DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
ROBERT A. YOUNG BUILDING - 1222 SPRUCE ST.
ST. LOUIS, MISSOURI 63103-2833

24 August 2018

Reply to:
U.S. Army Corps of Engineers
St. Louis District
Environmental Compliance Section (PD-C)
1222 Spruce Street
St. Louis, MO 63103-2833

Dear Sir or Madam:

We are providing for your review a Draft Environmental Assessment (EA) and unsigned Finding of No Significant Impact for the U.S. Army Corps of Engineers Rivers Water and Resources Development Act (WRDA), Section 219(f)(55), Environmental Infrastructure Assistance Project to serve the City of Wood River, Illinois. An electronic copy of the draft EA and unsigned FONSI can be obtained from the St. Louis District's website at:
http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/WoodRiverCSOEA.pdf

A proposed separate storm sewer would be constructed to remove the stormwater runoff flows. The newly constructed storm sewer pipelines would flow into proposed detention ponds. The two detention ponds would accommodate the newly separated stormwater flows to meet current standards for storm water best management practices, reducing the need for wastewater treatment of combined flows. Please note that the Finding of No Significant Impact is unsigned. This document will be signed into effect only after having carefully considered comments received as a result of this public review.

Please provide any comments you may have regarding this project. For questions, comments, or to request a printed copy, please contact: Dr. Alison Anderson of the Environmental Compliance Section, **telephone** 314-331-8458 or **e-mail** at Alison.M.Anderson@usace.army.mil. Written comments may be sent to the address above, ATTN: Environmental and Planning Branch (PD-C, Anderson). Please respond by close of business on 24 September 2018.

Thank you,

Teri C. Allen, Ph.D.
Chief, Environmental Compliance Section

Draft Environmental Assessment
with
Unsigned Finding of No Significant Impact (FONSI)

State Street Area
Sewer Separation Project
Wood River, Madison County, Illinois

August 2018

U.S. Army Corps of Engineers
St. Louis District
Regional Planning & Environmental Division North
1222 Spruce Street
St. Louis, Missouri 63103-2833
Telephone Number: (314) 331-8458

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Sewer Separation Project
Wood River, Madison County, Illinois
August 2018

1 INTRODUCTION

The St. Louis District, U.S. Army Corps of Engineers has proposed to enter into a Project Partnership Agreement with the City of Wood River for work to construct the State Street Area Sewer Separation project. In this agreement, the St. Louis District proposes to provide Federal assistance to the City of Wood River for the separation of combined sewer and storm water systems in Wood River, Illinois. Currently, storm water flows are captured by a combined sewer system and transported to the City's wastewater treatment plant for processing. During even moderate rain events, the combined sewer surcharges which creates a human and environmental health hazard. The proposed sewer separation project would be carried out under Section 219 – Environmental Infrastructure program (see Section 1.1).

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's Regulations (40 Code of Federal Regulations §1500-1508, as reflected in the USACE Engineering Regulation 200-2-2). This EA evaluates the direct, indirect, and cumulative environmental, cultural, and social effects of the proposed sewer separation project.

1.1 AUTHORITY

Section 219 of the Water Resource Development Act of 1992, Environmental Infrastructure, as amended by Section 504 of the Water Resources Development Act of 1996, Section 502 of the Water Resources Development Act of 1999, and Section 108 of the Departments of Labor, Health, and Human Services, and Education, and Related Agencies Appropriations Act of 2001 authorizes the Secretary of the Army to provide assistance to non-Federal interests for carrying out water-related environmental infrastructure and resource protection and development projects including waste water treatment and related facilities and water supply, storage, treatment, and distribution facilities.

Section 1157(a) of WRDA 2016 authorizes the Secretary to carry out to completion any project authorized under Section 219 of WRDA 1992. This section applies to the completion of all components of the assistance included under the following Section 219 project authorizations, as amended and supplemented: (i) Section 219(f)(25) "Lake Marion and Moultrie, South Carolina;" (ii) Section 219(f)(30) "DeSoto County, Mississippi;" (iii) Section 219(f)(42) "San Ramon Valley, California;" and (iv) Section 219 (55) "Madison and St. Clair Counties, Illinois". These projects are the only projects to which Section 1157 applies.

1.2 PROJECT LOCATION

The proposed project area is located partially in a downtown or light industrial area, as well as within a densely populated residential neighborhood (approximately 40 city blocks). This area is roughly bounded by Picker Avenue, Edwardsville Road, Wood River Avenue, Penning Avenue, and various properties along the west side of Old St. Louis Road in the City of Wood River, Illinois (Figure 1).

Figure 1. Approximate location of the proposed project area (yellow triangle) in Wood River, Illinois.

1.3 PURPOSE AND NEED

The purpose of the State Street Area Sewer Separation project is to separate sanitary and storm water flows from an existing combined sewer system. This would be accomplished by constructing a new storm water collection system, and by expanding existing storm water detention and pumping facilities.

The existing combined sewers in the project area experience frequent surcharging and pose a serious health threat to the surrounding community. The City of Wood River has acknowledged this area as in critical need of infrastructure improvement. Separating the sanitary and storm flows would immediately alleviate the health threats associated with combined sewer overflow systems. Also, by constructing the proposed storm sewer, the City of Wood River would eliminate downstream water quality impacts (e.g., reduce *E. coli* levels). The addition of storm water detention facilities would provide storm water storage to allow for reduced effluent storm water runoff rates to the downstream area.

2 ALTERNATIVES CONSIDERED

This section of the EA describes the alternatives considered and summarizes the alternatives in terms of their environmental impacts. An Action Alternative (Sewer Separation Alternative) was developed by identifying construction measures needed to perform the combined sewer separation. A No Action Alternative is also considered for all areas under consideration.

2.1 NO ACTION ALTERNATIVE

Under this alternative, no Federal assistance would be provided and the combined sewer system would remain intact. Residents within the proposed project area would continue to be at a high risk for serious human and environmental health hazards resulting from the associated combined sewer surcharging and back-ups experienced during moderate to high rainfall events. Associated risk of human exposure to harmful viruses, bacteria and parasites would exist under this alternative.

2.2 SEWER SEPARATION ALTERNATIVE

The proposed action consists of separating storm and sanitary sewers in the State Street area of the City of Wood River, Illinois. Total features would include 20,751 linear feet (LF) of pipe ranging in diameter (12” – 60”), 75 manholes, and 170 curb inlets. The total area drained by the proposed storm water collection system would be approximately 151 acres. There are currently two detention ponds in the project area (Pond 3 and Pond 2). No actions, other than routine operations and maintenance, are proposed for Pond 3. Pond 2 (see title page photo) is proposed to be expanded by approximately 0.84 acres into the neighboring lot, which would require the removal of an existing storage building. In addition, a new detention pond (Pond 1) is proposed to be excavated. Pond 1 would be approximately 1.0 acre. The excavated material would be hauled to a stockpile site maintained by the City of Wood River. Finally, a gravity drain would be installed to connect Pond 2 to Pond 1. Storm water collected in the detention ponds would ultimately flow to an existing pump station, which pumps water into the Mississippi River. The construction of the proposed features would occur over three phases (Figure 2).

Figure 2. Proposed project features needed to separate the combined sewer and storm water systems. Project would be constructed in three phases and includes the expansion of detention Pond 2 and the construction of detention Pond 1.

3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This section describes existing conditions and potential environmental consequences in the proposed project area, which are referred to under the NEPA process as the Affected Environment and Environmental Consequences, respectively. The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.

The discussion of impacts (environmental consequences) detail those resources that could be impacted, directly or indirectly, by the no action alternative and the proposed action. Direct impacts are those that would take place at the same time and place (40 CFR§1508.8(a)) as the action under consideration. Indirect impacts are those that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR §1508.8(b)).

3.1 TOPOGRAPHY, GEOLOGY, AND LAND USE

3.1.1 Existing Conditions

The proposed project area is situated between the Mississippi River on the west and Illinois bluffs on the east. The bluffs are as high as 650 ft above sea level. The floodplain, which is the area between the bluffs and Mississippi River, is characterized by ridge and swale topography, with a maximum natural relief of approximately 35 ft and elevations ranging from 440 to 405 ft.

The line of bluffs that define the eastern boundary of the levee district consists of relatively soft shales and sandstones. However, bedrock is not exposed as the bluffs are mantled with deposits of glacial drift overlain with loess. The drift is commonly an unsorted deposit of pebbly clay, very plastic clay, sandy clay, and occasional lenses of sand or gravelly sand. The loess that blankets the summit and faces of the bluffs consists of windblown silts and lean clays locally 50+ ft thick. Adjacent to the bluffs, a series of sand and gravel deposits form terraces that stand an average of 30 ft above the level of the surrounding plain. These terraces are remnants of an aggraded fill resulting from glacial melt deposits.

Wood River Creek, a tributary of the Mississippi River, divides just west of East Alton. The deepest part of the bedrock surface ranges in depth from 160 to 170 ft beneath the valley fill with an average thickness of 130 ft of overlying alluvial deposits. Immediately above the bedrock surface is a stratum consisting of coarse gravels and sands with occasional boulders. Overlying this stratum is a thick section of medium to fine sands. The surface deposits are complex and varied as they result from filled lakes and swamps, abandoned meander loops, and flood water deposition. The surface materials range from heavy plastic clays to fine sands. In addition, industrial waste and artificial deposits are also found as part of the surface deposits.

Anthropogenic land use alterations have drastically changed this area since the construction of the levee. According to the 2011 National Land Cover Database (NLCD 2011) and a recent aerial photo (Figure 2), urban development, which consists primarily of residential and industrial development, now comprises the majority of the proposed project area.

3.1.2 No Action

Under the No Action Alternative, topography, geology, and land use are expected to remain consistent with the existing conditions.

3.1.3 Sewer Separation

Under the Sewer Separation Alternative, the geology of the area would remain unchanged. There would be minor changes to the topography and land use in the project area, specifically areas where the detention ponds would be constructed. As part of the proposed project, Pond 2 would be expanded by approximately 0.84 acres into the neighboring lot, which would require the removal of an existing structure. This area is also a maintained turf grass lot. In addition, a new detention pond (Pond 1) is proposed to be excavated. Pond 1 would be approximately 1.0 acre. Finally, a gravity drain would be installed to connect Pond 2 to Pond 1. The area of the proposed Pond 1 is currently an abandoned gravel lot (Figure 3), which was formerly used for surface storage. No tree clearing is anticipated under this alternative. The disturbed areas would be seeded based on location. Low lying areas within the excavated depression would be seeded with a wet-meadow mix while the upper areas and side slopes would be seeded with a native grass mix. This area would be converted from a developed area to a depression that could serve as aquatic habitat during rain events. The proposed pond and pond expansion would be a wetland-like environment within a highly developed area.

Figure 3. Existing conditions of the Pond 1 proposed location on 25 July 2018.

3.2 HYDROLOGY AND HYDRAULICS

3.2.1 Existing Conditions

The proposed project area is within the Lower Wood River Drainage and Levee District. The Wood River Levee System is intended to provide protection against a Mississippi River stage of 52 ft on the St. Louis gage. Within the levee protected area, hydrology is primarily driven by overland runoff. The levee district

relies on many pumping stations that discharge storm water, seepage, and sewage flow to the Mississippi River. The interior drainage system relies on two methods of conveyance, open drainage ditches and combined sewers. Open drainage ditches feed two of the levee and drainage district's seven pump stations, these are Lakeside and Homegarden. Sewer fed pump stations convey effluent irrespective of interior rainfall events. The combined sewer systems transport both sewage and storm water to the wastewater treatment plant where it is all treated and then discharged into the Mississippi River. During even moderate rain events, the combined sewer surcharges. A sewer surcharge refers to the overloading of the sewer beyond its design capacity due to the inflow and infiltration of water. A surcharging sewer often results in sewer overflow at manholes and residential and commercial facilities. The overflow of water can be a combination of stormwater and untreated sewage. Overflow outlets (e.g., manholes) can cause intense flooding of overflow water in low lying areas. Times of overflow are often posted on the cities' webpage and residents are advised to avoid these areas for at least 72 hours. According to the City of Wood River's Combined Sewer Overflow (CSO) update reports, the combined sewer system surcharged 29 times between February 1 and June 30, 2018.

3.2.2 No Action

Madison County, and its communities, have assembled a group to help implement best management practices (BMP) throughout their communities in order to progress towards achieving a reduction of discharged pollutants in areas that have separated storm and sewer water systems. These BMPs range from community events and school education to green infrastructure programs and stormwater ordinances. Implementing more of these programs and helping to reduce stormwater flows into the existing CSO system would help reduce instances of overflow surcharges if the proposed plan is not constructed. However, even with those BMPs in place, the CSO system may continue to surcharge during rain events. This could result in flooding of low-lying areas within the leveed area, or potentially cause back-ups into residential basements or commercial facilities. The City of Wood River would have to continue to treat stormwater prior to discharging it into the Mississippi River.

3.2.3 Sewer Separation

Best management practices as described under the No Action Alternative would be implemented under this alternative as well. Under the Sewer Separation Alternative, stormwater in this area would be directed into a separate system which is connected to a series of detention ponds. The new and existing detention ponds, under this alternative, would hold storm waters until it can be conveyed to an existing pump station. This water would ultimately be pumped past the Wood River Levee system into the Mississippi River. The controlled conveyance of stormwaters would reduce the frequency and duration of CSO discharges, which would reduce flooding due to overflow waters and reduce the discharge of high levels of fecal coliform bacteria.

3.3 WATER QUALITY

3.3.1 Surface Water

3.3.1.1 Existing Conditions

The East and West Forks of Wood River join together forming the upper boundary of the Lower Wood River leveed area before discharging into the Mississippi River. The Mississippi River borders the riverfront levee for its entire length. Small man-made impoundments are scattered in the uplands and a number of lake-like water bodies occur in the bottomland, most of which are clustered along the riverside

of the main levee. This project area is within the Mississippi South Central River HUC12 watershed. The Illinois Environmental Protection Agency (IEPA) samples surface waters within HUC12 watersheds on a 4-year rotation to meet Section 305(b) requirements of the Clean Water Act (1976). IEPA reports the resource quality of its waters in terms of the degree to which the beneficial uses of those waters are supported and the reasons (i.e., causes and sources) beneficial uses may not be supported.

According to the IEPA (2018), impaired uses and causes for impairment (within parentheses) for these waterways include:

1. Mississippi River - fish consumption (mercury, polychlorinated biphenyls), primary contact recreation (fecal coliform), and public water supplies (manganese);
2. Wood River– aquatic life (total suspended solids) and primary contact recreation (fecal coliform);
3. West Fork Wood River – aquatic life (sedimentation/siltation); and
4. East Fork Wood River – aquatic life (sedimentation/siltation, water temperature) and aesthetic quality (bottom deposits)

Water quality in the levee interior and the Mississippi River can be greatly affected by combined sewer overflow systems. Within the City of Wood River, the CSO discharges directly into the Mississippi River, which contributes to the impaired use designation for primary contact recreation. The discharge of untreated sewage water during rain events can lead to increases in fecal coliform bacteria, which poses a serious human and environmental health risk. According to the City of Wood River's CSO update reports, the combined sewer system surcharged 29 times between February 1 and June 30, 2018. The discharge water contained average fecal coliform levels between 425,000 and 16,700,000 colony forming units/100 mL of water.

3.3.1.2 No Action

If No Action is taken to separate sewage and storm water collection systems, untreated sewage may continue to surcharge. The discharge of untreated sewage water during rain events could lead to increases in fecal coliform bacteria in the Mississippi River and other nearby aquatic habitats. Other contaminants from combined sewer overflow discharges could include high concentrations of suspended solids, biochemical oxygen demand, oils and grease, toxins, nutrients, floatables, and pathogenic microogranisms (U.S. EPA, 1999).

3.3.1.3 Sewer Separation

The separation of sanitary waste and storm water conveyance may improve local water quality and help improve fecal coliform levels in the Mississippi River.

3.3.2 Groundwater

3.3.2.1 Existing Conditions

The bottomland portion of the Wood River leveed area is underlain by a sand and gravel aquifer that has historically supplied groundwater for industrial purposes. The municipalities of East Alton, Bethalto, Wood River, and Hartford have community water supply facilities that currently withdraw from these groundwater sources. In order to protect groundwater quality in this area, the Southern Groundwater Protection Planning Region was established by the IEPA in Madison County and three adjacent counties to the south. In the vicinity of the East Alton community water supply, there is a plume of groundwater contamination coming from two sites that consist of leaking underground storage tanks and the

contaminants include various volatile organic compounds (IEPA 2016). The IEPA's Bureau of Land is implementing a groundwater contamination response strategy for East Alton (IEPA 2016). There is also dissolved and free phase hydrocarbon contamination under portions of the northern part of the Village of Hartford. The dissolved plume is currently under investigation by the IEPA.

3.3.2.2 No Action

No impacts associated with taking no action to address combined sewer separation are anticipated. Conditions regarding groundwater are expected to remain consistent with the existing conditions.

3.3.2.3 Sewer Separation

No impacts associated with implementing the proposed actions in relation to addressing combined sewer separation are anticipated. Conditions regarding groundwater are expected to remain consistent with the existing conditions.

3.4 RECREATION AND AESTHETICS

3.4.1 Existing Conditions

Madison County Transit supports a system of recreational trails in Madison County (Figure 4) that are used for walking, running, roller-blading, and cycling. The Confluence Trail is an 18.7 mile trail that follows the top of the riverfront levee in Wood River, Illinois, along the Mississippi River. This trail extends nine miles from the Cahokia Creek Diversion Channel at the south to Alton at the north and passes by the Melvin Price Locks and Dam. The trail is crossed at a number of locations by public and private roads. A two-mile extension branches off at Wood River Creek and follows the creek upstream to about Illinois Route 3.

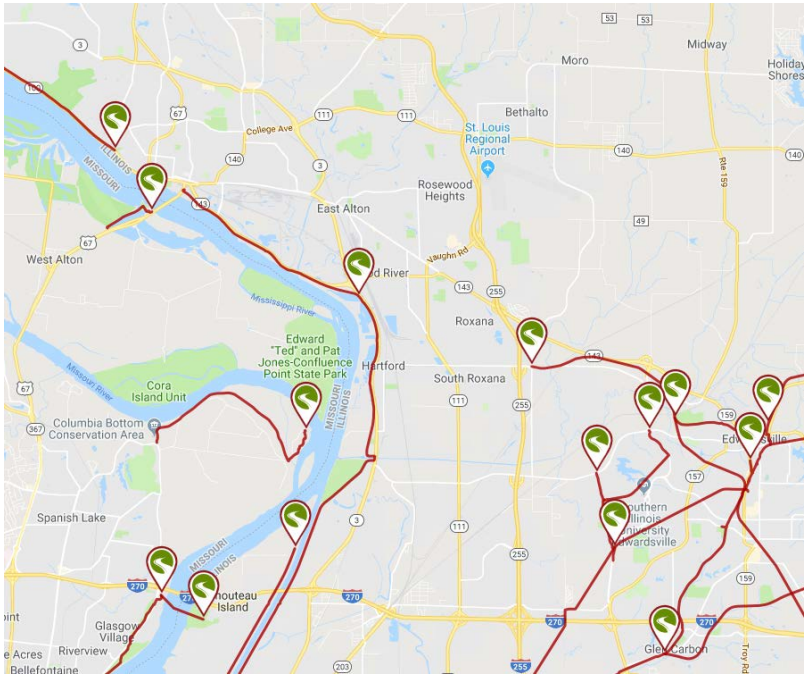

Figure 4. Recreation trail opportunities near the project area.

Aesthetic resources are represented by those aspects of the natural and human environment that are pleasant or pleasing to people, especially to look at. For many people aesthetic resources include the

natural channel of the Mississippi River, undeveloped open spaces such as agricultural lands, natural habitats, and some development, such as residential areas. The project area's industrial areas are expected to be aesthetically attractive to relatively few people.

3.4.2 No Action

The continued use of combined sewer overflow systems could result in flooding problems due to excessive combined flows as well as the discharge of contaminants. The contaminants discharged from these systems reduce recreational capacities of nearby waterways. This system contributes to the Mississippi River impairment for primary contact recreation due to increased fecal coliforms. In addition, potential odors and solids deposit in the receiving water bodies and low-lying areas in the Wood River Levee District could compromise the aesthetics of the area.

3.4.3 Sewer Separation

Implementing the sewer separation project would have a positive impact on the area's aesthetics and recreational resources. Separating sewer discharges would eliminate the discharge of untreated wastes into receiving waters, ultimately increasing recreation opportunities. In addition, no additional wastes would be discharged from this system, which would reduce sewer odors in the area. This would improve the aesthetics of the area.

3.5 VEGETATION AND WETLANDS

3.5.1 Existing Conditions

The project area falls within an area commonly referred to as the American Bottoms. The American Bottoms is an expansive floodplain of the Mississippi River extending from Alton, Illinois, south to the Kaskaskia River. The floodplain lies just south of the confluence of three great rivers, the Missouri, Illinois, and Mississippi Rivers, and is bounded by a nearly continuous bluff on the east and the Mississippi River to the west. The area is currently protected from flooding by a levee and drainage canal system with many remaining wetlands and oxbow lakes. Historically, this area was primarily used for agriculture due to its rich fertile soils.

A variety of aquatic, wetland, and terrestrial natural communities are found in the vicinity of the project area. However, the proposed project area is highly developed, which limits the existing biological resources. A USACE regulatory review was completed on 25 July 2018. This area does not contain jurisdictional Waters of the U.S., per Clean Water Act, Section 404. An additional review of the National Wetlands Inventory Database was conducted and no wetlands were identified within the proposed project feature footprint (USFWS 2018). The existing detention ponds in the project area provide wetland-like habitat in a highly industrialized area.

3.5.2 No Action

The continued use of combined sewer overflow systems could result in flooding problems due to excessive combined flows as well as the discharge of contaminants. The contaminants discharged from these systems could negatively impact the habitat quality of nearby wetlands.

3.5.3 Sewer Separation

The construction of the proposed project would have no direct impacts on existing wetlands. The construction for the new stormwater system would largely be confined to existing roadways, sidewalks,

and driveways; however some minor disturbance to maintained lawns (turf grass) may occur. However, these areas would be reseeded with turf grass after construction. Since the CSO discharges directly into the Mississippi River, the new stormwater system is not expected to alter exiting wetland hydrology.

The installation of a new detention pond and expansion of an existing detention pond would impact areas with turf grass, however no trees would be removed as part of this proposed project. The detention ponds would be seeded with native wet-meadow and prairie grass species in order to prevent erosion and to establish habitat for wetland and terrestrial species. The addition of vegetation to the detention ponds would make them more wetland-like, which may improve the water quality of the stormwater runoff prior to being discharged into the Mississippi River. No impacts to existing wetlands are anticipated as part of this proposed project.

3.6 FISH AND WILDLIFE

3.6.1 Existing Conditions

A variety of animal species use the urbanized project area. Most wildlife species are adapted to human disturbance or tolerant of fragmented habitats or poor water quality and consist of a variety of amphibians, reptiles, birds, and mammals. For example, fishes observed in open water wetlands are tolerant of high turbidity and include such species as mosquitofish (*Gambusia affinis*) and common carp (*Cyprinus carpio*). The open water and herbaceous wetlands serve as resting and feeding areas for some migratory ducks and geese. Wading birds that typically feed in shallow ponded areas or ditches include the great blue heron (*Ardea herodias*) and great egret (*Ardea alba*). Wild turkey (*Meleagris gallopavo*) may also be seen as well as red-winged blackbirds (*Agelaius phoeniceus*). Larger mammals include raccoon (*Procyon lotor*), common opossum (*Didelphis marsupialis*), and white-tailed deer (*Odocoileus virginianus*).

3.6.2 No Action

The State Street Area would still have combined sewer overflow discharges into the Wood River Levee District impoundment areas and the Mississippi River. The unknown types and concentrations of contaminants that are exposed to the environment have the potential to negatively impact aquatic and terrestrial organisms, especially sensitive species and life stages. By taking no action to address the on-going pollution, combined sewer overflow discharges may continue to impact habitat quality for fish and wildlife.

3.6.3 Sewer Separation

The separation of sanitary waste and storm water conveyance may improve local water quality, which may benefit freshwater mussels and fish species. The creation of wetland-like habitat with the installation and expansion of detention ponds may benefit mammals and birds that live in or use the project area.

3.7 THREATENED AND ENDANGERED SPECIES

3.7.1 State Listed Species

3.7.1.1 Existing Conditions

The Illinois Department of Natural Resources (IDNR) was contacted via the Ecological Compliance Assessment Tool (EcoCAT) website on 27 July 2018, for a list of Illinois State threatened and endangered

species that could potentially be located in the project areas (IDNR project number: 1900917). The Illinois Natural Heritage Database shows that eight species may be in the vicinity of the proposed project location. These species include: American eel (*Anguilla rostrata*), Indiana bat (*Myotis sodalis;* see Section 3.7.2-Federally Listed Species), northern long-eared bat (*Myotis septentrionalis*; see Section 3.7.2-Federally Listed Species), black sandshell (*Ligumia recta*), butterfly mussel (*Ellipsaria lineolata*), and spectaclecase (*Cumberlandia monodonata;* see Section 3.7.2-Federally Listed Species).

American eel. The American eel is the only species of freshwater eel found in North America. Adult eels spawn in the Sargasso Sea. The larvae undergo several changes (metamorphoses) as they drift from the Sargasso Sea to estuaries and tidal rivers from Greenland to Venezuela. Yellow eels, which are sexually immature adults, either migrate upstream into freshwater rivers, or remain in marine or brackish waters. After several years of feeding and growing (2 – 40+ years), the eels begin to sexually mature and being to migrate back to the Sargasso Sea to spawn. Even though American eels remain widely distributed throughout much of their historical range, their population numbers have declined due to habitat loss from dams and other obstructions. Conservation efforts are in place to help improve American eel and other migratory fish species populations. These efforts can include dam removal, culvert replacement, and night-time shutdowns of hydroelectric facilities during eel migration.

Black sandshell. The black sandshell is a large, elongated freshwater mussel that is widespread in eastern and central United States. However, it has become increasingly rare in many parts of its range. Across Illinois, a total of 143 individuals were found at 22 of 900 sites surveyed between 2009 and 2013 (USFWS 2015). Overall, it has been found in only 1/3 of the drainages it once occupied. The species occurs in medium-sized to large freshwater river systems in locations with strong current and substrates of coarse sand and gravel. Host fish species for this mussel are American eel, bluegill, and white crappie.

Butterfly mussel. This freshwater mussel is widespread throughout the Upper Mississippi River and Ohio River. However, this species is only locally abundant and is disappearing from many areas where it formally occurred. This species prefers large rivers with stable substrate containing rock, gravel, and sand in a swift current. Host fish species for this mussel are freshwater drum, green sunfish, and sauger.

3.7.1.2 No Action

Combined sewer and storm water systems can overflow, sending untreated rainwater and sewage into the Mississippi River or into low-lying areas of the Lower Wood River Levee District. The unknown types and concentrations of contaminants that are exposed to the environment have the potential to negatively impact aquatic organisms, especially sensitive species and life stages. By taking no action to address the on-going pollution, combined sewer overflow discharges may continue to impact mussels and fish species.

3.7.1.3 Sewer Separation

The separation of sanitary waste and storm water conveyance may improve local water quality, which may benefit freshwater mussels and fish species.

3.7.2 Federally Listed Species

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973 (as amended), federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species.

3.7.2.1 Existing Conditions

The U.S. Fish and Wildlife Service (USFWS) was contacted via USFWS Information for Planning and Consultation (IPaC) website on 27 July 2018 for a list of Federal threatened, endangered and candidate species that could potentially be located in the project areas (Consultation Code: 03E18100-2018-SLI-0611 and Event Code: 03E18100-2018-E-01406).

Table 1. List of federally listed threatened and endangered species potentially occurring within the proposed project area.

Common Name	Scientific Name	Listing Status	Habitat
Indiana Bat	*Myotis sodalis*	Endangered	Caves and mines (hibernacula); small stream corridors with well-developed riparian woods, upland forests (foraging)
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened	Caves and mines (hibernacula); small stream corridors with well-developed riparian woods, upland forests (foraging)
Least Tern	*Sterna antillarum*	Endangered	Sparsely vegetated sand and gravel bars on large rivers (nesting)
Eastern Massasauga	*Sistrurus catenatus*	Threatened	Floodplain forests, marshlands, bogs, and old fields
Pallid Sturgeon	*Scaphirhynchus albus*	Endangered	Large rivers
Spectaclecase	*Cumberlandia monodonta*	Endangered	Large rivers in areas sheltered from the main flow of the river current
Decurrent False Aster	*Boltonia decurrens*	Threatened	Disturbed alluvial soils
Eastern Prairie Fringed Orchid	*Platanthera leucophaea*	Threatened	Mesic to wet prairies

Indiana Bat. Indiana bats hibernate in caves, or mines, only during the winter months. Hibernation season is from 1 October to 31 March. During the active season (1 April to 30 September), they roost in forest and woodland habitats. A wide variety of summer habitats are suitable for Indiana bats such as forested/wooded habitat and non-forested habitats such as emergent wetlands, adjacent edges of agricultural fields, old fields, and pastures. Roosting habitats for this species include live trees and/or snags with at least 5 inches diameter at breast height (dbh) that have exfoliating bark, cracks, crevices, and/or hollows. Tree species used as roosts often include, but are not limited to, shagbark hickory, white oak, cottonwood, and maple trees.

Northern Long-eared Bat. Northern long-eared bats hibernate in caves, or mines, only during the winter months. In Illinois, hibernation season is from 1 August to 31 May. During the active season (1 June to 31 July), they roost in forest and woodland habitats. A wide variety of summer habitats are suitable for northern long-eared bats such as forested/wooded habitat and non-forested habitats such as emergent wetlands, adjacent edges of agricultural fields, old fields, and pastures. Roosting habitats for this species

include live trees and/or snags at least 3 inches diameter at breast height (dbh) and have exfoliating bark, cracks, crevices, and/or hollows. Tree species used as roosts often include, but are not limited to, shagbark hickory, white oak, cottonwood, and maple trees. Northern long-eared bats have also been observed roosting in human-made structures such as buildings, barns, bridges, and bat houses.

Least Tern. Nesting colonies of the least tern have been recorded in southern Illinois from Jackson and Alexander Counties (Herkert 1992). No known natural nesting habitat of the least tern occurs within the study area or adjacent reach of the Mississippi River. This bird forages for small fish in shallow water areas along the river and in backwater areas, such as side channels and sloughs. Foraging and nesting habitat are located in close proximity to each other. From late April to August, least terns nest on sparsely vegetated alluvial or dredge spoil islands and sand/gravel bars in or adjacent to rivers, lakes, gravel pits and cooling ponds. They nest in colonies with conspecifics and sometimes with the piping plover (*Charadrius melodus*). Nesting locations usually are at the higher elevations and away from the water's edge. Dams, reservoirs, and other changes to river systems have eliminated a great amount of the historic least tern habitat. Narrow forested river corridors have replaced historical wide channels dotted with sandbars that are preferred by the terns. Furthermore, recreational activities on rivers and sandbars disturb the nesting terns, which can cause them to abandon their nests.

Eastern Massasauga Rattlesnake. This federally threatened rattlesnake is known to occur from the historic floodplain of the Mississippi River in the Metro East area near Horseshoe Lake, to the south of the Wood River Levee and Drainage District. The massasauga, or swamp rattler, historically lived in prairies of the Midwest, apparently in the wetter areas, and today inhabits old fields, floodplain forests, marshlands, and bogs. It is active from April through October, and often suns on clumps of grass, in branches of small shrubs, or near crayfish burrows. It feeds on small rodents, and overwinters in crayfish burrows, hibernating until spring.

Pallid Sturgeon. This fish is found in the Mississippi River downstream of its confluence with the Missouri River, which is about 4 miles downriver from of the Melvin Price Locks and Dam. The entire stretch of river below the mouth of the Missouri River is considered potential habitat. Pallid sturgeon are most frequently caught over a sand bottom, which is the predominant bottom substrate within the species' range on the Missouri and Mississippi Rivers. Pallid sturgeon have been found in water 1.2 to 7.6 meters deep with velocities of 0.33 to 90 centimeters per second (USFWS 1993). These data probably better reflect where data have been collected rather than actual habitat preferences. Recent tag returns have also shown that the species may be using a range of habitats in off-channel areas, including tributaries of the Mississippi River.

Spectaclecase. The spectaclecase is a freshwater mussel that can grow up to 9 inches in length with an elongated and somewhat flattened shell. This mussel was historically found in at least 44 streams of the Mississippi, Ohio, and Missouri River basins. Spectaclecase mussels are found in large rivers in areas sheltered from the main flow of the river current, such as beneath rock slabs, between boulders, and under tree roots. Adult mussels can be found in clusters in firm mud flats and often spend their lives completely, or partially, buried within river substrates. Sedimentation, population fragmentations, pollution, and channelization are the primary contributors to the decline of this species. Populations of spectaclecase mussels have not been recently observed on the mainstem of the Upper Mississippi River below Lock and Dam 25.

Decurrent False Aster. The decurrent false aster is a perennial floodplain plant of open, wetland habitats, and its distribution includes Madison and St. Clair Counties, Illinois. Historically it occurred in wet prairies, shallow marshes, and shores of rivers, creeks, and lakes on the floodplain of the Illinois and Mississippi Rivers (Schwegman and Nyboer 1985). Currently it is found most often in old agricultural fields and along roadsides and lake shores where alluvial soils have been disturbed. This plant is an early successional species that requires either natural or human disturbance to create and maintain suitable habitat. In the past, the annual flood/drought cycle of the Illinois and Mississippi rivers provided the natural disturbance required by this species. Annual spring flooding created open, high-light habitat and reduced competition by killing other less flood-tolerant, early successional species. Field observations indicate that in "weedy" areas without disturbance, the species is eliminated by competition within 3 to 5 years (USFWS 1990, USFWS 2001). *Boltonia decurrens* has high light requirements for growth and seed germination and shading from other vegetation is thought to contribute to its decline in undisturbed areas. Seeds of this plant can be dispersed by flooding, or carried by wind and animals. Records indicate this plant occurs to the south of the Wood River Drainage and Levee District in the Metro East area.

Eastern Prairie Fringed Orchid. Also known as the prairie white fringed orchid, this species formerly occurred over much of north and central Illinois, including Madison County, but is now confined to the northeast corner of the state (Herkert 1991). This plant is found in mesic to wet prairies located on uplands and in river valleys. It may be present wherever prairie remnants are encountered. There are no known prairie remnants on the historic floodplain of the Mississippi River in the Wood River leveed area.

3.7.2.2 No Action

Combined sewer and storm water systems can overflow, sending untreated rainwater and sewage into the Mississippi River or into low-lying areas of the Lower Wood River Levee District. The unknown types and concentrations of contaminants that are exposed to the environment have the potential to negatively impact aquatic organisms, especially sensitive species and life stages. By taking no action to address the on-going pollution, combined sewer overflow discharges may continue to impact mussels and fish species. In addition, suitable habitats for the eastern prairie fringed orchid, decurrent false aster, least tern, and eastern massasauga are not present in the project area. There is also no suitable habitat for the northern long-eared and Indiana bats in the proposed project area and no tree clearing is anticipated as part of the No Action Alternative. Therefore, no adverse impacts to bat species are anticipated as the result of taking no action to address the combined sewer systems.

3.7.2.3 Sewer Separation

The separation of sanitary waste and storm water conveyance may improve local water quality by reducing the amount of untreated sewage that is discharged into the Mississippi River, which may benefit freshwater mussels and fish species. Therefore, the St. Louis District has determined that since separating the combined sewer and storm water system may improve habitat quality for aquatic species, the proposed project "*may affect but not likely to adversely affect*" the pallid sturgeon and spectaclecase.

In the project area, suitable habitats for the eastern prairie fringed orchid, decurrent false aster, least tern, and eastern massasauga are not present. There is also no suitable habitat for the northern long-eared and Indiana bats and no tree clearing is anticipated as part of the Sewer Separation Alternative. Therefore, the St. Louis District has determined that taking action to address combined sewer overflows would have "*no effect*" on the northern long-eared and Indiana bats, eastern prairie fringed orchid, decurrent false aster, least tern, and eastern massasauga.

3.8 BALD AND GOLDEN EAGLE

3.8.1 Existing Conditions

Bald Eagles (*Haliaeetus leucocephalus*) winter along the major rivers of Illinois and Missouri and at scattered locations some remain throughout the year to breed. Perching and feeding occurs along the edge of open water, from which eagles obtain fish. The bald eagle was removed from the List of Endangered and Threatened Species in August 2007, but it continues to be protected under the Bald and Golden Eagle Protection Act and by the Migratory Bird Treaty Act. Recommendations to minimize potential project impacts to the bird and nests are provided by the U.S. Fish and Wildlife Service in the agency's National Bald Eagle Management Guidelines publication (USFWS 2010). The guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season, which in the Midwest is generally from late January through late July.

3.8.2 No Action

No impacts to Bald Eagles are anticipated under the No Action Alternative.

3.8.3 Sewer Separation

There is one known nest in the vicinity of Wood River near Mel Price Locks and Dam, which is approximately 2.4 miles from the proposed project area. It was last used in 2018. Because the proposed action is expected to take several years to complete, and there is the potential for conditions to change with regard to nest trees, the District would continue to evaluate potential impacts to the Bald Eagle as design plans are developed and would coordinate in this regard with the U.S. Fish and Wildlife Service.

3.9 CULTURAL AND TRIBAL RESOURCES

3.9.1 Existing Conditions

Cultural resources are locations of past human activity, occupation or use and typically include archaeological sites such as prehistoric lithic scatters, villages, procurement area, rock art, shell middens, and historic era sites such as refuse scatters, homesteads, railroads, ranches, logging camps, and any structures or buildings that are over 50 years old. Cultural resources also include Traditional Cultural Properties (TCPs), which are aspects of the landscape that are part of traditional lifeways and practices and are considered important to a community. The National Historic Preservation Act (NHPA) is the major piece of federal legislation that mandates that federal agencies consider how undertakings could affect significant cultural resources.

In addition to the consultation with IL State Historic Preservation Office (SHPO), consultation with Native American Tribal organizations would also be required to ensure compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The USACE St. Louis District has previously established consultation agreements with 26 Tribal organizations that have ties to, or an interest in, the District's region.

The study area is located within the American Bottoms, an area of Mississippi River floodplain extending from Alton on the north, south to the mouth of the Kaskaskia River, near the city of Chester. This area is known for its abundant and significant prehistoric, colonial, and historic cultural resources. Cahokia

Mounds, a World Heritage site, lies southeast of the project area. The levees which lie along the Mississippi River, Wood River, and the Cahokia Diversion Canal, were constructed to channelize and divert Cahokia Creek and its tributaries to the Mississippi.

The records of the Illinois Historic Preservation Agency (IHPA), the State Historic Preservation Office (SHPO) for Illinois, were reviewed to determine the extent of previous research in the project area. The records indicate that there have been multiple survey investigations in the vicinity of the project area, but not for the anticipated project footprint. There is one prehistoric site recorded as being located in proximity of the southern detention pond (Pond 1).

3.9.2 No Action

As development continues to expand within the project area, including the floodplain of the Mississippi River, archaeological resources not in public ownership or protection are increasingly vulnerable to commercial and residential development (USACE, 2003).

3.9.3 Sewer Separation

The proposed project area has a moderate to low potential to contain potentially significant historic properties (archaeological remains). The placement of storm sewers alongside existing sewer lines below streets and pavements are unlikely to affect intact historic properties. The creation of storm water detention ponds, however, may encounter previously unidentified historic properties. In particular the expansion of the south pond into properties that have not been archaeologically surveyed is of concern due to the close proximity of a known site. Further investigations to identify any unknown historic properties will be required.

USACE would perform historic properties investigations (archival records searches and on-site investigations) within areas of potential ground surface disturbances associated with this study. Such areas would include any potential construction sites/equipment staging areas. Should these investigations identify any potentially significant archeological remains, USACE will immediately notify the IL SHPO and apprise them of the discovery. After consultation with the IL SHPO, should avoidance of the potentially significant remains not be feasible, additional archaeological fieldwork will be required to determine the significance of the archaeological remains. The conduct and extent of such investigations would also be formally coordinated, in advance, with the IL SHPO and other interested parties, including potentially affiliated Native American tribes.

Should any potentially significant archaeological remains be uncovered incidentally during construction (after the scheduled archaeological investigations have been completed) all construction-related excavations within the immediate vicinity of the find would cease pending a professional archaeological determination of the significance of such remains. Fieldwork procedures related to this activity would be identical to those described in the preceding paragraph.

3.10 SOCIOECONOMICS AND TRANSPORTATION

3.10.1 Existing Conditions

Wood River, Illinois consists of approximately 10,300 residents according to the U.S. Census 2017 Population Estimates Program. This estimate shows a slight decrease since the 2010 U.S. Census, when the city had approximately 10,700 residents. The median household income in this area is approximately

$41,143. The civilian employed population (16 years and over) consists of management, business, science, and arts occupations, as well as sales and office, and service occupations.

The proposed project area is primarily comprised of residential homes. There are also a few small commercial businesses, along with a recreation area and a high school in and around the proposed project area. The commercial businesses consist of construction and mechanical services, truck and equipment rental services, and food services.

Traffic in the vicinity of the proposed project consists of highway, local, and river traffic. Traffic on the river varies from barge traffic carrying grain, slag, coiled steel, farming chemicals, and other goods to small recreational pleasure craft. There is substantial traffic along Illinois Highways 3, 111, and 255. Illinois Highway 3 runs directly adjacent and parallel to the Lower Wood River Levee and has been inundated with water during flood events, which inhibits traffic during those events. Individuals within the levee protected area also experience heavy traffic involving commercial transport vehicles traveling to and from the Phillips 66 Wood River Refinery, farm equipment, and haul trucks traveling to and from barge terminals. The project area is also traversed by several railroads that service industrial development.

3.10.2 No Action

No additional impacts to socioeconomic or transportation would be anticipated as a result of taking No Action to address the combined sewer overflow. Conditions are expected to remain consistent with the existing conditions.

3.10.3 Sewer Separation

Economics in the project area are not anticipated to be negatively affected as part of this alternative. However, the construction of the stormwater system is largely confined to local roadways. Traffic on North Old St. Louis Rd, and adjacent roads, would be impacted during construction. Temporary road closures or alternate traffic patterns may be needed. This would impact residents of this area as well commercial enterprises. However, these impacts would be temporary. In addition, the project would be completed in three phases and alterations in traffic would only occur in areas with active construction.

3.11 HAZARDOUS, TOXIC, AND RADIOACTIVE MATERIALS

3.11.1 Existing Conditions

The U.S. Army Corps of Engineers Regulations (ER 1165-2-132 and ER 200-2-3), and District policy requires procedures be established to facilitate early identification and appropriate consideration of potential hazardous, toxic, or radioactive waste (HTRW) in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resources studies or projects by conducting HTRW Initial Hazard Assessments (IHA). USACE specifies that these assessments follow the process/standard practices for conducting Phase I Environmental Site Assessments (ESA) published by the American Society for Testing and Materials (ASTM). This assessment was prepared using the following ASTM Standards:

- E1527-13: Standard Practice for Environmental Site Assessments – Phase I Environmental Site Assessment process
- E1528-06: Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (interview questionnaires)

- E2247-08 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

The purpose of a Phase I Environmental Site Assessment is to identify, to the extent feasible in the absence of sampling and analysis, the recognized environmental conditions (RECs) in connection with a given property(s), within the scope of the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. A Phase I Environmental Site Assessment was completed on 20 August 2018. The ESA revealed potential RECs in the construction area.

3.11.2 No Action

Remediation efforts would continue at the known sites within the Wood River area that are under the State Site Remediation Program; the Resource Conservation and Recovery Act program; and Comprehensive Environmental Response, Compensation, and Liability Act program.

3.11.3 Sewer Separation

The St. Louis District conducted a Phase I ESA, including a site investigation (USACE, 2018). The ESA revealed potential RECs in the construction area. These potential RECs should be noted in the construction meetings however, they are a minimal risk to the project. Therefore, no Phase II ESA is necessary for the proposed project. The Environmental Quality Section should be contacted immediately if HTRW material is encountered at any point during construction activities.

3.12 Air Quality and Noise

The Clean Air Act of 1963 requires the U.S. Environmental Protection Agency (EPA) to designate National Ambient Air Quality Standards (NAAQS). The EPA has identified standards for 6 pollutants: lead, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulate matter (less than 10 microns and less than 2.5 microns in diameter), along with some heavy metals, nitrates, sulfates, volatile organic and toxic compounds (Table 2).

Table 2. Six pollutants and their standard criteria designated by the U.S. EPA.

Pollutant	Averaging time	Criteria	Form
Carbon monoxide	8 hours	9 ppm	Not to be exceeded more than once per year
	1 hour	35 ppm	
Lead	Rolling 3 month	0.15 µg/m^3	Not to be exceeded
Nitrogen dioxide	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb	Annual Mean
Ozone	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution ($PM_{2.5}$)	1 year	12.0 µg/m^3	Annual mean, averaged over 3 years
	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
Sulfur dioxide	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

3.12.1 Existing Conditions

The project area is located within the Metropolitan St. Louis Interstate Air Quality Control Region (AQCR). This AQCR covers the following counties in Missouri: Franklin, Jefferson, St. Charles, St. Louis, and St. Louis City; and the following counties in Illinois: Madison, Monroe, and St. Clair. Areas within the AQCR are further defined according to the attainment status of criteria pollutants. The Metropolitan St. Louis AQCR is in attainment for most of the criteria pollutants, including particle pollution ($PM_{2.5}$), sulfur dioxide, carbon monoxide, nitrogen dioxide, and lead (U.S. EPA, 2017). The Metro-East is in nonattainment area for ozone (8-hr). There is an area in Madison County, Illinois near the Chain of Rocks levee that is classified as nonattainment for lead (U.S. EPA, 2017). The Wood River area is only in nonattainment for ozone (8-hr). Ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on nitrogen oxides (NOx) and volatile organic compounds (VOC's) in the air. There are many sources of these gases. Some common sources include gasoline vapors, chemical solvents, fuel combustion products, and some consumer products (USACE, 2003).

The Metro-East area includes industrial, transportation, recreational, residential, retail and agricultural zones. These areas are dispersed in pockets of varying sizes and density, and each makes its own contribution to the noise characteristics of the region. Agricultural and open space areas typically have noise levels in the range of 34-70 decibels (dB) depending on their proximity to transportation arteries. Noise associated with transportation arteries such as highways, railroads, etc., would be greater than those in rural areas. Other sources of noise include operations of commercial and industrial facilities, and operation of construction and landscaping equipment. In general, urban noise emissions do not typically exceed about 60 dB, but may attain 90 dB or greater in busier urban areas or near high volume transportation arteries.

3.12.2 No Action

Because the St. Louis metropolitan area is a nonattainment area for ozone, control strategies resulting in reduced emissions have been implemented across the region. Control measures targeted at transportation include physical improvements in regional transportations systems and management strategies to reduce hydrocarbons and carbon monoxide emissions from motor vehicles.

Industrial, commercial, and residential development on the floodplain of the Mississippi River is expected to increase within the leveed area. The land use planning strategy in Madison County includes the formation of residential and agricultural zoning districts, and applying zoning and subdivision regulations to reduce non-managed growth in agricultural areas (USACE, 2003). Because of increasing development, noise levels are expected to increase, but these increases are expected to be associated with land use type.

3.12.3 Sewer Separation

During construction, there may be a temporary and localized reduction in air quality due to emissions from heavy machinery operating. However, once the proposed project is complete, no effects to air quality would occur. Diesel emissions from project construction may pose a human health risk for construction workers and exposure to emissions should be minimized. The contractor may consult the *Construction Emission Control Checklist* to reduce expose to diesel exhaust or the *Cleaner Diesels: Low Cost Ways to Reduce Emissions from Construction Equipment* report (USEPA 2007) to reduce the generation of emissions. Special management techniques would be implemented to control air pollution produced by the construction activities. Airborne particulates, including dust particles, from construction activities and processing and preparation of materials would be controlled at all times, including weekend,

holidays, and hours when work is not in progress. The contractor would be required to maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, and other work areas free from airborne dust. In addition, hydrocarbon and carbon monoxide emissions from equipment would be controlled to Federal and State allowable limits at all times. Therefore, effects of construction on air quality would be insignificant.

Construction of the proposed project may cause a temporary increase in noise in the project vicinity. Construction would require heavy equipment to operate in the area, such as excavators, and these machines would generate noise during construction. This effect would only occur during the construction period, and so is anticipated to be temporary and minor. Effects of the increased noise would be comparable to an increase in industrial traffic and therefore is not anticipated to impact the quality of life in the surrounding area. Once the proposed project is complete, no increased effects due to noise would occur.

3.13 PRIME FARMLAND

3.13.1 Existing Conditions

According to the digital soil survey of Madison County (NRCS 2016), roughly 71% of the Wood River area is considered “not prime farmland”. Only 16.65% of the area is considered prime farmland, which is concentrated in the southwest and southeast corners of the leveed area as well as along the Wood River flank levees and along the northern boundary of the protected area. There are approximately 1,224 acres (9.6% of area), which are clustered within the prime farmland areas, that would be considered prime farmland if the area was drained. Farmland of statewide importance also occur within the Wood River area (~63 acres). However, this area makes up a small percentage (<1%) of the total acreage in the protected area.

3.13.2 No Action Alternative

The existing land use planning strategy in Madison and St. Clair Counties includes the conservation of agricultural lands, including preservation of crop lands for specialty crops (e.g., horseradish). This is to be accomplished by strengthening the downtown areas and the residential neighborhoods of municipalities in the vicinity of the project area to reduce the premature conversion of agricultural lands outside of those municipalities. Agricultural lands would remain a significant form of land use, but increasingly, these lands are expected to be converted to other uses (USACE 2003).

3.13.3 Sewer Separation Alternative

The proposed construction of detention ponds and the installation of a new storm water collection system will have no impact on existing farmland or soils classified as prime farmland.

4 ENVIRONMENTAL JUSTICE

Executive Order 12898 directs federal agencies to take the appropriate steps to identify and address any disproportionately high and adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific

Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population.

The population of the City of Wood River is approximately 1.2% African-American, 1.9% Hispanic or Latino, 1.3% Asian, and 0.9% more than one race. There are approximately 12.4% of all families in the City of Wood River whose income in the past 12 months falls below the national poverty level. Therefore, no disproportionate adverse impacts to low-income or minority populations are anticipated. Conversely, the separation of sanitary sewer and storm water systems would reduce the potential exposure of pathogens and contaminants to the residents of the area.

5 CLIMATE CHANGE

The USACE, Institute of Water Resources (IWR) published a document titled "Recent US Climate Change and Hydrology Literature Applicable to the U.S. Army Corps of Engineers Missions of the Upper Mississippi Region 07 in 2015". The synopsis included in that document generally describes territory within the St. Paul, Chicago, Rock Island, and St. Louis USACE districts. The synopsis evaluated, observed, and projected trends in temperature, precipitation, and stream flow as well as the general consensus in the literature reviewed of the trending parameters.

The USACE IWR (2015) found a general consensus for a moderate to large upward trend in observed average temperature, minimum temperatures, average precipitation, extreme precipitation, and streamflow in the Upper Mississippi Region. There is a reasonable consensus that maximum air temperatures have decreased slightly in the recent past in the region. However, projected extreme precipitation is expected to have only a small increase with moderate consensus in the literature reviewed and forecasts of future hydrology and stream-flow are anticipated to be variable, with low overall consensus in the literature reviewed. Therefore, it was presumed that these watersheds are not anticipated to incur significant precipitation changes due to climate change within the anticipated 50 year period of analysis. Furthermore, the proposed project is not anticipated to influence global climate change.

6 CUMULATIVE AND ADVERSE IMPACTS

The discussion of cumulative impacts considers the effects on the resource that result from the incremental impact of the action being considered when added to other past, present, and reasonably foreseeable future actions regardless of what agency, Federal or non-Federal, or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taken place over a period of time (40 CFR §1508.7). This section identifies possible cumulative effects of the considered alternatives when combined with past trends and other ongoing or expected future plans and projects.

The City of Wood River has previously separated sanitary sewer and storm water systems in other areas of Wood River. This proposed project would complete the CSO separation in Wood River, which would improve local water quality, aesthetics, and wetland habitat quality. However, the City of Alton also has CSO systems which discharge into the Lower Wood River leveed area. Since the City of Alton has not yet addressed their combined sewer overflow discharges, the residents of Wood River and the

surrounding environment in the vicinity of the Alton CSO could still experience adverse effects associated with CSO discharges.

7 COORDINATION

Notification of the Draft Environmental Assessment and unsigned Finding of No Significant Impact was sent to officials, agencies, organizations, and individuals for public review and comment (Table 3). Additionally, an electronic copy was available during the public review period (24 August – 24 September 2018) on the USACE St. Louis District's website at:

http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/WoodRiverCSOEA.pdf

Please note that the Finding of No Significant Impact is unsigned in the draft version of the EA and will only be signed into effect after careful consideration of the comments received as a result of the public review. In addition, to ensure compliance with the National Environmental Policy Act, Endangered Species Act, and other applicable environmental laws and regulations, coordination with these entities and individuals will continue, as required, throughout the execution of the proposed project.

Table 3. A letter regarding the availability of a draft Environmental Assessment and unsigned FONSI for the proposed project was sent to the following entities:

Matt Mangan Acting Field Supervisor U.S. Fish and Wildlife Service Marion Illinois Suboffice 8588 Route 148 Marion, IL 62959	Adam Rawe Resource Planner Impact Assessment Section Illinois Department of Natural Resources 1 Natural Resources Way Springfield, IL 62702
Sierra Club Illinois Chapter 70 E Lake Street, Suite 1500 Chicago, IL 60601	The Nature Conservancy Chicago Office 8 South Michigan Avenue Suite 900 Chicago, Illinois 60603
Traci McCauley Natural Resources Illinois Department of Agriculture 801 Sangamon Ave. P.O. Box 19281 Ag Bldg – FL 001 Springfield, IL 62794	Jeff Kruchten Illinois State Historic Preservation Office Illinois Department of Natural Resources 1 Natural Resources Way Springfield, IL 62702
William R. Haine State Senator 56th District 311C Capitol Building Springfield, IL 62706	Monica Bristow State Representative House District 111 263-S Stratton Office Building Springfield, IL 62706
Richard Durbin U.S. Senator IL 711 Hart Senate Building Washington, D.C. 20510	Tammy Duckworth U.S. Senator IL 524 Hart Senate Office Building Washington, D.C. 20510

Mike Bost U.S. House of Representatives 12th Congressional District of Illinois 1440 Longworth House Office Building Washington, DC 20515	Ivan Dozier State Conservationist NRCS Illinois State Office 2118 W. Park Court Champaign, IL 61821
Ronald Moore Izaak Walton League of America-Illinois Division 55 Ridgecrest Drive Decatur, IL 62521-5425	Illinois Environmental Protection Agency 1021 N Grand Ave E Springfield, IL 62702
Federal Emergency Management Agency 536 South Clark Street, 6th Floor Chicago, IL 60605 312-408-5500	Kenneth Westlake Office of Enforcement and Compliance Assurance U.S. EPA-Region 5 77 W. Jackson Blvd. Chicago, IL 60604
The Telegraph 219 Piasa St. Alton, Illinois 62002	

8 ENVIRONMENTAL COMPLIANCE

Guidance	Degree of Compliance
Federal Statutes	
Archaeological and Historic Preservation Act, as Amended, 16 U.S.C. 469, et seq.	PC[1]
Bald and Golden Eagle Protection Act, 42 USC 4151-4157	FC
Clean Air Act, as Amended, 42 U.S.C. 7401-7542	FC
Clean Water Act, as Amended 33 U.S.C. 1251-1375	PC[2]
Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601-9675	FC
Endangered Species Act, as Amended, 16 U.S.C. 1531-1543	PC[2]
Farmland Protection Policy Act, 7 U.S.C. 4201-4208	FC
Federal Water Project Recreation Act, as Amended. 16 U.S.C. 4601, et seq.	FC
Fish and Wildlife Coordination Act, as Amended, 16 U.S.C. 661-666c	PC[2]
Land and Water Conservation Fund Act, as Amended, 16 U.S.C. 4601, et seq.	FC
National Environmental Policy Act, as Amended, 42 U.S.C. 4321- 4347	PC[3]
National Historic Preservation Act, as Amended, 54 U.S.C 300101, et seq.	PC[1]
Noise Control Act, 42 USC 4901, et seq.	FC
Migratory Bird Treaty Act of 1918, 16 USC 703, et seq.	FC
Resource Conservation and Recovery Act, 42 USC 6901-6987	FC

Executive Orders	
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	FC
Floodplain Management, E.O. 11988 as amended by E.O. 12148	FC
Protection of Wetlands, E.O 11990 as amended by E.O. 12608	FC
Protection and Enhancement of the Cultural Environment, E.O. 11593	PC[1]
Consultation and Coordination with Indian Tribal Governments, 06 Nov 2000, E.O. 13175	PC[1]
Protection of Migratory Birds (EO 13186)	FC

FC = Full Compliance, PC = Partial Compliance.

1. Full compliance will be attained after all required archaeological investigations, reports and coordination have been completed.
2. Full compliance will be attained upon completion of any permitting requirements or coordination with other agencies.
3. Full compliance will be attained upon signing of the NEPA decision document.

Applicable permits:

9 LIST OF PREPARERS

- Chris Hopfinger, Environmental Coordinator
- Alison Anderson, Ph.D., Environmental Coordinator
- Rick Archeski, HTRW
- Mark Smith, Ph.D., Cultural and Tribal Coordinator
- Megan O'Brien, Lead Planner
- Ashley Rasnic, Project Manger

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State Street Area
Sewer Separation Project
Wood River, Madison County, Illinois
August 2018

FINDING OF NO SIGNIFICANT IMPACT

1. In accordance with the National Environmental Policy Act, I have reviewed and evaluated the documents relevant to the combined sewer separation in Wood River, Illinois. The work involves the placement of 20,751 linear feet (LF) of pipe ranging in diameter (12" – 60"), 75 manholes, and 170 curb inlets. There are currently two detention ponds in the project area (Pond 3 and Pond 2). No actions, other than routine operations and maintenance, are proposed for Pond 3. Pond 2 is proposed to be expanded by approximately 0.84 acres into the neighboring lot, which would require the removal of an existing storage building. In addition, a new detention pond (Pond 1) is proposed to be excavated. Pond 1 would be approximately 1.0 acre. Excavated materials would be hauled to a stockpile site maintained by the City of Wood River.

2. As part of this evaluation, I have considered the following project alternatives:

    a. Sewer Separation Alternative (Tentatively Selected Plan) - The St. Louis District, U.S. Army Corps of Engineers (USACE) would provide Federal construction assistance to the City of Wood River to separate sanitary and storm water flows from an existing combined sewer system.

    b. No Action Alternative- Under this alternative, no federal action would take place and the combined sewer system would remain intact.

3. The possible consequences of the two alternatives have been studied for physical, environmental, cultural, social, economic, aesthetic, and recreational effects. Significant factors evaluated as part of my review include:

    a. Water quality, fish and wildlife, and recreation and aesthetic resources would accrue some benefits as a result of the project.

    b. No adverse impacts to federally threatened or endangered species are anticipated.

    c. The proposed separation is not anticipated to have an adverse impact upon archaeological remains or historic properties.

    d. No significant impacts to natural resources are anticipated, including fish and wildlife resources and wetlands. The proposed repairs would have no adverse impacts to the physical environment (e.g., noise, air and water quality) nor would the project adversely impact low-income or minority populations.

    e. The detention ponds would require the excavation of material from an industrial area and would create wetland habitat.

f. The “No Action” alternative was evaluated and would be unacceptable to recommend as this system would continue to discharge untreated sewage water during rain events, which poses a human health risk.

4. Compliance with Clean Water Act Section 404, and Rivers and Harbors Act Section 10 is achieved under Nationwide Permit 3 for Maintenance Activities. Compliance with Section 106 of the National Historic Preservation Act (NHPA) was achieved through coordination with the Illinois State Historic Preservation Office. The Fish and Wildlife Service reviewed the document during public review to ensure compliance with the Endangered Species Act and Fish and Wildlife Coordination Act. Compliance with the National Environmental Policy Act will be achieved with the signing of this document. The project is in compliance with all other applicable laws and regulations as documented in the Environmental Assessment.

5. Based on my analysis and evaluation of the alternative courses of action presented in the Environmental Assessment, I have determined that the implementation of the Tentatively Selected Plan would not have significant effects on the quality of the environment. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

_____ _____

(Date)

Bryan K. Sizemore
Colonel, U.S. Army
District Commander

ATTACHMENT 1: STATE AGENCY CORRESPONDENCE

ATTACHMENT 2: FEDERAL AGENCY CORRESPONDENCE

ATTACHMENT 3: CULTURAL & TRIBAL CORRESPONDENCE