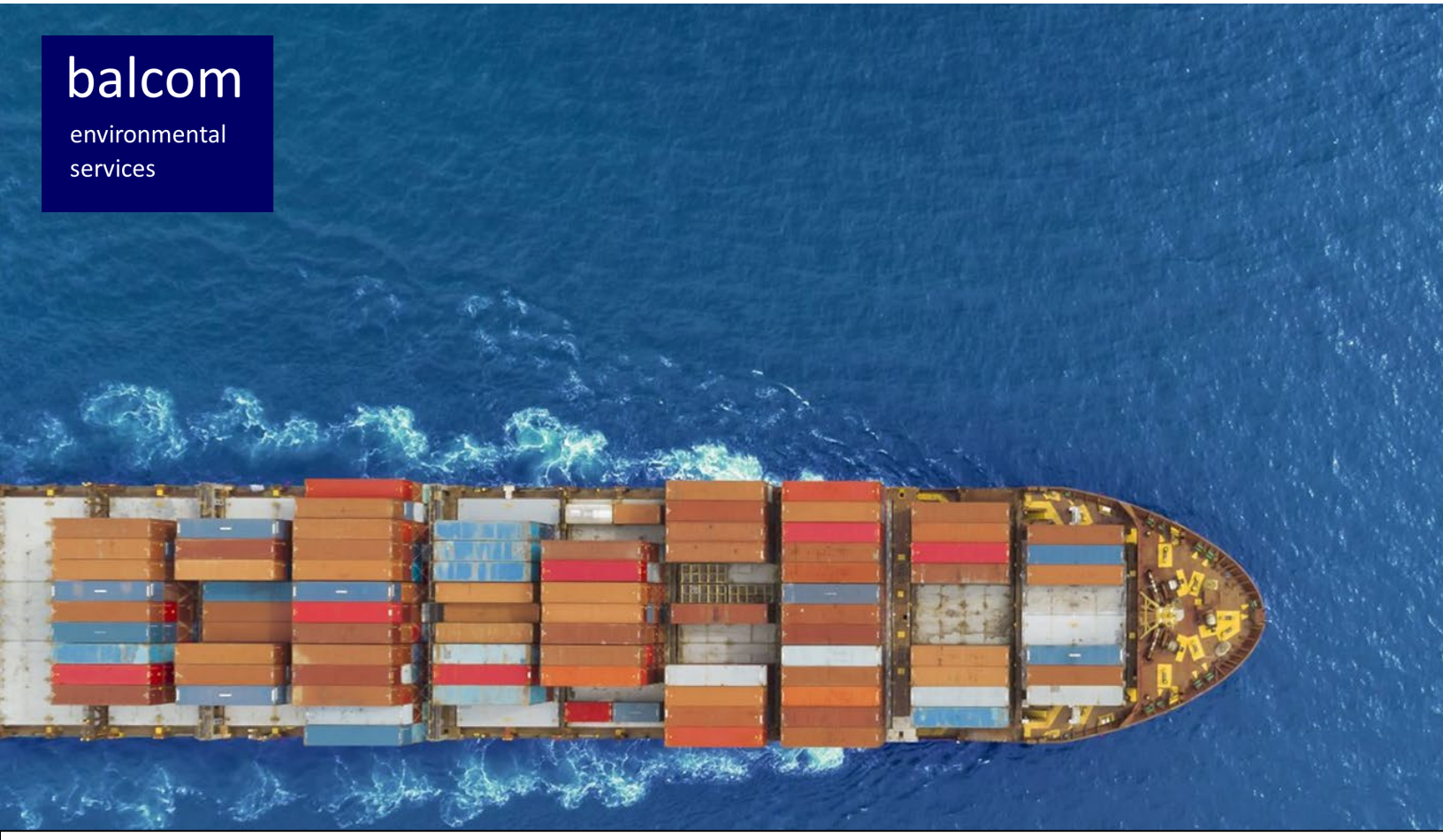
# Jo Carroll Depot Local Redevelopment Authority
# Final Reuse Plan
# for
# Parcel 20

## Former Savanna Army Depot




With our team subconsultants:

WSP | MARTIN ASSOCIATES | EASE | MSA

**June 2023**

This study was prepared under contract with the Jo Carroll Depot Local Redevelopment Authority (LRA), with financial support from the Office of Local Defense Community Cooperation, Department of Defense. The content reflects the views of the LRA and does not necessarily reflect the views of the Office of Local Defense Community Cooperation.

# Executive Summary

The Savanna Army Depot Activity site is a 13,062-acre former Army installation. It is located on the eastern bank of the Mississippi River in Carroll and Jo Daviess counties, seven miles north of the city of Savanna, Illinois. Between 1917 and 1995, the U.S. Army used the property for artillery weapons and ammunition testing, as well as the storage of ordnance and the loading and renovating of shells and bombs.

On January 17, 2018, the Department of the Army published the official notice in the Federal Register, Volume 83, No. 11, that there was surplus property available at the former Savanna Army Depot (SVAD) for public benefit purposes and that the Jo Carroll Depot Local Redevelopment Authority (LRA) has been recognized by the Department of Defense (DoD) as the Local Redevelopment Authority for this surplus property.

The LRA has performed a comprehensive analysis in support of the reuse planning for parcel 20 and the following sections summarize the results of the studies that were performed in support of redevelopment.

**Existing Infrastructure, Environmental and Ecological Conditions**

***Existing Infrastructure***. The infrastructure evaluation assessed the ability of current infrastructure and utilities at Savanna Industrial Park on Parcel 20 to support economic development. However, since the majority of the traditional infrastructure components, including buildings, roads, electricity, water, and sewer are absent from this area, or were transferred under the previous EDC, this analysis is focused primarily on the three existing stormwater outfalls that discharge into Commander's Pond, also known as Ordnance School Lake.

There is a small portion of the Lower Post area which is served by a storm sewer system. The majority of the pipes that discharge into Commander's Pond are 10- and 12-inch diameter clay tile with one line being 30 inches in diameter.

Parcel 20 has a lack of significant infrastructure on the parcel, but instead provides the accessibility from the parcel to roads, rail, and water, demonstrating access for port and port related development. The adjacent properties have significant infrastructure including power, water, fiber, and steam, and will support the build-out of the proposed program over time.

***Environmental Conditions.*** The following five (5) sites on Parcel 20 were identified for investigation under CERCLA:

- Abandoned Landfill (Site 20)
- Stables Landfill (Site 73)
- 1917-Era Powder Magazines (Site 77)
- Vincent Road Septic System (Site 130)
- Shop Area (Buildings 100 through 129) Sanitary and Stormwater Sewer lines and Outfalls to Ordnance School Lake (Site 178)

Below is the status of the CERCLA program for the five (5) sites as of June of 2023:

| Table ES-1: CERCLA Status for Sites in Parcel 20 | | | |
|---|---|---|---|
| **Site Number** | **Parcel Number** | **Site Name** | **Current CERCLA Status (2023)** |
| Site 20 | LRA-20 | Abandoned Landfill | Record of Decision Site 20 – Abandoned Landfill and Site 99 – Building 762, CF Plant Battery Shop and Leaching Pits Savanna Army Depot Activity Savanna, Illinois, June 2016. Site 20 Abandoned Landfill, LUCIP October 2019. Site 20 Groundwater monitoring reports, 2019, Site 20 Groundwater monitoring reports for 2020 and 2021. Quarterly groundwater monitoring for 2023 are underway. |
| Site 73 | LRA-20 | Stables Landfill | Record of Decision Site 73 – Stables Landfill and Site 178 – Ordnance School Lake Savanna Army Depot Activity Savanna, Illinois. Remedial Action Complete 2-5-20, Draft LUCIP pending as of April 2023 |
| Site 77 | LRA-20 | 1917-Era Powder Magazines | EBS indicated that no evidence to indicate that release or disposal of hazardous substances or petroleum products has occurred. No Further Action. |
| Site 130 | LRA-20 | Vincent Road Septic System | Final ROD for Thirty-Three Lower Post and Plant Area Sites (July 2012); No Further Action |
| Site 178 | LRA-20 | Ordnance School Lake Outfalls | Record of Decision Site 73 – Stables Landfill and Site 178 – Ordnance School Lake Savanna Army Depot Activity Savanna, Illinois. Remedial Action Complete 2-5-20. |

***Ecological Conditions.*** The following table ES-2 summarizes the endangered and threatened species list for Parcel 20.

| Table ES-2 EcoCAT and IPAC Species Summary List for Parcel 20 | | | | |
|---|---|---|---|---|
| **Scientific Name** | **Common Name** | **State Status** | **Federal Status** | **Habitat** |
| **Mammals** | | | | |
| *Myotis sodalis* | Indiana Bat | | Endangered | Parcel 20 is outside the critical habitat |
| *Myotis septentrionalis* | Northern Long-eared Bat | | Threatened | No critical habitat has been designated for this species |
| **Clams** | | | | |
| *Lampsilis higginsii* | Higgins Eye | Protected | Endangered | No critical habitat has been designated for this species |
| *Plethobasus cyphus* | Sheepnose Mussel | | Endangered | No critical habitat has been designated for this species |

| Table ES-2 EcoCAT and IPAC Species Summary List for Parcel 20 | | | | |
|---|---|---|---|---|
| **Scientific Name** | **Common Name** | **State Status** | **Federal Status** | **Habitat** |
| **Snails** | | | | |
| *Discus macclintocki* | Iowa Pleistocene Snail | | Endangered | No critical habitat has been designated for this species |
| **Insects** | | | | |
| *Ellipsaria lineolata* | Butterfly | Protected | | |
| **Trees** | | | | |
| *Pinus banksiana* | Jack Pine | Protected | | |
| **Flowering Plants** | | | | |
| *Platanthera leucophaea* | Eastern Prairie fringed Orchid | | Threatened | No critical habitat has been designated for this species |
| *Aconitum noveboracense* | Northern Wild Monkshood | | Threatened | No critical habitat has been designated for this species |
| *Lespedeza leptostachya* | Prairie Bush - clover | | Threatened | No critical habitat has been designated for this species |
| *Platanthera praeclara* | Western Prairie Fringed Orchid | | Threatened | No critical habitat has been designated for this species |
| *Polanisia jamesii* | James' Clammyweed | Protected | | |
| **Reptiles** | | | | |
| *Heterodon nasicus* | Plains hog-nosed snake | Protected | | The western hognose snake prefers dry prairie areas, especially sandy ones. In Illinois, sand prairies provide typical habitat. |
| **Fish** | | | | |

| Table ES-2 EcoCAT and IPAC Species Summary List for Parcel 20 | | | | |
|---|---|---|---|---|
| **Scientific Name** | **Common Name** | **State Status** | **Federal Status** | **Habitat** |
| *Hybopsis amnis* | Pallid Shiner | Protected | | |
| *Notropis texanus* | Weed shiner | Protected | | In Illinois, the weed shiner occupies clear sand-bottom creeks with some submerged vegetation |
| *Ammocrypta clarum* | Western sand darter | LE | | The western sand darter is restricted to sandy runs of medium to large rivers. It avoids strong currents, preferring the quiet margins of the riverbank |

**Demographic and Economic Analysis**

The population of Savana has declined by six percent from 2010 to 2020, housing stayed about the same during this same time frame, and Savanna has an employed population of 1,171 of which 63.6 percent work in manufacturing, retail trade, or educational services, healthcare, and social assistance industries. Manufacturing is the highest at 27.7 percent of the population working in that industry in Savanna. Carroll county had the highest percentage of the population working in the manufacturing industry as well at 23 percent. For the Jo Daviess and Quad Cities MSA, educational services, healthcare, and social assistance was the highest percentage of employment.

From 2010 to 2023, the counites have overall had a lower unemployment than Illinois. The counties were also able to rebound from the COVID-19 quicker than compared to Illinois. As of January 2023, the unemployment rate for Carroll (5.1 percent) and Jo Daviess (5 percent) counites was slightly higher than Illinois (4.7 percent), this trend is similar to previous years during January and can be associated with seasonal workforce.

**Commercial Industrial Market Analysis**

The market opportunities analysis captured relevant information from a wide range of sources and technical experts, and then synthesized the key findings into an Opportunities Matrix that was used in creating alternative layouts and concepts for potential development and operation of marine cargo facilities. The key inputs to this work were:

- Analysis of national-level commodity flow data. A variety of data sources were analyzed, including: the US Department of Transportation's Freight Analysis Framework version 5.2; forecasts from the Illinois Marine Transportation System Plan, which utilized USACE statistics and validation with each Illinois public port district; updated USACE statistics prepared for the Illinois State Freight Plan Update currently in progress; and commodity flow estimates and forecasts from a commercial data product called Transearch.

- Update of previous marine cargo forecasts. A previously prepared detailed marine cargo forecast using 2017 Transearch, Corps data, and other available information, was updated with information to reflect more recent data and address additional market opportunities. This work primarily addresses conventional or known types of markets and services.

- Assessment of expanded and emerging markets. Worked with industry contacts, and other market-specific data sources to identify additional opportunities specific to the assets and attributes of the SIP that might not be evident from a higher-level review or from more conventional data sources.

- Interviews with key freight industry stakeholders. Conducted a series of interviews with industry stakeholders to test, refine, and validate the market findings and indicators from each of the three approaches above.

The results of these investigations were consolidated into summary tables documenting the market opportunities and associated requirements (throughput capacity, acreage needed, etc.) to guide the next steps in the planning process. Table ES-3 provides a summary of potential market opportunities for the port development within Parcel 20.

**Table ES-3. SIP Market Opportunities from Market Analysis**

| Commodity | Low Scenario (Tons) | High/Optimistic Scenario (Tons) | Driver/Needs |
|---|---|---|---|
| Salt | 25,000 | >80,000 | |
| Construction Materials (sand/gravel/cement) | 35,000 | >50,000 | Driven by local/regional construction market; Number of infrastructure projects will influence |
| Steel products | 20,000 | | Need to compete inland and access potential user |
| Scrap | 40,000 | >60,000 | Driven by growth in EAF mills |
| Fertilizer Products | 60,000 | >100,000 | |
| DDGS | 80,000 | >200,000 | Need anchor ethanol producer, enough volume to generate export-level volume; could also be railed and/or domestic |
| Recycled wind blade operations | 500 blades/year | >1,000 blades/year | Need anchor recycling tenant operation; also potentially served by rail |

| Commodity | Low Scenario (Tons) | High/Optimistic Scenario (Tons) | Driver/Needs |
|---|---|---|---|
| Plastics recycling operations | 25,000 | >100,000 | Need plastics recycling MFR tenant; At full build-out, could be 300,000-500,000 tons moved annually, including truck and rail |

Table ES-4 Identifies the summary of both conventional and green opportunities in utilizing marine cargo services.

### Table ES-4. Summary of Core Business Opportunities Utilizing Marine Cargo Services

| Conventional Freight Markets | Green Opportunities from Expanded Markets |
|---|---|
| **Grain and oilseeds** | Organic Digester |
| **Fertilizers** | Grain & By-Products processing |
| **Salt** | Processors Using LNG - Hemp et al |
| **Metals** | Metal Milling |
| **Chemicals** | Wind Energy component manufacturing and processing<br>Component recycling |
| **Scrap Recycling Metals** | Solar Energy generation |
| **Container Cargo (New Handling Opportunity)** | Chemical |

**Property Transfer Process**

There are a variety of transfer mechanisms that the Army and the LRA can consider regarding the disposition of Parcel 20. The LRA has notified the Army that they would prefer to transfer the parcel as a no cost EDC, similar to the previous EDC that was negotiated for the initial disposal of the Savanna Army Depot in 2000.

**Notice Of Interest Inquiries**

Three (3) inquiries were made regarding the NOI process, however, only one NOI was received by the LRA from Upper Mississippi River International Port District (UMRIPD) for consideration for a Public Benefit Conveyance (PBC). The Salvation Army confirmed via email that they were not interested in pursuing any homeless accommodation or PBC at the site, as did Dean Wright of the Freeport Area Coop. There were no other responses by 3:00 pm Friday May 17th, 2018.

Effective January 2023, UMRIPD officially withdrew their interest in pursuing a PBC at parcel 20, and there were no other interested parties that submitted as part of the NOI process.

**Public Outreach for Reuse Planning**

The LRA engaged local community organizations, businesses, stakeholders, public officials, and the community to drive engagement for the Savanna Industrial Park Reuse Plan for Parcel 20. This included email distribution campaigns with curated lists, Technical Advisory Committee (TAC) meetings, an interactive MetroQuest survey, public meetings that were both in person and virtual, public notices in local media, personal visits from LRA staff, and the LRA website.

Two public meetings were held in Savanna, IL at the Savanna Museum and Cultural Center on September 14, 2022, and November 9, 2022. They were conducted in conjunction with key phases of the study – Visioning and Alternatives.

Public notices were posted in five local newspaper publications, along with a news release distributed to the local media, including radio. Public notice flyers were posted at the Post Office, Savanna Museum, Manny's Restaurant, and Sullivan's Grocery Store.

Five major findings were identified through the public process. The community prioritized the following elements for the reuse of parcel 20:

- Economic Development
- Job Creation
- Port/Multimodal Development
- Recreation
- Environmental Stewardship

The reuse alternatives developed for parcel 20 incorporated this feedback into the reuse planning process. There are three (3) proposed alternatives for the reuse of parcel 20, and in the December 7, 2022, meeting of the LRA board, the board voted unanimously to adopt the third alternative, also known as "Commander's Pond Full" as the preferred alternative. All three of the reuse alternatives figures are attached to this Memorandum, the preferred alternative is titled " Commander's Pond Full".

**Redevelopment Alternatives**

The three (3) redevelopment alternates for redevelopment of Parcel 20 include:

Alternative 1: Brick House Slough
Alternative 2: Commander's Pond Lite
Alternative 3: Commander's Pond Full

The three alternates differ based on the location of waterfront structure. The backland area remains similar in all three alternates except for the immediate backland behind commander's pond wharf which includes storage for breakbulk and project cargo as well as dry dock area.

The backland development includes the following items:

- Container wheeled storage area
- Project cargo and breakbulk storage area
- Dry dock area
- Wind component manufacturing area
- Grain silos and fertilizer warehouse with rail loading/unloading facility.
- Grain and Co-product area
- Digester area and storage with rail spurs
- Liquid bulk storage tanks with rail spurs
- Salt stockpile area with rail spurs
- Rail loop for East Land Grain
- Solar PV Area

**LRA Preferred Alternative**

The LRA preferred alternative is Alternate 3. This alternative captures the port and recreational development elements from the Alternatives 1 and 2. This alternate prioritizes fleeting, development of a dry bulk and liquid bulk wharf on the Brick House Slough, use of Commander's Pond for additional wharf spaces for Lift on/ lift off cargos and dry docking and boat repair, as well as aquatic habitat creation and management.

Key port infrastructure identified for this alternative include the following:

- Barge Fleeting Area
- 800 foot Dry and Liquid Bulk Wharf
- Floating Dry Dock
- Wharf Access Road
- Haul Road
- Liquid Bulk pipeline
- Conveyor System
- Lift On Lift off (LOLO) Wharfs : 600 feet and 350 feet
- Travel lift piers
- Repair Fleeting Area
- Aquatic Habitat Restoration

The barge fleeting area is proposed for both the channel and slough side of Apple Island and can accommodate up to eight (8) spud barges on both the channel and Brickhouse slough side. The slough side can accommodate approximately 5,500 feet of fleeting, with 3-wide barge widths and the channel side can accommodate approximately 5,600 feet of fleeting, with 5-wide barge widths.

The dry and liquid bulk wharf is an 800-feet structure that will allow handling of 2-300 feet barges simultaneously. The wharf will also accommodate the docking of a floating dry dock for minor repair of barges and tugboats. The wharf structure provides interface between the landside and waterside for dry bulk and liquid bulk commodities via conveyor and pipeline, respectively. The wharf will be connected to the backlands via the haul road that will allow movement of workers and equipment.

The LOLO wharf in Commander's pond area to support the expansion of specialty and breakbulk cargos and dry dock capacity. The wharfs include both a 600-feet structure that will allow handling of 2-250 feet barges simultaneously, as well as a 350 - feet structure to handle 2 additional 250 feet barges. The wharf structures provide interface between the landside and waterside for container and breakbulk cargo.

The travel lift piers will provide accessibility to the larger landside drydock area, an expansion of the capacity and boat repair size beyond the initial floating dry dock located in Brickhouse Slough. A repair fleeting area will also be included to expand the capacity of the dry dock facilities.

An aquatic restoration area will be created within the Commander's Pond area and will require approximately 16 acres.

Approximately 400,000 cu/ yards of dredging will be required to allow access for both the Brickhouse Slough fleeting and construction of the wharf adjacent to Parcel 20. The Commanders Pond area will require about 68,000 cu/ yds of dredging, with 42,000 cu/yds accounting for cargo activities and the remaining 16,00 cu/ yds dedicated for aquatic habitat restoration.

The recreational uses of Parcel 20 include the following elements:

- Proposed Canoe and Kayak Ramp
- Proposed Recreational Area
- Proposed Recreational Trail

The recreational elements for all of the alternatives are the same and provide an opportunity to create public use recreational spaces specifically designed for low impact to the environment.

A trail system is proposed that will be accessible from Sewer Treatment Road, just south of the Sewer Treatment Plant. The low impact trail will follow the southernmost extent of Commander's Pond and also head towards the north along the Apple River. As part of the proposed recreational trail system, a canoe/ kayak launch with access to the Apple River will allow for public access while being protected from larger boat traffic. Areas along the existing trail can be utilized as overlook locations where users can observe the natural landscape throughout the site. Suggested overlook locations are the former entrance bridge abutment, upper river bend, and the natural dike running North to South through the center of Commanders Pond. The existing landfill area has potential space for a public gathering area and may include parking, recreational fields, a dog park, and gathering spaces such as picnic tables or gazebos.

**ACKNOWLEDGEMENTS**

**Jo Carroll Depot Local Redevelopment Authority Board Members**

Steve Keeffer – Chairman
Kevin Reibel – Vice Chairman
Don Crawford
Paul Hartman
Bill McFadden
Bill Robinson
Ron Smith
Bill Wright

**Jo Carroll Depot Local Redevelopment Authority Board Staff**

Mara Roche – Executive Director
Rob Davies – Deputy Director

**Upper Mississippi River International Port District Authority**

William Jahnke
Lance Larsen
Jim Francis
Steve Keeffer

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## Appendices

## Acronyms

| | |
|---|---|
| ACS | American Community Survey |
| AFFF | Aqueous Film Forming Foam |
| ASR | Archive Search Report |
| BA | Biological Assessment |
| BEA | Bureau of Economic Analysis |
| Bgs | below ground surface |
| BNSF | Burlington Northern Santa Fe |
| BRAC | Base Realignment and Closure |
| BRRM | Base Realignment Manual |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CERCLIS | CERCLA Information System |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| DERF | Defense Environmental Restoration Program |
| DoD | U.S. Department of Defense |
| EBS | Environmental Baseline Survey |
| EcoCAT | Ecological Compliance Assessment Tool |
| EDC | Economic Development Conveyance |
| EIA | Economic Impact Analysis |
| EPA | Environmental Protection Agency |
| ERP | Environmental Restoration Program |
| ESCA | Environmental Services Cooperative Agreement |
| FAF | Freight |
| FFA | Federal Facility Agreement |
| FS | Feasibility Study |
| GFP | Guarantee Fixed Price |
| HUD | Housing and Urban Development |
| IAC | Illinois Administrative Code |
| ID | Identification |
| IDNR | Illinois Department of Natural Resources |
| IEPA | Illinois Environmental Protection Agency |
| IL | Illinois |
| ILCS | Illinois Compiled Statutes |
| IPaC | USFWS Information, Planning, and Conservation |
| IRP | Installation Restoration Program |
| LHA | Lifetime Health Advisory |
| LIFOC | Lease in Furtherance of Conveyance |
| LOLO | Lift On Lift Off |
| LRA | Jo Carroll Depot Local Redevelopment Authority |
| LTM | Long-term Monitoring |
| LUC | Land Use Control |
| LUCIP | Land Use Control Implementation Plan |
| LQ | Location Quotient |
| MSA | Metropolitan Statistical District |
| MD | Munitions Debris |
| MMRP | Military Munitions Response Program |
| NPL | National Priorities List |

## Acronyms (continued)

| | |
|---|---|
| NRCS | National Resources Conservation Service |
| OE | Ordnance and Explosives |
| OLDCC | Office of Local Defense Community Cooperation |
| O&M | Operation and Maintenance |
| PA | Preliminary Assessment |
| PAHs | Polyaromatic Hydrocarbons |
| PBC | Public Benefit Conveyance |
| PFAS | Per- and Polyfluoroalkyl Substances |
| PFBS | Perfluorobutane Sulfonate |
| PFHpA | Perfluoroheptanoic Acid |
| PFHxS | Perfluorohexane Sulfonate |
| PFNA | Perfluorononanoic Acid |
| PFOA | Perfluorooctanoic Acid |
| PFOS | Perfluorooctane Sulfonate |
| PL | Public Law |
| RA | Remedial Action |
| RACR | Remedial Action Completion Report ( |
| RAP | Remedial Action Plan |
| RAB | Restoration Advisory Board |
| RD | Remedial Design |
| RI | Remedial Investigation |
| ROD | Record of Decision |
| ROM | Rough Order of Magnitude |
| ROW | Right of Way |
| SARA | Superfund Amendments and Re Authorization Act |
| SI | Site Investigation |
| SIC | Standard Industry Code |
| SIP | Savanna Industrial Park |
| SMART | Strategic Management, Analysis, Requirements and Technology |
| SPR | Statewide Planning and Research |
| SVAD | Savanna Army Depot Activity |
| SVOCs | Semi-Volatile organic Compounds |
| TAC | Technical Advisory Committee |
| U.S.C. | United States Code |
| UECA | Uniform Environmental Covenants Act |
| USACE | U.S. Army Corps of Engineers |
| USARMY | U.S. Army |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Services |
| UXO | Unexploded Ordnance |
| YOE | Year of Expenditure |

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# 1 Introduction

The purpose of this document is the identify the studies, public outreach, and technical analyses that were instrumental in preparing a Reuse Plan at the former Savanna Army Depot on behalf of the Jo-Carroll Depot Local Redevelopment Authority (LRA) on Parcel 20. The parcel, formerly identified for transfer to US Fish and Wildlife Service (USFWS), is located at the southeastern end of the installation with access to Apple River, Brickhouse Slough, and the Mississippi River as illustrated in Figure 1-1. In 2017, USFWS officially notified the US Army (Army) that they would not accept what was formerly known as parcel 5 as part of their federal property transfer under the Base Realignment and Closure (BRAC) agreement that created the Lost Mound Unit of the Upper Mississippi River National Wildlife and Fish Refuge on September 26, 2003. As a result, the Army published the Notification of Surplus Property in 2018, reidentified the property as Parcel 20 and, as a former BRAC Facility, the property could be considered for reuse by the LRA.

The following documentation is the result of the LRA's reuse planning process to assess the redevelopment potential of this parcel and in consideration with how it could be integrated into the existing redevelopment priorities of the former Savanna Army Depot, now known as the Savanna Industrial Park.

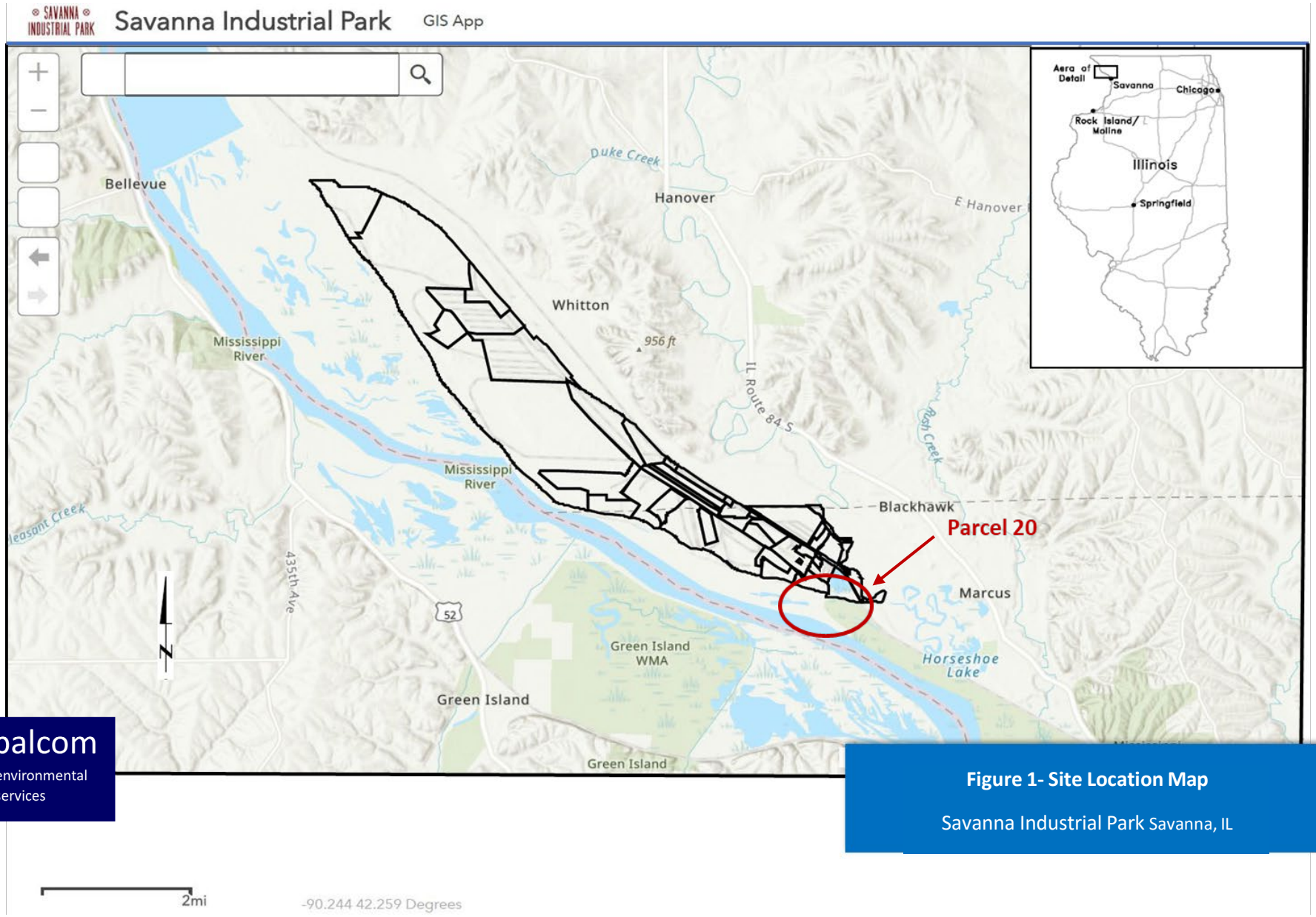
In addition to this introduction, which includes a brief history of the site and a description of the current LRA program, the Reuse plan includes the following key elements:

- Overview of the Site;
- Existing Infrastructure and Environmental Conditions;
- Demographic and Economic Analysis;
- Commercial/ Industrial Market Analysis;
- Property Transfer Process;
- Public Outreach Process;
- Redevelopment Alternatives; and
- Preferred Reuse Plan.

This plan was developed for the LRA by a team of consultants led by Balcom Environmental Services LLC, INC., with assistance from WSP, Inc. Martin and Associates, Equinanimous Advisory Services, and MSA, Inc.

## 1.1 BRAC Action

As a 1995 BRAC facility, when the USFWS notified the Army in 2017 that the former parcel 5 was no longer of interest to USFWS, the Army officially identified the parcel as surplus, and the notice was placed in the Federal Register on January 17, 2018. The LRA, officially recognized in 1997 by the Department of Defense, is the Local Redevelopment Authority for this surplus property.

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environmental services

**Figure 1- Site Location Map**

Savanna Industrial Park Savanna, IL

The approximately 132.2 acres of property located at the southern extent of the former Savanna Army Depot, was declared as surplus under the 1990 Defense Base Closure and Realignment Act (Public Law 101-510, as amended). This set in motion the reuse planning process to plan, assess, and document the redevelopment potential for port development for Parcel 20 and identify redevelopment synergies within the current redevelopment program currently being managed by the LRA.

## 1.2 Local Redevelopment Authority

The LRA, the recognized implementing authority by the Army for the redevelopment of the former Savanna Army Depot (SVAD) Activity, Savanna, IL, is responsible for the economic development of the former SVAD, now the Savanna Industrial Park (SIP)

### 1.2.1 LRA Formation

The Savanna Army Depot Activity was declared surplus property by the United States Army as a result of the 1995 Base Realignment and Closure Act and was scheduled for closure in 2000. The LRA was established in 1997 to redevelop the former Savanna Army Depot and to implement the plan created in 1995 by the Savanna Planning Commission. The LRA was formed by an intergovernmental agreement between the two counties and its Board of Directors is currently made up of four members from each of the two counties.

Since 1999/2000 the LRA has operated and managed the redevelopment of the SIP, leasing property and buildings to a variety of tenants and users, as well as securing grant funding for operational support and capital improvements. The LRA operates with a small professional administrative staff augmented by outside contractors, consultants, and legal counsel.

### 1.2.2 Property Transfer

A Memorandum of Agreement and the first transfer of property from the Army to the LRA occurred in 2003. The initial reuse plan focused on approximately 3,248 acres of the 13,062-acre facility which were earmarked for transfer to the LRA for redevelopment under a no-cost Economic Development Conveyance (EDC). The remainder of the property was retained under Federal ownership through transfer from the Army to the USFWS (9,445 acres) and the Army Corps of Engineers (USACE) (460 acres). The LRA and tenants lease the land until it is remediated, and title is conveyed. The Army's clean-up schedule, which is driven by the availability of federal funding, has been continually delayed over the past several years. Transfer of property from the US Army is ongoing and as of April 2023 approximately 1,833 acres of property have yet to be transferred to the Jo Carroll LRA.

### 1.2.3 Previous Studies

An updated reuse plan was prepared in 2018 to revitalize the redevelopment of the newly rebranded Savanna Industrial Park, and to assess the potential for expanding the current redevelopment focus to incorporate port and/or multi-modal development. This updated reuse plan began assessing the market for port development and included a barge market feasibility study, an initial mussel survey and bathymetry and a sediment transport model to understand the operational considerations for port development in Brickhouse Slough, the waterway immediately adjacent to the lower post area of the Savanna Industrial Park.

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# 2 Overview of Site

The following section provides a contextual overview of Parcel 20. A description of the property and its regional context is provided, along with applicable local land use plans and pertinent zoning regulations for the property.

## 2.1 Description of Surplus Property

Parcel 20 is located in the southernmost portion of the depot. The Parcel encompasses approximately 132.2 acres. It is bounded to the north by Army Depot Road, its eastern and southern extent is the Apple River, and the western boundary includes Parcels 3B, 17 17A, the Sewer Treatment Plant, and USFWS parcel 9. The area includes the low lying areas associated with Apple River as well as the Commanders Pond, also known as Ordnance School Lake.

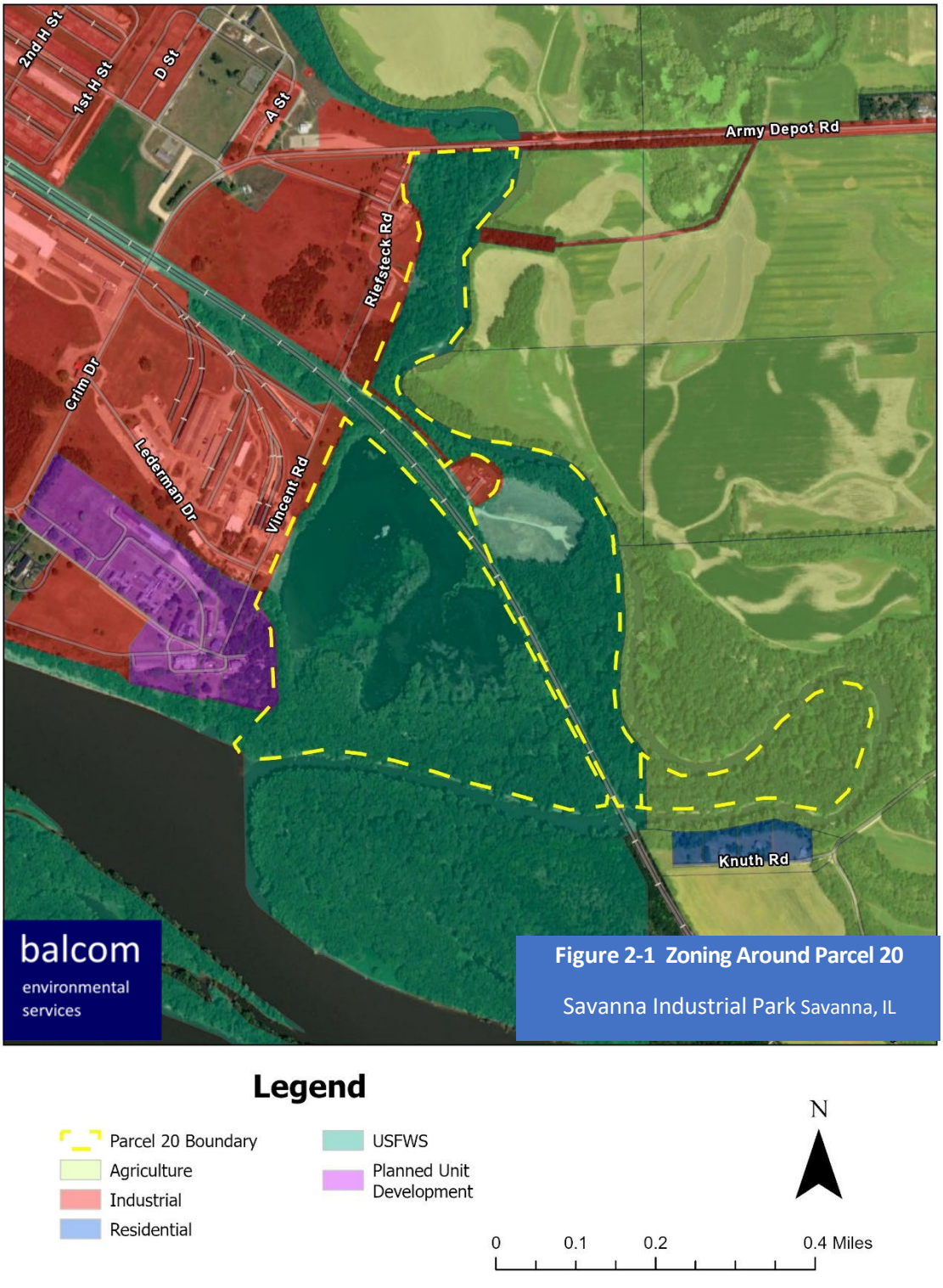
## 2.2 Regional Context

The SIP, located at the former SVAD, is located approximately 7 miles north of the city of Savanna, IL. The facility splits two (2) counties, both Jo Daviess county to the north and Carroll County to the south. The closest town is the city of Savanna, located within Carroll County, along the banks of the Mississippi River near the mouth of the Plum River in northwestern Illinois. Savanna is not served directly by the interstate system. Interstate 39 runs north and south approximately 60± miles east of Savanna, and Interstate 80 (east-west) runs to the south approximately 60± miles. US Route 52 and Illinois Route 64 run east and west through the City and Illinois Route 84 is the primary north south arterial on the east side of the Mississippi River. The area is served by two separate railroad lines, Burlington Northern Santa Fe (BNSF) which runs north and south along the east bank of the Mississippi River and adjacent to the Savanna Industrial Park, and Canadian Pacific which runs east and west crossing the river just south of Savanna to Sabula, Iowa. From a locational perspective. Savanna is a rural community situated in a rural portion of Illinois. The Quad Cities MSA (metropolitan statistical area) is approximately 60± miles to the south.

## 2.3 Zoning

The property located at the SIP is currently zoned for industrial, commercial, and mixed use development. Parcel 20 was previously identified for conservation by USFWS, but no zoning currently has been identified for the parcel since it is still federally owned. Figure 2-1 illustrates the zoning in the immediate vicinity of Parcel 20. Once the property has been accepted for reuse by the LRA and the title transferred by the Army, the designated zoning proposed will be a mix of recreation, industrial, and commercial development.

**Figure 2-1 – Zoning Surrounding Parcel 20**



# 3 Existing Infrastructure, Environmental and Ecological Conditions

This section reviews the existing and available information for infrastructure, environmental and ecological conditions on Parcel 20. All summary information was based upon public information, databases, GIS mapping , and visual assessments. No independent investigations were undertaken as part of this analysis. The following is a summary of the Report "Draft Final Environmental Review and Analysis Parcel 20" June 2022. Prepared for the Jo Carroll Depot LRA by Balcom Environmental Services LLC, INC.

## 3.1 Existing Infrastructure

The objective of an infrastructure evaluation is to assess the ability of current infrastructure and utilities at Savanna Industrial Park to support economic development. However, since the majority of the traditional infrastructure components, including buildings, roads, electricity, water, and sewer are absent from this area, or were transferred under the previous EDC, this analysis is focused primarily on the three existing stormwater outfalls that discharge into Commander's Pond, also known as Ordnance School Lake.

### 3.1.1 Storm Sewer System

There is a small portion of the Lower Post area which is served by a storm sewer system. The majority of the pipes that discharge into Commander's Pond are 10- and 12-inch diameter clay tile with one line being 30 inches in diameter.

The balance of the Parcel 20 property is surface drained into creeks and sloughs of the Apple and Mississippi rivers and into low areas on the site where the stormwater infiltrates into the ground. A dike system is used to flood-proof the Lower Post Area. It is constructed immediately to the southwest of the Lower Post-Main Disposal Facility. This dike has filters and gauges that are monitored according to the Depot's Disaster Control Plan. Gauges for the river levels and water table are near Building 121 on the adjacent Parcel 17 for ground water monitoring purposes.

### 3.1.2 System Adequacy

The stormwater facilities are adequate for the site as it is presently developed. Future port/industrial development of the property would require associated stormwater improvements. This would be on a case by case basis and would depend on the industry's Standard Industrial Classification (SIC) code, as well as water and discharge requirements.

Continued maintenance and upkeep on the dike are important to keep the Lower Post Area from flooding, as well as to protect existing infrastructure from damage, especially the Sewer Treatment Plant.

### 3.1.3 Future Use

Figure 3-1 below illustrates the lack of infrastructure on the parcel, the accessibility of the parcel to roads, rail, and water, demonstrating access for port and port related development. The adjacent

properties have significant infrastructure including power,  water, fiber, and steam, and will support the build-out of the proposed program over time.

Figure 3-1 – Parcel 20 Infrastructure Map

## 3.2 Environmental Conditions

The SVDA site is a 13,062-acre former military installation. Between 1917 and 1995, the U.S. Army used the property for artillery weapons and ammunition testing, as well as the storage of ordnance and the loading and renovating of shells and bombs. The Army used several areas for demolition, burning of obsolete ordnance and waste disposal. Facility operations contaminated soil, groundwater, surface water and sediment with hazardous chemicals. As a result of preliminary investigations by the U.S. Army Toxic and Hazardous Management Agency, the SVDA site was proposed for the National Priorities List (NPL) in 1984 and listed on the NPL in 1989.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System (CERCLIS) identification (ID) number for SVDA is IL3210020803. In September 1989, the Army, Illinois EPA (IEPA), and U.S. Environmental Protection Agency (U.S. EPA) signed a three-party federal facility agreement (FFA). The Army, as the lead agency, is conducting the investigation and cleanup of the facility under the oversight of IEPA and U.S. EPA.

In September 1995, the facility was included in the Department of Defense (DoD) Base Realignment and Closure (BRAC) List and was officially closed as a military installation in March 2000. The LRA is charged with reuse and redevelopment of the former SVDA installation, which was named the Savanna Depot Business, Industry, and Technology Park (Savanna Depot Park) in June 2007, and renamed the SIP in 2018. The goal for the site has been, and continues to be, the transfer of the property to other entities, including the LRA, to allow for productive reuse.

The Army's BRAC Environmental Restoration Program is a comprehensive program identifying, investigating, and cleaning up contamination at closing and realigning Army installations with transferable real property, and the environmental program is performed in compliance with CERCLA. A Restoration Advisory Board (RAB) was established in 1995. The RAB is intended to improve public participation by involving the community in the restoration decision-making process. The RAB meetings are scheduled by the Army and the most recent meeting was held in May of 2017.

## 3.3 Summary of the Army Environmental Program for Parcel 20

The Army's BRAC Environmental Restoration Program under CERCLA consists of three subcategories: Installation Restoration Program (IRP), Military Munitions Response Program (MMRP), and Closure-related Compliance.

As part of the development of the Environmental Baseline Study (EBS) of May 1999, the initial sitewide assessment of the potential environmental issues required for the 1995 BRAC closure, the Army had previously identified seventy-six (76) sites that required evaluation and investigation. The EBS identified an additional one hundred fifty-six (156) sites (those above a CERFA category of 4) that were proposed for additional assessment, and of those one hundred fifty-six (156), eighty (80) sites were identified for inclusion in the IRP program, for a total of 156 sites that are currently being addressed investigated under the Army's IRP program.

During the 1999 EBS the following five (5) sites on Parcel 20 were identified for investigation under CERCLA:

- Abandoned Landfill (Site 20)
- Stables Landfill (Site 73)
- 1917-Era Powder Magazines (Site 77)
- Vincent Road Septic System (Site 130)
- Shop Area (Buildings 100 through 129) Sanitary and Stormwater Sewer lines and Outfalls to Ordnance School Lake (Site 178)

Figure 3-2 illustrates the locations of these five (5) environmental sites on Parcel 20.

The Army's BRAC Environmental Restoration Program is a comprehensive program identifying, investigating, and cleaning up contamination at closing and realigning Army installations with transferable real property, and the environmental program is performed in compliance with CERCLA and BRAC law. The sequence of CERCLA requirements for environmental investigation, remediation, and documentation is extensive, and the following sequence of events applies to all federal sites, and specifically to the former SVAD:

- Preliminary assessment (PA)
- Site investigation (SI)
- Listing on the National Priorities List (NPL)
- Remedial investigation (RI)
- Feasibility study (FS)
- Record of decision (ROD)
- Remedial design (RD)
- Remedial action (RA)/ Remedial Action Completion Report (RACR)
- Long-term monitoring/operation (LTM) and/or Land Use Control Implementation Plan (LUCIP)
- Operations and Maintenance (O&M)

The progress that has been made in the twenty-three (23) years since the EBS was conducted is identified in Table 3-1 below. The following sections review the specifics of the environmental sites that were identified for additional investigation and the subsequent CERCLA investigation, remediation, and the associated documentation for each of the Parcel 20 sites. Of those five (5) sites, only four (4) were recommended for investigation by the EBS, and since that time the following sections identify the progress made in the investigation, remediation, and CERCLA status for the remaining four (4) sites, the investigation and remediation.

Figure 3-2 – Parcel 20 Location of Environmental Sites

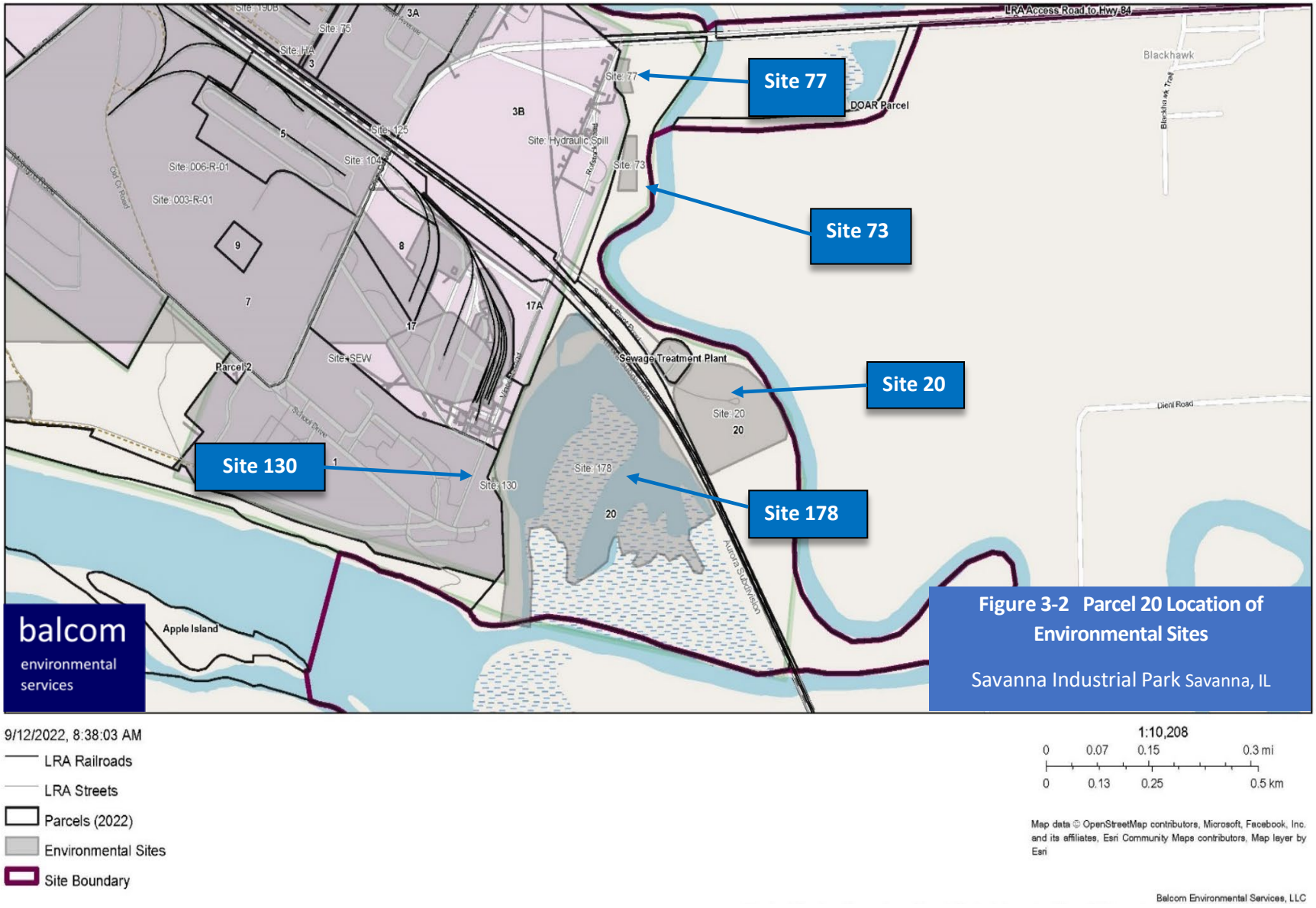


**Table 3-1: CERCLA Status for Sites in Parcel 20**

| Site Number | Parcel Number | Site Name | Current CERCLA Status (2023) |
|---|---|---|---|
| Site 20 | LRA-20 | Abandoned Landfill | Record of Decision Site 20 – Abandoned Landfill and Site 99 – Building 762, CF Plant Battery Shop and Leaching Pits Savanna Army Depot Activity Savanna, Illinois, June 2016. Site 20 Abandoned Landfill, LUCIP October 2019. Site 20 Groundwater monitoring reports, 2019, Site 20 Groundwater monitoring reports for 2020 and 2021. Quarterly groundwater monitoring for 2023 are underway. |
| Site 73 | LRA-20 | Stables Landfill | Record of Decision Site 73 – Stables Landfill and Site 178 – Ordnance School Lake Savanna Army Depot Activity Savanna, Illinois. Remedial Action Complete 2-5-20, Draft LUCIP pending as of April 2023 |
| Site 77 | LRA-20 | 1917-Era Powder Magazines | EBS indicated that no evidence to indicate that release or disposal of hazardous substances or petroleum products has occurred. No Further Action. |
| Site 130 | LRA-20 | Vincent Road Septic System | Final ROD for Thirty-Three Lower Post and Plant Area Sites (July 2012); No Further Action |
| Site 178 | LRA-20 | Ordnance School Lake Outfalls | Record of Decision Site 73 – Stables Landfill and Site 178 – Ordnance School Lake Savanna Army Depot Activity Savanna, Illinois. Remedial Action Complete 2-5-20. |

## 3.4 Ordnance and Explosives (OE) and Munitions Debris (MD)

The former SVAD served as a storage, maintenance, and issue point for artillery material and ammunition; proof fired and tested a variety of weapons; trained military personnel; supported various manufacturing and renovation projects; and accommodated the nation's demilitarization requirements. Based upon the former SVAD's ordnance mission, it is known that ordnance and explosives (OE) are present at the former SVAD. The BRAC closure process, therefore, includes an assessment of OE-related contamination. The Ordnance and Explosives Archive Search Report (ASR) (USACE, 1999) determined the probable location of three impact areas and three previously unknown sites contaminated with explosives. The ASR determined (according to their system) that 10,239 acres are potentially contaminated with UXO/ordnance and explosives (OE) and 2,402 acres are confirmed to be contaminated with UXO/OE. In 2002, the Strategic Management, Analysis, Requirements and Technology (SMART) team revised that to 5,590 acres.

While no historical munitions training activities have been identified within Parcel 20, it is important to note that the name of the pond that is adjacent to the Apple River and the Mississippi River and sloughs, is named Ordnance School Lake; site 20 and site 73 were confirmed disposal areas for munitions

constituents based upon historical contamination detected in the landfills, and uncontrolled dumping of munitions and munitions constituents may have occurred throughout Parcel 20.

## 3.7 Emerging Contaminants

Per- and poly-fluoroalkyl substances (PFASs) are compounds used in the formulation of Aqueous Film Forming Foam (AFFF), which was formerly used at military installations to extinguish petroleum fires starting in approximately 1970. Releases of AFFF to the environment routinely occurred during fire training exercises. On March 14, 2023, EPA announced the proposed National Primary Drinking Water Regulation (NPDWR) for six PFAS including perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS). The proposed PFAS NPDWR does not require any action until it is finalized. EPA anticipates finalizing the regulation by the end of 2023. EPA expects that if fully implemented, the rule will prevent thousands of deaths and reduce tens of thousands of serious PFAS-attributable illnesses.

In their anionic forms, PFAS compounds are water soluble and can migrate readily from soil to groundwater. The U.S. EPA has not established Provisional Health Advisory Levels for PFAS compounds in soil. The primary exposure pathway for PFAS substances would be the ingestion of contaminated drinking water.

There are two (2) confirmed PFAS contamination sites that lie immediately upgradient from Parcel 20 and have stormwater outfalls that discharge directly into Commander's Pond. The Site Inspection Report for Per-and Polyfluoralkyl Substances at the site 67 Fire Training Area and site 84 – Scrap Wood Open Burn Area (Leidos, February 2021) documented the presence of PFOS/PFOA constituents present at the sites. Sites 67 and 84 will undergo a new Remedial Investigation under CERCLA to assess the nature and extent of the PFAS contamination. Further, because of this investigation, the Army is preparing a site wide investigation of PFAS constituents across the former SVAD site, but the timing and exact extent of the SI information has not yet been provided to the LRA and the impacts to Parcel 20 are unknown at this time.

## 3.8 Ecological Conditions

Resources reviewed for this summary included the Environmental Impact Statement (EIS), Final for the Savanna Army Depot Activity, SAIC, July 1997, the Final Report for Wetland Delineation, Stream Identification, and Threatened and Endangered Species Review at Site 20 Abandoned Landfill, September, 2016, the Unionid Survey for the Two Potential Barge Terminal Construction Sites, Illinois Bank, Mississippi River Miles 545.2-546.7, as well as federal and state databases for threatened, endangered, and protected species, as well as federal agency wetlands, floodplain, and soils mapping, specifically the USFWS IPaC project planning tools, and EcoCAT, the State of Illinois Ecological Compliance Assessment Tool. This review of previous assessments is not intended to replace the National Environmental Policy Act (NEPA) analysis, it is only to be used as a desktop analysis of the types of ecological resources that may be encountered at the parcel.

### 3.8.1 1997 EIS Vegetation Survey

Physically, Parcel 20 is composed of bottom land forest, marsh, and wetlands and includes the Apple River, Ordnance School Pond, and the confluence of the Apple River with the Mississippi River. According to the EIS this area can be described as a Bottomland Hardwood Forest. The entire area is a complex of backwater lakes, sloughs, wetlands, and bottomland hardwood forest cover. Within the forested area,

dominant tree species are silver maple *(Acer saccharinum)* and cottonwood *(Populus deltoides).* The understory is composed primarily of stinging nettle *(Urtica dioica),* wood nettle *(Laportea canadensis),* wild cucumber *(Echinocystis lobata),* and reed canary grass *(Phalaris arundinacea;* USFWS, 1996a).

Other wet areas in the bottomlands grade from riverine emergent marsh to wet fringe forest. Emergent marsh typically occurs in poorly drained depressional areas and along fringes of ponds, lakes, streams, and rivers and usually contains less than 30 percent areal vegetative cover. Typical species include American lotus *(Nelumbo lutea),* swamp milkweed *(Asclepias incarnata),* marsh spikerush *(Eleocharis palustris),* common cattail, and river bulrush *(Scirpus fluviatilis;* moc, 1988). Wet meadows are also found in the bottomlands, occurring in moist-to-saturated soil with standing water present for only brief to moderate periods during the growing season. Herbaceous species are dominant, with woody vegetation composing less than 30 percent of the total ground cover. Characteristic plants of Illinois wet meadows include cordgrass *(Spartina pectinata),* reed canary grass, winged loosestrife *(Lythrum alatum),* and spotted water hemlock *(Cicuta maculata;* moc, 1988). The wet fringe forest communities of the former SVAD occur along recently disturbed portions of Crooked Slough and the Mississippi River waterway. Typical plant species found there include sweetgum *(Liquidambar styraciflua),* pin oak *(Quercus palustris),* box elder, river birch, and stout woodreed *(Cinna arundinacea;* moc, 1988).

### 3.8.2 1997 EIS Mammal Survey

According to the EIS, thirty-one mammalian species have been detected at the former SVAD. Large mammals include the bobcat *(Felis rufus),* coyote *(Canis latrans),* gray fox *(Urocyon cinereoargenteus),* and red fox *(Vulpes vulpes).* White-tailed deer *(Odocoileus virginianus)* are prevalent on the depot, and the population is open to hunting during the hunting season. Small mammal species observed on the depot include the beaver *(Castor canadensis),* muskrat *(Ondatra zibethica),* short-tailed shrew *(Blarina brevicauda),* masked shrew *(Sorex cinereus),* deer mouse *(Peromyscus maniculatus),* western harvest mouse *(Reithrodontomys megalotis),* white-footed mouse *(Peromyscus leucopus),* prairie vole *(Microtus ochrogaster)* and meadow vole *(M. pennsylvanicus).* The deer mouse and white-footed mouse are by far the most abundant small mammals. The prairie vole is common, and the meadow vole is uncommon (Mankowski, 1994).

### 3.8.3 1997 EIS Bird Survey

The EIS states that an avian survey, conducted in the bottomlands of the depot, identified 112 bird species occupying the bottomland hardwood forests during migrational periods (McKay et al., 1995). Of the total birds observed, 16 species were determined to be year-round residents, 38 species were North American migrants, and 58 species were neotropical migrants. Among the birds observed were the tree swallow (*Tachycineta bicolor*), northern oriole (*Icterus galbula*), warbling vireo (*Vireo gilvus*), double-crested cormorant (*Phalacrocorax auritus*), bald eagle (*Haliaeetus leucocephalus*), wild turkey (*Melagris gallopavo),* and pileated woodpecker (*Dryocopus );* McKay et al., 1995).

Previously, great blue heron *(Ardea herodias)* and great egret *(Casmerodius albus)* rookeries have existed in the bottomlands. The first to be recorded by SVAD biologists was in the north section of the bottomlands and contained up to 81 nests. It persisted from 1984 to 1991. This same rookery was relocated in 1992 to the middle section of the bottomlands, along the northeast fork of Crooked Slough. It contained 78 nests and persisted until the 1993 flood of the Upper Mississippi River, when it was abandoned and not repopulated the following year. A heron colony containing 78 nests was observed during an aircraft survey in May 1995, however, the exact location of this rookery is unknown (USFWS, 1996a).

### 3.8.4 1997 EIS Reptiles and Amphibians Survey

Thirteen species of reptiles and 11 species of amphibians were documented on the former SVAD (USFWS, 1996a). Reptiles observed included the spiny softshell turtle *(Apalone spinifera),* western painted turtle *(Chrysemys picta bellii),* blue racer *(Coluber constrictor foxii),* map turtle and false map turtle *(Graptemys geographica* and G.*pseudogeographic,* respectively), ornate box turtle *(Terrepene ornata),* and garter snake *(Thamnophis sirtalis).* Amphibians observed include the gray treefrog *(Hyla versicolor),* spring peeper *(Pseudacris crucifer),* northern leopard frog *(Rana pipiens),* wood frog *(Rana sylvatica),* and American toad *(Bufo americanus;* Moll and McCallum, 1994a, 1994b).

### 3.8.5 1997 EIS Fish Survey

A fish species list for the depot was compiled from electro-fishing data collected by the IDNR and the commercial fishing harvest records of one commercial fisher. Although the list is comprehensive and provides the best available data on fish species on the former SVAD, it is not complete. Fish identified from the harvest records include the bowfin *(Amia calva),* gizzard shad *(Dorosoma cepedianum),* emerald shiner *(Notropis atherinoides),* bigmouth buffalo *(lctiobus cyprinellus),* river carp sucker *(Carpiodes carpio),* white bass *(Morone chrysops),* and largemouth bass *(Micropterus salmoides).*

### 3.8.6 1997 EIS Invertebrates Survey

Two freshwater mussel beds exist in portions of the Mississippi River adjacent to the depot. The first, purported to be the largest and best developed bed in Pool 13, is located just downstream of Lock and Dam 12 and is believed to contain at least 10 species of native mussels (Gent and Griffin, personal communication, 1996; Pitlo, personal communication, 1996). The federally endangered Higgins' eye pearly mussel *(Lampsilis higginsi)* was collected most recently from this site in 1990 by Dr. E. Cawley of Loras College, Dubuque, Iowa. This species was also collected here in 1975. The other mussel bed in the area is a state-designated mussel refuge.

### 3.8.7 2018 Unionid Survey

The most recent survey assessment of mussels was conducted by the Jo Carroll LRA, August 2018, "Unionid Survey for Two Potential Terminal Construction Sites, Illinois Bank, Mississippi River Miles 545.2 – 546.7, EcoAnalysts, Inc., August 2018". This limited survey was based on the two (2) separate potential port development construction sites and based upon the survey results, EcoAnalysts reported that both the Higgins eyes and other mussels were found in the Brickhouse slough between SIP and Apple Island. The recommendations from the limited survey included the following:

> "Although the mussel bed extends within and between the two sites investigated for construction, construction at the downstream site would impact the bed less, as the bed becomes narrower and unionid density appears less. However, unionids, including the federally endangered L. higginsii, were collected at that site. Once instream construction impacts are known, a more intensive mussel survey should be conducted. This study would provide data for preparation of a Biological Assessment (BA), which is a step of formal consultation with the U. S. Fish & Wildlife Service and may be requested for permitting construction in the study area".

### 3.8.8 2022 Database Inventory for Parcel 20 Threatened, Endangered, and Protected Species

A desktop review was conducted to assess if any state or federally listed species or protected resources occur or have the potential to occur on Parcel 20. The site location was submitted to the online Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) planning resource. The results of the planning request are included in Appendix A. The USFWS Information, Planning, and Conservation (IPaC) search tool is included in Appendix B.

The EcoCAT planning results indicated that eight (8) state listed species potentially occur within the vicinity of Parcel 20. The results also indicated that the SIP itself is listed as an Illinois Natural Areas Inventory (INAI) site. The IPaC planning search indicated that nine (9) federally listed species also have the potential to occur within the vicinity of the site. The IPaC also indicated that the site is in the proximity to the Upper Mississippi River National Wildlife and Fish Refuge. Table 3-2 summarizes the threatened, endangered, or protected species listed on the EcoCAT and IPaC results.

**Table 3-2 EcoCAT and IPAC Species Summary List for Parcel 20**

| Scientific Name | Common Name | State Status | Federal Status | Habitat |
|---|---|---|---|---|
| **Mammals** | | | | |
| *Myotis sodalis* | Indiana Bat | | Endangered | Parcel 20 is outside the critical habitat |
| *Myotis septentrionalis* | Northern Long-eared Bat | | Threatened | No critical habitat has been designated for this species |
| **Clams** | | | | |
| *Lampsilis higginsii* | Higgins Eye | Protected | Endangered | No critical habitat has been designated for this species |
| *Plethobasus cyphus* | Sheepnose Mussel | | Endangered | No critical habitat has been designated for this species |
| **Snails** | | | | |
| *Discus macclintocki* | Iowa Pleistocene Snail | | Endangered | No critical habitat has been designated for this species |
| **Insects** | | | | |
| *Ellipsaria lineolata* | Butterfly | Protected | | |
| **Trees** | | | | |
| *Pinus banksiana* | Jack Pine | Protected | | |
| **Flowering Plants** | | | | |
| *Platanthera leucophaea* | Eastern Prairie fringed Orchid | | Threatened | No critical habitat has been designated for this species |
| *Aconitum noveboracense* | Northern Wild Monkshood | | Threatened | No critical habitat has been designated for this species |
| *Lespedeza leptostachya* | Prairie Bush - clover | | Threatened | No critical habitat has been designated for this species |

| Table 3-2 EcoCAT and IPAC Species Summary List for Parcel 20 | | | | |
|---|---|---|---|---|
| **Scientific Name** | **Common Name** | **State Status** | **Federal Status** | **Habitat** |
| *Platanthera praeclara* | Western Prairie Fringed Orchid | | Threatened | No critical habitat has been designated for this species |
| *Polanisia jamesii* | James' Clammyweed | Protected | | |
| **Reptiles** | | | | |
| *Heterodon nasicus* | Plains hog-nosed snake | Protected | | The western hognose snake prefers dry prairie areas, especially sandy ones. In Illinois, sand prairies provide typical habitat. |
| **Fish** | | | | |
| *Hybopsis amnis* | Pallid Shiner | Protected | | |
| *Notropis texanus* | Weed shiner | Protected | | In Illinois, the weed shiner occupies clear sand-bottom creeks with some submerged vegetation |
| *Ammocrypta clarum* | Western sand darter | LE | | The western sand darter is restricted to sandy runs of medium to large rivers. It avoids strong currents, preferring the quiet margins of the riverbank |

### 3.8.9 Soil Mapping

The National Resources Conservation Service (NRCS) federal database was reviewed to perform a preliminary analysis of the potential soils that may support wetlands in Parcel 20. The soil types are described in Table 3-3 below and illustrated in Figure 3-3.

**Figure 3-3. – Parcel 20 Soil Survey Mapping**

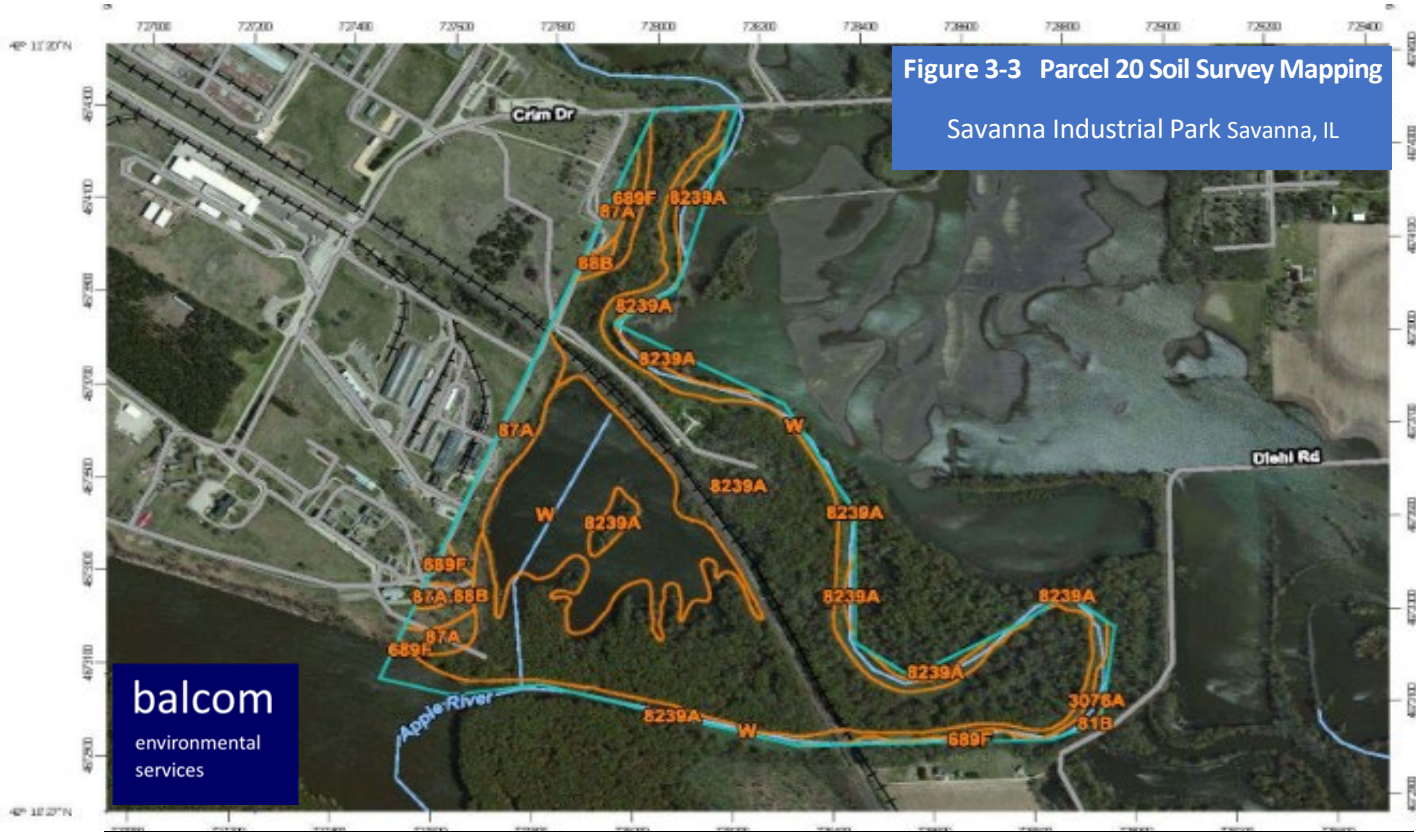



**Figure 3-3 Parcel 20 Soil Survey Mapping**

Savanna Industrial Park Savanna, IL

Table 3-3 Soil Survey Map of Parcel 20

| Map Unit Symbol | Map Unit Name | Acres in Area of Interest | Percent of Area of Interest |
|---|---|---|---|
| 81B | Littleton silt loam, 2 to 5 percent slopes | 0.1 | 0.0% |
| 87A | Dickinson sandy loam, 0 to 2 percent slopes | 11.4 | 5.9% |
| 88B | Sparta loamy sand, 1 to 6 percent slopes | 1.5 | 0.8% |
| 689F | Coloma sand, 20 to 30 percent slopes | 6.1 | 3.1% |
| 3076A | Otter silt loam, 0 to 2 percent slopes, frequently flooded | 1.5 | 0.8% |
| 8239A | Dorchester silt loam, 0 to 2 percent slopes, occasionally flooded | 116.9 | 60.6% |
| W | Water | 55.5 | 28.8% |

| Table 3-3 Soil Survey Map of Parcel 20 | | | |
|---|---|---|---|
| Map Unit Symbol | Map Unit Name | Acres in Area of Interest | Percent of Area of Interest |
| Totals for Area of Interest | | 193.0 | 100.0% |

Based upon the NRCS mapping, more than a quarter (28.8%) of the site is covered by water and 61.4% or more than 2/3's of the site has hydric soils that may support wetlands.

### 3.8.10 Wetlands Mapping

USACE is the lead agency for making jurisdictional determinations for wetlands within the State of Illinois. USACE requires the use of the procedures outlined in the 1987 Corps Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, 2010, for making jurisdictional determinations. According to the 1987 Corps Manual, an area is defined as a wetland if, under normal circumstances, it meets all three (3) of the following criteria:

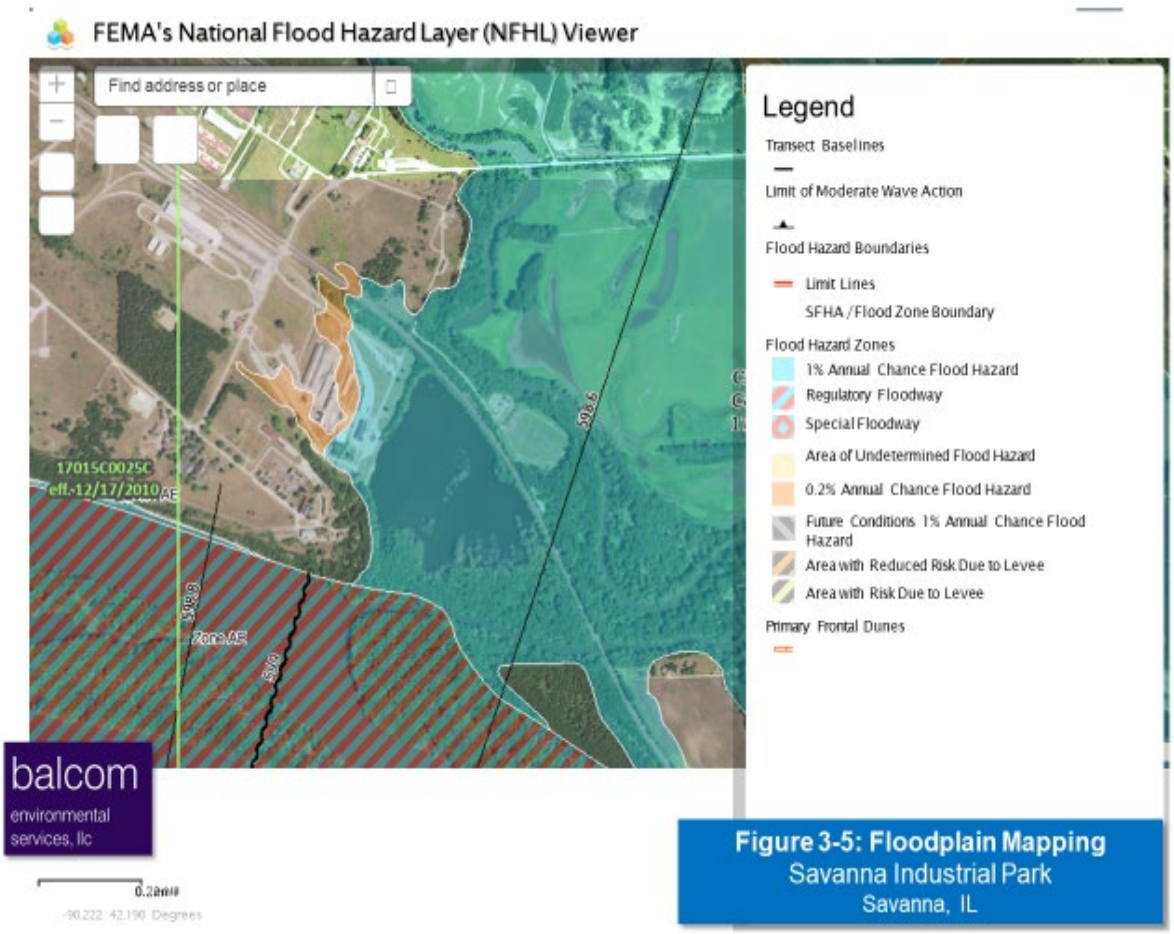
- Predominance of hydrophytic vegetation: plants which are adapted for life in saturated soil conditions.
- Hydric soils: soils which were formed under water, or in saturated conditions; and
- Wetland hydrology: or the presence of inundated or saturated soils at some time during the growing season.

The mapping illustrated on Figure 3-4 are only used for planning purposes, and demonstrate that the majority of parcel 20 has rivers, lakes and bottomland forest that may contain wetlands or can support wetlands


**Figure 3-4: National Wetlands Inventory for Parcel 20 Savanna Industrial Park Savanna, IL**

### 3.8.11 Parcel 20 Floodplain Mapping

FEMA Flood Insurance Rate Maps were reviewed to assess if any portion of the study area is located within the 100-year floodplain. This mapping indicated that the entire study area for Site 20 is located within the 100-year floodplain and designated as Flood Zone AE - an area inundated by 100-year flooding, for which base flood elevations have been determined. The Floodplain mapping is illustrated in Figure 3-5.


FEMA's National Flood Hazard Layer (NFHL) Viewer
Find address or place
Legend
Transect Baselines
Limit of Moderate Wave Action
Flood Hazard Boundaries
Limit Lines
SFHA / Flood Zone Boundary
Flood Hazard Zones
1% Annual Chance Flood Hazard
Regulatory Floodway
Special Floodway
Area of Undetermined Flood Hazard
0.2% Annual Chance Flood Hazard
Future Conditions 1% Annual Chance Flood Hazard
Area with Reduced Risk Due to Levee
Area with Risk Due to Levee
Primary Frontal Dunes
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eff. 12/17/2010
Zone AE
balcom
environmental
services, llc
Figure 3-5: Floodplain Mapping
Savanna Industrial Park
Savanna, IL

# 4 Demographics and Economic Analysis

## 4.1 Introduction

The following sections provide an overview of selected socioeconomic trends and comparisons for Savanna, Carroll and Jo Daviess counties, and the Quad Cities Metropolitan Statistical Area (MSA). The Quad Cities MSA makes up the areas of Davenport IA, Bettendorf IA, Moline IL, East Moline IL, and Rock Island IL. The data within this report is from the American Community Survey (ACS) as reported by the United States Census Bureau, in addition, some data is from Federal Reserve Bank of St. Louis.

## 4.2 Regional Context

The Savanna Industrial Park, located at the former SVAD, is located approximately 7 miles north of the city of Savanna, IL. The facility splits two (2) counties, both Jo Daviess county to the north and Carroll County to the south. The closest town is the city of Savanna, located within Carroll County, along the banks of the Mississippi River near the mouth of the Plum River in northwestern Illinois. Savanna is not served directly by the interstate system. Interstate 39 runs north and south approximately 60± miles east of Savanna, and Interstate 80 (east-west) runs to the south approximately 60± miles. US Route 52 and Illinois Route 64 run east and west through the City and Illinois Route 84 is the primary north south arterial on the east side of the Mississippi River. The area is served by two separate railroad lines, Burlington Northern Santa Fe (BNSF) which runs north and south along the east bank of the Mississippi River and adjacent to the Savanna Industrial Park, and Canadian Pacific which runs east and west crossing the river just south of Savanna to Sabula, Iowa. From a locational perspective. Savanna is a rural community situated in a rural portion of Illinois. The Quad Cities MSA (metropolitan statistical area) is approximately 60± miles to the south.

## 4.3 Population

The population of Savana has declined by six percent from 2010 to 2020 as shown in Table 4-1. The largest decline by age was the 20 to 24 age cohort with a decline of 35 percent. However, it is important to note that all age groups under 34 years old saw a double digit decline. The only age groups which grew were the 35 to 44 age cohort and over 60 age cohort, both by 5 percent. The median age for Savanna increased 4.3 years to 48.2 years.

The demographic changes in Savanna have similarities to Carroll County, however the county had a more dramatic decline in the 35 to 54 age cohort. The county saw a minimal increase in the 20 to 34 age cohorts. The other communities examined were Jo Daviess County and the Quad Cities MSA. Jo Daviess County population under the 60 years cohort all declined fairly dramatically with the over 60 years cohort seeing a high growth rate at 20 percent. Similarly, the Quad Cities MSA saw a decline across all cohorts under 60 years with the 25 to 34 year cohort seeing a minor increase of 1 percent. The greater than 60 years cohort increased by 25 percent.

Overall, Savanna, Carroll and Jo Daviess counties are fairly similar with a decline or minimal increase in population under the age of 60 and a moderate to large increase in population above 60 years old.

**Table 4-1: Population Age**

| Selected Summary Demographics - Population | | 2010 | 2020 | Change # | Change % |
|---|---|---|---|---|---|
| **Jo Daviess County, IL** | | | | | |
| Total Population | | 22,728 | 21,429 | (1,299) | -6% |
| | > 20 years | 5,140 | 4,430 | (710) | -14% |
| | 20 to 24 years | 1,013 | 926 | (87) | -9% |
| | 25 to 34 years | 2,117 | 1,886 | (231) | -11% |
| | 35 to 44 years | 2,605 | 2,225 | (380) | -15% |
| | 45 to 54 years | 3,461 | 2,517 | (944) | -27% |
| | 55 to 59 years | 1,896 | 1,668 | (228) | -12% |
| | < 60 years | 6,496 | 7,777 | 1,281 | 20% |
| Median Age | | 46.6 | 50.4 | 3.8 | |
| **Carroll County, IL** | | | | | |
| Total Population | | 15,615 | 14,398 | (1,217) | -8% |
| | > 20 years | 3,553 | 2,920 | (633) | -18% |
| | 20 to 24 years | 722 | 785 | 63 | 9% |
| | 25 to 34 years | 1,491 | 1,522 | 31 | 2% |
| | 35 to 44 years | 1,888 | 1,540 | (348) | -18% |
| | 45 to 54 years | 2,397 | 1,697 | (700) | -29% |
| | 55 to 59 years | 1,188 | 1,104 | (84) | -7% |
| | < 60 years | 4,376 | 4,830 | 454 | 10% |
| Median Age | | 45.7 | 48 | 2.3 | |

| | | 2010 | 2020 | Change # | Change % |
|---|---|---|---|---|---|
| **Savanna, IL** | | | | | |
| Total Population | | 3,112 | 2,924 | (188) | -6% |
| | > 20 years | 648 | 570 | (78) | -12% |
| | 20 to 24 years | 187 | 121 | (66) | -35% |
| | 25 to 34 years | 343 | 252 | (91) | -27% |
| | 35 to 44 years | 425 | 446 | 21 | 5% |
| | 45 to 54 years | 364 | 358 | (6) | -2% |
| | 55 to 59 years | 225 | 213 | (12) | -5% |
| | < 60 years | 920 | 964 | 44 | 5% |
| Median Age | | 43.9 | 48.2 | 4.3 | |
| **Quad Cities MSA (1)** | | | | | |
| Total Population | | 376,736 | 380,274 | 3,538 | 1% |
| | > 20 years | 99,785 | 96,816 | (2,969) | -3% |
| | 20 to 24 years | 23,111 | 21,966 | (1,145) | -5% |
| | 25 to 34 years | 46,570 | 47,038 | 468 | 1% |
| | 35 to 44 years | 47,933 | 46,997.0 | (936) | -2% |
| | 45 to 54 years | 56,894 | 46,532 | (10,362) | -18% |
| | 55 to 59 years | 26,341 | 26,081 | (260) | -1% |
| | < 60 years | 76,102 | 94,844 | 18,742 | 25% |
| Median Age | | 39.0 | 39.9 | 0.9 | |

Source: US Census, ACS 2010 & 2020 5-year, Table ID: DP04; WSP USA, Inc.
(1) Includes Davenport and Bettendorf, IA, and Moline and Rock Island IL

## 4.4 Housing

This section outlines the total number of housing units, the owner/renter-occupied households and the number of vacant units as shown in Table 4-2. The total number of units in Savanna statistically stayed the same from 2010 to 2020 with a decline of 2 units, occupied units saw a decline of 4.8 percent. However, vacant units increased by 31.8 percent, this is a similar trend seen in Carroll County. In 2020, within Savanna 56 percent of the occupied units are owner-occupied while 41 percent are renter occupied. Compared to Carroll County, Savanna is lower. The county has 76 percent of units that are owner occupied in 2020. Savanna had the largest percent decline of renter-occupied households at 16 percent from 2010 to 2020.

**Table 4-2 Housing Unit Characteristics**

| Demographics - Housing/Households | | Census 2010 | Census 2020 | Change # | Change % |
|---|---|---|---|---|---|
| **Carroll County, IL** | | | | | |
| Total Housing Units | | 8,382 | 8,453 | 71 | 0.8% |
| **Occupied Units** | | 7,010 | 6,511 | (499) | -7.1% |
| | Owner-occupied Households | 5,346 | 4,935 | (411) | -7.7% |
| | Renter-occupied Households | 1,664 | 1,576 | (88) | -5.3% |
| | Vacant Units | 1,372 | 1,942 | 570 | 41.5% |
| **Jo Daviess County, IL** | | | | | |
| Total Housing Units | | 13,421 | 13,723 | 302 | 2.3% |
| **Occupied Units** | | 10,001 | 10,069 | 68 | 0.7% |
| | Owner-occupied Households | 7,813 | 7,718 | (95) | -1.2% |
| | Renter-occupied Households | 2,188 | 2,351 | 163 | 7.4% |
| | Vacant Units | 3,420 | 3,654 | 234 | 6.8% |
| **Savanna, IL** | | | | | |
| Total Housing Units | | 1,812 | 1,810 | (2) | -0.1% |
| **Occupied Units** | | 1,579 | 1,503 | (76) | -4.8% |
| | Owner-occupied Households | 937 | 964 | 27 | 2.9% |
| | Renter-occupied Households | 642 | 539 | (103) | -16.0% |
| | Vacant Units | 233 | 307 | 74 | 31.8% |
| **Quad Cities MSA (1)** | | | | | |
| Total Housing Units | | 166,127 | 170,444 | 4,317 | 2.6% |
| **Occupied Units** | | 154,067 | 154,517 | 450 | 0.3% |
| | Owner-occupied Households | 111,153 | 109,317 | (1,836) | -1.7% |
| | Renter-occupied Households | 42,914 | 45,200 | 2,286 | 5.3% |
| | Vacant Units | 12,060 | 15,927 | 3,867 | 32.1% |

The Quad Cities MSA, similarly to Savanna and Carroll counties saw a large percent increase in the number of vacant units at 32.1 percent. The only area which only had a small growth of vacant units was Jo Daviess with 6.8 percent.

## 4.5 Income

All of the geographic areas with the exception of Savana have seen a decline in the number of households making less than $75,000. The percent decline ranges from 1.8 percent to 23.8 percent as shown in Table 4-3. Savana's saw a decline in the ranges of $50,000 to $100,000 and less than $34,999. Unlike in the other geographical areas there was a 2.3 percent increase in households making $35,000 to $49,999 in Savanna between 2010 and 2020. Overall, all areas saw an increase in the number of households making $100,000 or more. It is important to note that the yearly figures below are not adjusted for inflation. 2010 and 2020 are the real dollars for each of those years. Between 2010 and 2020 the national inflation rate was 19 percent. All geographies with the exception of the quad cities, median household income outpaced the inflation rate. Carroll and Jo Daviess counites were within 1 percent of matching the inflation rate. However, Savanna's median household income only increased by $291 or 0.9 percent dramatically underperforming inflation.

**Table 4-3: Income Characteristics**

| Demographics - Income | | 2010 | 2020 | Change # | Change % |
|---|---|---|---|---|---|
| **Carroll County, IL** | | | | | |
| | Less than $34,999 | 2,657 | 2,188 | (469) | -17.7% |
| | $35,000 to $49,999 | 1,171 | 892 | (279) | -23.8% |
| | $50,000 to $74,999 | 1,549 | 1,270 | (279) | -18.0% |
| | $75,000 to $99,999 | 785 | 827 | 42 | 5.4% |
| | $100,000 to $149,999 | 617 | 925 | 308 | 49.9% |
| | $150,000 or more | 224 | 404 | 180 | 80.4% |
| Median Household Income | | 44,805 | 52,813 | 8,008 | 17.9% |
| **Jo Daviess County, IL** | | | | | |
| | Less than $34,999 | 3,430 | 2,860 | (570) | -16.6% |
| | $35,000 to $49,999 | 1,540 | 1,390 | (150) | -9.7% |
| | $50,000 to $74,999 | 2,160 | 2,024 | (136) | -6.3% |
| | $75,000 to $99,999 | 1,440 | 1,601 | 161 | 11.2% |
| | $100,000 to $149,999 | 930 | 1,309 | 379 | 40.8% |
| | $150,000 or more | 490 | 886 | 396 | 80.8% |
| Median Household Income | | 50,279 | 59,223 | 8,944 | 17.8% |

| | | 2010 | 2020 | Change # | Change % |
|---|---|---|---|---|---|
| **Savanna, IL** | | | | | |
| | Less than $34,999 | 845 | 765 | (80) | -9.5% |
| | $35,000 to $49,999 | 216 | 221 | 5 | 2.3% |
| | $50,000 to $74,999 | 319 | 242 | (77) | -24.1% |
| | $75,000 to $99,999 | 125 | 119 | (6) | -4.8% |
| | $100,000 to $149,999 | 74 | 95 | 21 | 28.4% |
| | $150,000 or more | 0 | 62 | 62 | |
| Median Household Income | | 31,776 | 32,067 | 291 | 0.9% |
| **Quad Cities MSA (1)** | | | | | |
| | Less than $34,999 | 55,310 | 43,574 | (11,736) | -21.2% |
| | $35,000 to $49,999 | 23,880 | 20,551 | (3,329) | -13.9% |
| | $50,000 to $74,999 | 29,889 | 29,358 | (531) | -1.8% |
| | $75,000 to $99,999 | 20,337 | 20,705 | 368 | 1.8% |
| | $100,000 to $149,999 | 15,715 | 24,568 | 8,853 | 56.3% |
| | $150,000 or more | 8,782 | 15,915 | 7,133 | 81.2% |
| Median Household Income | | 48,410 | 59,876 | 11,466 | 23.7% |

Source: US Census, ACS 2010 & 2020 5-year, Table ID: S1901; WSP USA, Inc.

(1) Includes Davenport and Bettendorf, IA, and Moline and Rock Island IL

## 4.6 Place of Work

The place of work of residence in each area is outlined in Table 4-4. This table provides the percentage of working residents who work inside and outside their county of residence, as well as if they work outside their state of residence. Savanna had the highest proportion of residents who worked within their county of residence at 74.5 percent in 2020. In 2020 the percentage of residents who worked outside of the county/state was fairly similar. Carroll county had 30 percent of its workers working outside the county while Jo Daviess had 9.3 percent. In 2020, Carroll county only had 9.4 percent who worked outside the state while Jo Daviess had 31.3 percent. The high percentage of workers in Jo Daviess county working outside the state is related to the county being bordered by Iowa to the west and Wisconsin to the north.

**Table 4-4: Place of Work Characteristics**

| Demographics - Place of work | | 2010 | 2020 | Percent Change |
|---|---|---|---|---|
| **Carroll County, IL** | | | | |
| | Worked in county of residence | 57.3% | 60.6% | 5.8% |
| | Worked outside county of residence | 32.4% | 30.0% | -7.4% |
| | Worked outside state of residence | 10.3% | 9.4% | -8.7% |
| **Jo Daviess County, IL** | | | | |
| | Worked in county of residence | 62.1% | 59.4% | -4.3% |
| | Worked outside county of residence | 12.8% | 9.3% | -27.3% |
| | Worked outside state of residence | 25.1% | 31.3% | 24.7% |
| **Savanna, IL** | | | | |
| | Worked in county of residence | 68.7% | 74.5% | 8.4% |
| | Worked outside county of residence | 19.8% | 12.4% | -37.4% |
| | Worked outside state of residence | 11.5% | 13.1% | 13.9% |
| **Quad Cities MSA (1)** | | | | |
| | Worked in county of residence | 70.4% | 69.0% | -2.0% |
| | Worked outside county of residence | 9.6% | 9.5% | -1.0% |
| | Worked outside state of residence | 20.0% | 21.5% | 7.5% |

Source: US Census, ACS 2010 & 2020 5-year, Table ID: S080; WSP USA, Inc.

(1) Includes Davenport and Bettendorf, IA, and Moline and Rock Island IL

## 4.7 Industry

Table 4-5 shows the employment by industry in the four geographic areas examined for 2021. Savanna has an employed population of 1,171 of which 63.6 percent work in manufacturing, retail trade, or educational services, healthcare, and social assistance industries. Manufacturing is the highest at 27.7 percent of the population working in that industry in Savanna. Carroll county had the highest percentage of the population working in the manufacturing industry as well at 23 percent. For the Jo Daviess and Quad Cities MSA, educational services, healthcare, and social assistance was the highest percentage of employment. Agriculture, forestry, fishing, hunting, and mining are a small percentage of jobs for all areas. It's important to note that agriculture, forestry, fishing, hunting, and mining industry employment are predominately associated with agriculture.

**Table 4-5: Employment by Industry 2021**

| Industry | Carroll County | | Jo Daviess | | Savanna | | Quad Cities MSA (1) | |
|---|---|---|---|---|---|---|---|---|
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Agriculture, forestry, fishing and hunting, and mining | 380 | 5.9% | 544 | 5.1% | 51 | 4.4% | 2,896 | 1.6% |
| Construction | 265 | 4.1% | 796 | 7.4% | 7 | 0.6% | 13,367 | 7.3% |
| Manufacturing | 1,492 | 23.0% | 1,787 | 16.7% | 324 | 27.7% | 30,000 | 16.3% |
| Wholesale trade | 195 | 3.0% | 242 | 2.3% | 0 | 0.0% | 4,808 | 2.6% |
| Retail trade | 665 | 10.3% | 1,145 | 10.7% | 223 | 19.0% | 22,518 | 12.2% |
| Transportation and warehousing, and utilities | 385 | 5.9% | 513 | 4.8% | 45 | 3.8% | 10,988 | 6.0% |
| Information | 156 | 2.4% | 270 | 2.5% | 43 | 3.7% | 2,166 | 1.2% |
| Finance and insurance, and real estate and rental and leasing | 251 | 3.9% | 704 | 6.6% | 50 | 4.3% | 10,594 | 5.8% |
| Professional, scientific, and management, and administrative and waste management services | 351 | 5.4% | 656 | 6.1% | 62 | 5.3% | 14,083 | 7.7% |
| Educational services, and health care and social assistance | 1,453 | 22.4% | 2,242 | 20.9% | 198 | 16.9% | 40,141 | 21.8% |
| food services | 373 | 5.8% | 1,089 | 10.1% | 94 | 8.0% | 16,260 | 8.8% |
| Other services, except public administration | 277 | 4.3% | 488 | 4.5% | 9 | 0.8% | 7,861 | 4.3% |
| Public administration | 236 | 3.6% | 255 | 2.4% | 65 | 5.6% | 8,401 | 4.6% |
| Civilian employed population 16 years and over | 6,479 | 100% | 10,731 | 100% | 1,171 | 100% | 184,083 | 100% |

Source: US Census, ACS 2021 5-year, Table ID: DP03; WSP USA, Inc.
(1) Includes Davenport and Bettendorf, IA, and Moline and Rock Island IL

## 4.8 Industry Location Quotient

Table 4-6 shows the industry location quotient for the four geographic areas in 2021.

**Table 4-6: Industry Location Quotient 2021**

| | Location Quotient | | | |
|---|---|---|---|---|
| Industry | Carroll County | Jo Daviess County | Savanna, IL | Quad Cities MSA (1) |
| Agriculture, forestry, fishing and hunting, and mining | 3.53 | 3.05 | 2.62 | 0.95 |
| Construction | 0.60 | 1.09 | 0.09 | 1.07 |
| Manufacturing | 2.30 | 1.66 | 2.76 | 1.63 |
| Wholesale trade | 1.21 | 0.91 | 0.00 | 1.05 |
| Retail trade | 0.94 | 0.97 | 1.74 | 1.12 |
| Transportation and warehousing, and utilities | 1.05 | 0.85 | 0.68 | 1.06 |
| Information | 1.25 | 1.31 | 1.91 | 0.61 |
| Finance and insurance, and real estate and rental and leasing | 0.58 | 0.99 | 0.64 | 0.86 |
| Professional, scientific, and management, and administrative and waste management services | 0.45 | 0.51 | 0.44 | 0.64 |
| Educational services, and health care and social assistance | 0.96 | 0.90 | 0.72 | 0.93 |
| Arts, entertainment, and recreation, and accommodation and food services | 0.63 | 1.11 | 0.88 | 0.97 |
| Other services, except public administration | 0.90 | 0.96 | 0.16 | 0.90 |
| Public administration | 0.78 | 0.51 | 1.18 | 0.97 |

Source: Source: US Census, ACS 2021 5-year, Table ID: DP03; WSP USA, Inc.
(1) Includes Davenport and Bettendorf, IA, and Moline and Rock Island IL

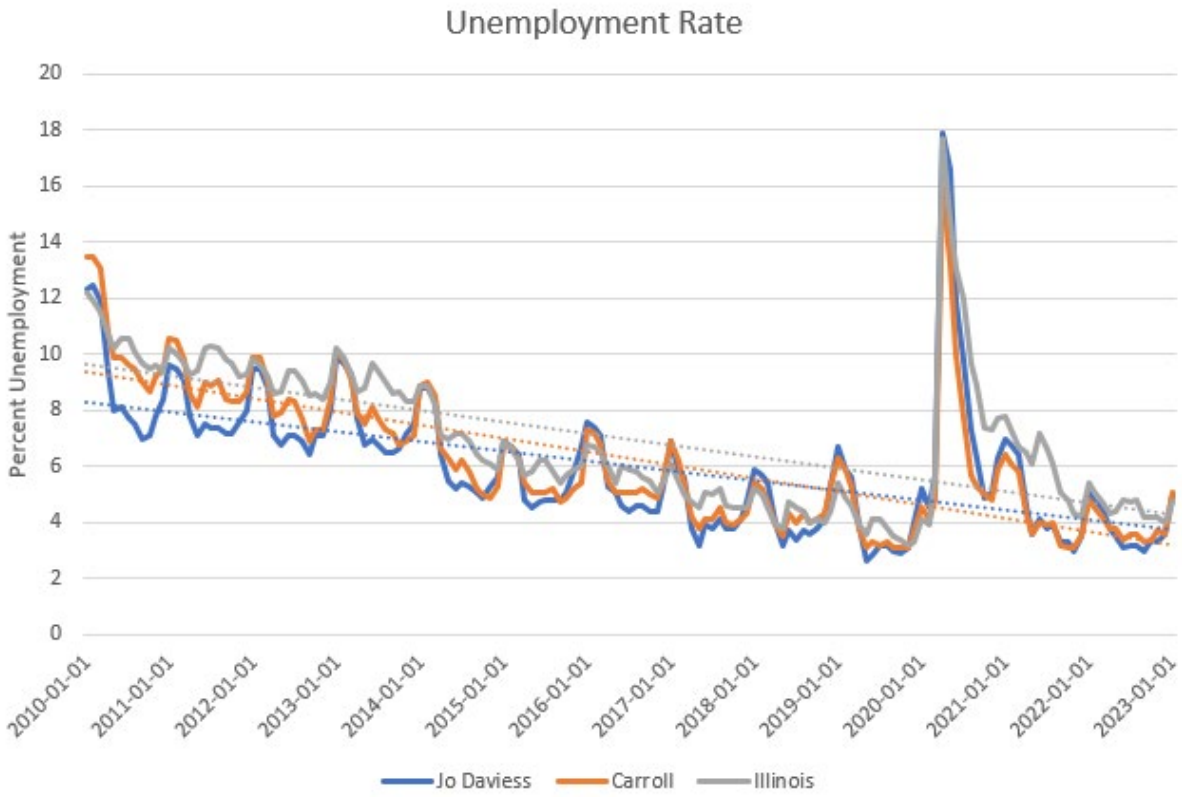
Location quotient (LQ) is an analytical statistic that measures a region's industrial specialization relative to a larger geographic unit (usually the nation).[1] An LQ of 1.0 means that the geographical area is equally specialized. The higher the LQ the more specialized that area is for the given industry. The analysis conducted was done with the industry data listed in Table 4-6 compared to the nation.

Savanna has five LQs which are higher than a LQ of 1.0 they are manufacturing (LQ 2.76), agriculture, forestry, fishing, hunting, and mining (LQ 2.62), information (LQ 1.91), retail trade (LQ 1.74), and public administration (LQ 1.18). Savanna has the highest manufacturing LQ compared to the other geographical areas, this can be associated with Elkay manufacturing facility located in the city. Carroll and Jo Daviess have higher agricultural LQs due to the larger rural spans of the counties. Overall, the LQs of all the areas are fairly similar in their ranges.

## 4.9 Unemployment

The unemployment rate for Carroll and Jo Daviess counties and Illinois is fairly consistent. Figure 4-1 shows the unemployment rate and is not seasonally adjusted. From 2010 to 2023, the counites have overall had a lower unemployment than Illinois as shown by the trendlines. The counties were also able to rebound from the COVID-19 quicker than compared to Illinois. As of January 2023, the unemployment rate for Carroll (5.1 percent) and Jo Daviess (5 percent) counites was slightly higher than Illinois (4.7 percent), this trend is similar to previous years during January and can be associated with seasonal workforce.

**Figure 4-1: Unemployment Rate**




[1] US Department of Commerce, Bureau of Economic Analysis, What are location quotients (LQs)?

# 5 Commercial and Industrial Market Analysis

This section provides a summary of the commercial and industrial market analysis provided in the report *"The Savanna Industrial Park Maritime Reuse Market Opportunities*" prepared for the Jo Carroll LRA in August of 2022.

The property has significant water frontage along the Mississippi River at and north of the Apple River, but because of the historic use of the property, its position relative to the main river channel, its high elevation above water level, and current USWFS ownership of the waterfront portions of the property, marine cargo uses are not currently accommodated at the SIP. However, with the addition of Parcel 20 to the redevelopment program for the LRA, waterborne access is now a potential opportunity for port based redevelopment. The Mississippi River from the Rock Island, Illinois to Wabasha, Minnesota has been designated the Upper Mississippi National Wildlife Refuge by USFWS in 1924. This 261 mile stretch of the Mississippi River protects more than 240,000 acres of floodplain and is a haven for migratory birds, fish, and wildlife.

The Upper Mississippi River, including the portion of the river north of St. Louis, which is managed through a series of locks and dams to control water flows as the river drops in elevation from above Minneapolis-St. Paul is a vibrant and active corridor for marine cargo movement, with millions of tons of different products moving by shallow-draft (generally 9 foot) barges both upriver and downriver. Developing a 21$^{st}$ century port at the SIP will accommodate both local and regional economic growth. Waterborne cargo provides an opportunity to transport goods in a more sustainable approach and achieves the co-benefits of economic growth and sustainability. While every effort will be made to minimize and mitigate unavoidable site impacts, transitioning cargo from truck transportation to water borne is consistent with state and federal planning transportation goals and supports the larger environmental stewardship of the river.

This section examines the types of marine cargo handled on the Upper Mississippi River today, the types that could be handled in the future, and the potential for the SIP to accommodate a portion of growth in demand, as a complement and supplement to existing Upper Mississippi facilities. This information serves as an unconstrained view of development potential Once the potential demand is defined, further steps in the study process will determine:

- The feasibility and cost of improving the site to accommodate the demand;
- The performance attributes and competitiveness of the site relative to other marine terminal Alternatives which are or may be looking to serve the same markets;
- The market share capture and financial performance of the facility; and
- Other effects (positive and negative) associated with marine cargo development are relevant to preparing a business case and implementation plan.

## 5.1 Technical Approach

The market opportunities analysis captured relevant information from a wide range of sources and technical experts, and then consolidated the key findings into an Opportunities Matrix that will be used in creating alternative layouts and concepts for potential development and operation of marine cargo facilities. The key inputs to this work were:

- Analysis of national-level commodity flow data. WSP analyzed a variety of data sources including: the US Department of Transportation's Freight Analysis Framework version 5.2; forecasts from the Illinois Marine Transportation System Plan, which utilized USACE statistics and validation with each Illinois public port district; updated USACE statistics prepared for the Illinois State Freight Plan Update currently in progress; and commodity flow estimates and forecasts from a commercial data product called Transearch.

- Update of previous marine cargo forecasts. Martin Associates previously prepared a detailed marine cargo forecast using 2017 Transearch, Corps data, and other available information. For this study, Martin Associates updated the information to reflect more recent data and address additional market opportunities. This work primarily addresses conventional or known types of markets and services.

- Assessment of expanded and emerging markets. EASE worked with LRA executive and deputy directors, industry contacts, and other market-specific data sources to identify additional opportunities specific to the assets and attributes of the SIP that might not be evident from a higher-level review or from more conventional data sources.

- Interviews with key freight industry stakeholders. EASE conducted a series of interviews with industry stakeholders to test, refine, and validate the market findings and indicators from each of the three approaches above.

The results of these investigations were synthesized into summary tables documenting the market opportunities and associated requirements (throughput capacity, acreage needed, etc.) to guide the next steps in the planning process. For ease of presentation, and to highlight the roles of both conventional and emerging market opportunities, the summaries are presented in Table 5-1 and Table 5-2. These tables will be refined and appended as new information is developed throughout the study. Note that in Table 5-1 Eastland Grain is currently a tenant at SIP but not using maritime, and the opportunity is to introduce marine cargo handling capability; also note that the "heavy lift project" cargo refers to handling large/heavy machinery, fabricated concrete, or metal shapes, etc.

**Table 5-1. Summary of SIP Marine Cargo Market Opportunities – "Conventional"**

| | Continental Grain | Eastland Grain | Fertilizer | Salt | Metals | Scrap | Heavy Lift Project |
|---|---|---|---|---|---|---|---|
| Existing Acres | | | | | | | |
| New Acres Needed | | 10 | 4 | 4 | 10 | 4 | 6 |
| Marine Transfer Type (Current) | Bulk | Bulk | Bulk | Bulk | Bulk | Bulk | |
| Marine Throughput/Year Outbound | | 100 | | | | 10 | |
| Marine Throughput/Year Inbound | | | 25 | 25 | | | |
| Storage Capacity (bushels, tons) | | 1,275,000 | 20,000 | 20,000 | 20,000 | 10,000 | |
| Storage Type | Grain silos | Grain silos | Dome 124' x 242' | Open, tarped | Open | | |
| Truck Access | yes | yes | yes | yes | yes | yes | yes |
| Inbound Truck per annum | | 2,000 | | | | | |
| Outbound Truck per annum | | | 1,200 | 1,200 | | | |
| Inbound Rail per annum | | 30 | 75 | 20 | | | |
| Outbound Rail per annum | | 300 | 5 | | 150 | | |
| Other | | | | | | | |
| Seasonality Issues | | Autumn in, Winter Rail, Spring Waterway | Early Spring/Late Autumn | Winter outbound | | | |
| Foreign Trade Zone benefits | | Bagging, processing | Mixing | | | | |
| Off-site leveraging Length of Haul (mi) | 75 | 40 | 30 | 50 | 50 | 35 | 60 |
| Conventional Markets (Transportation) | yes | yes | yes | yes | yes | yes | yes |
| 2025 Low Volume (tons) | 70,000 | 70,000 | 22,000 | 22,000 | 22,000 | 11,000 | |
| 2035 Low Volume (tons) | | 75,000 | 23,100 | 23,100 | 23,100 | 11,550 | |
| 2045 Low Volume (tons) | | 80,000 | 24,200 | 24,200 | 24,200 | 12,100 | |
| 2025 Standard Volume (tons) | | 75,000 | 23,100 | 23,100 | 23,100 | 11,550 | |
| 2035 Standard Volume (tons) | | 79,000 | 24,640 | 24,640 | 24,640 | 12,320 | |
| 2045 Standard Volume (tons) | | 84,000 | 25,410 | 25,410 | 25,410 | 12,705 | |
| 2025 High Volume (tons) | | 80,000 | 24,255 | 24,255 | 24,255 | 12,128 | |
| 2035 High Volume (tons) | | 82,500 | 25,500 | 25,500 | 25,500 | 12,750 | |
| 2045 High Volume (tons) | | 87,000 | 26,000 | 26,000 | 26,000 | 13,000 | |

## Table 5-2. Summary of SIP Marine Cargo Market Opportunities – "Expanded"

| | Container-on-Barge | Organic Digester | Grain & By-Products Processing | Processors Using LNG - Hemp et al | Metal Milling | Wind Energy Component Manufacturing / Reprocessing | Solar Energy generation | Chemicals |
|---|---|---|---|---|---|---|---|---|
| Existing Acres | | none | none | none | none | none | none | none |
| New Acres Needed | 8+ | 40 | 30 | 7 | 5 | 5 | 10 | 10 |
| Marine Transfer Type (Current) | Lift-on/Lift-off | container on barge in | container on barge out | | | | | |
| Marine Throughput/Year Outbound | | 10 | 10 | | | | | |
| Marine Throughput/Year Inbound | | 10 | 10 | | | | | 50 |
| Storage Capacity (bushels, tons) | | 16,000 | 16,000 | 10,000 | 10,000 | 10,000 | 10,000 | 50,000 |
| Storage Type | | feedstock, within facility | n, Processed Materials out | apes in Finished Goods Out | | | | |
| Truck Access | yes | yes | yes | yes | yes | yes | yes | yes |
| Inbound Truck per annum | | 500 | 600 | 500 | | | | |
| Outbound Truck per annum | | | | | | | | |
| Inbound Rail per annum | | | | | | | | |
| Outbound Rail per annum | | container and boxcar transfer | | | | | | 300 |
| Other | | | bagging / containerization | | | | | |
| Seasonality Issues | | | | | | | | |
| Foreign Trade Zone benefits | | | | | | | | |
| Off-site leveraging Length of Haul (mi) | 90 | | | | | | | |
| Conventional Markets (Transportation) | New Handling Option | Green Campus | Green Campus | Green Campus | Green Campus | Green Campus | Green Campus | Green Campus |
| 2025 Low Volume (tons) | | | | 11,000 | 11,000 | 11,000 | 11,000 | 30,000 |
| 2035 Low Volume (tons) | | | | 11,550 | 11,550 | 11,550 | 11,550 | 33,000 |
| 2045 Low Volume (tons) | | | | 12,100 | 12,100 | 12,100 | 12,100 | 35,000 |
| 2025 Standard Volume (tons) | | | | 11,550 | 11,550 | 11,550 | 11,550 | 33,000 |
| 2035 Standard Volume (tons) | | | | 12,320 | 12,320 | 12,320 | 12,320 | 35,000 |
| 2045 Standard Volume (tons) | | | | 12,705 | 12,705 | 12,705 | 12,705 | 37,000 |
| 2025 High Volume (tons) | | | | 12,128 | 12,128 | 12,128 | 12,128 | 35,000 |
| 2035 High Volume (tons) | | | | 12,750 | 12,750 | 12,750 | 12,750 | 36,000 |
| 2045 High Volume (tons) | | | | 13,000 | 13,000 | 13,000 | 13,000 | 37,500 |

## 5.2 Market Analysis Summaries

### 5.2.1 Commodity Flow Data

**Freight Analysis Framework**

The US Department of Transportation's Freight Analysis Framework (FAF) is a national-level tabulation of estimated commodity flows compiled from different Federal data sources. It provides estimates of volume and value flows by origin-destination, commodity group, type of trade (domestic or international), domestic transportation mode, and international transportation mode. From this information, analysts can additionally determine the direction of flow (inbound, outbound) within) a given geography. The current FAF (version 5.2) has base year estimates for 2017 and forecast projections through 2050.

The main limitations of FAF are related to specificity. It presents information in generalized commodity groupings but not with underlying detail, and it aggregates origins and destinations into states and multi-county Business Economic Areas (BEAs). The SIP property is within two Illinois counties -- Jo Daviess and Carroll – which are part of the "Remainder of IL" FAF zone including all of Illinois except the Chicago and St. Louis metropolitan areas. The Remainder of IL zone captures all of the Upper Mississippi River counties and Ohio River counties above St. Louis, so it is impossible to isolate Jo Daviess and Carroll. Regardless, the data is extremely valuable in describing the types of flows and commodities along Illinois waterways, both current and projected.

As shown in Table 5- 3, the Remainder of IL FAF zone handled an estimated 31.0 million tons of waterborne freight in 2017. Around 30.3 million tons were purely domestic; 0.6 million tons was imported; and 0.1 million tons was exported. Note that FAF does not have full information on the relationship between domestic and international moves, and some domestic traffic that goes through processing, handling, or repackaging prior to export will not be tracked as export volume. Factoring in these 'missing linkages' we expect that a significant share of the "domestic only" traffic would be more accurately represented as export moves.

**Table 5-3. Tons (M) Moving by Domestic Water, by Trade Type, Remainder of IL, 2017**

| | Type of Trade | | | |
|---|---|---|---|---|
| Rest of IL Flow Direction | Domestic Only | Export | Import | Grand Total |
| Originated | 27.3 | 0.1 | | 27.5 |
| Terminated | 2.3 | | 0.6 | 2.8 |
| Internal | 0.7 | | | 0.7 |
| Grand Total | 30.3 | 0.1 | 0.6 | 31.0 |

As shown in Table 5-4, far more waterborne tonnage was originated (moved outbound from marine terminals) than terminated (received inbound by marine terminals) or moved internally (between terminals within the Remainder of IL zone). The largest tonnage commodities were cereal grains, other agricultural products, and other foodstuffs, almost all moving outbound from marine terminals. Other important commodities include animal feed, coal, sands, fertilizers, and metals.

**Table 5-3. Tons (M) Moving by Domestic Water, by Commodity and Direction, Remainder of IL, 2017**

| Commodity Group | Grand Total | Internal | Originated | Terminated |
|---|---|---|---|---|
| Grand Total | 31.0 | 0.7 | 27.5 | 2.8 |
| Cereal grains | 11.8 | | 11.8 | |
| Other ag prods. | 7.4 | | 7.4 | 0.1 |
| Other foodstuffs | 2.5 | | 2.5 | 0.0 |
| Animal feed | 2.3 | 0.1 | 1.2 | 1.0 |
| Coal | 2.0 | | 2.0 | |
| Natural sands | 1.1 | | 1.1 | |
| Fertilizers | 0.8 | | 0.1 | 0.7 |
| Base metals | 0.6 | | 0.3 | 0.3 |
| Gasoline | 0.5 | | 0.5 | |
| Nonmetallic minerals | 0.5 | | 0.0 | 0.5 |
| Alcoholic beverages | 0.3 | | 0.3 | 0.0 |
| Crude petroleum | 0.3 | | 0.3 | |
| Coal-n.e.c. | 0.3 | 0.3 | | |
| Gravel | 0.3 | 0.2 | | 0.0 |
| Machinery | 0.2 | | 0.0 | 0.2 |
| Articles-base metal | 0.0 | | 0.0 | 0.0 |
| Meat/seafood | 0.0 | | 0.0 | 0.0 |
| Fuel oils | 0.0 | | 0.0 | |
| Basic chemicals | 0.0 | | 0.0 | 0.0 |
| Nonmetal min. prods. | 0.0 | | 0.0 | 0.0 |
| Chemical prods. | 0.0 | | 0.0 | 0.0 |

Looking at 2050, FAF predicts an overall contraction in waterborne tonnage for the Remainder of IL zone. This does not, by itself, mean that marine cargo services at the SIP could not be viable; what it does mean is that existing and future marine cargo facilities on the Illinois waterways may be competing to serve an established and stable market, suggesting that the best opportunities may be in emerging and non-traditional markets and services, and/or by attracting cargo to water that would otherwise move by other modes. As shown Table 5- 5, terminated waterborne tonnage is projected to increase between 2017 and 2050, but this is offset by a decline in originated tonnage, for a net loss of 1.4 million tons annually. As shown in Table 5-6, there are some growth commodities – animal feeds, fertilizers, metals, sands, and machinery – but as shown in 5-7 the gains are offset by losses in cereal grains, other agricultural products, and coal.

**Table 5-4. Tons (M) Moving by Domestic Water, by Trade Type, Remainder of IL, Change from 2017 to 2050**

| | Type of Trade | | | |
|---|---|---|---|---|
| Rest of IL Flow Direction | Domestic Only | Export | Import | Grand Total |
| Terminated | 2.8 | | 0.7 | 3.5 |
| Internal | 0.3 | | | 0.3 |
| Originated | -5.3 | 0.0 | | -5.2 |
| Grand Total | -2.2 | 0.0 | 0.7 | -1.4 |

**Table 5-6. Tons (M) Moving by Domestic Water, Top 10 Growth Commodities, Remainder of IL, 2017 to 2050**

| Commodity Group | Grand Total | Internal | Originated | Terminated |
|---|---|---|---|---|
| Grand Total | -1.4 | 0.3 | -5.2 | 3.5 |
| Animal feed | 1.9 | 0.1 | 0.7 | 1.1 |
| Fertilizers | 1.5 | | 0.2 | 1.4 |
| Base metals | 0.7 | | 0.5 | 0.3 |
| Natural sands | 0.6 | | 0.6 | |
| Machinery | 0.4 | | 0.0 | 0.4 |
| Alcoholic beverages | 0.3 | | 0.3 | 0.0 |
| Nonmetallic minerals | 0.2 | | 0.0 | 0.2 |
| Gravel | 0.1 | 0.1 | | 0.0 |
| Coal-n.e.c. | 0.1 | 0.1 | | |

**Table 5-5. Tons (M) Moving by Domestic Water, Bottom 10 Decline Commodities, Remainder of IL, 2017 to 2050**

| Commodity Group | Grand Total | Internal | Originated | Terminated |
|---|---|---|---|---|
| Grand Total | -1.4 | 0.3 | -5.2 | 3.5 |
| Cereal grains | -3.4 | | -3.4 | |
| Other ag prods. | -2.1 | | -2.2 | 0.0 |
| Coal | -1.6 | | -1.6 | |
| Gasoline | -0.1 | | -0.1 | |
| Crude petroleum | 0.0 | | 0.0 | |
| Other foodstuffs | 0.0 | | 0.0 | 0.0 |
| Milled grain prods. | 0.0 | | 0.0 | |
| Printed prods. | 0.0 | | 0.0 | 0.0 |
| Mixed freight | 0.0 | | 0.0 | 0.0 |
| Wood prods. | 0.0 | | 0.0 | 0.0 |

## 5.3 Illinois Marine Transportation System Plan

The Illinois Marine Transportation System Plan, prepared by the Illinois Department of Transportation (IDOT), provides a comprehensive view of the state's marine assets and waterway systems, and includes cargo volume estimates and forecasts. Statewide volumes were sourced from USACE data, county-level apportionments were developed using a commercial dataset called Transearch (a product of Standard and Poor's), and forecasts were developed using the Freight Analysis Framework, for base year 2017 and forecast year 2045.

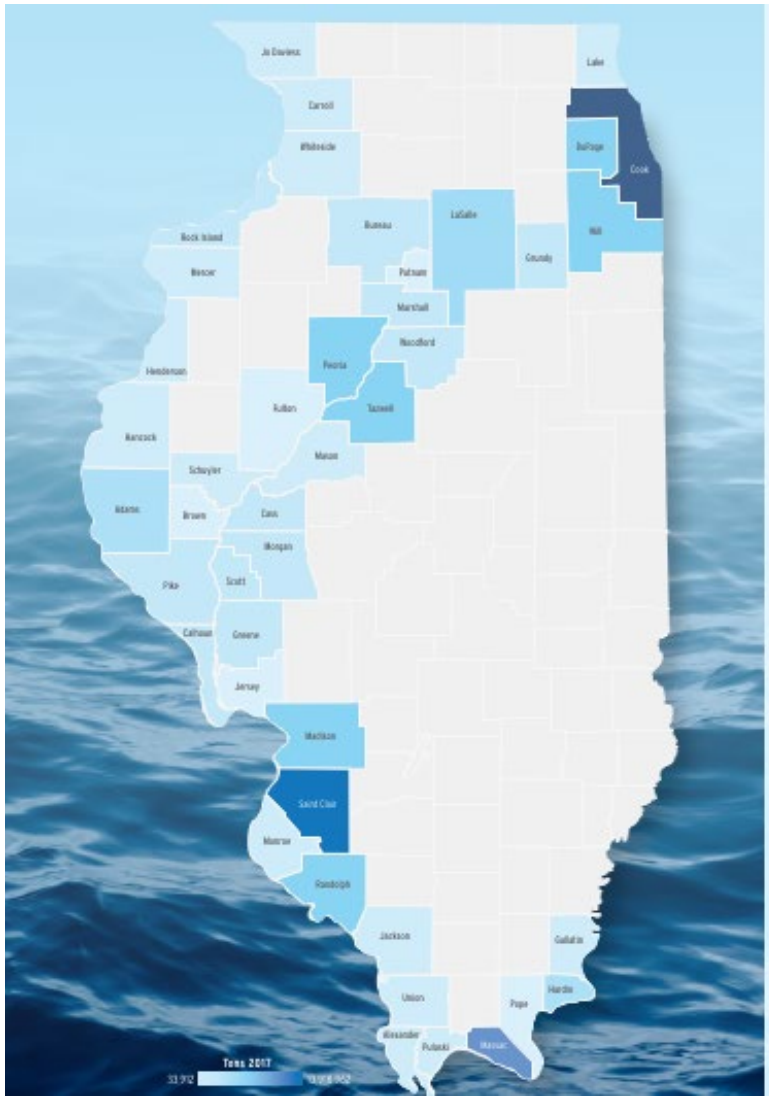
The SIP lies within the Upper Mississippi River International Port District jurisdiction, with portions in both Jo Daviess and Carroll counties., and with private port facilities to the north (around East Dubuque) and south (around Savanna). The facilities shown in Figure 5-1 marine terminals located within the designated boundaries of the UMRIPD; however, UMRIPD does not itself own or operate any port facilities within the district.

**Figure 5-1. Marine Terminals Within the Designated UMRIPD Port District Boundaries**


Source: Source: Illinois DOT IMTS Plan, 2021, from analysis of US ACE data

In 2017, facilities in Jo Daviess County moved an estimated 439,877 tons of waterborne freight, and facilities in Carroll County moved an estimated 72,208 tons of waterborne freight. See Figure 5-2

**Figure 5-2. Estimated Waterborne Tonnage by County, 2017**



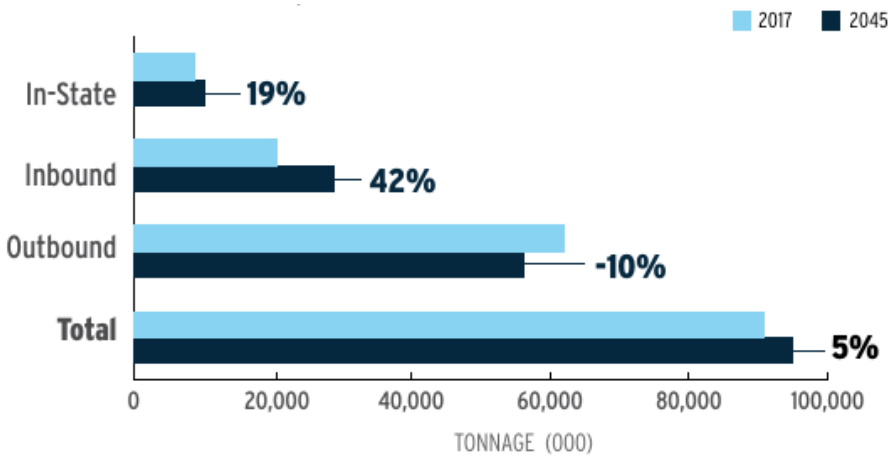

| COUNTY NAME | TONNAGE TOTAL |
|---|---|
| Cook | 13,918,962 |
| St Clair | 11,091,523 |
| Massac | 8,753,071 |
| Randolph | 5,117,870 |
| Madison | 4,386,729 |
| Tazewell | 3,764,316 |
| Du Page | 3,693,209 |
| Will | 3,269,569 |
| Peoria | 3,066,902 |
| Adams | 2,352,314 |
| La Salle | 2,202,267 |
| Hardin | 1,518,253 |
| Pike | 1,426,332 |
| Cass | 1,368,653 |
| Woodford | 1,366,574 |
| Morgan | 1,343,225 |
| Mason | 1,310,482 |
| Greene | 1,261,995 |
| Calhoun | 1,236,834 |
| Scott | 1,135,416 |
| Bureau | 1,113,225 |
| Pulaski | 869,223 |

| COUNTY NAME | TONNAGE TOTAL |
|---|---|
| Marshall | 866,573 |
| Grundy | 711,987 |
| Rock Island | 708,506 |
| Alexander | 476,182 |
| Hancock | 457,833 |
| Jo Daviess | 439,877 |
| Schuyler | 398,878 |
| Jackson | 327,464 |
| Whiteside | 309,531 |
| Henderson | 242,785 |
| Putnam | 230,864 |
| Monroe | 173,195 |
| Lake | 117,674 |
| Mercer | 80,804 |
| Carroll | 72,208 |
| Gallatin | 42,616 |
| Union | 0 |
| Brown | 0 |
| Fulton | 0 |
| Jersey | 0 |
| Pope | 0 |

Source: data analysis from Illinois DOT IMTS Plan, 2021

The analysis performed for the Illinois MTS plan anticipated a very slight increase in waterborne tonnage for the state as a whole, with increases in inbound and in-state tonnage not quite being offset by declines in outbound tonnage, as shown in Figure 5-3. This data includes the entire state, not just the "Remainder of IL" FAF zone, so the substantial waterborne tonnage associated with the Chicago and St. Louis areas is included. Forecast changes by trade direction and commodity are summarized in Figure 5-4, Figure 5-5, and Figure 5-6.

**Figure 5-3. Estimated Waterborne Tonnage, State of Illinois, 2017 and 2045**




Source: data analysis from Illinois DOT IMTS Plan, 2021

**Figure 6 Estimated In-State Waterborne Tonnage, State of Illinois, 2017 and 2045**

| COMMODITY GROUP | 2017 | 2045 | GROWTH | CHANGE |
|---|---|---|---|---|
| Coal, Lignite and Coal Coke | 990 | 260 | -730 | -74% |
| Petroleum Products | 897 | 631 | -266 | -30% |
| Chemicals excluding Fertilizers | 363 | 326 | -37 | -10% |
| Not Elsewhere Classified | 1,274 | 1,274 | 0 | 0% |
| Food and Food Products | 1 | 2 | 0 | 4% |
| Sand, Gravel, Shells, Clay, Salt, and Slag | 3,291 | 4,341 | 1,050 | 32% |
| Iron Ore, Iron, and Steel Waste and Scrap | 270 | 403 | 133 | 49% |
| Chemical Fertilizers | 183 | 310 | 127 | 69% |
| Primary Metal Products | 1,105 | 2,453 | 1,348 | 122% |
| Total | 8,375 | 10,000 | 1,625 | 19% |

Source: data analysis from Illinois DOT IMTS Plan, 2021

**Figure 5-5. Estimated Inbound Waterborne Tonnage, State of Illinois, 2017 and 2045**

| COMMODITY GROUPS | 2017 | 2045 | GROWTH | CHANGE |
|---|---|---|---|---|
| Coal, Lignite and Coal Coke | 46 | 12 | -34 | -75% |
| Petroleum Products | 2,768 | 2,221 | -546 | -20% |
| Crude Petroleum | 0 | 0 | 0 | N/A |
| Manufactured Products | 4 | 4 | 0 | 0% |
| Not Elsewhere Classified | 2,433 | 2,433 | 0 | 0% |
| Sand, Gravel, Shells, Clay, Salt, and Slag | 3,328 | 4,034 | 706 | 21% |
| Iron Ore, Iron, and Steel Waste and Scrap | 349 | 474 | 126 | 36% |
| Non-Ferrous Ores and Scrap | 178 | 286 | 107 | 60% |
| Primary Metal Products | 3,322 | 5,318 | 1,996 | 60% |
| Chemicals excluding Fertilizers | 1,837 | 3,038 | 1,201 | 65% |
| Chemical Fertilizers | 3,285 | 5,432 | 2,147 | 65% |
| Food and Food Products | 479 | 841 | 362 | 76% |
| Wood Products | 230 | 432 | 201 | 87% |
| Primary Non-Metal Products | 1,815 | 4,084 | 2,269 | 125% |
| Total | 20,074 | 28,609 | 8,535 | 43% |

Source: data analysis from Illinois DOT IMTS Plan, 2021

**Figure 5-6. Estimated Outbound Waterborne Tonnage, State of Illinois, 2017 and 2045**

| COMMODITY GROUP | 2017 | 2045 | GROWTH | CHANGE |
|---|---|---|---|---|
| Wood Products | 0 | 0 | 0 | N/A |
| Manufactured Products | 0 | 0 | 0 | N/A |
| Coal, Lignite and Coal Coke | 9,936 | 2,609 | -7,327 | -74% |
| Petroleum Products | 5,417 | 3,938 | -1,479 | -27% |
| Chemicals excluding Fertilizers | 2,624 | 2,357 | -267 | -10% |
| Crude Petroleum | 953 | 932 | -21 | -2% |
| Not Elsewhere Classified | 5,628 | 5,628 | 0 | 0% |
| Non-Ferrous Ores and Scrap | 45 | 46 | 1 | 1% |
| Food and Food Products | 34,567 | 36,009 | 1,442 | 4% |
| Sand, Gravel, Shells, Clay, Salt, and Slag | 1,167 | 1,348 | 181 | 15% |
| Iron Ore, Iron, and Steel Waste and Scrap | 706 | 1,055 | 349 | 49% |
| Chemical Fertilizers | 297 | 502 | 205 | 69% |
| Primary Non-Metal Products | 311 | 691 | 380 | 122% |
| Primary Metal Products | 463 | 1,027 | 565 | 122% |
| Total | 62,115 | 56,143 | -5,973 | -10% |

Source: data analysis from Illinois DOT IMTS Plan, 2021

## 5.4 Illinois State Freight Plan

As part of the Illinois State Freight Plan, two additional commodity flow investigations of the waterway system were developed. One was based on USACE data on lock and dam activity; the other repeated the IMTS data analysis process using base year 2019 Transearch data and forecasts to 2050.

Lock and Dam #12 is located just north of the SIP, while Lock and Dam #13 is located outside the port district just south of Carroll County (see Figure 5-7) Tonnages reported over the past 20 years at each lock and dam are shown in Table 5-8 and Table 5-9. At Lock and Dam #12, tonnage increased between calendar years 2000 and 2020, from 22.3 million tons to 29.6 million tons; over the same period, at Lock and Dam #13, tonnage increased from 22.7 million tons to 30.3 million tons. The vast majority of this tonnage is pass-through traffic on the river, as total volumes loaded or unloaded in Jo Daviess and Carroll counties were roughly 510,000 tons in 2017 (sees Table 5-8 and 5-9).

**Figure 5-7. Lock and Dam Locations**

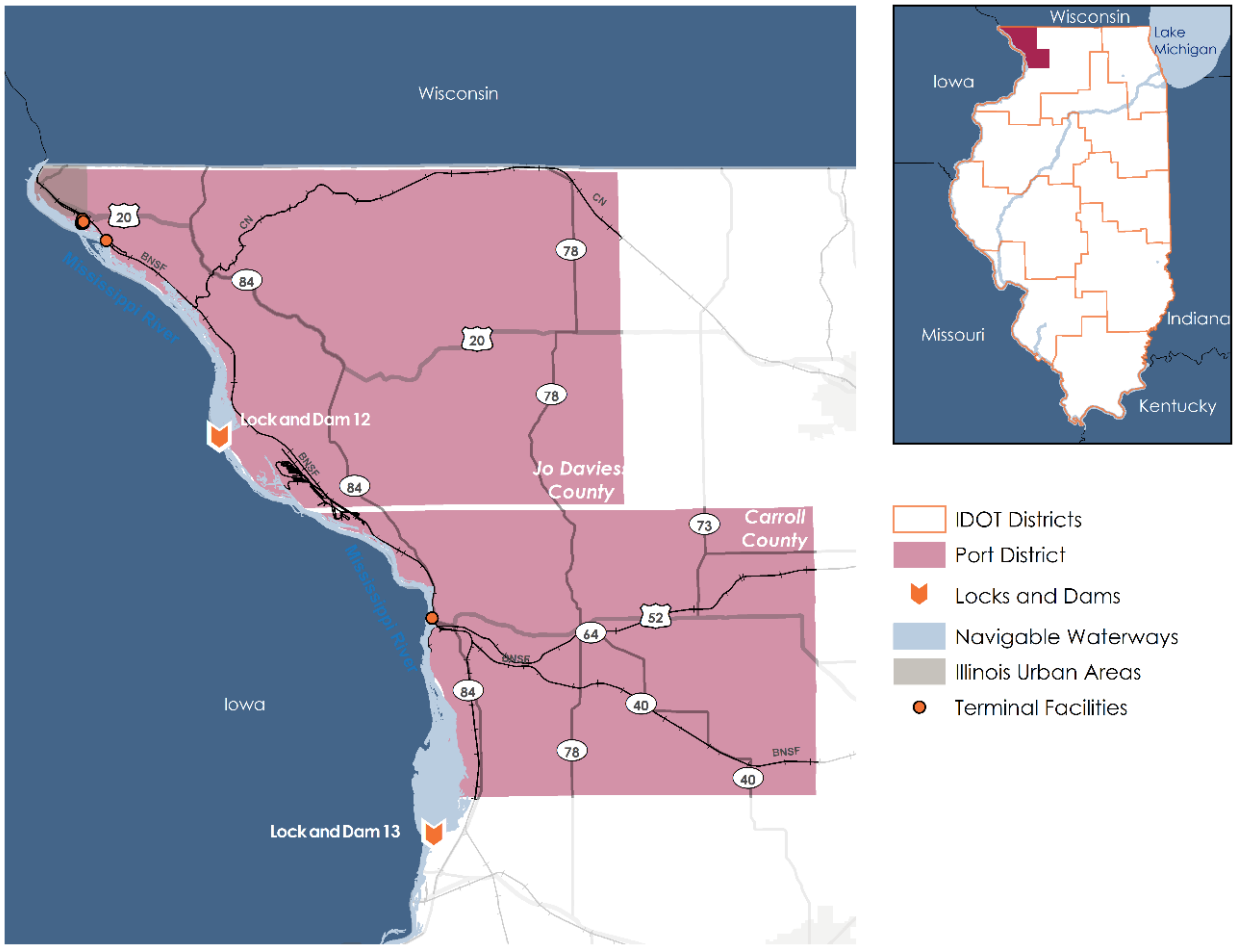


**Table 5-8. Lock and Dam #12 Tonnage**

| Commodity | CY2020 | CY2015 | CY2010 | CY2005 | CY2000 |
|---|---|---|---|---|---|
| **Units (Ferried Autos, Passengers, Railway Cars)** | - | - | - | - | - |
| **Coal, Lignite, and Coal Coke** | 312,000 | 2,333,100 | 2,563,055 | 3,923,365 | 3,047,382 |
| **Petroleum and Petroleum Products** | 350,000 | 200,900 | 361,248 | 411,561 | 577,041 |
| **Chemicals and Related Products** | 3,973,313 | 2,974,968 | 1,985,130 | 1,705,571 | 2,129,799 |
| **Crude Materials, Inedible, Except Fuels** | 2,483,250 | 2,017,780 | 2,053,543 | 2,308,920 | 1,501,574 |
| **Primary Manufactured Goods** | 1,249,500 | 1,172,712 | 762,618 | 1,129,823 | 907,523 |
| **Food and Farm Products** | 21,087,647 | 7,287,472 | 7,493,962 | 8,118,330 | 13,811,615 |
| **Manufactured Equipment & Machinery** | 105,550 | 72,685 | 26,700 | 22,700 | 5,300 |
| **Waste Material** | 23,700 | 4,700 | - | - | - |
| **Unknown or Not Elsewhere Classified** | | 4,700 | 53,905 | 52,680 | 300,214 |
| **Total** | **29,584,960** | **16,069,017** | **15,300,161** | **17,672,950** | **22,280,448** |

**Table 5-9. Lock and Dam #13 Tonnage**

| Commodity | CY2020 | CY2015 | CY2010 | CY2005 | CY2000 |
|---|---|---|---|---|---|
| **Units (Ferried Autos, Passengers, Railway Cars)** | - | - | - | - | - |
| **Coal, Lignite, and Coal Coke** | 299,400 | 2,350,900 | 2,538,821 | 3,947,365 | 3,096,444 |
| **Petroleum and Petroleum Products** | 349,900 | 202,400 | 362,748 | 411,561 | 578,541 |
| **Chemicals and Related Products** | 3,911,613 | 2,954,668 | 1,978,424 | 1,706,988 | 2,160,574 |
| **Crude Materials, Inedible, Except Fuels** | 2,489,350 | 2,027,750 | 2,037,943 | 2,324,150 | 1,524,713 |
| **Primary Manufactured Goods** | 1,675,500 | 1,164,512 | 762,618 | 1,133,223 | 882,992 |
| **Food and Farm Products** | 21,404,541 | 7,513,772 | 7,781,862 | 8,413,861 | 14,153,725 |
| **Manufactured Equipment & Machinery** | 124,950 | 81,805 | 33,700 | 29,010 | 5,200 |
| **Waste Material** | 23,700 | 4,700 | - | - | - |
| **Unknown or Not Elsewhere Classified** | | 4,700 | 55,405 | 62,093 | 320,693 |
| **Total** | **30,278,954** | **16,305,207** | **15,551,521** | **18,028,251** | **22,722,882** |

The analysis of updated Transearch data suggested four important findings.

- First, the new base year (2019) had considerably lower volume, due in large part to tariff-related reductions in grain exports moving on the river, along with continuing declines in the movement of coal. The 2017 estimate from the IMTS Plan was 90.9 million Illinois origin-destination tons; the 2019 estimate from the State Freight Plan was 71.4 million Illinois origin-destination tons. Volumes for Jo Daviess and Carroll counties dropped from an estimated 510,000 tons in 2017 to an estimated 432,000 tons in 2019, tracking the overall change in state volume.

- Second, despite the change in base year volumes, the new 2050 forecast (98.2 million Illinois origin-destination tons) is very consistent with the previous 2045 forecast (94.8 million Illinois origin-destination tons). While the annual growth rates in the new forecast are higher due to the lower base volumes they are applied to, the future volume projections are essentially the same. Illinois rebounds from a low-volume period, recovers to historic volume levels, and experiences modest additional growth.

- Third, the largest market opportunities – for 'recovered' volume as well as new business growth – were identified as follows.

    - Outbound: chemicals, farm products, food products, and non-metallic minerals

    - Inbound: chemicals, non-metallic minerals, metal products, and clay/concrete/glass/stone

    - Within-state: none

- Fourth, the new data did not suggest any significant changes in the SIP market assessments summarized previously in Table 5-1 and Table 5-2.

## 5.5 Update of Previous SIP Market Study

Table 5-10 presents a summary of the bottom-line forecast findings relevant to SIP market opportunities.

**Table 5-10. SIP Market Opportunities from Martin Associates Analysis**

| Commodity | Low Scenario (Tons) | High/Optimistic Scenario (Tons) | Driver/Needs |
|---|---|---|---|
| Salt | 25,000 | >80,000 | |
| Construction Materials (sand/gravel/cement) | 35,000 | >50,000 | Driven by local/regional construction market; Number of infrastructure projects will influence |

| Commodity | Low Scenario (Tons) | High/Optimistic Scenario (Tons) | Driver/Needs |
|---|---|---|---|
| Steel products | 20,000 | | Need to compete inland and access potential user |
| Scrap | 40,000 | >60,000 | Driven by growth in EAF mills |
| Fertilizer Products | 60,000 | >100,000 | |
| DDGS | 80,000 | >200,000 | Need anchor ethanol producer, enough volume to generate export-level volume; could also be railed and/or domestic |
| Recycled wind blade operations | 500 blades/year | >1,000 blades/year | Need anchor recycling tenant operation; also potentially served by rail |
| Plastics recycling operations | 25,000 | >100,000 | Need plastics recycling MFR tenant; At full build-out, could be 300,000-500,000 tons moved annually, including truck and rail |

## 5.6 Analysis of Emerging Market Opportunities

The new and emerging market opportunities are discussed below.

### 5.6.1 Primary Core Business Opportunities

Primary core business development opportunities for marine cargo services can be divided into two categories: Conventional, and Expanded, as summarized in Table 5-1 and Table 5-2, but the two groups can work collaboratively and synergistically within a larger freight generating industrial campus emphasizing sustainable "green" practices and innovations as summarized in Table 5-11.

**Table 5-11. Summary of Core Business Opportunities Utilizing Marine Cargo Services**

| Conventional Freight Markets | Green Opportunities from Expanded Markets |
|---|---|
| **Grain and oilseeds** | Organic Digester |
| **Fertilizers** | Grain & By-Products processing |
| **Salt** | Processors Using LNG - Hemp et al |
| **Metals** | Metal Milling |
| **Chemicals** | Wind Energy component manufacturing and processing<br>Component recycling |
| **Scrap Recycling Metals** | Solar Energy generation |
| **Container Cargo (New Handling Opportunity)** | Chemical |

## 5.7 Results of Industry Interviews

A series of fifteen (15) in depth interviews were conducted to gather input from public, private, and non-profit leading professionals within the region, nation, and ports industry. To evaluate the market potential for the Savanna Industrial Park and to identify capabilities that may be supportive of future port investments, the interviews were conducted to qualify the range of perspectives in the marketplace. The creation of a port to enable the conveyance of cargo to or from the river for multimodal, or intermodal traffic, could serve a meaningful economic contribution to the region.

### 5.7.1 Port Development Opportunities

- **Industry Integration -** The industry sectors, horizontal, or verticals were explored for upstream or downstream connectivity and value-added services, which can be leveraged in an industrial park campus setting.

- **Government Role -** The U.S. Department of Transportation, especially the Maritime Administration, and the U.S. Department of Agriculture are highly engaged in maritime expansion. Not all support is through grants/funding, but can include guidance toward other resources, or by supporting initiatives with advice or methodologies to foster success built upon best in class developments learned through other public or private enterprise experiences

### 5.7.2 SWOT ASSESSMENT

The strengths, weaknesses, opportunities, and threats that are important to market development for SIP include:

- **Strengths**
  - Location: connectivity, substantial rail assets, highways, the Mississippi River, regionalism, clean slate
  - Labor Pool: work ethic, availability, local expertise,
  - Local industry: Agribusiness especially, other natural resources, aggregates, sand, minerals, limited competitive factor; large potential concentrated industrial area
  - Green environmental sustainability
  - Quality of Life: No congestion, open air, affordable communities

- **Weaknesses**
  - Seasonal: Mississippi River location: ~2 months frozen, periodic flooding,
  - Location: Distance to interstate, Lack of nearby population center; nearby protected environmental areas,
  - Cargos: Little margin in base commodities, Increasingly capital intensive production operations have few jobs, automation, changing technologies, uncertain recycling technologies, monitoring, is capacity stable and reliable

- **Opportunities**
  - Port Statistical Area collaboration, Agricultural products all around for 80-100 miles
  - Commercial approaches; Local enterprises with growth potential, resourcefulness, origin-distribution region; creating a certainty for logistics in the region;
  - Federal agencies support, investment attraction, alleviation of rural poverty,

- Infrastructure needs can be phased with building capacity

➢ **Threats**

- Additional road traffic, local complaints, untested technologies, logistics
- Other regional centers growth – i.e., Chicago, Quad Cities, Dubuque/E. Dubuque
- Current broken supply chains reform changing outlook undermining existing logistics paradigms
- Extent of Lock and Dam investments for the future.

- **Competitive Factors-** how to best develop the facilities involves consideration of the structuring of the public and private terminal relationship.

- **Workforce -** Private operators handle most personnel and workforce issues on a proprietary, commercial basis. However, skills in demand can be developed and nurtured by the LRA to assure continuity of operational considerations.

- **Data and Information Systems -** Commodity data and freight transportation analysis are important. More specifically, the Lock Performance Management System of the USACE helps identify what is moving through each lock on its way up and down the river system.

- **Infrastructure Issues -** . Diversifying away from the carbon based economy is a strong aspect to differentiate relative to other ports. Access, egress, and ingress, from and to the port facility are important to future success, as well as local environmental considerations, and pad ready sites.
- **Economic Development Incentives -** Planning Grants from the Illinois Department of Transportation, Statewide Planning and Research (SPR) Funds that can support development planning, expand, and promote existing foreign trade zone, aggressive leasing rates, etc.

- **Local and Regional Support -** The wide range of supporting relationships from across labor, community leaders, economic development organizations, agency staff and leaders, elected officials as well as from across academic institutions can help support and expand port related business opportunities.

- **Other Success Factors to Consider**

  - Commodities to target: concrete, cement, ag products, fertilizers, containers, etc.
  - Collaboration
  - Rail car or barge building and repair facilities (drydock)
  - Public Private Partnerships
  - Operating as a quasi-governmental agency and enable a commercial, entrepreneurial mindset in business development.
  - Sustainability and flexibility in changing market conditions
  - Nimbleness of the organization.

# 6 Property Transfer Process

The various methods of transfer available to the Army under the BRAC legislation and regulations. BRAC is "the process that the Department of Defense (DoD) uses to reorganize its installation infrastructure to more efficiently and effectively support its forces, increase operational readiness, and facilitate new ways of doing business".

Generally, these conveyance methods fall into two major categories that involve options for transferring the property, or portions of the property, at no cost or reduced cost, as well as others that involve acquisition at fair market value. Other options discussed in this chapter involve the potential for early transfer of the facility for civilian use prior to full closure and environmental cleanup by the military.

All of the options available are reflective of the military's criteria for disposal of surplus property emanating from the 2005 BRAC evaluation process. These criteria emphasize, among other factors, DoD's intent to expedite the transfer process and to maximize a return on investment for the federal government as part of that process. This indicated desire to accelerate the closure process and transfer the facility to community use means that the military may be more flexible in applying a variety of approaches to hasten this conveyance. However, it is also an indication that the military will "rely on and leverage market forces" to the greatest extent possible, as noted in the Base Realignment and Closure Manual (BRRM). All of these factors have ramifications for the LRA's preparation of a final reuse plan, which will be discussed in this and subsequent chapters of the redevelopment plan.

## 6.1 Property Transfer Alternatives

Once the decision has been made through the BRAC process to close a military installation, federal law provides for a number of alternative transfer methods that can be employed by the DoD to dispose of the property. The primary methods of transfer most likely to be considered by the Army for the facility are outlined in Table 6-1 and discussed in more detail in the subsequent portions of this chapter. These methods are based on information presented in the BRRM, which contains the DoD's primary guidelines for reuse of BRAC facilities. Additional transfer methods not included in the table are also discussed in the following sections.

One of the first steps in the disposal process is the "screening" of the property to determine if other federal agencies have use for any or all of the facility. In the case of Parcel 20, no other federal users identified an interest in the facility within the allotted timeframe, which resulted in its designation by the DoD as "surplus" property. In light of this fact, disposal of the property can potentially occur under one or more alternative methods of transfer that will be dependent upon the type of end user (i.e., public, or private) and the intended use.

**Table 6-1 Primary Property Transfer Alternatives**

| Conveyance Method | Conditions | Community Planning Considerations |
|---|---|---|
| **Public Benefit Conveyance (PBC)** | • The property is conveyed at market value unless a sponsoring agency determines a discount is warranted.<br>• The property must be used for public purposes (schools, airports, healthcare, recreation, etc.)<br>• Sponsoring agencies may impose additional land use controls | • Market value is an objective of the sponsoring agency – an appraisal will most likely be needed<br>• Consideration should be given to how the reuse plan will affect market value and ultimately the price paid to the sponsoring agency |
| **Economic Development Conveyance (EDC)** | • Conveyance can only be made to an approved Implementation LRA.<br>• The military department may seek market value but is not required to under proposed rule changes. However, the military can grant an EDC without consideration if proceeds support economic development for 7 years<br>• Proceeds not used for economic development can be recouped by the military | • Market value may need to be determined – if so, an appraisal must be completed<br>• If LRA develops property it must determine there are enough qualified investments (e.g., new infrastructure) to warrant a discount |
| **Negotiated Sale to Public Entities** | • Property can only be conveyed to public entity for a public benefit<br>• Same benefit cannot be obtained from sale or PBC conveyance<br>• Congress must approve transaction<br>• If property is sold within 3 years all profits revert to the military | • Market value will determine final sale price for LRA or other public body – an appraisal must be completed |
| **Advertised Public Sale** | • Property is conveyed by the military through a public bidding process<br>• Military must consult with LRA before taking this approach<br>• The military's objective will be to seek sale to highest responsible bidder | • Because this process requires a bid process, market value is assumed to be part of this process<br>• The establishment of minimal land use controls in the reuse plan may encourage more rapid, market-driven redevelopment, if so desired by the LRA |
| • Source: *Understanding Key Issues in DoD's Base Redevelopment & Realignment Manual,* An Info brief from the Association of Defense Communities, May 2006 (abridged) | | |

### 6.1.1 Public Benefit Conveyance

One of the more useful methods of property transfer for a variety of public uses is the Public Benefit Conveyance (PBC). A PBC can be used to convey real or personal property to state and local governments, and certain non-profit organizations, for public purposes at no cost or reduced cost. These purposes include schools, parks, public health facilities, law enforcement, emergency management response, correctional facilities, historic monuments, self-help housing, and wildlife conservation. If this method is selected by the LRA, and approved by the DoD, a federal sponsoring agency may request assignment of the property for purposes of conveying the property to a designated eligible recipient. The sponsoring agencies are responsible for selecting qualified applicants and determining the amount of the discount (if any) from the fair market value of the property. It should be noted that some uses, such as law enforcement, emergency management response, correctional facilities, historic monuments, and wildlife conservation, do not require a sponsoring agency and can be directly transferred from the DoD to an approved recipient. The applicable PBC approaches that are potentially useful in redeveloping the property are summarized below.

**Public Safety** – Water and sewer systems, as well as medical facilities, can be transferred without cost as a PBC through the endorsement of the U.S. Department of Health and Human Services. Property for use by law enforcement or fire protection may be transferred through the Department of Justice or the Department of Homeland Security.

**Education** – The U.S. Department of Education can convey land and facilities to public and private non-profit educational institutions on a discounted basis over thirty years. The educational entity actually fulfills the obligation to the Federal Government for the property at the rate of three and one-third percent annually through constructive educational use. Title to the property is conveyed up front, subject to educational use restrictions, and reversion or buy-out provisions.

**Open Space/Parkland** – The U.S. Department of the Interior is the sponsoring agency for PBC of open space and outdoor recreational facilities including state and national parks, historic sites, and other related properties.

### 6.1.2 Disposal of Property for Use by Homeless

As part of the initial screening process for reuse and disposal of a BRAC property, consideration must be given to potential use of the property to provide housing and/or service for the homeless. Property that has been identified for potential use to the homeless can then be conveyed to either an organization that is a representative homeless provider, as approved by the U.S. Department of Housing and Urban Development (HUD), or the LRA. If the property is conveyed to the LRA, it must then make it available to the homeless provider for no cost. The LRA would be responsible for monitoring the use of the property and ensuring that the homeless provider complies with the legally binding agreement that must accompany all such conveyances.

In accordance with base closure law, the LRA must solicit Notices of Interest (NOI) from state and local governments, representatives of the homeless, and other interested parties in the vicinity of the installation that may be eligible for a Public Benefit Conveyance related to the property. The LRA must give notice as to the timeframe in which NOIs will be accepted for submittal and hold hearings to allow interested parties to provide input into the reuse planning process.

The interests of homeless providers in surplus military property plays an important role in the BRAC process. The Federal Department of Housing and Urban Development must approve the LRA's reuse plan, which must demonstrate that these interests were considered throughout the planning process. The LRA published the required notice and proactively contacted homeless providers in the two county regions and made them aware of the BRAC process. No providers came forward with a Notice of Interest in the surplus properties. This is homeless outreach performed by the Jo Carroll Depot LRA is further discussed in Section 7.1

### 6.1.3 Economic Development Conveyance

Transfer of all or portions of the property could potentially occur by means of an Economic Development Conveyance (EDC) from the Army. Only the LRA is eligible to acquire property under an EDC. The LRA must demonstrate that the proposed uses for the property will generate sufficient jobs to justify an EDC conveyance, and that the proposed land uses are realistically achievable given current and projected market conditions. Based on existing regulations, the Army is required to seek fair market value consideration for the EDC conveyance, although it is authorized on a case-by-case basis to grant an EDC for no consideration (typically only used in economically distressed and/or rural areas). T he DoD has historically been required to follow the following requirements for granting an EDC:

- The DoD is not required to obtain fair market value for an EDC
- Transfer may be made below estimated market value, or without consideration, if the LRA agrees to reinvest sale or lease proceeds for not less than seven years and to take title to the property within a reasonable timeframe
- The DoD does not need to obtain an appraisal of the property as part of the EDC conveyance which should result in an expedited transfer process
- The DoD can accept the following forms of consideration including revenue sharing, or so-called "back-end" funding, which may include proceeds from leases, sale of property, in-kind goods and services, or real property improvements that accrue to the LRA
- The determination of consideration accepted may consider the economic conditions of the local affected community and the estimated costs to redevelop the property

The LRA is responsible for preparing and application, including development of a business plan, to support their conveyance request under the EDC alternative.

### 6.1.4 Negotiated Sale

A negotiated sale can only be transacted with a public body if a public benefit, which would not be realized from a competitive advertised sale or authorized PBC, will result from the negotiated sale. The

grantee may not pay less than fair market value based upon a highest and best use appraisal of the property. In addition, Congress must authorize final approval of the sale. If the property is sold within three years following a negotiated sale, the grantee will be required to remit all proceeds in excess of its initial acquisition costs and allowable holding and improvement costs.

### 6.1.5 Public Sale

If the LRA, after preparing a reuse plan, determines it is in the best interest of the community not to be directly involved in redeveloping the site, it can recommend that the Army dispose of the property through a public sale. The actual method of sale could include sealed bid, Internet auction, or on-site auction to the highest bidder. Under such an approach, the DoD would decide whether to sell the entire site or as subdivided parcels. Property acquired by a private organization or individual is subject to local land use and zoning controls. The LRA's reuse plan would recommend any necessary changes to these ordinances to support the type of development desired.

### 6.1.6 MILCON Exchange

The transfer authority allows the military department to convey a BRAC property to a third party in exchange for the construction of equally valued facilities at some other location(s). The acquiring entity can either do the construction itself (or through agreement with other firms) or arrange for the money to be available for another Army project, without the need to go through the MILCON process. The value of the exchange is at the property's fair market value (based on an appraisal). The reuse of the property will be guided by market forces and by the land use regulations (zoning) that come out of the reuse plan or that are already in place.

### 6.1.7 Interim Use Leases

The ultimate goal of the military, with regard to BRAC facilities, is to dispose of any surplus property as promptly as possible. One means of facilitating an early or expedited transfer is through execution of an interim lease. Prior to deed transfer there may be opportunities for the LRA to obtain access to certain land parcels or facilities on an interim use basis that could allow economic development to proceed prior to actual installation closure and transfer. There are many examples from previous BRAC rounds where the LRA assumed responsibility for operation of the base's infrastructure in order to facilitate establishment of a master lease agreement that allowed for subleases of specific structures or sites, for civilian uses. This, in turn, created short-term revenue- generating activities and/or helped to minimize the operating and maintenance costs of the properties.

If the Army determines that the interim use of the property would facilitate state and local economic efforts, and not interfere with or delay the final property disposal, it may be inclined to grant such a lease. Further, the Army may accept less than fair market value if it determines that such acceptance would be in the public interest and fair market rent unobtainable or not compatible with such public benefit. Before entering into a lease, the military must consult with the Environmental Protection Agency (EPA) and the State of Illinois (IEPA) on environmental quality to determine whether environmental conditions on the property are acceptable, as discussed subsequently under Section 6.3 related to early transfer authority, for execution of such an agreement.

## 6.2 Appraisals and Fair Market Value

As noted under Section 6.1.3 (Economic Development Conveyance) above, rule changes would no longer require that the Department of Defense obtains an appraisal of fair market value prior to granting of an EDC. However, the regulations do not preclude the Secretary of the Secretary of Defense, or a designee such as the Secretary of the Army, from gathering such information to ensure that the property disposal process is appropriately informed. Therefore, any transfer of property by means of an EDC, as well as a negotiated sale, public sale, certain PBCs, may necessitate preparation of an appraisal. Appraisals must be based on the highest and best use of the property, taking account of all property conditions that are relevant to fair market value. The final determination of fair market value is made by the Secretary of Department and cannot be negotiated by the LRA. Appraisals obtained by the seller (DoD) are typically not shared with the buyer (LRA), sometimes leading to the need for the LRA to obtain its own independent appraisal as a basis for conveyance negotiations to establish the value.

Determining market value can often appear to be a subjective judgment since arriving at the highest and best use for a property is dependent upon a number of assumptions that reflect *potential* future conditions that may exist for the property. Market value is heavily dependent upon assumptions related to market conditions, availability of resources, tenants, environmental contamination, capital costs, building code violations and zoning regulations. An analysis of highest and best use is required to determine the highest economic return that is typically based on the four following tests.

- What uses are *physically possible* for the site in that they could function adequately for their intended purpose?
- What uses are *legally possible* based on compliance with all applicable land use regulations and laws?
- Which uses are *financially feasible* in terms of their ability to provide an adequate return on investment?
- What is the *maximum productivity* of the physically, legally, and financially feasible uses, in terms of generating the highest return?

Based on these criteria, it is evident that the local reuse planning process can have a significant impact on determining the highest and best use and market value. The final reuse plan will address issues such as zoning and other land use controls, estimated infrastructure improvements, public land uses, and redevelopment incentives. Detailed plans that provide proposals for high-density development, for example, may result in higher market value than less detailed or lower density redevelopment plans. While this possibility should not necessarily preclude planning for more intensive land use, it is important that any plan accurately reflect redevelopment potential from an economic perspective, since this planning is likely to affect the purchase price that will have to be recovered by either the community or a private developer.

## 6.3 Early Transfer of Property

Under certain circumstances, the military may have environmental remediation responsibilities regarding a BRAC installation that could preclude immediate transfer of property or otherwise affect the clear-title status of the facility. In the case of Parcel 20, such a situation will exist with regard to

remediation of any contaminated sites at the facility where final cleanup and long-term monitoring by the Army is expected to continue into the future. Initial analysis of the environmental data for the five sites indicates that various levels of contamination exist that may permit early transfer to be utilized if so desired.

Provisions of the CERCLA require federal agencies to complete all environmental remediation actions for contaminated sites before transferring property by deed to a nonfederal entity. Baseline environmental conditions at the property are described elsewhere in the reuse plan. An amendment to CERCLA in 1996 provided an alternative approach that allows for early transfer of contaminated sites prior to full remediation. Furthermore, through the course of the last several BRAC rounds, the DoD has made significant efforts to expedite the transfer of such sites, including approaches that involve privatization of all or portions of the environmental cleanup process. An early transfer of a military base with privatized environmental remediation typically requires the following interrelated agreements.

- An environmental services cooperative agreement (ESCA)
- A guaranteed fixed-price (GFP) contract
- Environmental insurance
- Enforceable agreement(s) with the state environmental regulatory agency and/or the EPA
- Administrative Order on Consent with EPA for NPL sites

As part of the transfer agreement, the DoD can oversee the entire cleanup process or enact a subsidiary agreement with either a local, county or state government agency, as well as a private entity that represents the interest of a BRAC installation, to oversee cleanup and restoration activities. This agreement is referred to as a Covenant Deferral Request which would take the form of a deed provision warranting that "all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of transfer" and that "any additional remedial action found to be necessary after the date of the transfer shall be conducted by the United States." The governor of the state of Illinois would be the party responsible for accepting such an agreement. For facilities listed on the National Priority List (NPL), the EPA, with the concurrence of the governor, may defer this CERCLA-authorized covenant for parcels of real property.

## 6.4 LRA Conveyance Considerations

Based upon a number of factors, including the known environmental issues, the lack of non-floodplain property, lack of existing infrastructure and local and regional economic considerations, the LRA intends to accept the property from the Army as a no cost EDC. However, the LRA may also consider utilizing access to the property as part of an interim use lease agreement, as well as an Early Transfer agreement to facilitate port redevelopment.

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# 7 Public Outreach

Public outreach has been conducted by the LRA throughout the reuse planning process for parcel 20. The following sections review both the property screening that was done to meet the McKinney Act requirements for homeless outreach, as well as solicit public input and feedback into the reuse planning process.

## 7.1 Property Screening

Outreach to area homeless service providers, as well as potential PBC recipients, was provided through a combination of public notice postings, public informational meetings, follow-up email correspondence, and personal tours of the surplus properties. The list of area providers that were contacted was obtained from the local HUD regional field office. In addition, a number of other agencies that support the homeless, as well as other populations in need within the region and state, were also on this list and as such, were contacted by the LRA.

### 7.1.1 Surplus Property Notification and Publication

On January 17, 2018, the Department of the Army published the official notice in the Federal Register. Volume 83, No. 11, that there was surplus property available at the former Savanna Army Depot for public benefit purposes and that the Jo Carroll LRA has been recognized by the Department of Defense as the Local Redevelopment Authority for this surplus property. The Federal Register notification and official letter from the Army is provided in Appendix C.

The Jo Carroll LRA, in accordance with section 501(i)(4) of the Stewart B. McKinney Homeless Assistance Act (42 U.S.C. 1141 l(i)(4) (reference (k)) Base Closure Community Redevelopment and Homeless Assistance Act of 1994, provided public notice in the following local newspapers on the identified dates and advertised the notice for one (1) week:

- Savanna Times Journal – February 15, 2018
- Mt. Carroll Mirror Democrat – February 15, 2018 (fee paid covered advertising in Mirror Democrat and Savanna Times Journal)
- Galena Gazette – February 14, 2018
- Carroll County Review – February 14, 2018
- The Flash - February 14, 2018

The five newspapers advertised the public notices that the Jo Carroll LRA were seeking Notices of Interest (NOI) for surplus property at the former Savanna Army Depot. The Certification of Publication from the five (5) local newspapers and a copy of the published Availability of Surplus property is included in Appendix D. The public notices included the following information:

> ***"A workshop will be held at the Savanna Army Depot on Tuesday March 20, 2018, for those interested in responding to the NOI. The workshop will begin at 1 pm and will be held at 18901***

***B Street and will include a review of the property disposal process and base redevelopment planning process for homeless and public benefit conveyance (PBC), tour of the surplus property, information on any land use constraints known at the time, and information on the NOI process. To register for this workshop, please call the LRA contact person identified below by Friday, March 16th, 2018. Attendance at this workshop is not required to submit an NOI but is highly encouraged****".*

### 7.1.2 Documentation of Information about Homelessness

The former Savanna Army Depot lies within two (2) different counties within the state of Illinois: Carroll and Jo Daviess counties. The Jo Carroll LRA contacted Ray Willis with the HUD Chicago Field office on February 8th, 2018, and Nora Lally responded on February 28th and provided three (3) separate homeless prevention provider lists:

- Continuum of Care providers within the state of Illinois
- Homeless Prevention Providers for the state of Illinois, and
- Homeless Providers by zip codes within Jo Daviess and Carroll counties including: 61074, 61041, 61285, 61025, 61028, 61046, 61051, 61078, 61085, 61053, 61036, 61087, 61075

The following Table 7-1 identifies the Homeless Providers provided by the Chicago HUD field office. There were no Continuum of Care Providers identified by HUD within the Jo Daviess or Carroll County areas, and there are no counties or communities identified within or near Carroll and Jo Daviess counties that have prepared a Consolidated Plan. The Continuum of Care providers, Homeless Prevention Providers, and Homeless Providers lists provided by Nora Lally with the HUD Chicago Field office are included in Appendix E .

| Table 7-1: Homeless Assistance Providers within and near Jo Daviess and Carroll Counties | | |
|---|---|---|
| **Bureau County Housing Authority**<br>444 S. Church<br>Princeton, IL 61356<br>PH: 815/879-8106 | **Carroll County Housing Authority**<br>525 3rd Street<br>Savanna, IL 61074<br>PH: 815/273-7081 | **Lee County Housing Authority**<br>1000 Washington<br>Dixon, IL 61021<br>PH: 815/284-2759 |
| **Whiteside County Housing Authority**<br>401 W. 18th Street<br>Rock Falls, IL 61071<br>PH: 815/625-0581 | **Twin City PADS Homeless Shelter**<br>111 E. 29th Street<br>Sterling, IL 61081<br>PH: 815/626-2210 | **Northwestern Illinois Community Action Agency**<br>27 S State Ave<br>Freeport, IL 61032 |
| **Tri-County Opportunities Council**<br>405 Emmons Avenue<br>Rock Falls, IL - 61071<br>*Counties Served:* Bureau, Carroll, LaSalle, Lee, Marshall, Ogle, Putnam, Stark, Whiteside | **Salvation Army**<br>409 Avenue F<br>Sterling, Illinois 61081 | **DHS Family Community Resource Center in Whiteside County**<br>Family Community Resource Center<br>2605 Woodlawn Road<br>Sterling, IL 61081 |
| **Lutheran Social Services of Illinois - Sterling Office**<br>Comprehensive Community-Based Youth Services<br>1901 1st Ave<br>Sterling, IL 61081 | **Carroll County Health Department**<br>Family Case Management<br>822 South Mill Street<br>Mt Carroll, IL 61053 | **DHS Family Community Resource Center in Stephenson County**<br>Family Community Resource Center<br>1631 South Galena Avenue<br>Freeport, IL 61032 |
| **Northwestern IL Community Action**<br>103-109 N. Chicago Avenue<br>Freeport, IL - 61032<br>Homeless Hotline<br>1789 Elm St B, Dubuque, IA 52001 | **Jo Daviess County Health Department**<br>9483 US Hwy 20 West<br>PO Box 318<br>Galena, IL 61036 | **Catholic Charities**<br>1229 Mt Loretta Ave<br>Dubuque, IA 52003 |

| Table 7-1: Homeless Assistance Providers within and near Jo Daviess and Carroll Counties | | |
|---|---|---|
| **Sojourn House**<br>706 S W St, Galena, IL 61036 | **HOPE Foundation of Jo Daviess County**<br>323 N Bench St, Galena, IL 61036 | **Freeport Area Church Co-op**<br>514 S Chicago Ave, Freeport, IL 61032<br>Counties Served: Carroll, Jo Daviess, Ogle, Stephenson |
| **Illinois Department of Human Services**<br>2605 Woodlawn Rd # 4, Sterling, IL 61081 | **American Red Cross**<br>224 W Galena Ave, Freeport, IL 61032 | **American Red Cross**<br>1220 13th Ave N, Clinton, IA 52732 |
| **Victory Center Ministries**<br>505 9th Ave S, Clinton, IA 52732 | **Catholic Worker House**<br>1592 Locust St, Dubuque, IA 52001 | **Salvation Army**<br>1099 Iowa St, Dubuque, IA 52001 |
| **American Red Cross**<br>112 W. 2nd Street<br>Rock Falls, IL 61071 | **United Way**<br>405 S 3rd St #200, Clinton, IA 52732 | **United Way**<br>215 W 6th St, Dubuque, IA 52001 |

The Jo Carroll LRA augmented the original HUD list of providers by zip code with the following local entities:

**United Way**
501 South Lincoln Avenue, Old Lincoln School Building, Room 312, Dixon, IL 61021

**Division Rehabilitation Services**
1828 S West Ave, Freeport, IL 61032

**YWCA**
317 7th Ave S, Clinton, IA 52732

**YWCA**
641 W Stephenson St, Freeport, IL 61032

**Sinnissippi Centers**
325 IL-2, Dixon, IL 61021

**Sinnissippi Centers**
1122 Healthcare Dr, Mt Carroll, IL 61053

**Hospice of NWIL**
155 W Front Ave, Stockton, IL 61085

**Rolling Hills Progress Center**
201 HWY 52, Lanark, IL 61046

**Savanna Food Pantry**
502 3rd St, Savanna, IL 61074

**Upper Mississippi International Ports District**
PO Box 57
Scales Mound, IL
61075-0057

The above list of Homeless entities was mailed a copy of the NOI by the Jo Carroll LRA and were directly contacted when phone and email contact information could be obtained.

### 7.1.3 Notice of Interest (NOI) process

In accordance with HUD requirements for rural communities with no consolidated plan, the LRA used the HUD guidance and information, and local knowledge of homelessness, to identify interested parties for the NOI process. An informational letter and a copy of the NOI was sent by the Jo Carroll LRA on February 28th, 2018, to all parties identified in Table 1 above, including the Jo Carroll LRA additions to the HUD list, with a request to attend the public workshop on this topic on March 20, 2018. A copy of the letter of notification of the surplus property to all the entities is provided in Appendix F.

The NOI workshop was held by the Jo Carroll LRA at 1 pm on March 20, 2018, at the Jo Carroll LRA offices at 18901 B. Street, Savanna, IL 61074 and included the following materials:

- Agenda
- Map of the parcel
- Documentation on the environmental status of the property from the Army from the Environmental Baseline Study from 1997, as well as the Environmental Condition of Property that was completed by the Us Army in 2017
- Copies of the Base Closure Redevelopment Manual and the Notional Disposal and Redevelopment Process from the DOD
- Schedule for receiving the NOI's
- Definitions of a Public Benefit Conveyances (PBC's), who can apply and how to be compliant
- Tour of the Property
- Question and Answer Period

A copy of the informational materials identified above that was provided by the Jo Carroll LRA to the participants in the workshop are included in Appendix G.

Mara Roche, Executive Direction of the Jo Carroll LRA, led the workshop and there were three (3) attendees as illustrated in Table 7-2:

Table 7-2 Participants in the NOI Workshop

| Name | Organization | Contact Information |
|---|---|---|
| Bruce Clark | Salvation Army | Bruce_Clark@usc.salvationarmy.org/ (563) 370-2145 |
| Thomas Fulop | Salvation Army | Thomas_Fulop@usc.salvationarmy.org |
| Scott Lombardo | Savanna Stables, LLC | Slombardo3@aol.com/ (773) 908 -0251 |

The official sign in sheet for the workshop is included in Appendix H. The workshop lasted two (2) hours and was concluded by the Jo Carroll LRA at 3 pm.

### 7.1.4 Other Expressions of Interest

Dean Wright of the Freeport Homeless shelter, located in Freeport, IL and affiliated with the Freeport Church Area Coop, contacted Mara Roche on February 25th, 2018, but was not able to attend the workshop. Ms. Roche provided all the workshop materials to Mr. Wright via email on March 22, 2018, and met with Mr. Wright on March 23, to review the NOI documentation and process.

Kevin Stier, the chair of the Upper Mississippi River International Ports District (UMRIPD), which has port development authority in Jo Carroll and Daviess counties, was not able to attend the workshop, but also contacted Ms. Roche regarding potential interest in the property. Ms. Roche met with Kevin Stier on March 29, 2018, to review the NOI process and documentation.

### 7.1.5 Housing the Homeless NOI

Of the three inquiries into the NOI process, The Salvation Army confirmed via email that they were not interested in pursuing any homeless accommodation or PBC at the site, as did Dean Wright of the Freeport Area Coop. There were no other responses by 3:00 pm Friday May 17th, 2018.

No NOIs and subsequently, no Legally Binding Agreements were received by the LRA for considerations or action.

### 7.1.6 Other NOIs

The LRA received one request for PBC of surplus property from UMRIPD for consideration for a Public Benefit Conveyance (PBC). The NOI from the UMRIPD for a PBC consideration was officially withdrawn on January 4, 2023. All three of the responses from the interested parties are included in Appendix I, and the withdrawal letter from UMRIPD is located in Appendix J.

## 7.2 Public Outreach Sessions for Reuse Planning

The Jo-Carroll Depot Local Redevelopment Authority (LRA), working with Balcom Environmental Services, LLC and WSP, engaged local community organizations, businesses, stakeholders, and public officials to drive engagement for the Savanna Industrial Park Reuse Plan for Parcel 20. This included email distribution campaigns with curated lists, Technical Advisory Committee (TAC) meetings, an interactive MetroQuest survey, hybrid public meetings, public notices in local media, personal visits from Jo-Carroll Depot LRA staff, and the LRA website.

### 7.2.1 Stakeholder Identification

A list of key stakeholders was developed in close coordination with the LRA. The list includes tenants, resource agencies, elected officials, and other interested groups important to the LRA's project goal. This list was key in distributing information, alerting contacts about upcoming meetings, and notifying contacts about how to provide input throughout the Reuse Plan process. The list was routinely revised based on newly identified stakeholders and relevant parties during the engagement process.

### 7.2.2 Technical Advisory Committee

The LRA also created a Technical Advisory Committee (TAC). The purpose of the TAC was to provide review of draft reuse planning information to facilitate preliminary regulatory and permitting discussions associated with the redevelopment planning alternatives, as well as identify key issues that may be incorporated into the reuse planning process. The TAC consisted of key stakeholders including US Army BRAC office, USACE Rock Island, Louisville, and Washington DC offices, EPA Region 5, IEPA, USFWS, OLDCC, MARAD, Illinois DOT, JO Daviess county, and UMRIPD. There were two (2) TAC meetings for the program, the first in September to review existing program information and layout the "Visioning Process" to be used to solicit public feedback into the process. The second meeting in November was to review the reuse alternatives for the site as well as the results of public feedback.

### 7.2.3 Email Distribution

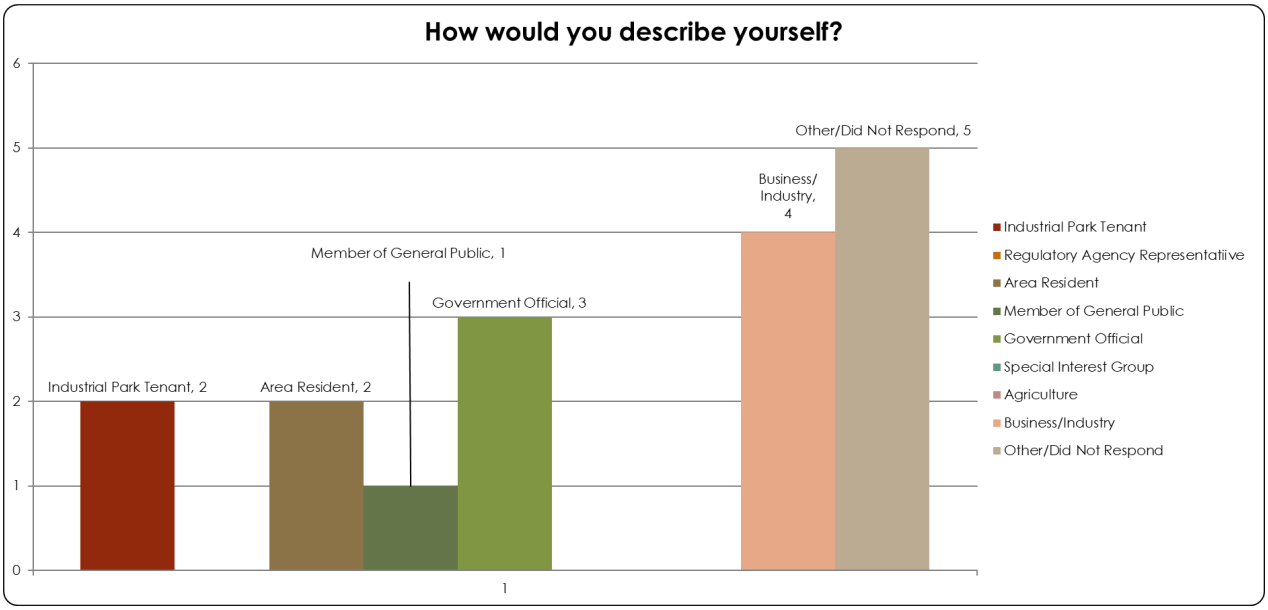
The first stakeholder email was sent to an initial list of 74 contacts providing notification about the first public meeting on September 14, 2022. A second email was sent to the same list on October 11, 2022, about the updated Reuse Plan summary on the website and to promote the Reuse Planning MetroQuest survey. On November 4th, 2022, a third email was sent to the same distribution list for the second Community Visioning Session on November 9, 2022, which included a registration link to attend the presentation portion virtually.

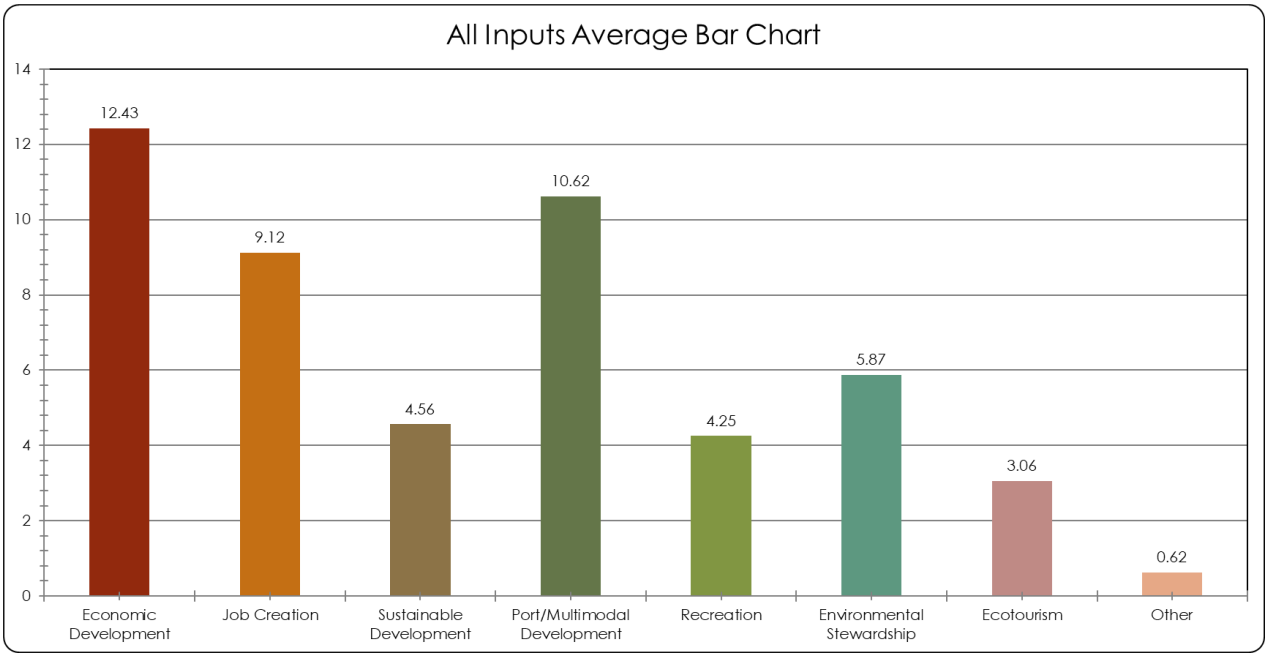
### 7.2.4 Survey

An interactive survey was developed to gather input from various community groups and contacts in the email distribution list. It was created through the platform MetroQuest and was launched on September 13, 2022, through October 29, 2022, with 17 participants in total. The survey was comprised of five separate sections (called Screens):

- Welcome: A general information screen detailing the goals of the survey and Reuse Plan process.
- Resource Allocation: An interactive screen that allowed participants to drag the "chips" into the various categories to indicate where they would allocate resources (e.g., Economic Development, Ecotourism, Other).
- Interactive Map: A map where participants could indicate where they wanted to see improvements (or known issues) related to specific locations within the study area.
- Vision Statement: The second to last screen allows participants to envision the primary purpose and goals for parcel 20 within the Savanna Industrial Park by writing a vision statement.
- Wrap Up: The final section asking participants to input their contact information and tell us which type of interested party they were (e.g., Industrial Park Tenant, Government Official, Agriculture).

The results of the survey are shown below:


How would you describe yourself?
6
5
4
3
2
1
0
Industrial Park Tenant, 2
Area Resident, 2
Member of General Public, 1
Government Official, 3
Business/ Industry, 4
Other/Did Not Respond, 5
1
Industrial Park Tenant
Regulatory Agency Representatiive
Area Resident
Member of General Public
Government Official
Special Interest Group
Agriculture
Business/Industry
Other/Did Not Respond


All Inputs Average Bar Chart
14
12
10
8
6
4
2
0
12.43
9.12
4.56
10.62
4.25
5.87
3.06
0.62
Economic Development
Job Creation
Sustainable Development
Port/Multimodal Development
Recreation
Environmental Stewardship
Ecotourism
Other

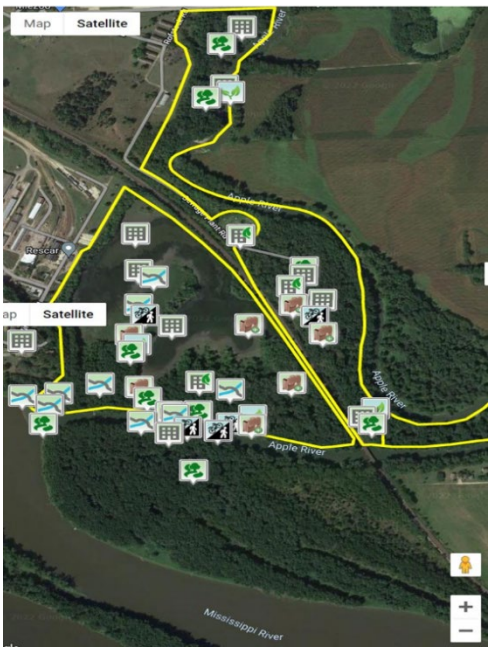
**Economic Development**
- We need as much ED as we can get at the depot

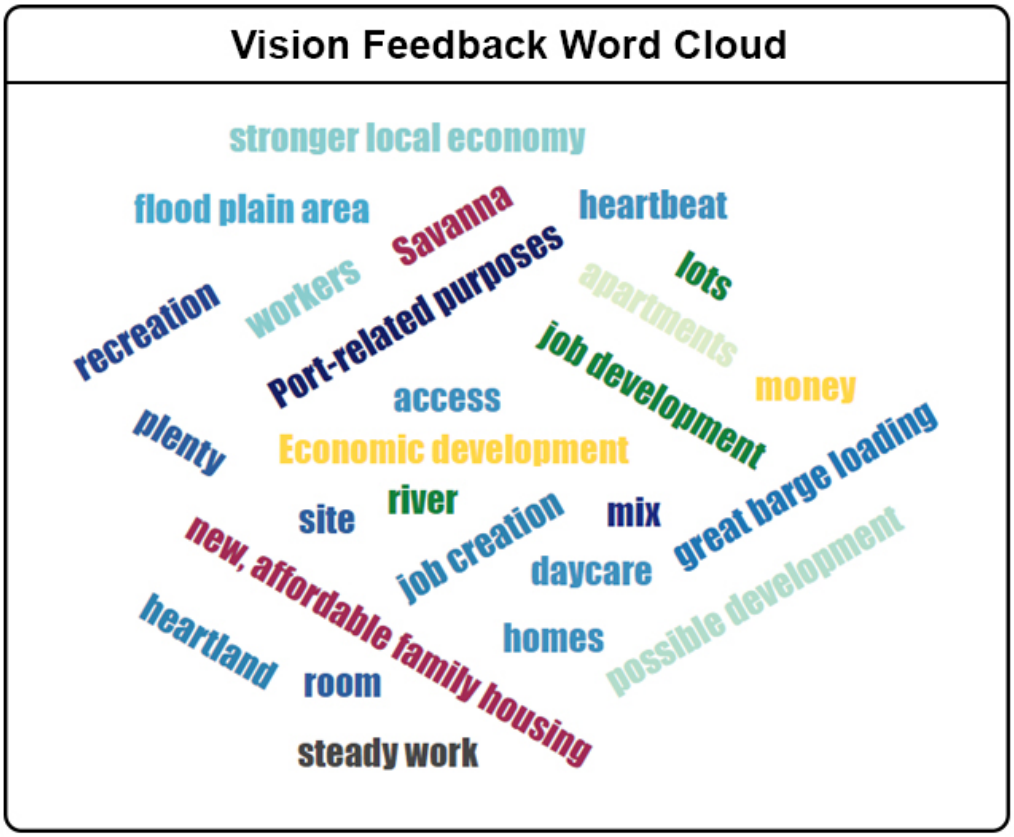
**Job Creation**
- Our area needs good paying jobs anywhere we can develop them
- Access to Army Depot Road may provide for more immediate development opportunities.

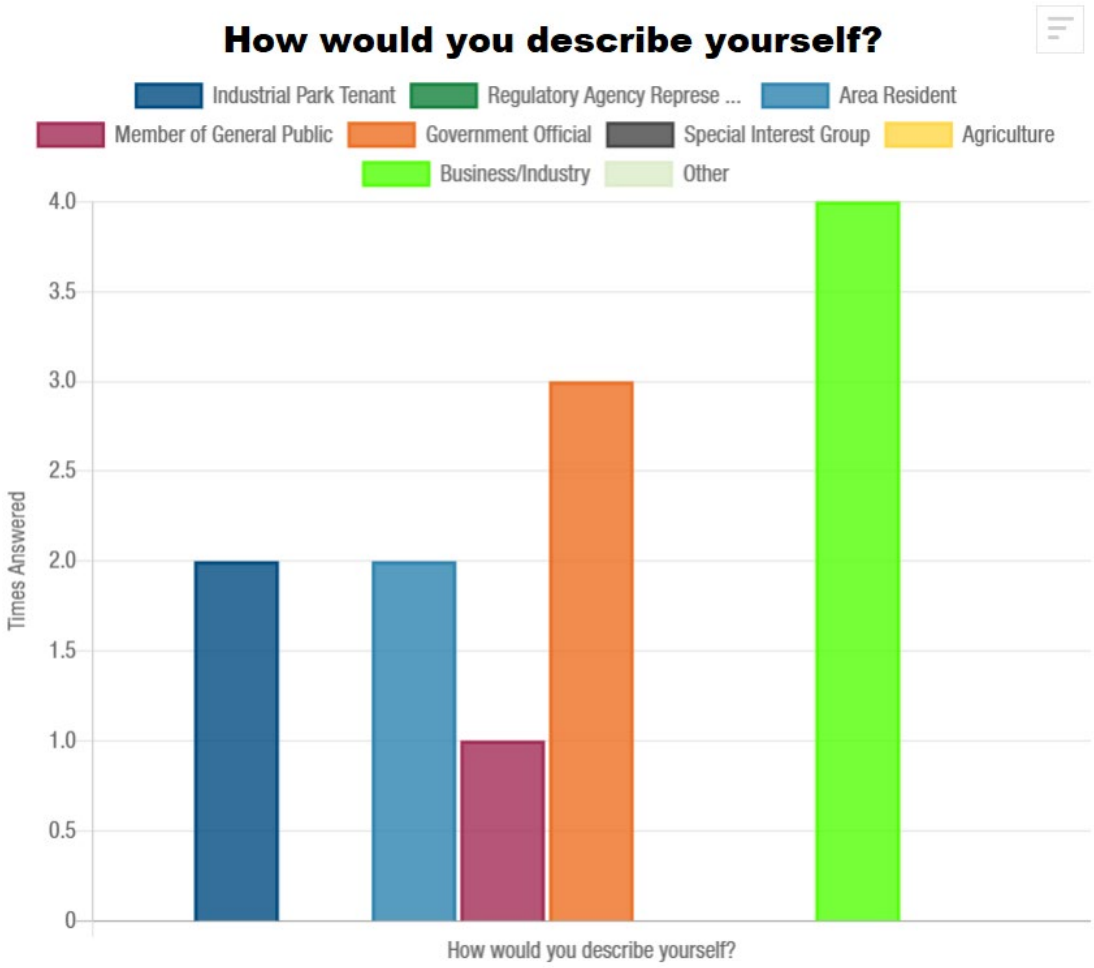
**Port/Multimodal Development**
- This area provides direct access to the river. As such it would be ideal for port infrastructure development.
- Because it is in the flood plain would a port make some sense?
- Wide slough for port activities

**Recreation**
- Trail
- walkway
- Canoeing, kayaking

**Environmental Stewardship**
- I would love to see this wetland protected.
- Solar array (up to 2 MWs)
- The area is in the floodplain, so development has to take that under consideration.
- The entire parcel is floodplain which limits structural development so environmental stewardship will be important
- There are protected and endangered species in this area. Hopefully, this could be looked at as an opportunity to help these species thrive.






### 7.2.5 Public Meetings

Two public meetings were held in Savanna, IL at the Savanna Museum and Cultural Center on September 14, 2022, and November 9, 2022. They were conducted in conjunction with key phases of the study – Visioning and Alternatives.

Public notices were posted in five local newspaper publications, along with a news release distributed to the local media (including radio). Physical public notice flyers were posted at the Post Office, Savanna Museum, Manny's Restaurant, and Sullivan's Grocery Store.

For the September 14th meeting, 13 people signed up with five attendees joining the virtual presentation call on Zoom. Comment forms, a survey on one of the team member's computer, printed surveys, and a large roll map were available for attendees to provide input. The same procedures for targeted public notice and news release outreach were used prior to the November 9th public meeting. During this meeting, there were ten people who signed in with five attendees joining the Zoom call for the virtual presentation. Two questions were asked through the Zoom call's Q&A function along with in-person comments recorded through the presentation recording.

The meetings were recorded and can be viewed through the LRA website.

### 7.2.6 Public and TAC input

Several ideas and concerns related to the reuse concepts proposed within the proposed alternative scenarios for parcel 20 were identified as part of the online survey, public comment at the public meetings, and TAC comments, and included the following major themes:

- Redevelopment Priorities:
    - Sustainable Development
    - Job Creation
    - Port/Multi-Modal Development
    - Economic Development
    - Recreation
    - Conservation

- Concerns:
    - Dredging and environmental issues in Brickhouse Slough, Commanders Pond
    - Wing dams in the vicinity of Apple Island
    - Impacts to wetlands
    - Development in floodplain
    - NPL Site with CERLCA requirements that may require regulatory approval if any existing CERCLA sites may be affected by reuse

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# 8 Redevelopment Alternatives

Redevelopment alternatives for Parcel 20 were developed based on the public input received during the public outreach sessions, the goals of the Jo Carroll LRA board, input from the TAC, and on current and anticipated local and regional market conditions and the environmental opportunities and constraints associated with the parcel. The overall input received expressed a strong desire to improve economic development opportunities related to job growth and port development but in a way that was sustainable, both economically and environmentally. Three conceptual layouts were developed for redevelopment of parcel 20 for the LRA based upon these priorities, opportunities, and constraints. The redevelopment vison is for a Twenty First Century Port.

The focus of all the alternatives is port and passive recreational development, as Parcel 20 allows for access to the Mississippi River through both Commander's Pond and the Apple River, which bounds the parcel on the southeasternmost edge of the property, and Brickhouse Slough, the slough that lies immediately adjacent to Parcel 20, the former Savanna Army Depot, and the Mississippi River. The market analysis and public input all support port and recreational development, with an understanding that parcel 20 lies almost entirely within the floodplain, has environmental and ecological considerations and constraints, as well as its location within the Upper Mississippi River National Wildlife and Fish Refuge. Further, the size and unique attributes of the parcel can accommodate both commercial and recreational uses.

These layouts focused on development of waterfront and recreational infrastructure within Parcel 20 and included the backland area, the property that is being disposed under the existing 2003 EDC program between the Jo Carroll LRA and the Army. This backland acreage can be used to support the forecast cargo demand for various commodities.

The following alternatives all build upon each other and offer a combination of economic development and recreation opportunities for the sustainable economic redevelopment of Parcel 20 for a Twenty First Century Port.

## 8.1 Conceptual Alternates

Three conceptual alternates for redevelopment of former Savanna Army Depot, Parcel 20:

- Alternative 1: Brick House Slough
- Alternative 2: Commander's Pond Lite
- Alternative 3: Commander's Pond Full

The three alternates differ based on the location of waterfront structure. The backland area, existing LRA or private property, remains similar for all three alternates except for the immediate backland behind commander's pond wharf which includes storage for breakbulk and project cargo as well as dry dock area. The recreational area is similar, and can be incorporated into a phased approach, as an opportunity to develop the recreational trails and access may be developed independently from the port development.

The backland development includes the following elements to support port activity and development on Parcel 20:

- Container wheeled storage area
- Project cargo and breakbulk storage area
- Dry dock area
- Wind component manufacturing area
- Grain silos and fertilizer warehouse with rail loading/unloading facility
- Grain and Co-product area
- Digester area and storage with rail spurs
- Liquid bulk storage tanks with rail spurs
- Salt stockpile area with rail spurs
- Rail loop for East Land Grain
- Solar PV Area

## 8.2 Alternative 1: Brick House Slough

Figure 8-1 shows the Alternative 1 Brick House Slough layout. This alternate prioritizes fleeting, development of a dry bulk and liquid bulk wharf on the Brick House Slough, and recreational uses. Brickhouse Slough is the slough that lies between parcel 20 and Apple Island, with access to both the Apple River and the Mississippi River. Fleeting will provide the "parking areas" while cargo's are being loaded and offloaded. And the backland area and existing road and rail infrastructure will support the storage, management, and transloading or bulk and liquid materials.

Key port infrastructure identified for this alternative include the following:

- Barge Fleeting Area
- 800 foot Dry and Liquid Bulk Wharf
- Floating Dry Dock
- Wharf Access Road
- Haul Road
- Liquid Bulk pipeline
- Conveyor System

The barge fleeting area is proposed for both the channel and slough side of the Mississippi River and can accommodate up to eight (8) spud barges on both the channel and Brickhouse slough side. The slough side can accommodate approximately 5,500 feet of fleeting, with 3-wide barge widths and the channel side can accommodate approximately 5,600 feet of fleeting, with 5-wide barge widths.

The dry and liquid bulk wharf is an 800-feet structure that will allow handling of 2-300 feet barges simultaneously. The wharf will also accommodate the docking of a floating dry dock for minor repair of barges and tugboats. The wharf structure provides interface between the landside and waterside for dry

bulk and liquid bulk commodities via conveyor and pipeline, respectively. The wharf will be connected to the backlands via the haul road that will allow movement of workers and equipment. Approximately 400,000 cu/ yards of dredging will be required to allow access for both the slough fleeting and construction of the wharf adjacent to Parcel 20.

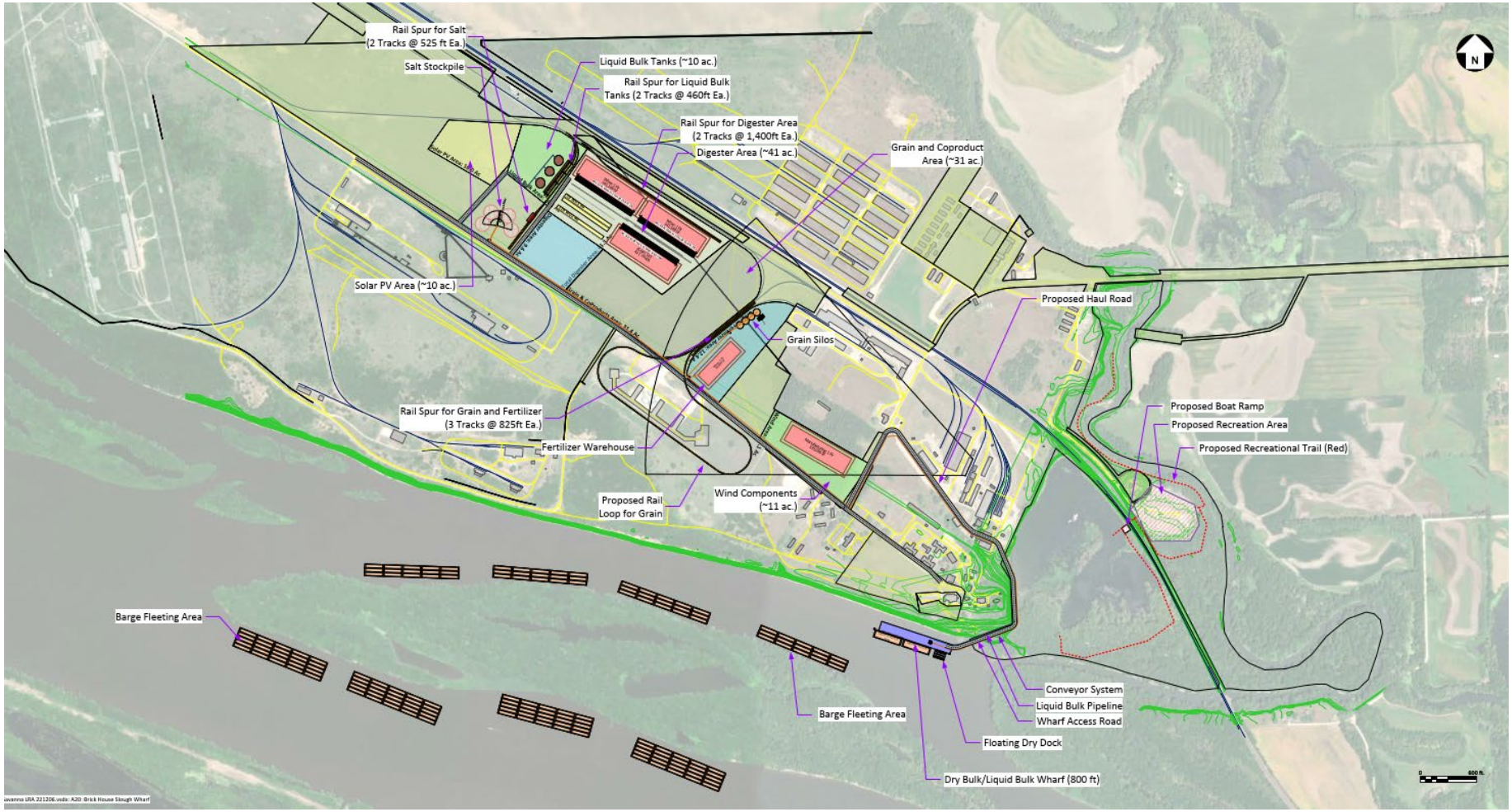
The recreational uses of Parcel 20 include the following elements:

- Proposed Canoe and Kayak Ramp
- Proposed Recreational Area
- Proposed Recreational Trail

The recreational elements for all of the alternatives are the same and provide an opportunity to create public use recreational spaces specifically designed for low impact to the environment.

A trail system is proposed that will be accessible from Sewer Treatment Road, just south of the Sewer Treatment Plant. The low impact trail will follow the southernmost extent of Commander's Pond and also head towards the north along the Apple River. As part of the proposed recreational trail system, a canoe/ kayak launch with access to the Apple River will allow for public access while being protected from larger boat traffic. Areas along the existing trail can be utilized as overlook locations where users can observe the natural landscape throughout the site. Suggested overlook locations are the historic train bridge abutment, upper river bend, and the natural dike running North to South through the center of Commanders Pond. The existing landfill area has potential space for a public gathering area and may include parking, recreational fields, a dog park, and gathering spaces such as picnic tables or gazebos.

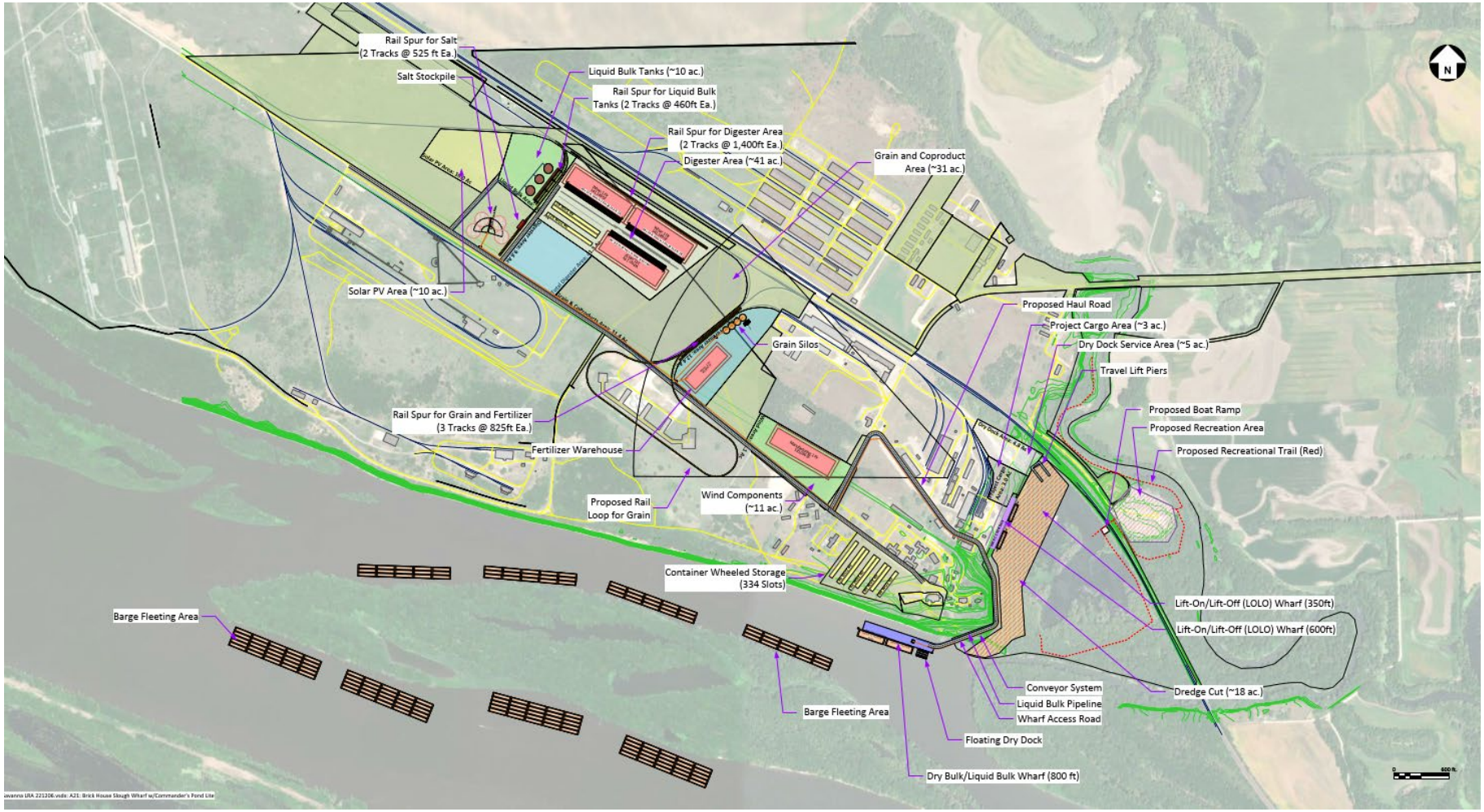
Figure 8-2: Conceptual Alternates Alternative 1 – Brick House Slough



## 8.3 Alternative 2: Commander's Pond Lite

Figure 8-2 shows Alternative 2 Commander's Pond Lite layout. This alternate expands upon the Alternative 1 elements of initial port and recreational development and adds a lift-on/lift-off (LOLO) wharf in Commander's pond area to support the expansion of specialty and breakbulk cargos and dry dock capacity. The wharf is a 600-feet structure that will allow handling of 2-250 feet barges simultaneously. The wharf structure provides interface between the landside and waterside for container and breakbulk cargo. The travel lift piers will provide accessibility to the larger landside drydock area, an expansion of the capacity and boat repair size beyond the initial floating dry dock located in Brickhouse Slough as part of Alternative 1. This concept will require about 18 acres of dredging within the Commander's pond area to support access to the Brickhouse Slough.

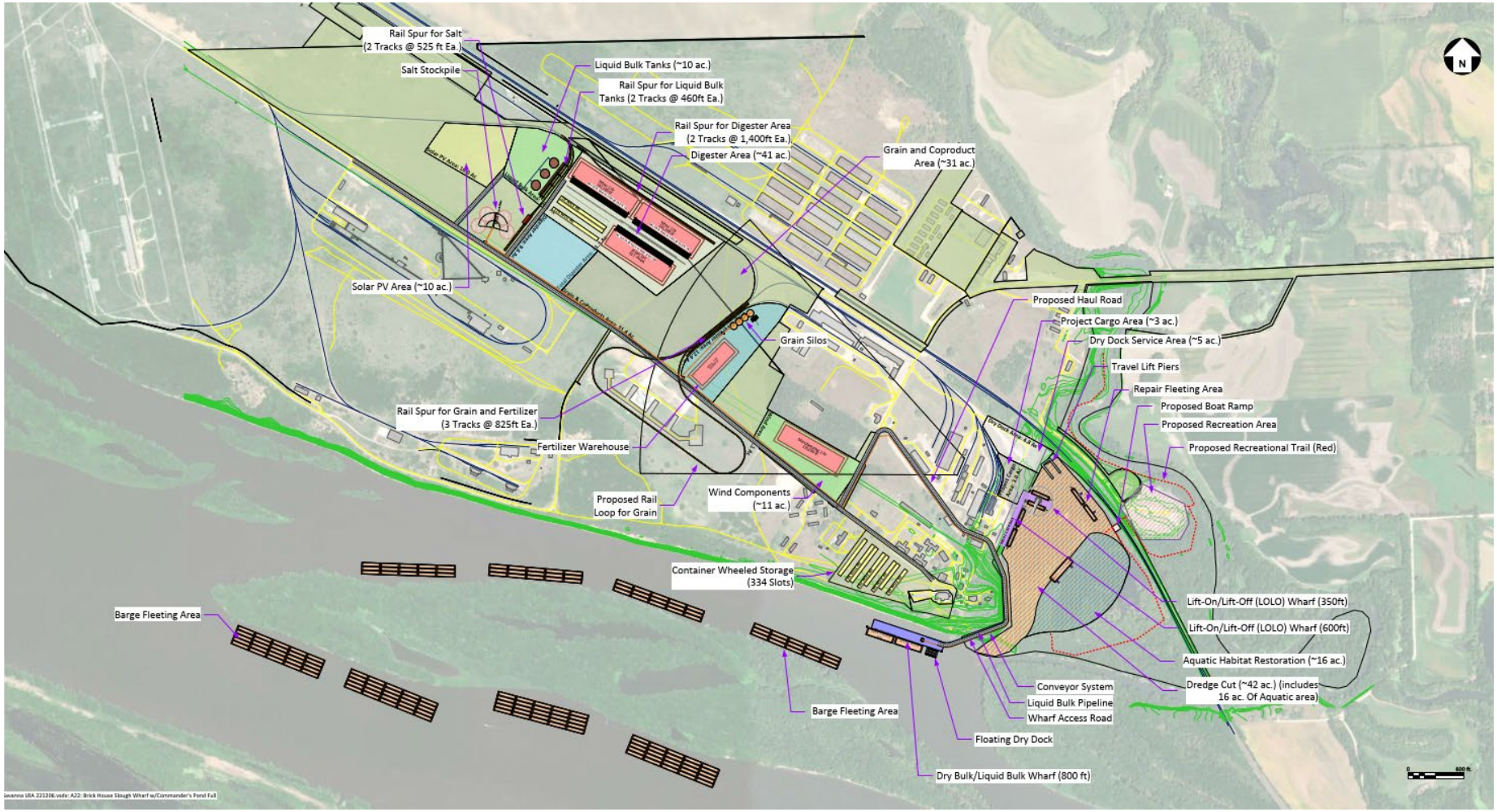
Figure 8-3: Conceptual Alternates Alternative 2 – Commander's Pond Lite



## 8.4 Alternative 3: Commander's Pond Full

Figure 8-3 shows Alternative 3 Commander's Pond Full layout. This alternate combines the proposed port infrastructure from Alternatives 2 and 3 and adds additional port support facilities to include an additional 350' lift on lift off wharf, a repair fleeting area, and the inclusion of an aquatic habitat restoration area. illustrates the development of a lift-on/lift-off (LOLO) wharf in Commander's pond area. The additional 350' wharf will allow handling of 2-250 feet barges simultaneously, increasing the wharf handling capacity by 100%. The wharf structure provides interface between the landside and waterside for container and breakbulk cargo. This concept will require about 42 acres of dredging within Commander's Pond area, with 26 acres accounting for cargo activities and the remaining 16 acres dedicated for aquatic habitat restoration.

Figure 8-4: Conceptual Alternates Alternative 3 – Commander's Pond Full



# 9 LRA Preferred Alternative

## 9.1 Description of Preferred Alternative

The Jo Carroll LRA preferred alternative is Alternate 3. This alternative captures the port and recreational development elements from the Alternatives 1 and 2. This alternate prioritizes fleeting, development of a dry bulk and liquid bulk wharf on the Brick House Slough, use of Commander's Pond for additional wharf spaces for LOLO and dry docking and repair, as well as aquatic habitat creation and management.

Key port infrastructure identified for this alternative include the following:

- Barge Fleeting Area
- 800 foot Dry and Liquid Bulk Wharf
- Floating Dry Dock
- Wharf Access Road
- Haul Road
- Liquid Bulk pipeline
- Conveyor System
- Lift On Lift off (LOLO) Wharfs : 600 feet and 350 feet
- Travel lift piers
- Repair Fleeting Area
- Aquatic Habitat Restoration

The barge fleeting area is proposed for both the channel and slough side of Apple Island and can accommodate up to eight (8) spud barges on both the channel and Brickhouse slough side. The slough side can accommodate approximately 5,500 feet of fleeting (with barges tied up 3-wide) and the channel side can accommodate approximately 5,600 feet of fleeting (with barges tied up 5-wide).

The dry and liquid bulk wharf is an 800-feet structure that will allow handling of 2-300 feet barges simultaneously. The wharf will also accommodate the docking of a floating dry dock for minor repair of barges and tugboats. The wharf structure provides interface between the landside and waterside for dry bulk and liquid bulk commodities via conveyor and pipeline, respectively. The wharf will be connected to the backlands via the haul road that will allow movement of workers and equipment.

The LOLO wharf in Commander's pond area to support the expansion of specialty and breakbulk cargos and dry dock capacity. The wharfs include both a 600-feet structure that will allow handling of 2-250 feet barges simultaneously, as well as a 350 - feet structure to handle 2 additional 250 feet barges. The wharf structures provide interface between the landside and waterside for container and breakbulk cargo.

The travel lift piers will provide accessibility to the larger landside drydock area, an expansion of the capacity and boat repair size beyond the initial floating dry dock located in Brickhouse Slough. A repair fleeting area will also be included to expand the capacity of the dry dock facilities.

The Upper Mississippi River has many different private and public port facilities and locations serving Illinois industries, but there is a large geographic gap between existing diversified terminals at East Dubuque, a private ports to the north and Clinton, also a private port to the south. The closest public port is East Dubuque, IL to the north and Mid America Intermodal Authority to the south in Quincy, IL to the south. Port development on this site fills a geographic gap and can better serve industries in the immediate region; it also offers a unique opportunity to develop new, specialized, and purpose-built, green processing operations. Collectively, the planned improvements will allow Parcel 20 and supporting adjoining properties to accommodate a wide range of marine cargo opportunities and uses, including: dry bulk (grain, building materials); liquid bulk (chemicals, fuels, oils); unitized cargo (steel, lumber, wind energy components); containerized goods and materials; and industrial processing supported by the site's combination of barge, rail, and truck access (advanced energy production, logistics, etc.). While non-maritime uses of Parcel 20 are possible, its ability to provide access to the Mississippi River and support marine-related development of a much larger upland offers tremendous value.

As part of the project, an aquatic restoration area will be created within the Commander's Pond area and will require approximately 16 acres. Approximately 400,000 cu/ yards of dredging will be required to allow access for both the Brickhouse Slough fleeting and construction of the wharf adjacent to Parcel 20. The Commanders Pond area will require about 68,000 cu/ yds of dredging, with 42,000 cu/yds accounting for cargo activities and the remaining 16,000 cu/ yds dedicated for aquatic habitat restoration.

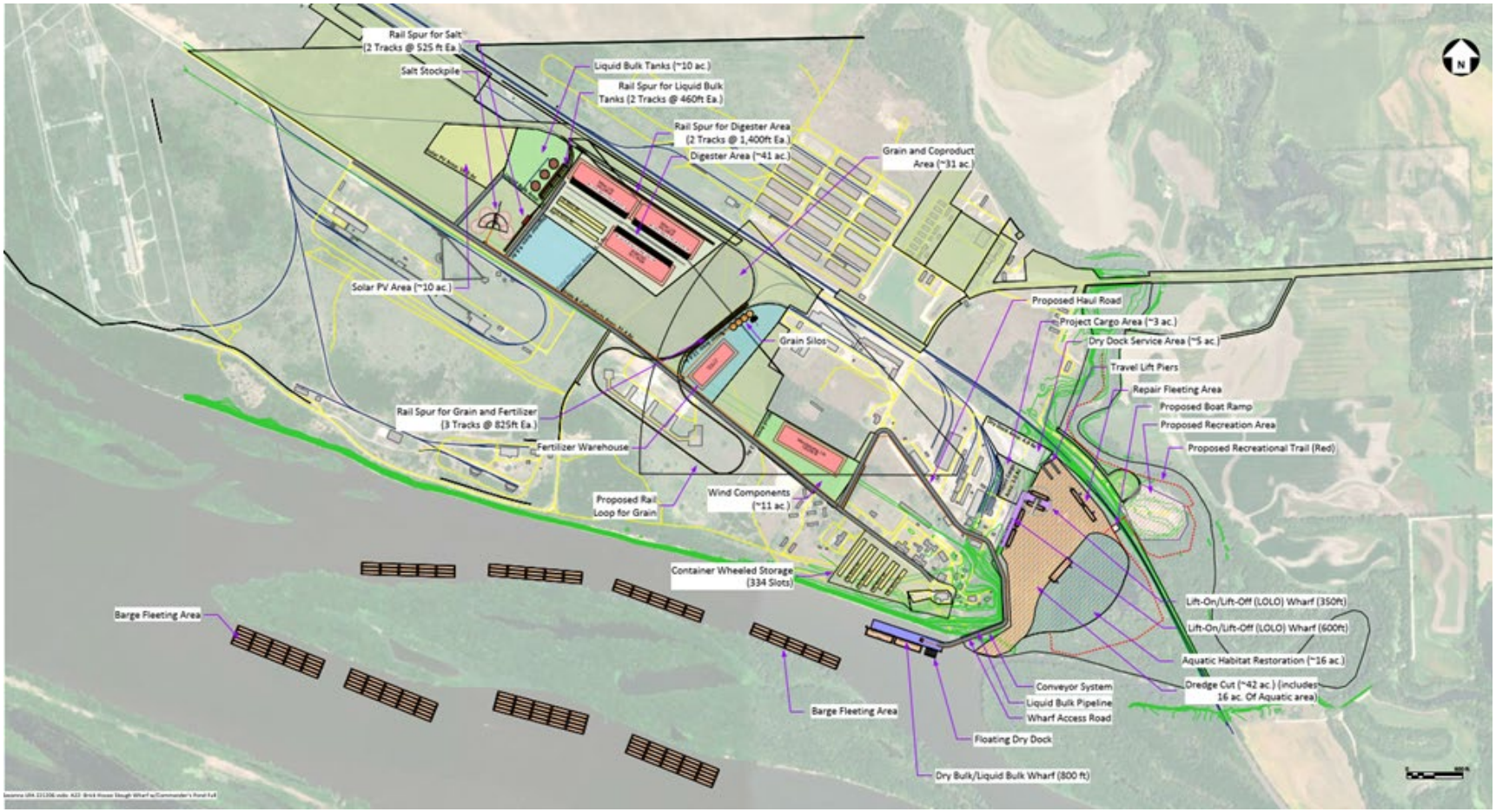
The recreational uses of Parcel 20 include the following elements:

- Proposed Canoe and Kayak Ramp
- Proposed Recreational Area
- Proposed Recreational Trail

The recreational elements provide an opportunity to create public use recreational spaces specifically designed for low impact to the environment.

A trail system is proposed that will be accessible from Sewer Treatment Road, just south of the Sewer Treatment Plant. The low impact trail will follow the southernmost extent of Commander's Pond and also head towards the north along the Apple River. As part of the proposed recreational trail system, a canoe/ kayak launch with access to the Apple River will allow for public access while being protected from larger boat traffic. Areas along the existing trail can be utilized as overlook locations where users can observe the natural landscape throughout the site. Suggested overlook locations are the historic train bridge abutment, upper river bend, and the natural dike running north to south through the center of Commanders Pond. The existing landfill area has potential space for a public gathering area and may include parking, recreational fields, a dog park, and gathering spaces such as picnic tables or gazebos.

**Figure 9-1: LRA Preferred Alternative – Commander's Pond Full**



## 9.2 Cost Estimates

### *Capital Expenditures for Each Alternative*

Rough order of magnitude (ROM) Capital Cost Estimates were developed for all three alternates as part of their Capital Expenditure. Unit costs for each element type were developed for the Savanna, IL area.

The main Capital Expenditure elements are listed below:

- Dredging: for Brick House Slough and Commander's Pond
- Site infrastructure: wharf, pipeline, site clearing, pavement, roadways, and utilities
- Equipment: Mobile harbor cranes, conveyors

The timing for expenditures is not fully established and will depend in large part on market interest and development participation by private partners as well as regulatory and permitting issues. To facilitate implementation, the Alternatives are designed to phase into each other seamlessly and sequentially. Alternative 1 could be initiated immediately with a target five-year completion window, while Alternatives 2 and 3 could follow in a five-year plus completion window. These are reasonable planning targets, but actual timing could vary.

The estimated costs of developing all three Alternatives are provided in Table 9-1. The costs are divided into Parcel 20 and Adjacent Parcel costs. The Adjacent Parcel costs incorporate improvements to support port development in the adjacent parcels, and so is shown as a separate development cost from the improvements on Parcel 20.

Alternative 1 will account for about $16.65 million for Parcel 20 and about $245.65 million for Non-Parcel 20; Alternative 2 will account for about $41.75 million for Parcel 20 and about $251.05 for Non-Parcel 20, and Alternative 3 will account for about $62.97 million and about $251.05 for Non-Parcel 20. The estimate includes a breakdown of hard cost and soft cost. The soft cost accounts for design, construction management, and overhead. The cost estimate includes a high 30 percent contingency and includes assumed public sector and private sector costs.

**Table 9-7: Cost Estimate Summary by Alternatives, Parcel 20 Only**

| Alternative | Hard Cost | Soft Cost | Total Cost |
|---|---|---|---|
| **Alternative 1 – Brick House Slough** | $13,443,000 | $3,205,300 | $16,648,300 |
| **Alternative 2 – Commander's Pond Lite** | $33,086,000 | $8,663,400 | $41,749,400 |
| **Alternative 3 – Commander's Pond Full** | $49,079,500 | $13,894,600 | $62,974,100 |

## 9.3 Dredging Estimate

Dredging Quantities and costs were estimated using bathymetry survey data for Brick House Slough and Commander's Pond area. Figure 9-2 shows dredging requirement for development of various Alternatives. Areas required to be dredged by Alternatives are provided below:

Alternative 1 – Brick House Slough: Area 1
Alternative 2 – Commander's Pond Lite: Area 1 + Area 2
Alternative 3 – Commander's Pond Full: Area 1 + Area 2 + Area 3

**Figure 9-2: Dredge Quantity Estimate**


| Dredge Area Description | Area Designation | Area (acres) | Total Volume (cubic yards) | Unit Cost ($ per CY) | Est. Cost ($) |
|---|---|---|---|---|---|
| **Access channel** | | *185.9* | 399,228 | $ 10 | $ 3,992,000 |
| **Dredge Cut (contaminated)** | | 26.9 | 190,739 | $ 60 | $ 11,444,000 |
| **Dredge Cut (non contaminated)** | | 26.9 | 333,794 | $ 10 | $ 3,338,000 |
| **Remediation area (contaminated)** | | 16.1 | 114,069 | $ 60 | $ 6,844,000 |
| **Remediation area (non contaminated)** | | 16.1 | 199,620 | $ 10 | $ 1,996,000 |
| **Subtotal** | | | 1,237,450 | | **$ 27,614,000** |
| **Contingency (25%)** | | | | *25%* | $ 6,903,500 |
| **Design and Permitting (8%)** | | | | *8%* | $ 2,761,400 |
| **TOTAL** | | | | | **$ 37,278,900** |

| | |
|---|---|
| Pool level (Lowest level of operation) and reference level | 583 |
| Design depth (feet) | 12 |
| Design elevation | 571 |

Table 9-2 provides the cost estimate for Alternative 1 broken down by various projects.

**Table 9-8: Alternative 1 – Brick House Slough Capital Expenditures Details**

| Parcel 20 Only | | | | |
|---|---|---|---|---|
| **Projects** | Element | Hard Cost | Soft Cost | Total |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Site Clearing** | Site Infrastructure | $335,000 | $36,900 | $371,900 |
| **Conveyor System** | Site Infrastructure | $237,000 | $47,400 | $284,400 |
| **Roadway** | Site Infrastructure | $392,000 | $27,400 | $419,400 |
| **Dredging (Short Reach)** | Dredging | $3,992,000 | $1,397,000 | $5,389,000 |
| **Recreational Area** | Site Infrastructure | $612,000 | $42,800 | $654,800 |
| **Total** | | **$13,443,000** | **$3,205,300** | **$16,648,300** |

| Parcel 20 and Adjacent Parcels | | | | |
|---|---|---|---|---|
| **Projects** | Element | Hard Cost | Soft Cost | Total |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Site Clearing** | Site Infrastructure | $335,000 | $36,900 | $371,900 |
| **Conveyor System** | Site Infrastructure | $1,185,000 | $237,000 | $1,422,000 |
| **Pavement** | Site Infrastructure | $10,143,000 | $1,633,000 | $11,776,000 |
| **Security and Fencing** | Site Infrastructure | $332,300 | $46,500 | $378,800 |
| **Tank Farm** | Site Infrastructure | $5,924,000 | $1,066,200 | $6,990,200 |
| **Grain Silo** | Site Infrastructure | $4,375,000 | $787,500 | $5,162,500 |
| **Rail Tracks** | Site Infrastructure | $8,476,000 | $1,525,600 | $10,001,600 |
| **Roadway** | Site Infrastructure | $1,591,000 | $286,400 | $1,877,400 |
| **Buildings** | Buildings | $166,214,000 | $43,215,500 | $209,429,500 |
| **Dredging (Short Reach)** | Dredging | $3,992,000 | $1,397,000 | $5,389,000 |
| **Total** | | **$210,442,300** | **$51,885,400** | **$262,327,700** |

Table 9-3 provides the cost estimate for Alternative 2 broken down by various projects.

**Table 9-9: Alternative 2 – Commander's Pond Lite Capital Expenditure Details**

| Parcel 20 Only | | | | |
|---|---|---|---|---|
| **Projects** | **Element** | **Hard Cost** | **Soft Cost** | **Total** |
| **Dry Dock Pier** | Site Infrastructure | $1,330,000 | $266,100 | $1,596,100 |
| **Commander's Pond** | Site Infrastructure | $5,408,000 | $1,243,800 | $6,651,800 |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Conveyor System** | Site Infrastructure | $237,000 | $47,400 | $284,400 |
| **Roadway** | Site Infrastructure | $392,000 | $27,400 | $419,400 |
| **MHC Equipment** | Equipment | $3,090,000 | $494,400 | $3,584,400 |
| **UTR Equipment** | Equipment | $247,000 | $24,700 | $271,700 |
| **Dredging (Short Reach)** | Dredging | $13,895,000 | $4,863,000 | $18,758,000 |
| **Recreational Area** | Site Infrastructure | $612,000 | $42,800 | $654,800 |
| **Total** | | **$33,086,000** | **$8,663,400** | **$41,749,400** |

| Parcel 20 and Adjacent Parcels | | | | |
|---|---|---|---|---|
| **Projects** | **Element** | **Hard Cost** | **Soft Cost** | **Total** |
| **Dry Dock Pier** | Site Infrastructure | $1,330,000 | $266,100 | $1,596,100 |
| **Commander's Pond** | Site Infrastructure | $5,408,000 | $1,243,800 | $6,651,800 |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Site Clearing** | Site Infrastructure | $335,000 | $36,900 | $371,900 |
| **Demolition** | Site Infrastructure | $220,000 | $28,600 | $248,600 |
| **Conveyor System** | Site Infrastructure | $1,185,000 | $237,000 | $1,422,000 |
| **Pavement** | Site Infrastructure | $14,080,000 | $2,242,700 | $16,322,700 |
| **Security and Fencing** | Site Infrastructure | $471,000 | $67,200 | $538,200 |
| **Tank Farm** | Site Infrastructure | $5,924,000 | $1,066,200 | $6,990,200 |
| **Grain Silo** | Site Infrastructure | $4,375,000 | $787,500 | $5,162,500 |
| **Rail Tracks** | Site Infrastructure | $8,476,000 | $1,525,600 | $10,001,600 |
| **Roadway** | Site Infrastructure | $1,591,000 | $286,400 | $1,877,400 |
| **Buildings** | Buildings | $166,214,000 | $43,215,500 | $209,429,500 |
| **MHC Equipment** | Equipment | $3,090,000 | $494,400 | $3,584,400 |
| **UTR Equipment** | Equipment | $247,000 | $24,700 | $271,700 |
| **Dredging (Short Reach)** | Dredging | $13,895,000 | $4,863,000 | $18,758,000 |
| **Total** | | **$234,716,000** | **$58,039,400** | **$292,755,400** |

Table 9-4 provides the cost estimate for Alternative 3 broken down by various projects.

**Table 9-10: Alternative 3 - Commander's Pond Full Capital Expenditure Details**

| Parcel 20 Only | | | | |
|---|---|---|---|---|
| **Projects** | **Element** | **Hard Cost** | **Soft Cost** | **Total** |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Dry Dock Pier** | Site Infrastructure | $1,330,000 | $266,100 | $1,596,100 |
| **Commander's Pond Pier** | Site Infrastructure | $1,928,000 | $404,900 | $2,332,900 |
| **Commander's Pond** | Site Infrastructure | $5,408,000 | $1,243,800 | $6,651,800 |
| **Conveyor System** | Site Infrastructure | $237,000 | $47,400 | $284,400 |
| **Roadway** | Site Infrastructure | $392,000 | $27,400 | $419,400 |
| **MHC Equipment** | Equipment | $3,090,000 | $494,400 | $3,584,400 |
| **UTR Equipment** | Equipment | $247,000 | $24,700 | $271,700 |
| **Dredging (Short Reach)** | Dredging | $27,614,000 | $9,665,000 | $37,279,000 |
| **Recreational Area** | Site Infrastructure | $958,500 | $67,100 | $1,025,600 |
| **Total** | | **$49,079,500** | **$13,894,600** | **$62,974,100** |

| Parcel 20 and Adjacent Parcels | | | | |
|---|---|---|---|---|
| **Projects** | **Element** | **Hard Cost** | **Soft Cost** | **Total** |
| **Brick House Slough Wharf** | Site Infrastructure | $7,875,000 | $1,653,800 | $9,528,800 |
| **Dry Dock Pier** | Site Infrastructure | $1,330,000 | $266,100 | $1,596,100 |
| **Commander's Pond Pier** | Site Infrastructure | $1,928,000 | $404,900 | $2,332,900 |
| **Commander's Pond** | Site Infrastructure | $5,408,000 | $1,243,800 | $6,651,800 |
| **Site Clearing** | Site Infrastructure | $335,000 | $36,900 | $371,900 |
| **Demolition** | Site Infrastructure | $220,000 | $28,600 | $248,600 |
| **Conveyor System** | Site Infrastructure | $1,185,000 | $237,000 | $1,422,000 |
| **Pavement** | Site Infrastructure | $14,080,000 | $2,242,700 | $16,322,700 |
| **Security and Fencing** | Site Infrastructure | $471,000 | $67,200 | $538,200 |
| **Tank Farm** | Site Infrastructure | $5,924,000 | $1,066,200 | $6,990,200 |
| **Grain Silo** | Site Infrastructure | $4,375,000 | $787,500 | $5,162,500 |
| **Rail Tracks** | Site Infrastructure | $8,476,000 | $1,525,600 | $10,001,600 |
| **Roadway** | Site Infrastructure | $1,591,000 | $286,400 | $1,877,400 |
| **Buildings** | Buildings | $166,214,000 | $43,215,500 | $209,429,500 |
| **MHC Equipment** | Equipment | $3,090,000 | $494,400 | $3,584,400 |
| **UTR Equipment** | Equipment | $247,000 | $24,700 | $271,700 |

| Parcel 20 and Adjacent Parcels | | | | |
|---|---|---|---|---|
| **Projects** | **Element** | **Hard Cost** | **Soft Cost** | **Total** |
| **Dredging (Short Reach)** | Dredging | $27,614,000 | $9,665,000 | $37,279,000 |
| **Total** | | **$250,363,000** | **$63,246,300** | **$313,609,300** |

Table 9-5 shows the cost estimate for all Alternatives broken down by Capital Expenditure elements.

**Table 9-11: Capital Expenditure Details by Elements**

**Parcel 20 Alternatives 1, 2, and 3**

| Alternative 1: Brick House Slough | Hard Cost | Soft Cost | Total Cost |
|---|---|---|---|
| **Site Infrastructure** | $9,214,000 | $1,760,900 | $10,974,900 |
| **Buildings** | $0 | $0 | $0 |
| **Equipment** | $237,000 | $47,400 | $284,400 |
| **Dredging** | $3,992,000 | $1,397,000 | $5,389,000 |
| **Total** | | | **$16,648,300** |
| | | | |
| **Alternative 2: Commander's Pond Lite** | **Hard Cost** | **Soft Cost** | **Total Cost** |
| **Site Infrastructure** | $15,617,000 | $3,233,900 | $18,850,900 |
| **Buildings** | $0 | $0 | $0 |
| **Equipment** | $3,574,000 | $566,500 | $4,140,500 |
| **Dredging** | $13,895,000 | $4,863,000 | $18,758,000 |
| **Total** | | | **$41,749,400** |
| | | | |
| **Alternative 3: Commander's Pond Full** | **Hard Cost** | **Soft Cost** | **Total Cost** |
| **Site Infrastructure** | $17,891,500 | $3,663,100 | $21,554,600 |
| **Buildings** | $0 | $0 | $0 |
| **Equipment** | $3,574,000 | $566,500 | $4,140,500 |
| **Dredging** | $27,614,000 | $9,665,000 | $37,279,000 |
| **Total** | | | **$62,974,100** |

### *Public Sector vs. Private Sector Cost*

For purposes of analysis, capital expenditures associated with site infrastructure, equipment, dredging, roads, and utilities are considered as *Public Cost*. Other costs for site improvement and development of warehouses and sheds accounted for under buildings will be the responsibility of tenants and are

considered *Private Cost*. Table 9-6 shows the breakdown of public vs. private cost by each Alternative. The extent of private development in each Alternative is the same; the primary difference is the amount of dredging and marine improvement (Public Cost) required. The percent split between public vs. private cost of developing various Alternatives are:

Alternative 1 – 20% Public vs. 80% Private
Alternative 2 – 28% Public vs. 72% Private
Alternative 3 – 33% Public vs. 67% Private

**Table 9-12: Capital Expenditure Breakdown by Public vs. Private Costs – All Alternatives – Parcel 20 Only**

| Alternatives | Public Cost | Private Cost | Total Cost |
|---|---|---|---|
| **Alternative 1 – Brick House Slough** | $3,329,700 | $13,318,600 | **$16,648,300** |
| **Alternative 2 – Commander's Pond Lite** | $11,689,800 | $30,059,600 | **$41,749,400** |
| **Alternative 3 – Commander's Pond Full** | $20,781,500 | $42,192,600 | **$62,974,100** |

### *Sources of Public Sector Funds*

The LRA may be eligible for federal grants to fund a portion of the development. Certain discretionary grant programs provide funding for port infrastructure projects including:

- **Port Infrastructure Development Grants (PIDP).** This program is focused on port-specific projects and may be used to fund infrastructure including docks, piers, dredging, landside cargo operations improvements, and road / rail connections. There are also planning grants available to complete development phase activities such as feasibility analysis, revenue forecasting, preliminary engineering, and other pre-construction work.

- **Rebuilding American Infrastructure with Sustainability and Equity (RAISE).** Provides grant funding for road, rail, transit, port, and other surface transportation of local or regional significance. This program is able to fund port infrastructure investments and planning activities related to completing development phase activities such as feasibility analysis, revenue forecasting, preliminary engineering, and other pre-construction work.

- **Multimodal Project Discretionary Grant Opportunity (MPDG) – National Infrastructure Project Assistance (Mega) and Nationally Significant Multimodal Freight and Highways Projects (INFRA).** The MPDG program provides grant funding for surface transportation projects with significant national or regional impact. Port projects are eligible for grant funding, however since Mega requires a minimum project size of $100M, the full buildout would need to be considered in a potential grant application.

The LRA may also be eligible for state grants and assistance to fund different elements of the program. The state provides assistance for road improvements connecting to the state highway system and freight

project funding through competitive application programs. Direct appropriations from the legislature have also been made in the past for port development.

The LRA may also utilize revenue streams from initial site development to generate a pool of revenues for subsequent improvements, in a "waterfall" approach where received revenues are continuously cycled into site improvements. The timing and amounts of these revenue streams would be based primarily on user payments for land, equipment, services, etc. subject to future negotiations and agreements. The LRA does not have bonding powers to leverage these revenue streams into larger, immediately available pools of capital, but it could potentially work with other public partner agencies with bonding powers to implement this approach.

## 9.4 Economic Impact

### 9.4.1 Overview

The economic impact analysis (EIA) evaluated the three Alternatives: Brick House Slough, Commander's Pond Lite, and Commander's Pond Full.

Using multipliers from the U.S. Bureau of Economic Analysis's Regional Input-Output Modeling System (BEA RIMS II), the EIA quantified the ripple effects within the State and Port District resulting from capital spending on development of Parcel 20 with supporting landside and waterside investments. The economic impacts are measured in terms of employment (person-year jobs), job earnings, the overall value of economic activity (output), value added output, and taxes (sales and labor income).

This study presents the gross economic impacts from capital investment based on total anticipated expenditures for each of the three Alternatives presented above. The study assumes that all economic impacts would remain local within the State of Illinois. The EIA study area is the State of Illinois, Jo Daviess, and Carroll Counties.

The analysis assumes that capital spending would occur in the years 2024 through 2028. This represents an aggressive best-case development schedule. As previously noted, Alternatives 2 and 3 might not be implemented until 2029 or later. The timing of construction spending has no impact on the job creation metrics – jobs are expressed in person-years, and are independent of what calendar years they occur in. However, the timing of construction spending will impact dollar value metrics in the analysis, which are expressed in year of expenditure (YOE) dollars, corresponding to the inflated value of the dollar in each year of spending. Assuming the shortest plausible timeframe means the statement of construction benefits has the least amount of inflation, and therefore produces the most conservative estimate.

### 9.4.2 Methodology

Economic impact analysis can be simply defined as the study of the effect of a change in the demand for goods and services on the level of economic activity in a given area. Traditionally, EIA involves the estimation of three types of effects: direct, indirect, and tertiary (induced). The total economic impact is the sum of these direct, indirect, and tertiary effects for the activity, project or s being evaluated:

- **Direct Effects –** Refers to the economic activity occurring as a result of direct spending by businesses or agencies locally engaged in delivering the project (e.g., construction spending results in employment for construction workers, engineers, and designers who are specifically hired to work on this project).

- **Indirect Effects –** Refers to the economic activity resulting from purchases by local firms who are the suppliers to the directly affected businesses or agencies (e.g., the project generates demand for steel as an intermediate good).
- **Tertiary Effects –** Represents the increase in economic activity in all economic sectors over and above the direct and indirect effects that are associated with increased labor income that accrues to workers (of directly and indirectly affected businesses), inducing increased expenditures on household consumption of goods and services purchased from businesses within the area of study (e.g., local workers spending their job earnings at restaurants and stores).
- **Total –** Combines direct, indirect, and tertiary effects.

The indirect and tertiary effects are often referred to as multiplier effects, since they typically lead to a total economic impact that is larger than the direct effect alone. In theory, the larger the economic region, the larger the multiplier value, and thus, the larger the overall response (total gross economic impact) to the initial shock (direct expenditures). In reality, while indirect and tertiary impacts always occur, the magnitude of their influence on the total level of economic activity in an area can vary by the type of expenditures, the size of the area defining the local economy, and the ability of the local economy to attract the additional workers and capital resources needed from elsewhere.

### 9.4.3 Impact Metrics

For this analysis, the changes in demand for goods and services due to direct project expenditures are measured by changes in employment, labor income, total output, value added output, and sales and labor income taxes. These metrics are described below.

- Employment impacts measure the number of jobs created for a full year by annual expenditures. Although the majority of construction and related jobs are full-time, the employment counts should not be strictly interpreted as full-time equivalent, as they reflect the mix of full and part-time jobs that is typical for each sector. Additionally, the employment outputs should not be interpreted as permanent jobs either, but rather as person-year jobs created or sustained: one person-year job equals one person working a job for a one-year duration or two persons with jobs held for half a year.

- Labor income represents the total value of employee compensation (wage and salary payments plus benefits and any other non-cash compensation) supported by the project, as well as proprietor income (e.g., income of self-employed individuals such as lawyers). Together with the value of intermediate inputs (the goods and services purchased from other firms or industries), taxes on production and imports (e.g., excise taxes), and property type income (e.g., rents), labor income is a part of total output.

- Total output (economic activity) is the value of goods and services produced as a result of the project expenditures and their multiplier impacts (e.g., sales of goods and services, other operating income, and change in inventory). Direct output for the construction period equals the project's expenditures as the sum of the hard and soft costs.

- Value added represents net additional economic activity (e.g., the difference between an industry's total output and the cost of its intermediate inputs). It is synonymous with Gross Regional Product (GRP).

- Sales and labor income taxes were estimated based on construction costs and labor earnings resulting from the project.

### 9.4.4 Assumptions

To measure the contribution of the project to the State and Port District, RIMS multipliers for Illinois, Jo Daviess County, and Carroll County were used. General assumptions include:

- Capital cost estimates were prepared for each of three buildout Alternatives based on the current dollar costs for all parcels and include both assumed public costs (for dredging, marine structures, transfer equipment, land preparation, and landside access) and assumed tenant investments (structures, industrial/processing equipment, and facilities, etc.):
    1. Brick House Slough: $262.3 million;
    2. Commander's Pond Lite: $292.8 million; and
    3. Commander's Pond Full: $313.6 million.

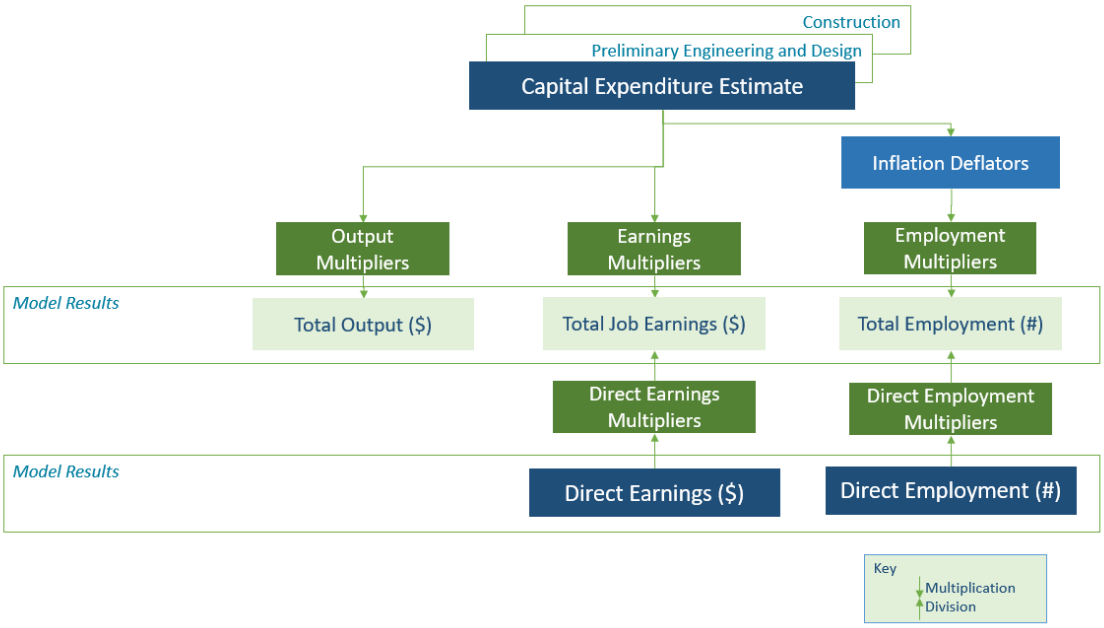
- Benefits were apportioned to Parcel 20 only based on the ratio of current dollar Parcel 20 capital spending to current dollar total capital spending:
    1. Brick House Slough: $16.6 million (6.3% of total);
    2. Commander's Pond Lite: $41.7 million (14.3% of total); and
    3. Commander's Pond Full: $63.0 million (20.1% of total).

- Construction will take place from 2024 through 2028. The EIA assumes that costs are spread out evenly across these five years. BLS Producer Price Index (PPI) annual cost escalation of 2.2 percent for design and engineering (soft costs) and 3.4 percent for construction (hard costs) for conversion to year of expenditure (YOE) dollars. As a result, note that the YOE dollars in Tables 9-7 through 9-10 are greater than the current dollar cost estimates from Tables 9-2 through 9-4.

- State sales tax on direct project expenditures of 6.25 percent. Jo Daviess and Carroll Counties collect an additional one percent and 0.25 percent in sales tax, respectively. State income tax rate of 4.95 percent and both counties have income tax rate of five percent.

The process by which capital expenditures generate economic impacts is depicted in Figure 9-3.

**Figure 9-3: EIA Multiplier Process (RIMS II Multipliers)**




### 9.4.5 Analysis Results

#### State Level Impacts

Development of all parcels under the Commander's Pond Full Alternative will generate statewide benefits of 4,484 direct, indirect, and tertiary person-year jobs; $236.4 million in labor income; $430.5 million in value added output; $804.9 million in total economic output; $35.5 million in sales tax; and $11.7 million in labor income tax.

Development of Parcel 20 under the Commander's Pond Full Alternative will generate statewide benefits of: 901 direct, indirect, and tertiary person-year jobs; $47.5 million in labor income; $86.5 million in value added output; $161.8 million in total economic output; $7.1 million in sales tax; and $2.4 million in labor income tax.

Table 9-7 and 9-8 detail the results for all three Alternatives.

#### Regional Level Impacts (Jo Daviess and Carroll Counties)

Development of all parcels under the Commander's Pond Full Alternative will generate regional benefits of 1,845 direct, indirect, and tertiary person-year jobs; $107.3 million in labor income; $252.5 million in value added output; $467.3 million in total economic output; $28.4 million in sales tax; and $5.4 million in labor income tax.

Development of Parcel 20 under the Commander's Pond Full Alternative will generate regional benefits of: 370 direct, indirect, and tertiary person-year jobs; $21.6 million in labor income; $50.8 million in value added output; $93.9 million in total economic output; $5.7 million in sales tax; and $1.1 million in labor income tax.

Table 9-9 and 9-10 detail the results for all three alternatives.

**Table 9-7: State Economic Impacts – Output, Employment, Earnings, and Value Added**

| Alternatives | Direct Project Expenditures (Project Cost, $ millions YOE) | Direct Project Construction Employment (person-year jobs) | Direct, Indirect & Induced Employment (person-year jobs) | Direct Employment Earnings ($ millions YOE) | Direct, Indirect & Induced Employment Earnings ($ millions YOE) | Total Direct, Indirect & Induced Impacts on Economic Activity ($ millions YOE) | Total Direct, Indirect & Induced Value Added ($ millions YOE) |
|---|---|---|---|---|---|---|---|
| Adjacent Parcels | | | | | | | |
| Brick House Slough | $297 M | 1,473 | 3,748 | $93.2 M | $197.5 M | $673.3 M | $359.9 M |
| Commander's Pond Lite | $332 M | 1,644 | 4,183 | $104.0 M | $220.4 M | $751.4 M | $401.7 M |
| Commander's Pond Full | $355 M | 1,762 | 4,484 | $111.6 M | $236.4 M | $804.9 M | $430.5 M |
| Parcel 20 Only | | | | | | | |
| Brick House Slough | $18.7 M | 93 | 236 | $5.9 M | $12.4 M | $42.4 M | $22.7 M |
| Commander's Pond Lite | $47.5 M | 235 | 598 | $14.9 M | $31.5 M | $107.5 M | $57.4 M |
| Commander's Pond Full | $71.4 M | 354 | 901 | $22.4 M | $47.5 M | $161.8 M | $86.5 M |

YOE = year of expenditure

**Table 9-8: State Economic Impacts – Taxes**

| Scenario | Direct Project Expenditures (Project Cost, $ millions YOE) | Direct Sales Tax ($ millions YOE) | Direct, Indirect & Induced Sales Tax ($ millions YOE) | Direct Labor Income ($ millions YOE) | Direct, Indirect & Induced Labor Income Tax ($ millions YOE) |
|---|---|---|---|---|---|
| Adjacent Parcels | | | | | |
| Brick House Slough | $297 M | $12.8 M | $29.7 M | $4.6 M | $9.8 M |
| Commander's Pond Lite | $332 M | $14.2 M | $33.2 M | $5.1 M | $10.9 M |
| Commander's Pond Full | $355 M | $15.2 M | $35.5 M | $5.5 M | $11.7 M |
| Parcel 20 Only | | | | | |
| Brick House Slough | $18.7 M | $0.8 M | $1.9 M | $0.3 M | $0.6 M |
| Commander's Pond Lite | $47.5 M | $2.0 M | $4.7 M | $0.7 M | $1.6 M |
| Commander's Pond Full | $71.4 M | $3.1 M | $7.1 M | $1.1 M | $2.4 M |

**Table 9-9: Jo Daviess and Carroll County Economic Impacts – Output, Employment, Earnings, and Value Added**

| Alternatives | Direct Project Expenditures (Project Cost, $ millions YOE) | Direct Project Construction Employment (person-year jobs) | Direct, Indirect & Induced Employment (person-year jobs) | Direct Employment Earnings ($ millions YOE) | Direct, Indirect & Induced Employment Earnings ($ millions YOE) | Total Direct, Indirect & Induced Impacts on Economic Activity ($ millions YOE) | Total Direct, Indirect & Induced Value Added ($ millions YOE) |
|---|---|---|---|---|---|---|---|
| All Parcels | | | | | | | |
| Brick House Slough | $297 M | 1,111 | 1,542 | $70.4 M | $89.7 M | $391.0 M | $211.2 M |
| Commander's Pond Lite | $332 M | 1,240 | 1,721 | $78.5 M | $100.1 M | $436.3 M | $235.7 M |
| Commander's Pond Full | $355 M | 1,329 | 1,845 | $84.3 M | $107.3 M | $467.3 M | $252.5 M |
| Parcel 20 Only | | | | | | | |
| Brick House Slough | $18.7 M | 70 | 97 | $4.4 M | $5.7 M | $24.6 M | $13.3 M |
| Commander's Pond Lite | $47.5 M | 177 | 246 | $11.2 M | $14.3 M | $62.4 M | $33.7 M |
| Commander's Pond Full | $71.4 M | 267 | 370 | $16.9 M | $21.6 M | $93.9 M | $50.8 M |

**Table 9-10: Jo Daviess and Carroll County Economic Impacts – Taxes**

| Alternatives | Direct Project Expenditures (Project Cost, $ millions YOE) | Direct Sales Tax ($ millions YOE) | Direct, Indirect & Induced Sales Tax ($ millions YOE) | Direct Labor Income ($ millions YOE) | Direct, Indirect & Induced Labor Income Tax ($ millions YOE) |
|---|---|---|---|---|---|
| All Parcels | | | | | |
| Brick House Slough | $297 M | $17.9 M | $23.7 M | $3.5 M | $4.5 M |
| Commander's Pond Lite | $332 M | $19.9 M | $26.5 M | $3.9 M | $5.0 M |
| Commander's Pond Full | $355 M | $21.3 M | $28.4 M | $4.2 M | $5.4 M |
| Parcel 20 Only | | | | | |
| Brick House Slough | $18.7 M | $1.1 M | $1.5 M | $0.2 M | $0.3 M |
| Commander's Pond Lite | $47.5 M | $2.8 M | $3.8 M | $0.6 M | $0.7 M |
| Commander's Pond Full | $71.4 M | $4.3 M | $5.7 M | $0.8 M | $1.1 M |

## 9.5 LRA Decision

On December 14, 2022, the Jo Carroll LRA voted in public session to recommend the Preferred Reuse Plan – Commander's Pond Full for the redevelopment of the parcel 20 at the former Savanna Army Depot. Based upon the recommendations from the December meeting, the costs associated with each of the alternatives were developed and refined and this information was presented to the Jo Carroll LRA board on April 26th, 2023. After review and discussion, the LRA board voted to adopt Alternative 3 – Commander's Pond Full as the preferred alternative for Parcel 20 and will pursue a no cost EDC of the property from the Army.

## 9.6 Next Steps

The design concepts, cost estimates, and benefit analyses for the Preferred Alternative (Alternative 3), and for Alternatives 1 and 2 which represent phased development towards the Preferred Alternative, are important milestones in the development process. Key next steps to advance the process include:

- Coordination with public funding and implementation partners – State of Illinois, Upper Mississippi Region International Port District, et al.
- Coordination with regulatory partners – state and federal.

Discussions with industry partners and private companies interested in being served through the port once developed, or (especially) in directly partnering in development and construction of facilities at the

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