

Request: \$4,000,000

Project Name: Atchison CSO Environmental Infrastructure Project

Project Location: Atchison, Kansas

This mandatory project is intended to bring the City of Atchison's combined sewer system into compliance with requirements of the Clean Water Act, the Federal CSO Policy and to improve water quality of White Clay Creek and the Missouri River. The project will also improve the quality of life and public health not only for the residents of Atchison, but for all downstream residents of the state of Kansas and the nation who rely on the Missouri River for their livelihood.

Funding Request: \$200,000

Project Name: Brush Creek Watershed, KS and MO

Project Location: Johnson County, KS & Jackson County, MO

Brush Creek has had several severe flooding events, including in 1998, which resulted in seven fatalities and millions of dollars in damages. The feasibility study will examine a full range of structural and nonstructural measures to reduce recurring flood damages in the Brush Creek Basin. Increasing urbanization is the significant threat to the level of flood protection, natural resources, and water quality in the basin. A comprehensive, bi-state watershed study is needed to bring agencies and communities together in the common goal of flood protection, resource conservation, and sustainable economic development. The study will take a multipurpose watershed approach in considering opportunities for environmental ecosystem restoration, water quality improvement, and compatible recreation improvements. Also, watershed management planning efforts will include the creation of comprehensive basin simulation models that can measure the cost effectiveness and have system wide application for local sponsors after study completion.

Funding Request: \$1,000,000

Project Name: Concordia, Kansas Flood Control

Project Location: Concordia, Kansas

The City of Concordia is located in Northeastern Kansas in Cloud County along Interstate Highway 81. A significant flood hazard with potential for extreme loss of life and property damage exists due to the deteriorated condition of an old, earth-fill embankment built in 1913, on an unnamed tributary on the south side of the city. The embankment on that stream serves as a detention dam during heavy rainfall events, and protects a housing development immediately downstream and also the business district of the city. This embankment breached as a result of heavy rainfall in 1950 and flood waters devastated the downtown district. The embankment was not designed to current engineering standards, and its condition makes the risk of flooding to the housing and business district immediately downstream unacceptable. Removal of the dam is not an option, because the downtown area would still be subject to flash flooding and a severe flood threat would remain. The project will develop a plan to construct a reliable and safe flood protection project in partnership with the city of Concordia. The funds will be used to complete the feasibility study phase and initiate the design phase. As a high hazard dam, this will protect lives as well as home and businesses.

Funding Request: \$350,000

Project Name: Dry Creek Overflow Drainage Study and Mitigation, Wichita, KS

Project Location: Wichita, KS

The proposed project would reduce or eliminate flooding overflows from Dry Creek into the Calfskin Creek in west Wichita that would result in the protection of 25 structures in the 10-year flood; 72 structures in the 50-year flood; 90 structures in the 100-year flood; and 140 structures in the 500-year flood. The City of Wichita has regulated new development in the Calfskin Creek basin, based on 1986 and the current 2007 FEMA flood maps. The city discovered inaccuracies in the 1986 maps because of the significant over flows from Dry Creek into the Calfskin Creek during the 1998 “Halloween Flood” in west Wichita. In September 2008, another flood event again caused major damage to over a hundred homes within the Calfskin Creek basin. The funding would be used to complete the final engineering design and necessary permitting, along with beginning construction of a large regional detention facility to reduce flood elevations to the levels that were listed on the 1986 FEMA flood insurance rate study. Reduce loss of life and property within the affected area. Protect 90 structures currently subject to 100-year flooding and 140 structures subject to 500-year flooding.

Funding Request: \$750,000

Project Name: Electric Power Grid Integrity and Security

Project Location: Kansas State University, Manhattan, KS

According to the American Wind Energy Association, Oklahoma, Kansas, Nebraska, South Dakota and North Dakota are all in the top 10 of US states for wind potential capacity. Additionally all of these states are on the westernmost edge of the U.S. Eastern Interconnection. However, the observability of the grid in these areas is low as there are only nine phasor measurement units installed in all these states with six of the nine within Oklahoma. With the increase in wind capacity and new transmission lines being built, it will be even more important to have PMUs within the system to meter the current status to help maintain the reliability and stability of the power system. Funds would be used to develop system level studies for design, analysis and operation of the electric power system in the Midwest considering additional penetration of wind energy. These studies would look at the system level analysis of how various wind energy plants would interact with each other and the rest of act components that drive the power grid. Additionally investigations would identify the optimal locations for PMUs to allow for maximum observability of the system. This enables analysis and warning when the system is at risk, which could allow remedial actions to help prevent cascading outages. As the Midwestern states have the greatest potential for significant contributions to the renewable energy portfolio of the U.S. with wind energy, it is essential to conduct advanced studies to understand the impact of these resources on the system level power system reliability and stability. In addition, recent reports have documented the issue of the aging workforce related to electric power systems. Besides the technical studies, these activities will help provide training to the next generation workforce to equip them with the skill set necessary to tackle tomorrow’s energy needs including renewable and advanced monitoring.

Funding Request: \$500,000

Project Name: Grand (Neosho) River Basin, KS and OK Ecosystem Restoration

Project Location: Neosho River Basin, KS and OK

The study area consists of the 12,500 square-mile Grand/Neosho River Basin in northeastern Oklahoma and southeastern Kansas. Many opportunities for flood damage reduction and ecosystem restoration have been identified in the area. A feasibility cost share agreement was

executed with the Kansas Water Office in September 2006 for the John Redmond Reservoir, Kansas study. The study will focus on the ecosystem degradation that has occurred in John Redmond Reservoir. This degradation is largely a result of sedimentation and nutrient loading. Other local issues such as the log jam and an assessment of dredging as an alternative are included in the multi-year study. Funds would be used to continue the John Redmond Reservoir studies, including analysis of watershed measures to reduce sedimentation, continued data collection and analysis, and evaluation of alternatives and development of a comprehensive watershed management plan. Eight federal reservoirs are located within the Neosho River Basin in Kansas. These reservoirs are multipurpose. The economic viability of many rural counties depends on the river. Additionally, many opportunities for flood damage reduction and ecosystem restoration have been identified.

Funding Request: \$200,000

Project Name: Iola Levee System and Flood Control

Project Location: Iola, Kansas

The City of Iola was affected by a devastating flood on June 29, 2007 and was swamped with as high as 12 feet of water, covering 30 percent to 40 percent of the city. The flood destroyed a large portion of the city, including the recreation building and local parks while damaging over 400 homes. Thanks to the efforts of local, state, and federal governments, these neighborhoods, which were once 12 feet under water, have been rebuilt or relocated. The levee that protects three sides of Riverside Park (the primary area affected by the flood) held superbly. The fourth side, however, which is only protected by a former railroad embankment, was the source of the breach. During the recertification of the area protected by the levee, FEMA informed the city that they must now include this area within the flood plain on FEMA maps. This decision has had major implications for the vitality of the City of Iola and its citizens, affecting city property, and a major employer. In order to prevent the area from being in the flood plain, the fourth side of the area needs to be protected by a levee, connecting to the existing levee. The Army Corps of Engineer's study will ideally generate a proposal for plans to construct a levee system which will provide flood protection of public buildings, private homes, recreation parks, and the city's wastewater system. The city of Iola hopes that with the results of the study, solutions will be executed to prevent future floods and allow the city to flourish. This will protect local business and residential property, as well as lives.

Funding Request: \$1,000,000

Project Name: John Redmond Reservoir Log Jam Removal

Project Location: John Redmond Reservoir near Burlington, KS

Currently there is a 2.5 mile long log jam located in the Neosho River at the upper end of John Redmond Reservoir in Coffey County, KS. The log jam began in the 1970's and has progressively worsened. The log jam is a breeding ground for mosquitoes and other potentially dangerous wildlife. It is also a safety hazard due to fire potential. Due to the blight, property values are decreasing along the river. Also, the Jacobs Creek Landing boat ramp near the town of Burlington is unusable because of the blockage.

Funding Request: \$300,000

Project Name: Kansas River Basin Comprehensive Study

Project Location: Kansas River Basin

The Kansas River Basin drains 60,000 square miles in Kansas, Nebraska, and Colorado. There are 18 federal reservoirs in the basin used for multiple purposes. A reconnaissance study will analyze existing data, conduct coordination with potential sponsors/stakeholders and make determination of federal interest. Riverbed degradation has occurred along the main stem of the Kansas River between Topeka and Kansas City. Increased interest has developed in several communities for aquatic and floodplain restoration, along with economic and recreational improvements along the Kansas River. Improving water supply availability and protection of the various beneficial purposes at federal reservoirs is an increasing priority in Kansas.

Funding Request: \$6,000,000

Project Name: KU Cancer Research Equipment

Project Location: University of Kansas Cancer Center, Kansas City, KS

The University of Kansas Cancer Center is transforming cancer research and care by linking their innovative approach to drug discovery, delivery, and development to their nationally-accredited patient care. The KU Cancer Center's partnership includes cancer research and healthcare professionals associated with the University of Kansas Medical Center and The University of Kansas Hospital in Kansas City, the University of Kansas in Lawrence, and the University of Kansas School of Medicine in Wichita. To achieve the goal of National Cancer Institute designation, the University of Kansas Cancer Center must attract 19 new basic, translational, and clinical cancer researchers by 2011. These scholar recruits will only come to the University of Kansas Cancer Center if state-of-the-art research facilities and equipment are available on the Medical Center campus in Kansas City and the Drug Discovery campus in Lawrence. Currently, the Cancer Center plans to renovate 170,000 square feet and construct 98,200 square feet of laboratory space for cancer researchers. The Cancer Center is requesting funding for equipment costs to go along with the renovations to the KU Cancer Center. With the requested research equipment, the University of Kansas Cancer Center will be in a stronger position to win competitive NCI research grants and also in a better position to become a National Cancer Institute designee. The cancer drug research successes are one of the best in the U.S. Their cancer drug researchers are associated with the top-ranked University of Kansas School of Pharmacy. Cancer research also adds important construction jobs and expenditures for research equipment. Currently, the Cancer Center plans to renovate 170,000 square feet and construct 98,200 square feet of laboratory space for cancer researchers.

Funding Request: \$90,000

Project Name: Sedgwick, KS Little Arkansas River Watershed

Project Location: Sedgwick, KS & Harvey County, KS

The City of Sedgwick lies adjacent to the confluence of the Little Arkansas River and its tributaries, Emma and Sand Creeks. Funds would be used to initiate and complete a feasibility study to identify measures (structural and non-structural) and formulate alternative plans for flood risk management and environmental restoration. Flooding problems associated in this area are characterized by flows on the Little Arkansas River and Sand Creek exceeding channel capacity on the average of every 2-5 years. The study will determine if a viable solution to reducing the flood damages could be implemented.

Funding Request: \$100,000

Project Name: Lower Arkansas River Ecosystem Restoration

Project Location: Lower Arkansas River of Southwest Kansas

Water availability in western Kansas is a significant issue for local water supplies, agriculture production, and economic development. For its planning purposes, the state of Kansas needs the Army Corps of Engineers to conduct an ecosystem restoration and flood damage reduction study along the Arkansas River between Great Bend, Kansas, and the Kansas-Oklahoma state line. The Arkansas River Basin experiences widespread flooding and ecosystem degradation along the riparian corridor. Project development could eliminate the associated economic damage to industry, agri-business, and personal property caused by this flooding, and prevent further ecosystem degradation.

Funding Request: \$300,000

Project Name: Manhattan, Kansas Local Protection Project

Project Location: Manhattan, Kansas

The City of Manhattan, Kansas, and an unincorporated area of Pottawatomie County are protected from recurring floods of the Kansas and Little Blue Rivers by a levee project on three sides. The City of Manhattan is experiencing significant growth of commercial industry in the protected area of the levee because of increased economic activity and the return of the entire 1st Infantry Division to the nearby Fort Riley installation. The existing Manhattan levee unit includes 29,000 feet of levee. Levee certification is a major concern. The 1993 flood damaged several hundred residences in the Manhattan area. A reconnaissance study completed in 2005 indicated the system may not provide the design level of protection. Funds will be used to progress the feasibility study, which will be critical to the ability of the city to certify their levee and maintain economic viability.

Funding Request: \$600,000

Project Name: Missouri River Degradation Study

Project Location: Joint Project between Kansas and Missouri

Additional study funding is critical for the Kansas City District office to continue studying why the Missouri River is downcutting its riverbed along its Kansas City reach. There is concern in Kansas and Missouri that if the downcutting continues, all water intakes for drinking water and power plant cooling will break or become inoperative. Funding is requested to investigate Missouri River bed degradation within Missouri from above Kansas City through Jefferson City. This investigation will consolidate and evaluate long term gage data and information on sedimentation, erosion, and channelization from prior reports. A system model will be developed to assess and determine the predominant causes of this trend. The groundwater studies will be initiated. Additionally, the investigation will recommend alternative solutions that are economically justified and environmentally acceptable.

Funding Request: \$400,000

Project Name: Missouri River Levee System, L-455 and R-460-471, KS and MO Local Protection Project

Project Location: Missouri River near St. Joseph, MO and surrounding tributaries including Doniphan County, KS

Unit R 460-471 of the levee system failed in the flood of 1993. Subsequent hydraulic analyses indicated that it would no longer provide protection from the one percent (100 year) flood. Decertification of the R 460-471 unit resulted in a rezoning process whereby the area behind the

levee will undergo increasingly severe restrictions. The recommended plan will raise the R 460-471 an average of almost three feet to pass the 100-year flood with 90 percent reliability, and raise low areas of L-435 as needed to accommodate the hydraulic effects of raising R 460-471. Funds will be used to continue the design analyses and calculations leading to the development of levee raise plans and specifications for construction. Protects Elwood and Wathena, KS and portions of Doniphan County, KS. Also, protects St. Joseph, MO, the Missouri Air National Guard complex, and Rosecrans Memorial Airport.

Funding Request: \$90,000

Project Name: Neodesha, KS Small Flood Control Project

Project Location: Neodesha, KS

To initiate and complete a feasibility study to identify measures (structural and non-structural) and formulate alternative plans for flood risk management and environmental restoration. The City of Neodesha experiences flooding due to the Fall River exceeding channel capacity on the average of every 2-5 years. The study will determine if a viable solution to reducing the flood damages could be implemented.

Funding Request: \$500,000

Project Name: New Smart Grid Communications System

Project Location: Kansas City Board of Public Utilities (KCBPU), Kansas City, KS

KCBPU presently owns and operates a pilot Advanced Metering Infrastructure (AMI) system that consists of approximately 4,000 electric and 1,500 water smart meters. The Utility began testing AMI technology in 2005. The pilot system was installed to collect load profile data to be used in a cost-of-service study. KCBPU also intended to use the AMI data to study the benefits of demand response programs designed to reduce energy demand and curve greenhouse gases. The pilot AMI system collects daily reads for residential, commercial, and industrial customers' accounts and represents a key investment in Smart Grid technologies. They would like to expand the pilot AMI system to cover all 70,000 accounts, but it lacks the funding needed to finance the entire program. The funds would be used to pay for a wireless communications network that will transport meter data commands to and from customers in their community. Additionally, funding would help to address the interoperability issues needed to ensure back office AMI system integration. KCBPU is also seeking to use the communications system to introduce distribution automation programs (such as capacitor controls, device monitoring, mobile applications, and intelligent switching) to reduce operating costs and improve system performance. The project significance rests in the ability to communicate customer energy usage information to all accounts via a wireless RF network that delivers hourly interval meter read data. Furthermore, the network will enable KCBPU to interconnect new customer-owned renewable energy (wind and solar) sources through our Net Metering policy.

Funding Request: \$100,000

Project Name: Osawatomie, KS Levee Project

Project Location: Osawatomie, KS

A significant flood hazard with a high potential for loss of life and property damage exists in Osawatomie, KS on the confluence of the Marais de Cygnes River and Pottawatomie Creek. The levee unit is comprised of 4.8 miles of levee, as well as modified channel, drainage, and closure structures. Severe flooding in 2007 overtopped the levee system causing million of dollars in

damages in a large area of the city. There is reason to believe that the levee may not provide the authorized level of protection and there is a need for ACOE to investigate for modification. The project will fund a reconnaissance investigation to determine if there is a problem and how to best modify the levee system in partnership with the City of Osawatomie. The levee system protects millions of dollars worth of residential and business property. It also protects lives.

Funding Request: \$100,000

Project Name: Salina, KS Levee Project

Project Location: Salina, KS

A significant flood hazard with a high potential for loss of life and property damage exists in Salina, KS on the confluence of the Smoky Hill River with Mulberry and Dry Creeks, just upstream from where the Smoky Hill combines with the Saline River. The levee unit is comprised of 17.1 miles of levee, as well as modified channels, 23 drainage structures, and closure structures. Severe flooding in 2007 caused severe bank erosion damage. Observations after the flood event indicate that the existing levee and channel project may have a systemic problem of channel degradation. If left unchecked, channel degradation could destabilize the levee and cause failure during a flood event. Funding would be for a reconnaissance study to determine the nature and extent of the problems and modification of the levee system. The levee system protects 4.6 square miles of the city of Salina protecting millions of dollars worth of business and residential investment.

Funding Request: \$1,000,000

Project Name: Kansas City Levees, Kansas and Missouri Flood Risk Management Construction Project (Seven Levees)

**Project Location: Joint Project in Kansas and Missouri
Fairfax Drainage District of Wyandotte County, KS**

The existing Kansas City, Missouri, and Kansas Levee Project consists of seven levee units including 60 miles of levees and floodwalls along both banks of the Missouri and Kansas Rivers in the Kansas City Metropolitan area. The levee system protects about 32 square miles of urban industrial, commercial, and residential areas. Funds would be utilized for construction of underseepage corrections to the North Kansas City levee system, design of the reinforcement required for the Fairfax BPU Unit floodwall, and design of the Kaw Valley District's Jersey Creek sheet pile wall. The entire system of seven levee units withstood the Flood of 1993, but some elements of the system were seriously challenged as the flood crest reached near overtopping levels for at least one location. This flood experience raised a concern that the levees may provide less than the level of protection for which they were designed. Following the Flood of 1993 both KCK and KCMO wrote letters to the Kansas City District Corps of Engineers expressing concern for the adequacy of parts of the flood damage reduction system. Nearly 5,000 structures and roughly \$20 billion in property are protected by the levee system. The area is a national hub for manufacturing, distribution, transportation and warehousing. The levee system has prevented approximately \$8.8 billion in damages.

Funding Request: \$100,000

Project Name: Shunganunga Creek Flood Remediation

Project Location: Topeka, KS

Federal funds would be used to help begin mitigation of future flooding along the Shunganunga

Creek and South Shunganunga Creek drainage basins through infrastructure improvements to help reduce the possibility of a flood event such as was experienced in Topeka in May 2007. The City of Topeka has developed a two prong approach to best evaluate the way forward to prevent future flooding. The first part of the study has identified the watersheds runoff rates that contribute to and are part of the creek and drainage basins. The second phase, which the requested funds would be utilized for, would focus on identifying the most efficient ways to address the flood risks. This will protect local business and residential property, as well as lives.

Funding Request: \$400,000

Project Name: Solar Parking Canopies and Plug-in Electric Stations

Project Location: Johnson County Community College, Overland Park, KS

Johnson County Community College (JCCC) is requesting funding to turn its campus parking areas into an asset-rich environment by transforming a portion of its parking capacity into a teaching and learning facility. The project consists of installing 31 elevated solar panel canopies in its parking lots, along with three plug-in electric stations for plug-in electric hybrid vehicles. These solar panel canopies are comprised of photovoltaic cells that make use of renewable energy from the sun. They are a clean and environmentally sound means of collecting solar energy. The JCCC solar panel canopies will serve as a demonstration project for the growing, high-demand solar energy field; a field that will employ an increasing number of Kansas residents in the future. Additionally, the canopies will serve as sun shields for automobiles as students will be able to park underneath. The solar panels will reduce the college's overall utility costs and carbon footprint in addition to creating a learning "laboratory" for students in the solar electric/photovoltaic (PV) technician and automotive technology programs. And most of all, the project will create a very visible solution for other organizations in the community to maximize their parking facilities.

Funding Request: \$500,000

Project Name: Topeka, KS Local Flood Protection Project

Project Location: Topeka, KS

The Topeka levee system includes more than 40 miles of levees protecting more than \$1 billion in residential, commercial, industrial, public utilities, and transportation investments. The levee system does not provide the authorized level of protection to the city. The feasibility study, completed in December 2008, recommends improvements to the levee system in a comprehensive and cost-effective project to restore an acceptable level of reliability to the levee system and increased flood protection for the city. The funds will be used to advance the design phase. The Topeka levee system includes more than 40 miles of levees protecting more than \$1 billion in residential, commercial, industrial, public utilities, and transportation investments.

Funding Request: \$12,000,000

Project Name: Turkey Creek Basin

Project Location: Turkey Creek Basin, KS and MO

Heavily damaging and life threatening floods were experienced in 1977, 1993, and 1998. The flood damage reduction project consists of approximately two miles of urban channel modification to protect from flooding up to the 100-year event and four large diversion pipelines to intercept flooding from sources above Southwest Blvd within the KC-metro area. Funding would provide for continued work on new railroad bridges, channel improvements, design on

stormwater interceptors, a levee to provide flood risk management in the area, and design work on the final channel modifications. Periodic flooding within the lower two miles of Turkey Creek Basin impacts a significant industrial and commercial corridor along SW Boulevard in Kansas City, Kansas and Missouri. Severe flooding in the Turkey Creek Basin has devastated local businesses. Flooding also poses a threat to life.

Funding Request: \$100,000

Project Name: Upper Arkansas River Ecosystem Restoration

Project Location: Upper Arkansas River of Western Kansas

Water availability in western Kansas is a significant issue for local water supplies, agriculture production, and economic development. For its planning purposes, the state of Kansas needs the Army Corps of Engineers to conduct an ecosystem restoration study related to water issues along the Arkansas River from the Kansas/Colorado border to Great Bend, Kansas (approximately 200 miles). The study is needed to determine opportunities for stream rehabilitation that would improve stream flow conveyance, minimize river water quality impacts related to groundwater reductions, obstructions and water consumption by salt cedar and other invasive species, and reduce flood problems. Water is essential to life along the Arkansas River basin. The study will provide information on how to improve flow conveyance, minimize river water quality impacts related to groundwater reductions, and assist with removal of invasive species that use massive quantities of water. Opportunities also exist for ecosystem restoration, flood damage reduction and the development of a watershed management plan.

Funding Request: \$250,000

Project Name: Upper Turkey Creek Watershed

Project Location: Johnson and Wyandotte Counties, KS

The feasibility study will evaluate the structural and nonstructural measures to address the flood threat. Turkey Creek habitat is significantly degraded and water quality is a serious problem. The study will evaluate stream and wetland habitat restoration measures that will also help reduce flood peaks and contribute to bank stability and water quality improvement. Flash flooding has occurred in Turkey Creek in 1977, 1993, and 1998. The 1998 flood caused \$12 million in damages to the City of Merriam, KS and overtopped Interstate 35; along with threatening lives in several areas in Johnson and Wyandotte Counties. This is a life safety concern.

Funding Request: \$450,000

Project Name: Wichita Area Drainage Master Study, KS

Project Location: Wichita, KS

Development of a Wichita Area Drainage Master Plan will ensure the economic well being of the Wichita area by providing a comprehensive plan for addressing drainage issues. Such a plan will define flood prone areas in greater detail, suggest ways to prevent or reduce flooding, provide guidance for floodplain management, and suggest methods to maintain or improve water quality within major channel reaches. This will allow agencies in the Wichita region to identify and adequately address flood prone areas in a comprehensive manner, and ensure that all communities are informed of the situation and contribute to the solutions.

Funding Request: \$300,000

Project Name: Wilson Lake Reallocation Study

Project Location: Wilson Lake near Russell, KS

Sediment buildup and the possible contracting of drinking water from Wilson Lake in Kansas drives the need for a reallocation study. The requested amount above the president's budget will fund this study. Without access to other water resources, Western Kansas communities look to water from Wilson Lake to serve their water needs. This issue is becoming more important as water levels in the Ogallala Aquifer continue to fall in western Kansas. Thus, the sedimentation in the lake is a top priority for numerous western Kansas communities. Completion of this study will allow public water suppliers in the area, including Hays and Russell, to pursue Wilson Reservoir as a water source in their efforts to create a regional water supply system. Water is a limited resource in this area of Kansas. Further storage is needed in Wilson Lake to provide water for industrial, municipal, agricultural and recreation needs. The economic future of the region depends upon developing a secure, long-term source of water. The development of Wilson Lake as a source of municipal water would benefit a nine-county region in West/Central Kansas that contains a population in excess of 95,000 people.