http://www.mvs.usace.army.mil/eng-con/expertise/apmd.html

Ordnance and Technical Services
http://www.mvs.usace.army.mil/engr/ed-p/EC-P.htm

Applied River Engineering Center
http://www.mvs.usace.army.mil/eng-con/expertise/arec/welcome_page_2.html

Formely Utilized Sites Remedial Action Program
http://www.mvs.usace.army.mil/eng-con/expertise/fusrap.html

ST. LOUIS DISTRICT LINKS & INTERNET RESOURCES---

US Army Corps of Engineers ®
St. Louis District

USACE Headquarters:
http://www.usace.army.mil/Pages/default.aspx

Mississippi Valley Division (MVD):
http://www.mvd.usace.army.mil/

St. Louis District (MVS):
http://www.mvs.usace.army.mil/index.html

St. Louis District Projects:

* Carlyle Lake
  http://www.mvs.usace.army.mil/Carlyle/
* Clarence Cannon Dam and Mark Twain Lake
  http://www.mvs.usace.army.mil/marktwain/
* Kaskaskia River Lock and Dam
  http://www.mvs.usace.army.mil/navigation1/Kaskaskia.html
* Lake Shelbyville
  http://www.mvs.usace.army.mil/Shelbyville/
* Lock and Dam 24
  http://www.mvs.usace.army.mil/navigation1/l-d24.html
* Lock and Dam 25
  http://www.mvs.usace.army.mil/navigation1/l-d25.html
* Lock and Dam 27
  http://www.mvs.usace.army.mil/navigation1/L27.html
* Mel Price Locks and Dam
  http://www.mvs.usace.army.mil/navigation1/MelPrice.html
* Rend Lake
  http://www.mvs.usace.army.mil/Rend/
* Rivers Project
  http://www.mvs.usace.army.mil/rivers/
* Wappappello Lake
  http://www.mvs.usace.army.mil/Wappapello/

St. Louis District Centers of Expertise:
http://www.mvs.usace.army.mil/eng-con/expertise/expertise.html

General Services Administration (GSA):
http://www.gsa.gov/

St. Louis Regional Transit (BiState Bus, Metrolink, Parking, etc.):
http://metrostlouis.org/

US Army Corps of Engineers ®
St. Louis District

The Employee Handbook, available from the Human Resources Office, serves as a brief orientation and reference designed to answer questions about employment and working conditions with the Corps. Supervisors and the Human Resource Office will also serve as sources of additional information.

* CODE OF ETHICS
* WORKING WITH THE ST. LOUIS DISTRICT
* EQUAL EMPLOYMENT OPPORTUNITY
* YOUR APPOINTMENT AND JOB
* PERFORMANCE, EVALUATION AND AWARDS
* MERIT PROMOTIONS AND YOUR CAREER
* COMPENSATION
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* UNION REPRESENTATION
* TRANSPORTATION AND PARKING
* SECURITY
* SAFETY AND HEALTH
* GENERAL INFORMATION
* IMPORTANT PHONE NUMBERS

ST. LOUIS DISTRICT PRACTICAL INFORMATION----------

The Robert A. Young (RAY) Building is situated within the area commonly referred to as the Government Center of Downtown St. Louis. Within a few blocks you will find numerous city, state, and federal buildings including the Thomas F. Eagleton U.S. Courthouse, the U.S. Post Office, and the City of St. Louis City Hall.

The RAY Building is open 6:00am to 6:00pm Monday through Friday. Employee access outside of normal business hours will require your RAY Building ID and signature sign-in.

Building amenities include the Cafe' 1222, the 1222 Express and two Convenience Stores (Lobby & 9th Floor). Additionally there is a Fitness Center situated in the basement level, several credit unions (Lobby & 3rd Floor), and a Child Care Center on the lobby level. (See more info at www.gsa.gov)

There are a number of private parking areas within walking distance of the RAY Building generally ranging from $1.00 to $6.00 daily. Be aware, however, that on event days (Cardinal Games, Special Day Events at the Scott Trade Center), parking in some areas will increase to as much as $20.00 daily. The St. Louis Metro offers light rail and bus service throughout the area. The nearest MetroLink station is just one block west of the RAY Building across from the Sheraton Hotel. (Downtown Parking Guide provided by the *Downtown St. Louis Partnership*.)

ST. LOUIS DISTRICT PRACTICAL INFORMATION----------

INDEX OF PARKING FACILITIES (closest proximity to RAY Bldg)

42. 8th and Poplar (CP)
43. 720 South 7th Street (USP)
69. 427 South 15th Street (USP)
87. 11th & Clark Lot (SLP)
88. Cupples (Valentine Lot) (CSP)
89. City Block 426 (SLP)
90. Cupples Lot - 10th & Spruce (SLP)
91. Cupples Lot - Westin Hotel (SLP)
92. Cupples Station Garage (SLP)
93. 11th & Poplar Street (USP)
94. St. Louis Sheraton City Center (CP)
95. 13th and Spruce Street (CP)
96. 1303 Spruce Street (CP)
98. 15th & Poplar Street (USP)
99. 16th & Poplar Street (USP)
101. 417 South 15th Street (USP)
102. 316 South 16th Street (USP)
104. Union Station East Lot (SLP)

(CP)	Central Parking	314-421-4063
(SLP)	St. Louis Parking	314-241-7777
(USP)	Union Services Parking	314-421-4370

Note: There are other private parking lots not shown on this map.

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