3.11 LAND USE AND RECREATION

3.11.1 Introduction

This section describes the existing land use and recreation resources that could be affected by the proposed Project or the alternatives. The changes in dredging operations that would occur under the Proposed Action and alternatives have the potential to affect land use and recreational resources adjacent to the river through changes in water levels, changes in river bed degradation, and the presence of dredging facilities and associated activities.

This description of the affected environment focuses on land uses associated with the onshore facilities currently used for dredging and other notable land uses in each river segment, including recreational facilities. A reach in each river segment was analyzed from 3 miles downstream of an onshore facility to 10 miles upstream of the facility in order to cover the potential range of dredging activities. The analysis includes the land uses, zoning designations, and recreational uses mandated by city, county, state, and federal government entities in the affected reach. For the counties and incorporated areas where land use or zoning maps were not available, GIS land cover data were used to identify the existing land uses along each of the reaches, as displayed in Figure 3.11-1 (Sheets 1 through 5).

In general, the land uses along the Missouri River vary only slightly. Agriculture is the predominant use along the river. A handful of urban centers exist along the river, including St. Charles, Jefferson City, Kansas City (Missouri and Kansas), and St. Joseph. Small towns are scattered along the river banks. Open space along the river includes areas dedicated for conservation and wildlife, some of which are also used for recreational purposes.

The LOMR is widely utilized for recreation. Many public and private boat ramps provide access to the LOMR, but few marinas, piers, or fueling facilities are located on the LOMR. Fishing occurs from boats, the riverbank, and dikes. A growing form of Missouri River recreation is canoeing or kayaking. Since its start in 2006, the annual Missouri River 340 canoe and kayak race from Kansas City to St. Louis has grown from 15 teams in the initial race to 320 teams registered to race in summer 2010. More canoes and kayaks are generally seen on the river throughout the year.

This section discusses the formal recreation areas and facilities such as boat access areas, conservation areas, and designated recreational parks that may be used to access the river. In general, the undeveloped areas are sources of informal recreational use such as hiking, boating, and

fishing. The locations of recreation and access facilities discussed for each of the reaches are displayed in Figure 3.11-2 (Sheets 1 through 5).

The Lewis and Clark National Historic Trail (Historic Trail) follows the Missouri River along entire length of the Project area, from RM 0 at St. Louis to RM 498 at Rulo, Nebraska and several visitor centers are located along its shores. The National Park Service manages the Historic Trail, which extends 3,700 miles from Wood River, Illinois, to Oregon (NPS 2010). The Historic Trail includes many points of interest along the LOMR, which are discussed below for individual segments. The Katy Trail is a 225-mile-long Missouri state park created by the National Trails System Act (MDNR 2008). The 165 miles of the Katy Trail between St. Charles and Boonville have been designated as an official segment of the Lewis and Clark National Historic Trail. The Katy Trail occasionally experiences washouts or can become flooded temporarily during extreme flooding events (MDNR 2010). Rough areas can occur at any time as a result of weather variations that may wash debris onto the trail.

3.11.2 Sources of Information

Information used in the preparation of this section includes the following:

- Land use plans and county general plans and accompanying GIS data;
- Missouri Department of Conservation (2010);
- U.S. Fish and Wildlife Service (USFWS) documents;
- USACE Lewis and Clark Bicentennial map; and
- GIS data for recreation areas and facilities.

3.11.3 St. Joseph Segment

The existing Holliday Sand & Gravel Company – St. Joseph facility (Holliday–St. Joseph) is located in the St. Joseph segment. St. Joseph is the major urban center, and most of the land use in this segment is agricultural or rural. The formal recreation facilities in the segment are primarily located in the reach where the Holliday–St. Joseph facility is located. Lewis and Clark Historic Trail points of interest along the St. Joseph segment include Independence Park and the Frontier Army Museum (NPS 2010). Figure 3.11-1 (Sheet 1) shows land uses and dredging areas in this segment. Figure 3.11-2 (Sheet 1) shows recreation facilities and access to the LOMR in the segment.

95°30'W 95°20'W 95°10'W 95°W 94°50'W

40°N 39°50'N 39°40'N 39°30'N 39°20'N

Richardson
Holt
Andrew
Brown
Doniphan
Buchanan
Atchison
Platte
Leavenworth

Rulo
Elwood
Saint Joseph
Holliday Sand
Atchison
Leavenworth
Masters

500 498 490 480 470 460 450 440 430 420 410 400 391 390

71 48 159 111 59 29 36 120 7 6 169 229 73 9 116 20 4 45 273 92 192 435 152 371 752 759

Legend

- City/Town
- River Mile
- Sand Plant
- Barren Land
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Emergent Herbaceuous Wetlands
- 10 Miles Upriver from Sand Plant Location or Limits of Dredging Requests
- 3 Miles Downriver from Sand Plant Location
- Evergreen Forest
- Hay/Pasture
- Herbaceuous
- Mixed Forest
- Open Water
- Shrub/Scrub
- Woody Wetlands

0 5 Miles
0 5 Kilometers

Figure 3.11-1
Existing Land Use
Sheet 1 - St. Joseph Segment
Missouri River Commercial Dredging EIS

NE IA IL IN KS MO KY OK AR TN

July 2010

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Map Projection: NAD83 UTM Zone15 North

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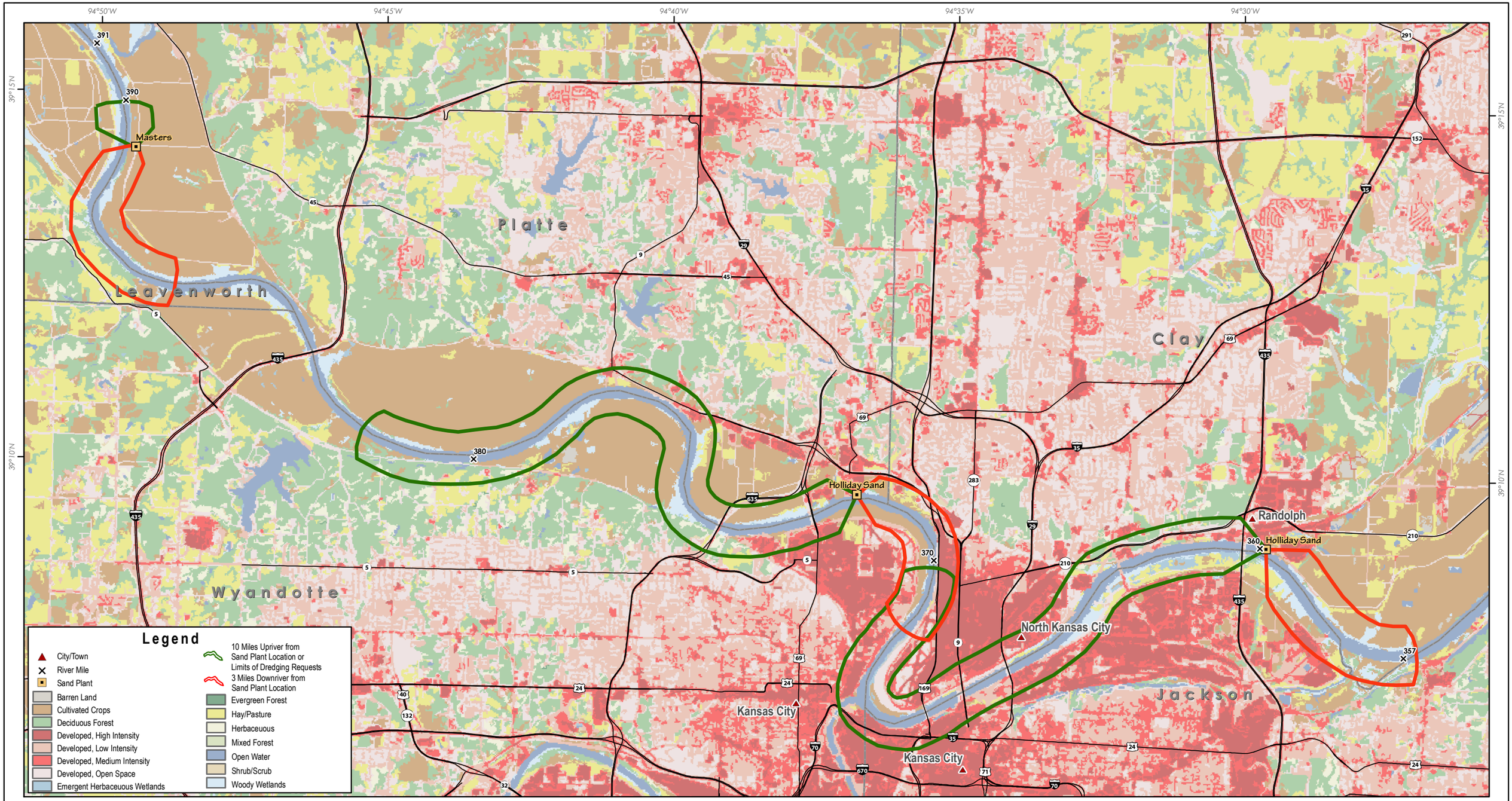

Figure 3.11-1
Existing Land Use
Sheet 2 - Kansas City Segment
Missouri River Commercial Dredging EIS

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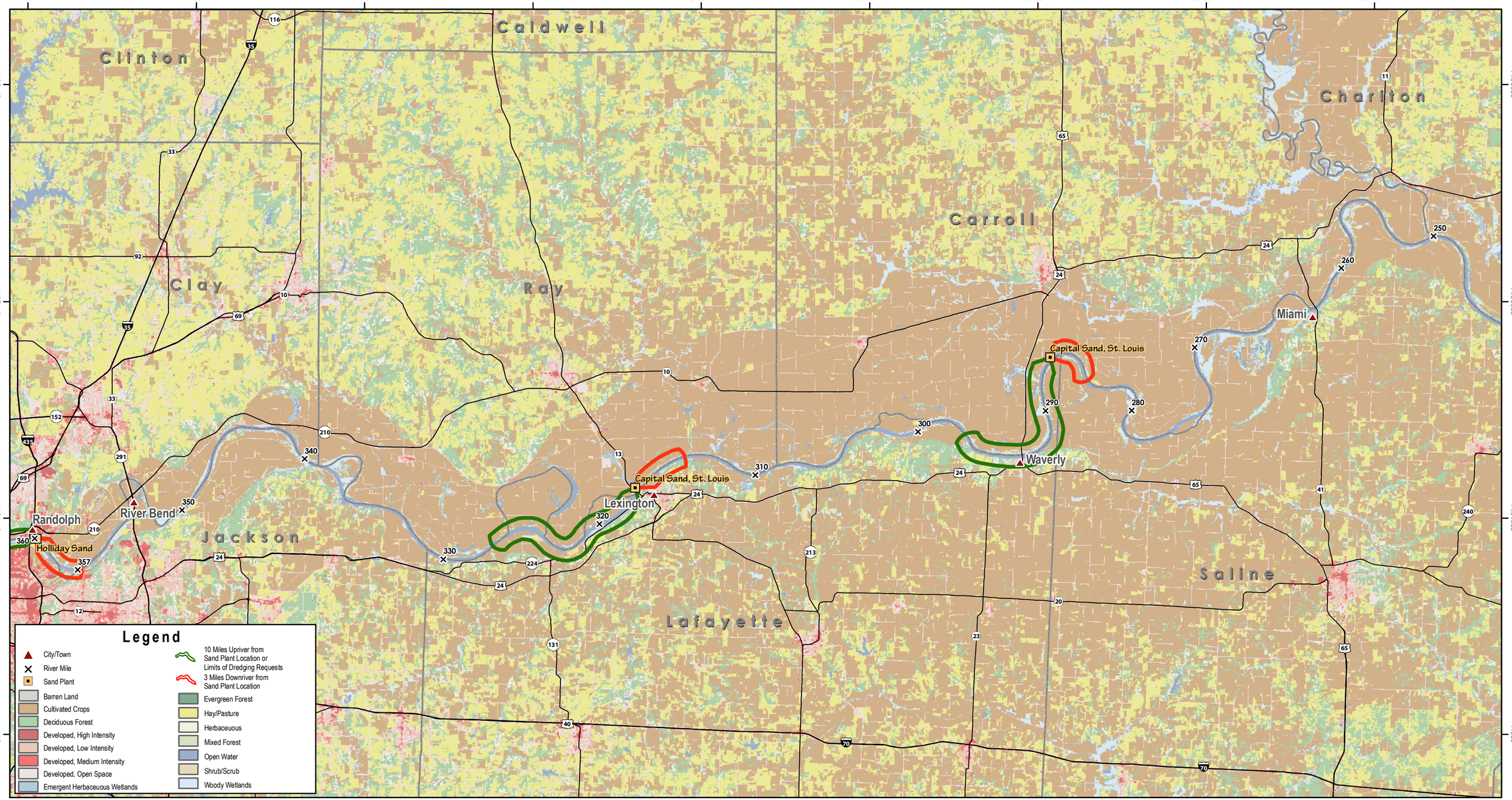

Figure 3.11-1
Existing Land Use
Sheet 3 - Waverly Segment

Missouri River Commercial Dredging EIS

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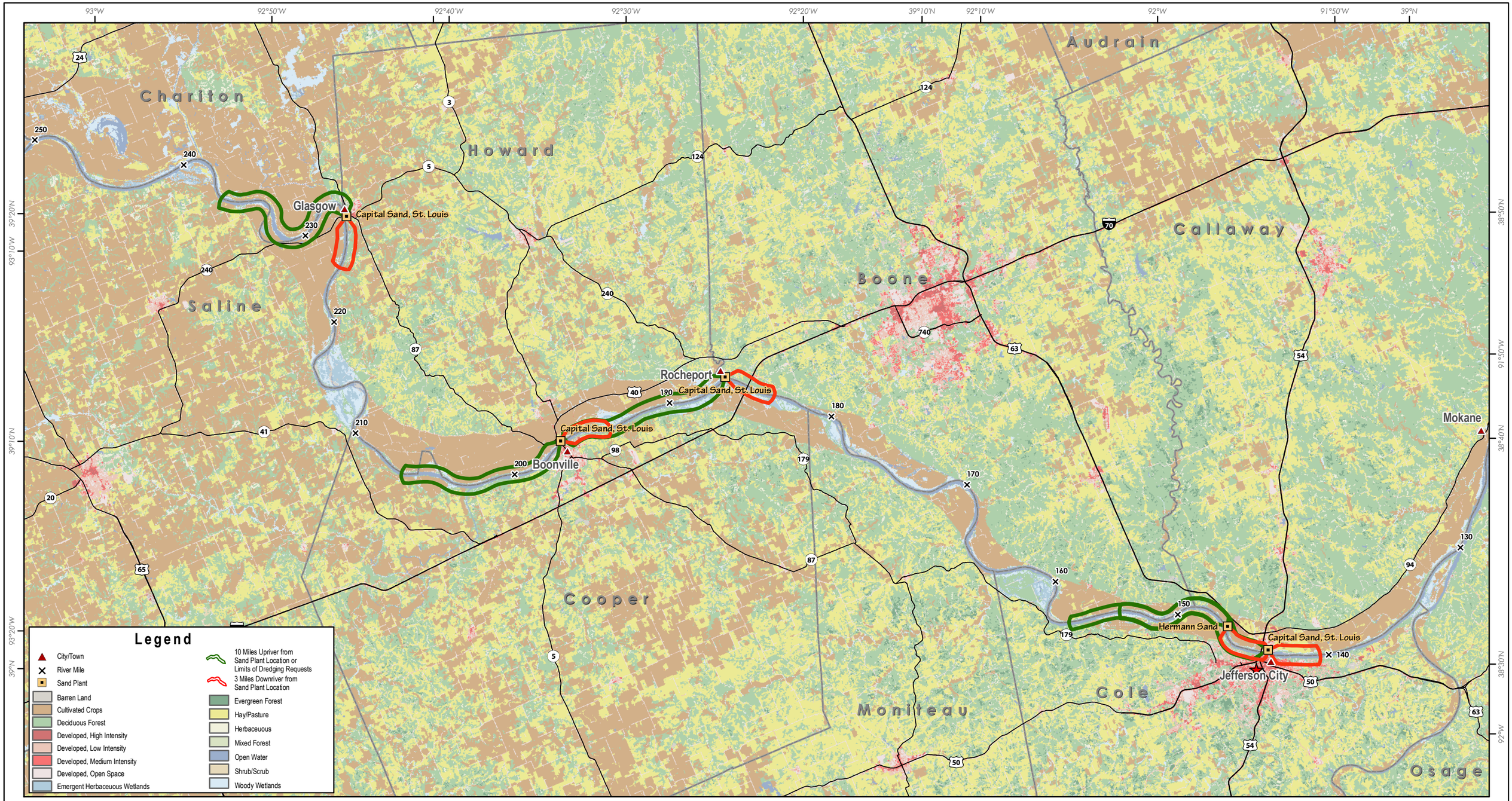
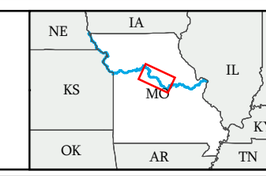


0 5 10 15 20 Miles

0 5 10 15 20 Kilometers

Figure 3.11-1
Existing Land Use
Sheet 4 - Jefferson City Segment

Missouri River Commercial Dredging EIS



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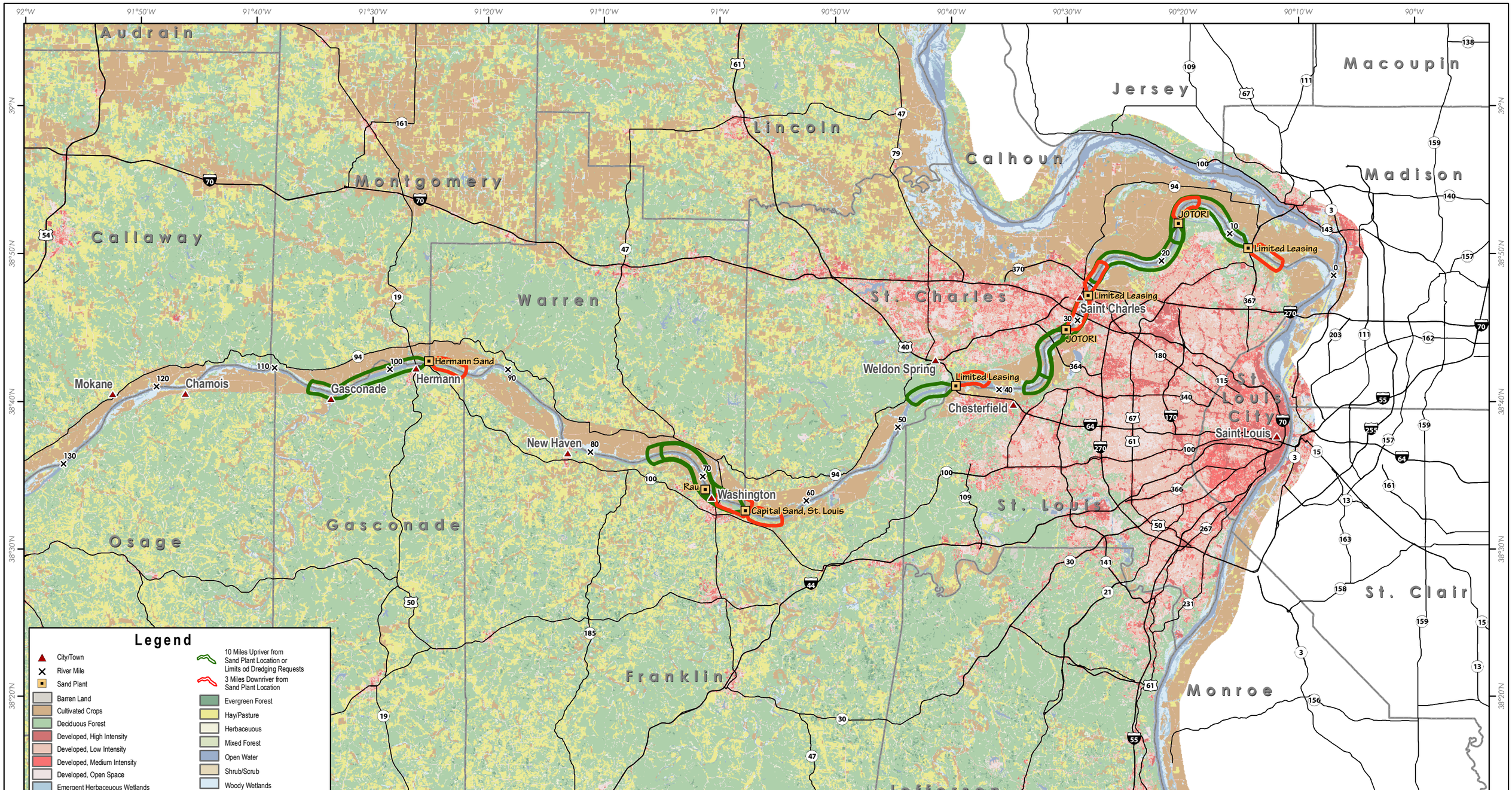

Figure 3.11-1
Existing Land Use
Sheet 5 - St. Charles Segment

Missouri River Commercial Dredging EIS

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95°30'W 95°20'W 95°10'W 95°W 94°50'W

40°N 39°50'N 39°40'N 39°30'N 39°20'N

500 498 Rulo 490 480 470 460 450 440 430 420 410 400 391 390

Brown Conservation Area

Wolf Creek Bend Conservation Area

Monkey Mountain Conservation Area

Worthwine Island Conservation Area

River Bluffs Park

Logan Memorial Wildlife Area

Sunbridge Hills Conservation Area

Dupree Memorial Conservation Area

Huston Wyeth Park

Saint Joseph

Elwood

US Highway 36 Bridge

Holliday Sand

Missouri River

Riverfront Park

Atchison

Independence Park

Amelia Earhart Bridge

Weston Bluffs Trail

Weston Bend State Park

Frontier Army Museum

Riverfront Park

Leavenworth

Leavenworth Landing Park

Centennial Bridge

Veterans Administration Park

Masters

159 36 48 111 59 71 29 120 7 6 229 169 20 73 9 116 4 16 192 92 45 435 273 752 759 5 152 371

Legend

- City/Town
- River Mile
- Boat Ramp
- Sand Plants
- Lewis & Clark Points of Interest
- Bridge
- Trail
- Water

0 5 Miles

0 5 Kilometers

Figure 3.11-2
Recreation and Access Features
Sheet 1 - St. Joseph Segment
Missouri River Commercial Dredging EIS

NE IA KS MO IL IN KY OK AR TN

DRAFT
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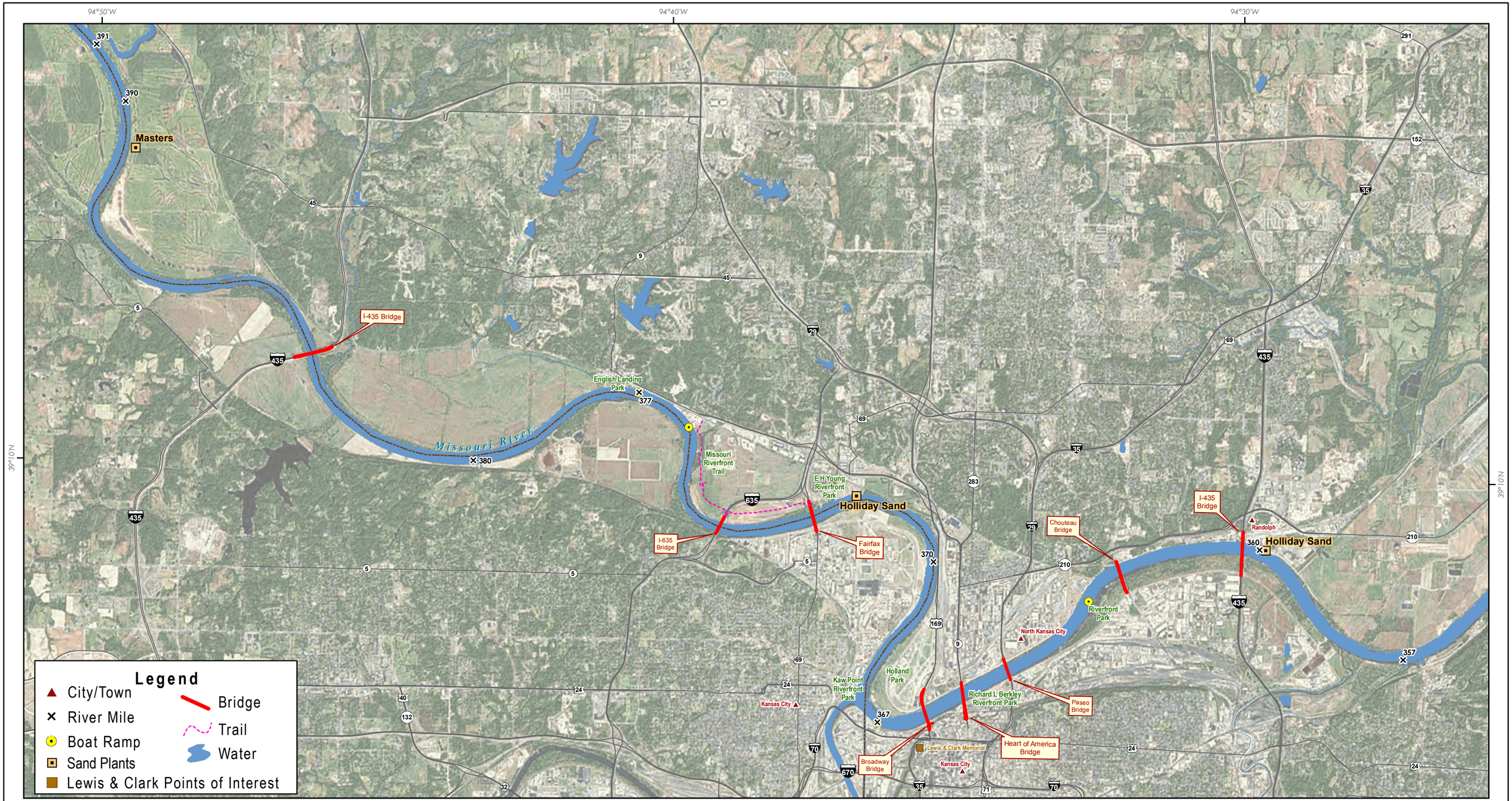

0 2 4 Miles

0 2 4 Kilometers

Figure 3.11-2
Recreation and Access Features
Sheet 2 - Kansas City Segment

Missouri River Commercial Dredging EIS

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Map Projection: NAD83 UTM Zone15 North

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Figure 3.11-2
Recreation and Access Features
Sheet 3 - Waverly Segment
Missouri River Commercial Dredging EIS

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Map Projection: NAD83 UTM Zone15 North

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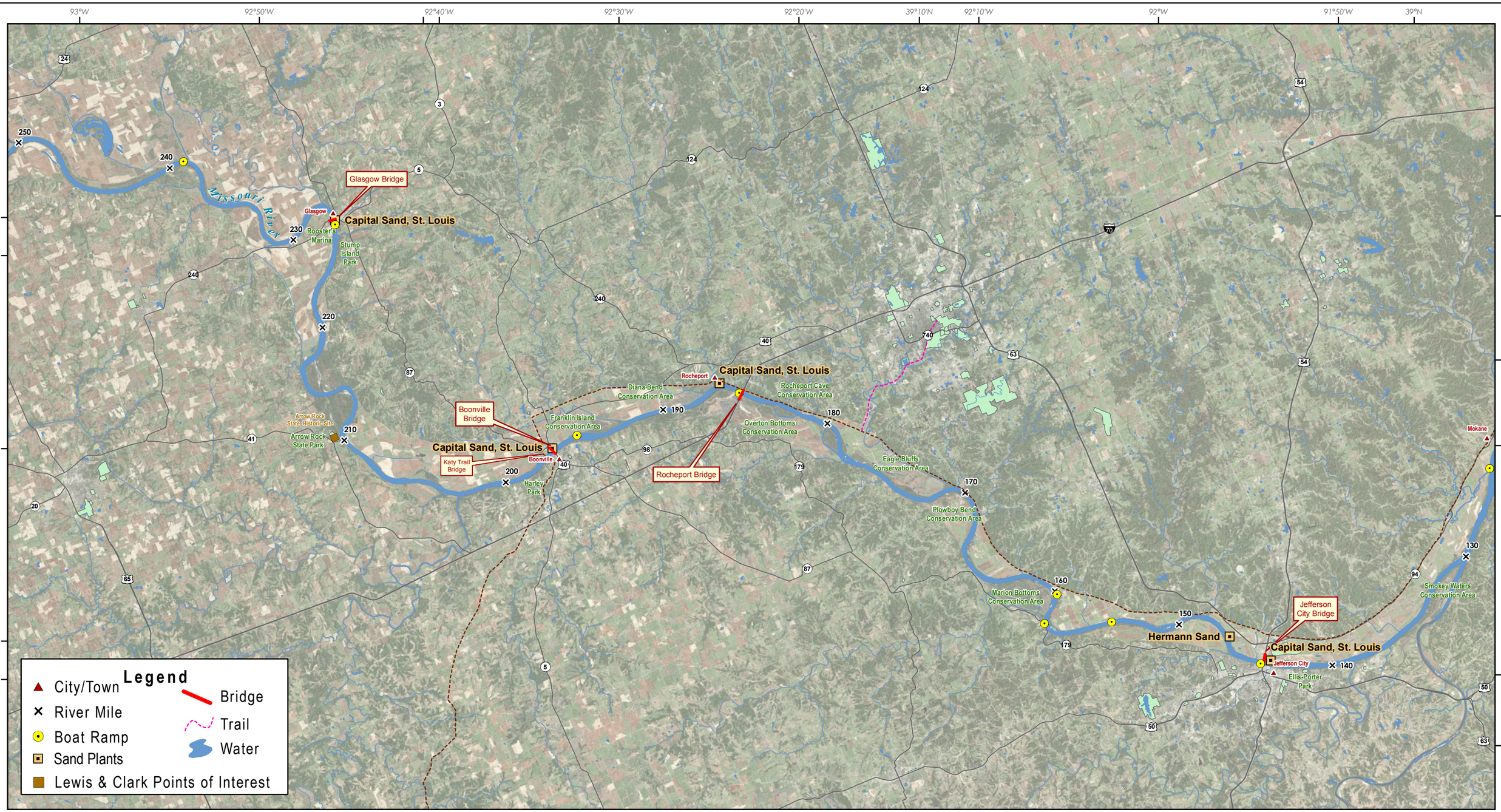

Figure 3.11-2
Recreation and Access Features
Sheet 4 - Jefferson City Segment
Missouri River Commercial Dredging EIS

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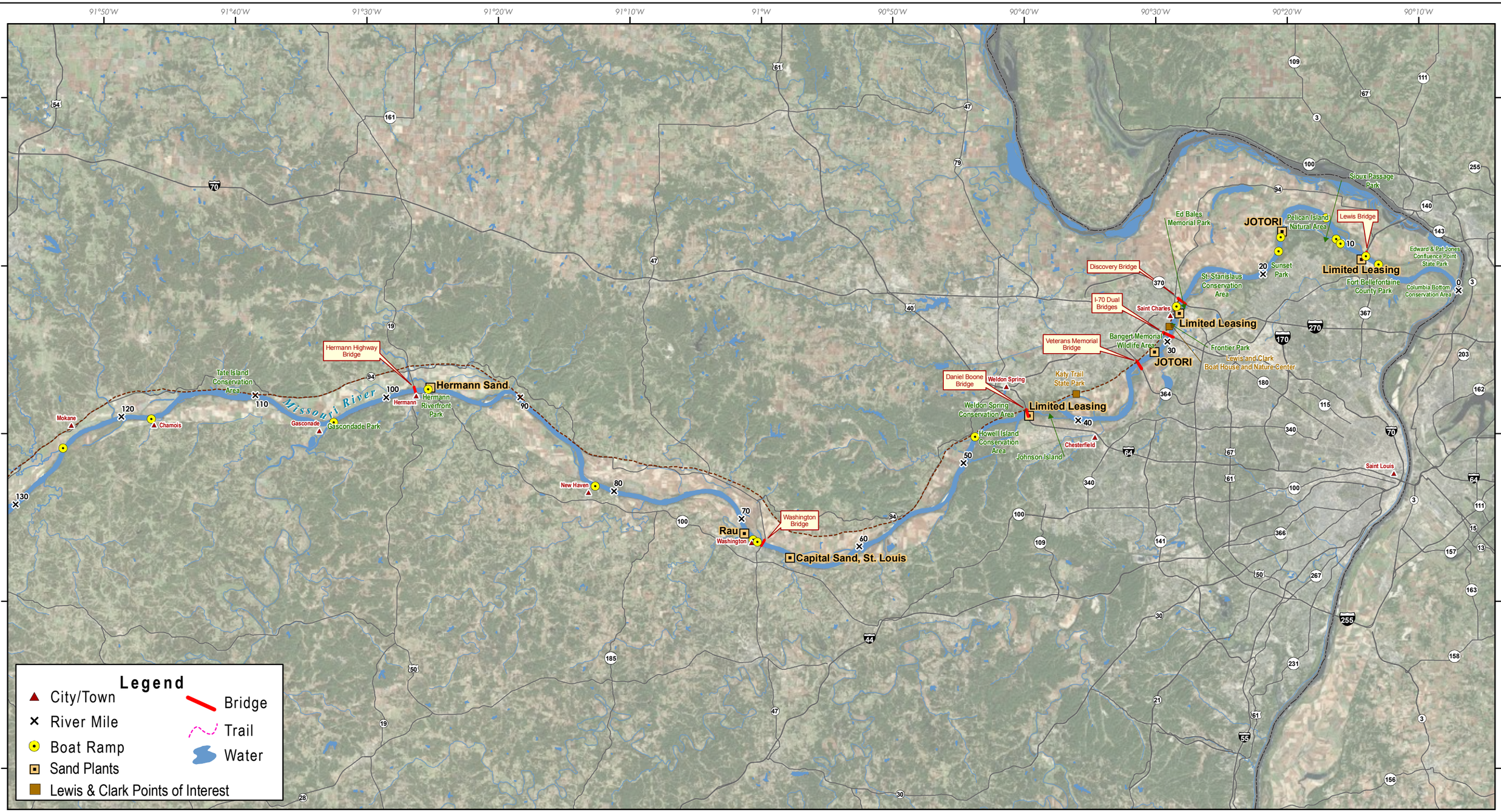

0 5 10 15 20 Miles

0 5 10 15 20 Kilometers

Figure 3.11-2
Recreation and Access Features
Sheet 5 - St. Charles Segment
Missouri River Commercial Dredging EIS

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3.11.3.1 Holliday Sand & Gravel Company – St. Joseph Facility

Holliday–St. Joseph is located in the City of St. Joseph in Buchanan County (Missouri); the reach for the facility runs adjacent to lands in the counties of Buchanan, Doniphan (Kansas), and Andrew (Missouri). The facility is located on lands designated as industrial (City of St. Joseph 2009). Land uses adjacent to the reach that lie in the City of St. Joseph are designated as industrial, parks/parkway, and commercial. The unincorporated portions of Buchanan County that are downstream and adjacent to the reach are designated as recreation areas (Buchanan County 2006). The unincorporated parts of Doniphan County that are adjacent to the reach are designated for agriculture (Doniphan County 2009). A portion of Doniphan County is incorporated (the Town of Elwood). Elwood's lands adjacent to the reach are used for industrial purposes. Andrew County has no zoning ordinances (Andrew County 2010).

Recreational facilities along the Holliday–St. Joseph reach include the Arthur DuPree Memorial Conservation Area (CA) (RM 449.8 to RM 451.6), Huston Wyeth Park (RM 450), Sunbridge Hills CA (RM 452 to RM 453.2), Logan Memorial Wildlife Area (RM 453.2), River Bluffs Park (RM 453.2), Worthwine Island CA (RM 456.2 to RM 459.9), Flathead Fishing Club boat ramp (RM 444.7), Elwood access ramp (RM 447.8), Show Boat Landing boat ramp (RM 449), French Bottom boat ramp (RM 450.4), Sunset Grill boat ramp (RM 451.9), and two unnamed boat ramps (RM 447 and RM 453).

The Arthur DuPree CA accommodates bird watching, fishing, hiking, hunting, and trapping. Hunting in this area is limited to deer, dove, pheasant, quail, rabbit, squirrel, turkey, and waterfowl. The Sunbridge Hills CA accommodates bird watching, hiking, hunting, and trapping. Hunting in this area is limited to deer, squirrel, and turkey. The Logan Memorial Wildlife Area accommodates bird watching, hiking, hunting, and trapping. Hunting in the area is limited to deer, squirrel, and turkey. The Worthwine Island CA accommodates bird watching, camping, fishing, hiking, hunting, and trapping. Hunting on the island is limited to deer, pheasant, rabbit, squirrel, turkey, and waterfowl. Huston Wyeth Park in the City of St. Joseph is also adjacent to the reach.

3.11.4 Kansas City Segment

The Master's Dredging Company proposed Waldron facility (Master's–Waldron), the Holliday Sand & Gravel Company – Randolph facility (Holliday–Randolph), and the Holliday Sand & Gravel Company – Riverside facility (Holliday–Riverside) are located in the Kansas City segment. Kansas City, Missouri and Kansas City, Kansas are the major urban centers in this segment, and most of the land adjacent to the segment is used for industrial purposes. Consequently, most of the recreational opportunities in

this segment are located in open space areas neighboring the urban centers. The only Lewis and Clark Historic Trail point of interest along the Kansas City segment is the Lewis and Clark Memorial in Kansas City (NPS 2010). Figure 3.11-1 (Sheet 2) shows land uses and dredging areas in this segment. Figure 3.11-2 (Sheet 2) shows recreation and access to the LOMR in the segment.

3.11.4.1 The Master's Dredging Company – Waldron Facility

The two proposed sites for the Master's–Waldron facility are located in Platte County (Missouri); the reach for the proposed facility runs adjacent to lands in the counties of Platte, Wyandotte (Missouri), and Leavenworth (Kansas). The two sites are located within 0.25 mile of each other along the LOMR, in areas zoned for agriculture. One site is on the waterside of the levee, and the other is located on the landside. The land at both sites is considered prime farmland, of which there are approximately 93,138.7 acres in Platte County (NRCS 2010). Land uses adjacent to the reach that lie in unincorporated Platte County are agricultural. Unincorporated areas of Wyandotte County that are adjacent to the reach are designated as floodplain (Unified Government of Wyandotte County and Kansas City, Kansas 2004). Land uses adjacent to the reach that lie in the boundaries of the City of Lansing, Kansas, are designated for agricultural use (City of Lansing 2008). Land uses adjacent to the reach that lie in the boundaries of the City of Leavenworth, Kansas, are designated as planned unit development, light industrial, and heavy industrial (City of Leavenworth 2009). Unincorporated lands in Leavenworth County that are adjacent to the reach are designated as floodplain (Leavenworth County 2008).

No recreational facilities are located along the proposed Master's–Waldron reach.

3.11.4.2 Holliday Sand & Gravel Company – Randolph Facility

The Holliday–Randolph facility is located in the City of Randolph, Missouri; the reach for the facility runs adjacent to lands in the counties of Jackson (Missouri), Clay (Missouri), and Wyandotte. The facility is located on land zoned for industrial purposes (City of Kansas City 2009). Lands in the City of Independence, Missouri that are adjacent to the reach are designated as industrial (City of Independence 2009). Lands in the City of Kansas City, Missouri, that are adjacent to the reach are designated as light industrial, general industrial, and agricultural. Lands in the City of North Kansas City, Missouri that are adjacent to the reach are designated as light industrial, general industrial, and gaming and amusement (City of North Kansas City 2008). Lands in the City of Kansas City, Kansas, that are adjacent to the reach are designated as heavy industrial (City of Kansas City 2007).

Recreational facilities along the Holliday–Randolph reach include Riverfront Park (RM 362.3 to RM 364), Richard L. Berkley Riverfront Park (RM 365), Holland Park (RM 366.3 to RM 369.7), Kaw Point Riverfront Park (RM 367), the Riverfront Park boat ramp (RM 363), and the Kaw Point boat ramp (RM 367.5).

3.11.4.3 Holliday Sand & Gravel Company – Riverside Facility

Holliday–Riverside is located in the City of Riverside in Platte County. The reach for the facility runs adjacent to lands in the counties of Clay, Wyandotte, and Platte. The facility is located on land designated as general industrial (City of Riverside 2009). Land downstream of the facility that lies in the boundaries of the City of Kansas City, Missouri is designated as heavy industrial and single-family residential (City of Kansas City 2009). Lands downstream of the facility that lie in the boundaries of the City of North Kansas City, Missouri are designated as general industrial (City of North Kansas City 2008). Land adjacent to the reach on the City of Kansas City, Kansas side of the river is designated as heavy industrial, single-family residential, and agricultural (City of Kansas City 2007). Lands adjacent to the reach that lie in the City of Riverside are designated for general industrial use (City of Riverside 2009). Lands adjacent to the reach that are in the City of Parkville (Platte County) are primarily designated as parks/open space, although small areas are designated for commercial, mixed-use, office/business park, and residential purposes near RM 376 (City of Parkville 2009).

Recreational facilities along the Holliday–Riverside reach include Holland Park (RM 366.3 to RM 369.7), E.H. Young Riverfront Park (RM 372), English Landing Park (RM 377), the Missouri Riverfront Trail (RM 372 to RM 376), the English Landing boat ramp (RM 377.4), and an unnamed boat ramp (RM 376). Riverfront Park in the City of Riverside and English Landing Park in the City of Parkville are also adjacent to the reach.

3.11.5 Waverly Segment

The Capital Sand Company – Carrollton facility (Capital–Carrollton) and the Capital Sand Company – Lexington facility (Capital–Lexington) are located in the Waverly segment. No major urban centers are located along this segment, but the towns of Waverly and Lexington are nearby. Most of the land in these reaches is rural and agricultural, with few formal recreational opportunities. Lewis and Clark Historic Trail points of interest along the Waverly Segment include the National Frontier Trails Center and the Fort Osage National Historic Landmark (NPS 2010). Figure 3.11-1 (Sheet 3) shows land uses and dredging areas in this segment. Figure 3.11-2 (Sheet 3) shows recreation and access to the LOMR along the segment.

3.11.5.1 Capital Sand Company – Carrollton Facility

The Capital–Carrollton facility is located in an unincorporated portion of Carroll County (Missouri); the reach for the facility runs adjacent to lands in the counties of Saline (Missouri), Carroll, and Lafayette (Missouri). Based on land cover data, the facility is located in an area that is almost entirely cropland, with surrounding areas of wetland and pasture. Lands adjacent to the reach that are in Saline County are pasture and deciduous forest. Adjacent land in Carroll County is mostly cropland, with areas of wetland and pasture.

Adjacent lands in Lafayette County are designated as agricultural, except for land in the Town of Waverly (Lafayette County 2004). Lands adjacent to the reach that are a part of the Town of Waverly are mostly open space and low-intensity development, with very little medium- to high-intensity development.

Recreational facilities along the Capital–Carrollton reach include the Cranberry Bend CA (RM 291.5), the Baltimore Bend CA (RM 292 to RM 300), Port of Waverly Park (RM 293.5), the Waverly boat ramp (RM 293), and the Port of Waverly Park boat ramp (RM 293.2). Cranberry Bend CA and Baltimore Bend CA are part of the Big Muddy National Fish and Wildlife refuge and are managed by the USFWS (USFWS 2008). All legal methods of hunting are permitted in the boundaries of these conservation areas.

3.11.5.2 Capital Sand Company – Lexington Facility

The Capital–Lexington facility is located across the Missouri River from the City of Lexington, in unincorporated Ray County (Missouri); the reach for the Capital–Lexington facility runs adjacent to lands in the counties of Lafayette and Ray. Based on land cover data, the facility is located in an area that is mostly cropland, with a small portion of pasture, wetlands, and deciduous forest. Adjacent lands in Lafayette County are designated as agricultural, except for lands in the towns of Lexington and Wellington (Lafayette County 2004).

Recreational facilities along the Capital–Lexington reach include Lexington Riverfront Park (RM 316.4) and the two boat ramps located at Riverfront Park (RM 316.4) in the City of Lexington.

3.11.6 Jefferson City Segment

The Capital Sand Company – Jefferson City facility (Capital–Jefferson), Capital Sand Company – Rocheport facility (Capital–Rocheport), Capital Sand Company – Boonville facility (Capital–Boonville)

and Capital Sand Company – Glasgow facility (Capital–Glasgow) are located in the Jefferson City segment. The Hermann Sand & Gravel – Jefferson City facility (Hermann–Jefferson City) also is located in the Jefferson City segment. The City of Jefferson City is the major urban center in this segment, with several small rural towns located upstream. For the reaches located in Jefferson City, most of the adjacent land is open space or agricultural, and the urban areas of the city are located across the river from the facilities. Few recreational opportunities are located near the urban reaches, and boat ramps are the primary recreation-related facilities in the outlying reaches. The only Lewis and Clark Historic Trail point of interest along the Jefferson City segment is Arrow Rock State Historic Site (NPS 2010). Figure 3.11-1 (Sheet 4) shows land uses and dredging areas in this segment. Figure 3.11-2 (Sheet 4) shows recreation and access to the LOMR along the segment.

3.11.6.1 Capital Sand Company – Jefferson City Facility

The Capital–Jefferson City facility is located in the City of Jefferson City in Callaway County (Missouri); the reach for the facility runs adjacent to lands in the counties of Callaway, Cole (Missouri), and Boone (Missouri). The facility is located on land designated as a conservation district for maintenance of rural areas (City of Jefferson 2007). Other areas adjacent to this reach, in Jefferson City, are zoned as conservation district along most of the river, with an additional portion designated as rural. The adjacent land cover in Cole County that is outside the boundaries of the City of Jefferson City is generally cropland; however, small areas of deciduous forest and grassland exist here as well. Adjacent lands in Boone County are designated for agricultural purposes (Boone County 2009).

Ellis–Porter Park (RM 141.5) and Noren boat ramp (RM 144) are the recreational facilities located along the Capital–Jefferson City reach. A portion of the Katy Trail State Park bike trail runs parallel to the reach.

3.11.6.2 Hermann Sand & Gravel – Jefferson City Facility

Hermann–Jefferson City is located in an unincorporated part of Callaway County; the reach for the facility runs adjacent to lands in the counties of Callaway, Cole, and Boone. Based on land cover data, the facility is located in an area of Callaway County that is predominantly cropland with interspersed areas of pasture and deciduous forest. Adjacent lands in Boone County are designated as agricultural land, with a small portion near RM 149 designated for urban agriculture (Boone County 2009).

Recreational facilities along the Hermann–Jefferson City reach include boat ramps, including Noren boat ramp (RM 144) and Busch Landing (RM 154). A portion of the Katy Trail State Park bike trail runs parallel to the reach.

3.11.6.3 Capital Sand Company – Rocheport Facility

The Capital–Rocheport facility is located in unincorporated Howard County; the reach for the facility runs adjacent to lands in the counties of Boone, Cooper (Missouri), and Howard (Missouri). Based on land cover data, the facility is located in a largely cropland area, with smaller areas identified as wetlands, pasture, and deciduous forest. Land adjacent to the reach that is in Boone County is designated for urban agriculture (Boone County 2009). The City of Boonville is located at the upstream end of the reach. Based on land cover data, adjacent lands in City of Boonville are mostly deciduous forest, with smaller areas of pasture, wetlands, and cropland.

Recreational facilities along the Capital–Rocheport reach consist of the Overton Bottoms North Unit (RM 178 to RM 185.1), Diana Bend CA (RM 186.6 to RM 190.2), Franklin Island CA (RM 192 to RM 195.4), Taylor's Landing boat ramp (RM 185.2), and Franklin Island boat ramp (RM 195.1).

Diana Bend CA accommodates camping, fishing, hiking, hunting, and trapping. Hunting at Diana Bend CA is limited to deer, dove, quail, rabbit, turkey, and waterfowl. Franklin Island CA accommodates camping, fishing, hiking, hunting, and trapping. Hunting on Franklin Island CA is limited to deer, dove, quail, turkey, and waterfowl. The Overton Bottoms North Unit is part of the Big Muddy National Fish and Wildlife Refuge, which is run by USFWS, and allows all legal methods of hunting in its boundaries (USFWS 2008). The Katy Trail State Park bike trail and the Missouri-Kansas-Texas trail run parallel to a portion of the reach.

3.11.6.4 Capital Sand Company – Boonville Facility

The Capital–Boonville facility is located across the Missouri River from the City of Boonville, in an unincorporated part of Howard County. The reach for the facility runs adjacent to lands in the counties of Howard and Cooper. Based on land cover data, unincorporated lands in Howard and Cooper Counties are primarily cropland, with large areas of wetland, and smaller areas of deciduous forest, and pasture. The City of Boonville includes mostly low-intensity development, with small portions of medium- and high-density development.

Recreational facilities along the reach include Franklin Island CA (RM 192 to RM 195.4), Harley Park (RM 197.4), and Franklin Island boat ramp (RM 195.1). The Katy Trail State Park bicycle trail crosses the Capital–Boonville reach near RM 197, along the Missouri-Kansas-Texas Bridge.

3.11.6.5 Capital Sand Company – Glasgow Facility

The Capital–Glasgow facility is located in the City of Glasgow in Howard County; the reach for the facility runs adjacent to lands in the counties of Howard, Saline, and Chariton (Missouri). Based on land cover data, the facility is located in an area that is primarily cropland, with a large amount of wetlands and small areas of pasture and deciduous forest. The nearby Town of Glasgow is mostly open space development and low-intensity development.

Recreational facilities along the Capital–Glasgow reach include Stump Island Park (RM 226), Rooster's Marina (RM 226.4), Stump Island boat ramp (RM 226), and an unnamed boat ramp (RM 226).

3.11.7 St. Charles Segment

The Limited Leasing Company – Fort Belle facility (Limited–Fort Belle), Limited Leasing Company – Bridgeton facility (Limited–Bridgeton), and Limited Leasing Company – Chesterfield facility (Limited–Chesterfield) are in the St. Charles segment. The J.T.R. – Riverview facility (J.T.R.–Riverview), J.T.R. – St. Charles facility (J.T.R.–St. Charles), Capital Sand Company – Washington facility (Capital–Washington), and Hermann Sand & Gravel – Hermann facility (Hermann–Hermann) also are in the St. Charles segment. In addition, the proposed Edward N. Rau Contractor Company – Washington facility (Rau–Washington) is in this segment. The major urban center in the segment is the City of St. Charles, with suburban areas of St. Louis located across the river. Most of the reaches with existing or proposed facilities are adjacent to the urban areas, and a majority of the land in these reaches is used for industrial or parks/open space purposes. Several reaches have multiple recreational opportunities located nearby. Lewis and Clark Historic Trail points of interest along the St. Charles Segment include the Katy Trail State Park and the Lewis and Clark Center (NPS 2010). Figure 3.11-1 (Sheet 5) shows land uses and dredging areas in this segment. Figure 3.11-2 (Sheet 5) shows recreation and access to the LOMR along the segment.

3.11.7.1 Limited Leasing Company – Fort Belle Facility

Limited–Fort Belle is located in unincorporated part St. Louis County (Missouri); the reach for the facility runs adjacent to lands in the counties of St. Louis and St. Charles (Missouri). The land on which the Fort Belle facility is located is designated for industrial purposes (St. Louis County 2008). The

surrounding unincorporated St. Louis County lands are designated as industrial, residential, parks, and agricultural/vacant. Land uses in the unincorporated portions of the St. Charles County side of the reach are designated as agricultural (St. Charles County 2008).

Recreational areas in the reach include Fort Bellefontaine County Park (RM 6.7), Sioux Passage Park (RM 10.4), and Pelican Island Natural Area (RM 10.5 to RM 16). Activities allowed on Pelican Island include bird watching, fishing, hiking, and deer hunting. Boat ramps along the reach include Central Stone Company Dock (RM 7), West Lake Quarry ramp (RM 8), Pelican Island boat ramp (RM 10.3), Sioux Passage County Park ramp (RM 10.4), Brickhouse Bend ramp (RM 12.5), Tiemann boat ramp (RM 17), and three unnamed ramps (RM 12, RM 17, and RM 18).

3.11.7.2 J.T.R. – Riverview Facility

J.T.R.–Riverview is located in an unincorporated portion of St. Louis County; the reach for the facility runs adjacent to lands in the counties of St. Louis and St. Charles and lands in the cities of Florissant, Hazelwood, and Bridgeton. The facility is located on land designated as industrial (St. Louis County 2008). The surrounding unincorporated St. Louis County lands are designated as industrial, agricultural/vacant, residential, and park. Adjacent City of Florissant lands are designated mostly as agricultural/vacant and industrial, with small pockets of residential (St. Louis County 2008). Adjacent City of Hazelwood lands are designated as park and agricultural/vacant (St. Louis County 2008). Adjacent City of Bridgeton lands are designated as rural and residential (City of Bridgeton 2008). Land uses on the St. Charles County side of the reach are designated primarily as agricultural, with small sections near RM 24 and RM 26 designated as parks and open space (St. Charles County 2008).

The section of parks/open space near RM 24 is part of the Greenway Trails System (St. Charles County 2008). Other recreational areas along the J.T.R.–Riverview reach include Pelican Island Natural Area (RM 10.5 to RM 16), Sunset Park (RM 19.5), St. Stanislaus County Park (RM 22), St. Stanislaus CA (RM 21 to RM 23.5), and Ed Bales Memorial Park (RM 26.7). St. Stanislaus CA accommodates bird watching, fishing, hiking, and deer hunting (managed hunts only). Boat ramps along the reach include Tiemann boat ramp (RM 17) and two unnamed boat ramps (RM 17 and RM 18).

3.11.7.3 Limited Leasing Company – Bridgeton Facility

Limited–Bridgeton is located in the City of Bridgeton in St. Louis County; the reach for the facility runs adjacent to lands in the counties of St. Louis and St. Charles and adjacent to lands in the cities of

St. Charles, Hazelwood, Maryland Heights, and Chesterfield. The facility is located on land designated by the City of Bridgeton as manufacturing (City of Bridgeton 2008). Adjacent unincorporated St. Louis County lands are designated as agricultural/vacant (St. Louis County 2008). Adjacent City of Bridgeton lands are designated for manufacturing, rural, and residential purposes. Adjacent City of Hazelwood lands are designated as park and agricultural/vacant (St. Louis County 2008). Adjacent City of St. Charles lands are designated as heavy industrial, residential, and commercial (City of St. Charles 2008). Adjacent City of Maryland Heights lands are designated as planned district (manufacturing) and non-urban (City of Maryland Heights 2010). Adjacent City of Chesterfield lands are designated as agricultural/floodplain (City of Chesterfield 2005). Land uses on the St. Charles County side of the reach are designated primarily as parks/open space, with a small portion of land designated as commercial near RM 29.5.

The Greenway Trail System runs through the parks/open space area in this reach (St. Charles County 2008). Other recreation areas in the reach include Ed Bales Memorial Park (RM 26.7); Frontier Park (RM 28.9); and Louis H. Bangert Memorial Wildlife Area (RM 30), which are available for biking, bird watching, and fishing. Hunting is prohibited in the wildlife area, which is managed by the St. Charles County Parks and Recreation Department. Boat ramps along the reach include Blanchette Landing (RM 27.5) and Frontier Park access ramps (RM 28.9). Katy Trail State Park runs parallel to the reach.

3.11.7.4 J.T.R. – St. Charles Facility

J.T.R.–St. Charles is located in the City of St. Charles in St. Charles County. The reach for the facility runs adjacent to unincorporated lands in the counties of St. Charles and St. Louis and in the cities of Maryland Heights and Chesterfield. The facility is located on land designated as heavy industrial; and the surrounding land in the City of St. Charles is designated as heavy industrial, residential, and commercial (City of St. Charles 2008). Adjacent unincorporated St. Louis County lands are designated as agricultural/vacant (St. Louis County 2008). Adjacent Chesterfield lands are designated as agricultural/floodplain (City of Chesterfield 2005). Adjacent Maryland Heights lands are designated as non-urban (City of Maryland Heights 2010). Land uses in the unincorporated portions of the St. Charles County side of the reach are designated as primarily agricultural. The Greenway Trail System runs through the parks/open space area in this reach (St. Charles County 2008).

The Katy Trail State Park bike trail runs parallel to part of the J.T.R.–St. Charles reach, as well as Frontier Park (RM 28.9) and Louis H. Bangert Memorial Wildlife Area (RM 30). The Frontier Park access ramp is the only boat ramp along the reach (RM 28.9).

3.11.7.5 Limited Leasing Company – Chesterfield Facility

Limited–Chesterfield is located in the City of Chesterfield in St. Louis County; the reach for the facility runs adjacent to lands in the counties of St. Louis, St. Charles, and Franklin (Missouri). The facility is located on land designated as agricultural/floodplain (City of Chesterfield 2005). Adjacent Chesterfield land is also designated as agricultural/floodplain. Land uses in the St. Charles portion of the reach are designated as parks/open space and agricultural (St. Charles County 2008). Land uses in the Franklin County portion of the reach are designated primarily as agricultural, with a small area of single-family residential use near RM 53 (Franklin County, 2002).

The Katy Trail State Park bike trail runs parallel to a portion of the Limited–Chesterfield reach. Other recreation areas along this reach are Johnson Island (RM 43), Boone's Crossing (RM 43), Weldon Springs CA (RM 44 to RM 49.4 and RM 52 to RM 55), and Howell Island CA (RM 44.7 to RM 49.7). Johnson Island and Boone's Crossing are part of the Big Muddy National Fish and Wildlife Refuge run by USFWS (USFWS 2008). Johnson Island allows all legal hunting methods, whereas Boone's Crossing allows only archery hunting. Weldon Springs CA provides opportunities for biking, bird watching, camping, fishing, hiking, hunting, and trapping. Hunting in Weldon Springs CA is limited to deer (managed hunts only), dove, rabbit, squirrel, turkey (managed hunts only), and waterfowl. Howell Island CA provides opportunities for bird watching, camping, fishing, hiking, hunting, and trapping. Hunting on Howell Island CA is limited to deer (archery methods only), squirrel, and turkey. The only boat access ramp located along the reach is the Weldon Springs boat access ramp (RM 48.5).

3.11.7.6 Capital Sand Company – Washington Facility

The Capital–Washington facility is located in unincorporated Franklin County; the reach for the facility runs adjacent to lands in the counties of Franklin, St. Charles, and Warren (Missouri). The facility is located on land designated as agricultural. Lands upstream of the facility that are in the City of Washington are designated as single-family residential, light industrial, commercial, and heavy industrial (City of Washington 2007). Unincorporated lands on the Franklin County side of the reach are designated as agricultural (Franklin County 2002). Land uses in the St. Charles County portion of the reach are designated as agricultural (St. Charles County 2008). Based on land cover data, land in the Warren County portion of the reach is cropland and wetland, with smaller areas of deciduous forest and pasture.

The Washington public boat ramp (RM 68.3) is the only recreation facility located along the Capital–Washington reach. Hunting waterfowl on the Missouri River is allowed from boats that have been launched from this ramp.

3.11.7.7 Edward N. Rau Contractor Company – Washington Facility

The proposed site of the Rau–Washington facility is located in the City of Washington in Franklin County; the reach for the proposed facility runs adjacent to lands in the counties of Franklin and Warren. The proposed onshore facility would be located in an area of the City of Washington that is designated as light industrial. Lands upstream of the facility that are in the City of Washington are designated as commercial and heavy industrial (City of Washington 2007). Unincorporated lands on the Franklin County side of the reach are designated as agricultural, with small areas of single-family residential (Franklin County 2002). Based on land cover data, land in the Warren County portion of the reach is mostly cropland and wetland, with smaller areas of deciduous forest and pasture.

Recreational facilities along the Rau–Washington reach consist of the Washington public boat ramp (RM 68.3). Hunting waterfowl on the Missouri River is allowed from boats that have been launched from the Washington ramp.

3.11.7.8 Hermann Sand & Gravel – Hermann Facility

Hermann–Hermann is located across the Missouri River from the Town of Hermann in Montgomery County; the reach for the facility runs adjacent to lands in the counties of Montgomery (Missouri), Warren, and Gasconade (Missouri). Based on land cover data, the facility is located in an area with large portions of cropland, with small pockets of pasture, deciduous forest, and barren land. Land cover in the Gasconade County portion of the reach is mostly deciduous forest, with small areas of cropland, open space development, and wetland. The town of Hermann is mostly open space and low-intensity development, with smaller areas of medium- and high-intensity development.

Recreational facilities along the Hermann–Hermann reach consist of Hermann Riverfront Park (RM 97.5), Gasconade Park (RM 104.5), the two Hermann Riverfront Park boat ramps (RM 97.5), and the Gasconade Park boat ramp (RM 104.5).

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