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CHICAGO DISTRICT

DUPAGE RIVER, ILLINOIS
FEASIBILITY REPORT AND
INTEGRATED ENVIRONMENTAL ASSESSMENT

HTRW Phase I Environmental Site Assessment
Appendix F

Final Report

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HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Hydraulics and Environmental Engineering Section (TS-DH)
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HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
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INTRODUCTION

The purpose of this report is to discuss the hazardous, toxic, and radioactive waste (HTRW) assessments for the proposed project areas identified in the DuPage River, Illinois, Feasibility Report and Integrated Environmental Assessment. This HTRW investigation identifies both HTRW and non-HTRW environmental issues, and presents appropriate measures to resolve these issues. The methods used in performing the investigation are described in detail. Conclusions and recommendations regarding potential impacts due to HTRW and non-HTRW issues associated with project sites are provided.

AUTHORITY

Engineer Regulation (ER) 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works projects, requires that a site investigation be conducted as early as possibly to identify and evaluate potential HTRW problems. According to ER 1165-2-132, non-HTRW issues that do not comply with the federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW issues.

This HTRW investigation presented was conducted during the feasibility phase of the project. The investigation relies on existing information, observations made through database research, an aerial photograph, topographic map, and historical document review, a site visit, and information provided by the local sponsor. As stated in the ER-1165-2-132 an initial assessment as appropriate for Reconnaissance Study should be conducted as a first priority for projects with no prior HTRW consideration. If the initial assessment indicated the potential for HTRW, testing, as warranted, and analysis similar to a Feasibility Study, or Phase II Environmental Site Assessment (ESA), should be conducted prior to proceeding with the project design.

DEFINITIONS

Hazardous, Toxic, and Radioactive Waste

The objective of ER 1165-2-132 is to outline procedures to facilitate early identification and appropriate consideration of HTRW. This investigation, therefore, identifies potential HTRW and discusses resolutions and/or provides recommendations regarding the HTRW identified.

Non-Hazardous, Toxic, and Radioactive Waste

According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW. For example, solid waste is a non-HTRW issue considered. Petroleum

releases from Leaking Underground Storage Tanks (LUSTs) are not considered HTRW, but are regulated under the Illinois Administrative Code (IAC), Title 35, Part 731 – Underground Storage Tanks, Part 732 – Petroleum Underground Storage Tanks, and Part 742 – Tiered Approach to Corrective Action Objectives (TACO). These sites have the potential to impose environmental hazards. Non-HTRW issues identified during the investigation are also discussed in this report, along with resolutions and/or recommendations for resolution.

Recognized Environmental Condition (REC)

For the purposes of this investigation, the term REC may be used interchangeably with HTRW to identify a potential HTRW or non-HTRW environmental issue. ASTM defines a recognized environmental condition (REC) as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.

GUIDANCE

Supplemental guidance was provided by the Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process (Designation: E 1527-13) prepared by the American Society for Testing of Materials (ASTM). The purpose of this guidance is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and petroleum products. These standards recommend that an environmental assessment include a records review, site visit, interviews, and report preparation.

LAWS AND REGULATIONS

Federal

The definition of HTRW according to ER 1165-2-132, page 1, paragraph 4(a) is as follows: “Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as ‘hazardous substance’ under the Comprehensives Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include ‘hazardous wastes’ under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq; ‘hazardous substances’ identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, ‘toxic pollutants’ designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, ‘hazardous air pollutants’ designated under Section 112 of the Clean Air Act 42 U.S.C. 7412; and ‘imminently hazardous chemical substances or mixtures’ on which

EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)"

As noted in 42 U.S.C. 9601(14), the term "hazardous substance" does not include crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance, nor does the term include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel. Underground storage tanks (USTs) are federally regulated under 40 CFR Part 280, which includes technical standards and corrective action requirements for owners and operators of USTs.

State

The Illinois State regulations were examined to determine which regulations governed the state specific hazardous waste disposal, release, and cleanup requirements. Illinois regulates USTs under Illinois Administrative Code, Title 35, Subtitle G, Chapter I, Subchapter D, Part 731, Underground Storage Tanks. The definition of a regulated substance under this regulation means any "hazardous substance" or "petroleum". Hazardous substance UST is defined as an UST system that contains a "hazardous substance", or any mixture of "hazardous substances" and "petroleum" which is not a petroleum UST system. Petroleum UST means any UST system that contains petroleum or a mixture of petroleum with minimal quantities of other regulated substances.

Owners and operators of petroleum or hazardous substance UST systems must comply with the requirements of Part 731 except for USTs excluded under Section 731.110(b) and UST systems subject to RCRA corrective action requirements under 35 Ill. Adm. Code 724.200, 724.296, 725.296, or 725 Subpart G. Other Illinois hazardous waste regulations included in 35 Illinois Administrative Code Subtitle G, Chapter I, Waste Disposal include Subchapter b, Permits; Subchapter c, Hazardous Waste Operating Requirements; Subchapter d, Part 738, Hazardous Waste Injection Restrictions; Subchapter e, Specific Hazardous Waste Management Standards; and Subchapter h, Illinois "Superfund" Program.

STUDY DESCRIPTION

The DuPage River watershed, shown in **Figure 1**, drains approximately 378 square miles in DuPage and Will Counties, Illinois. The East and West Branches of the DuPage River lie primarily in DuPage County and flow south towards Will County where they meet to form the mainstem of the DuPage River. The mainstem flows south to its confluence with the Des Plaines River. Several areas within the DuPage River watershed experience damage from overbank flooding, damaging isolated structures and infrastructure. Communities within DuPage County where flood risk management alternatives were evaluated as part of the feasibility study include Bloomingdale, Lombard, Lisle, Winfield, Warrenville, Naperville, Milton Township, and Lisle Township. Communities within Will County include Bolingbrook, Joliet, Romeoville, Crest Hill, Plainfield, Minooka, Channahon, Plainfield Township, and Wheatland Township.

The DuPage River Feasibility Study documents the planning process used to evaluate overbank and backwater flooding along the DuPage River and its major tributaries. High risk flood areas are prioritized and a range of possible structural and non-structural alternatives developed to address flood risks. While multiple projects were investigated by the project delivery team, not all projects were economically justified for implementation; only those projects with highest potential for implementation were evaluated using the Phase I ESA approach. Preliminary HTRW screenings were completed throughout the planning phase for all other potential project sites. Phase I ESAs and preliminary HTRW screening results are documented in this report.

PROJECT DESCRIPTIONS

Lisle Levee

The Lisle Levee project is a proposed levee improvement project located along the East Branch DuPage River between I-88 and Maple Avenue in Lisle, DuPage County, Illinois (**Figure 2**). The area surrounding the existing levee is residential between I-88 and the BNSF railroad, and a combination of residential, commercial, and park between the BNSF railroad and Maple Ave. There are several auto repair facilities in the area of Ogden Ave. Current aerial images indicate the area also contains land disturbing activities located adjacent to the East Branch DuPage River, on the eastern bank. The project may include the following levee improvement activities: bank protection/stream bank stabilization measures, reinforcement of the embankment foundation, removal of miscellaneous structures such as power poles, fences and staircases, vegetation removal for repair of existing levee, regrading/fill for elevation and reseeding, and replacement of existing pump station.

Preliminary screening-level HTRW review of the study area suggests that there are no RCRA, NPL, TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites along the banks of the East Branch DuPage River between I-88 (northern boundary) and Maple Avenue (southern boundary). Current aerial images suggest that the areas adjacent to the East Branch DuPage River are primarily vegetated, and consist of residential, commercial, or recreational uses (parkland). There are two areas along the east bank where significant land disturbing activities are noted, it is unknown what activities are being conducted on the properties (fill, excavation, or otherwise): 1) east bank south of the St. Joseph Creek near Lisle Auto and Tire, and 2) east bank between railroad and Short Street, entrance from Lincoln Avenue. A complete Phase I ESA for the Lisle Levee project area is included in this report.

Bolingbrook Diversion Channel with Quarry Storage

The Bolingbrook Diversion Channel with Quarry storage project is located along the East Branch DuPage River at 351 Royce Road, Bolingbrook, Will County, Illinois. Royce Road and the East Branch DuPage River surround the project to the north and south/east, respectively, and Whalon Lake, is located west of the site (see **Figure 3**). The project

area is an existing quarry; a portion of the quarried area is proposed to store floodwaters. The project may also include construction of a drop structure, divider structure, pump station, and aeration structure at the outlet. A diversion channel would direct water from the East Branch into the storage facility and the water outlet either to Whalon Lake, or directly back to the East Branch. Whalon Lake is a previous quarry, created in the 1960s when Elmhurst-Chicago Stone began quarrying gravel, sand and limestone from the site. By the 1990s, one of the quarries was exhausted. The Forest Preserve acquired the exhausted quarry in January 1993 and developed Whalon Lake for recreational and flood control purposes. A complete Phase I ESA for the Bolingbrook Quarry project area is included in this report.

St. Joseph Creek Area Storage Projects

The St. Joseph Creek storage project is located on the East Branch DuPage River and St. Joseph Creek in Lisle, Illinois. The project may consist of creation of storage adjacent to St, Joseph Creek; multiple storage areas and project features were considered. Potential project areas are shown on **Figure 4**. The HTRW assessment of each of the St. Joseph storage project areas is limited to a preliminary screening. If any of the potential projects are selected for implementation, a complete Phase I ESA is recommended.

St. Joseph Creek Storage Area 1/culvert improvement site.

A RCRA SQG is located at the proposed culvert improvement site at Route 53. No corrective action for the RCRA facility; facility appears to be in compliance with the program. There are no other database entries on or adjacent to the culvert replacement and storage site (TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites). Current aerial images of the culvert replacement area seems to encompass some development, it is not all open space, so storage may be limited in this area. The surrounding area appears to be residential in nature. Current aerial images of the storage site suggest that the northern portion of the storage area is forested (along St. Joe Creek and south of the railroad right of way). The portion of the storage area that is adjacent to I-355 is located within a utility easement, towers are visible in aerial images along I-355. Besides the railroad and I-355, the area is surrounded by residential properties to the south. Access is along Hitchcock Ave. All areas appear to be vegetated, with the exception of the utility road right-of-way.

Storage Areas 2/3

There are multiple regulated industries adjacent to the proposed storage area 3, including the Downers Grove WWTF; discharge is assumed to St. Joseph Creek. No specific industries were reviewed as part of this preliminary investigation, but several appear to be RCRA LQGs, and some store chemical onsite, and/or emit pollutants through air discharge. Current aerial images suggest that the storage areas appears to be all forested upland and adjacent to St. Joseph Creek. South and west there appears to be an open water pond and the large forested undeveloped area on the north and east portion of the site may contain some unnatural debris or dumping – a large pile or unvegetated area is visible from the aerial.

Warrenville Road Storage Area
There are no RCRA, NPL, TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites in the area of the proposed storage facility. Current aerial images suggest that the proposed area is undeveloped and appears to be partially forested. There are indications that there is a trail or off road vehicle use at the site. It is unclear where site is being accessed – adjacent roadways are large toll road or highways. Areas surrounding the project are residential in nature, or forested (west).

Valley View Area Storage Projects

The Valley View Area Storage projects are located on the East Branch DuPage River in Lisle, Illinois. The projects may consist of creation of storage through conveyance improvements, construction of storage areas/restrictions, and/or a road raise. Potential project areas are shown on **Figure 4**. The HTRW assessment of the Valley View storage area projects is limited to a preliminary screening, with the exception of the Lacey Creek restriction project. A complete Phase I ESA for the Lacey Creek Restriction project area is included in this report.

Butterfield Road Conveyance; Lacey Creek Storage and Restriction; Hidden Lake Storage and Restriction
There are no RCRA, NPL, TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites on or adjacent to the Hidden Lake Forest Preserve. Current aerial images suggest that the project area appears to be within the Hidden Lake Forest Preserve. The area is undeveloped and contains parking, a structure, and walking trails. A utility corridor is present on the eastern portion of the area, near the Butterfield Road conveyance improvement and Lacey Creek restriction areas. There are several areas of the forest preserve with land disturbing activities. The nature of the activities being conducted in the vegetation-free areas is unknown, perhaps construction or controlled burning. Appears to be a low risk site; however a site visit should be conducted to confirm site uses.

The Lacey Creek Restriction project consists of placement of a culvert, or other water level control structure, in Lacey Creek to reduce flows to the East Branch DuPage River and create storage in areas upstream of the restriction, see **Figure 5**. The project will include minimal land disturbing activities.

Route 53 Road Raise
There is one RCRA SQG at the corner of Butterfield Road and Route 53. No corrective action for the RCRA facility; they appear to be in compliance with the program. There are no other database entries on or adjacent to the storage area (NPL, TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites). Current aerial images suggest that north and west of Route 53, development appears to be residential in nature. South and east of Route 53, undeveloped forested and open water areas (Eagle Lake)/DuPage River are present. Appears to be a low risk site.

Fawell Dam

The Fawell Dam project area is located on the West Branch DuPage River within McDowell Grove Forest Preserve near Naperville, Illinois (**Figure 6**). The project may consist of 100 acre feet of storage to be achieved through excavation or construction of an above ground berm or a combination of both. A preliminary HTRW screening conducted in the project area suggests that there are no RCRA, NPL, TSCA, Brownfields, ICIS-AIR, TRI, or RADinfo sites on or adjacent to the forest preserve. Current aerial images suggest that the forest reserve appears to be vegetated; development in adjacent areas is residential/commercial in nature. Review of historical information suggests that the northern portion of McDowell Grove Forest Preserve near Naperville was closed in 2013 for the final stage of a radioactive thorium cleanup project. The work completed in the DuPage Forest Preserve District was a portion of a larger project that covered more than 7 miles of waterways over roughly seven years. In addition, Camp McDowell was located within the forest preserve, and was used as part of a training program to prepare military recruits in radar technology.

A Phase I ESA is required if the site is selected as part of the recommended plan. There may be a higher HTRW risk for implementation of a project in the area, especially if alternatives require sediment management. There is unknown sediment quality upstream of the dam; the scope and scale of watershed concerns with thorium cleanup in upstream areas must be investigated further to ensure thorium contaminated materials are not present in the project area.

PHASE I ESA GENERAL METHODS

The following sections contain information that was requested and gathered in accordance with ER 1165-2-132 for this assessment. The information was obtained from:

- Existing information review
- Historical topographic map and aerial photograph review
- Database research
- Site visit

This information was used to determine if the measures proposed for flood risk management at the Lisle Levee and Lacey Creek project areas will have an impact on any environmental conditions that may exist in the surrounding areas, and if there are environmental conditions on project sites that will have an impact on implementation of the projects. A limited Phase I ESA was completed for the Bolingbrook Quarry storage area and is included in this report, though construction of a storage area in Bolingbrook is not included in the recommended plan. Site reconnaissance was not conducted at the Bolingbrook quarry project area.

EXISTING INFORMATION REVIEW

Soil Type

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining, and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information was obtained from the NRCS website and is based on Soil Conservation Service SSURGO data. Soil survey information for each project site is included in the EDR radius search reports included as **Attachments 7, 8 and 9**.

Lisle Levee

The dominant soil type found in the Lisle Levee project area is Sawmill silty clay loam. The hydrologic class B sawmill series consists of deep, moderately well-drained soils with moderately coarse textures and moderate infiltration rates. Soil drainage class indicates poorly drained soils formed in alluvium on flood plains, valley floors, and in some drainage ways that extend into the uplands. Slopes range from 0 to 2 percent. Soils experience frequent flooding and ponding. The depth to the water table is typically greater than 15 inches.

Lacey Creek

The dominant soil type found in the Lacey Creek project area is Sawmill silty clay loam. The hydrologic class B sawmill series consists of deep, moderately well-drained soils with moderately coarse textures and moderate infiltration rates. Soil drainage class indicates poorly drained soils formed in alluvium on flood plains, valley floors, and in some drainage ways that extend into the uplands. Slopes range from 0 to 2 percent. Soils experience frequent flooding and ponding. The depth to the water table is typically greater than 15 inches.

Bolingbrook Diversion Channel with Quarry Storage

The dominant soil type found in the Bolingbrook Quarry project area listed as a quarry pit with water surrounding. Soils adjacent to the quarry to the east, and the East Branch DuPage River, are listed as Houghton muck. The Houghton series consists of hydric soils that are deep, very poorly drained soils formed in herbaceous organic materials in depressions and drainage ways on lake plains, outwash plains, ground moraines, end moraines, till plains, and floodplains. The depth to the water table is typically greater than 15 inches.

Soil Quality

The environmental soil quality at the project site is largely unknown. Soils are expected to contain background de minimis concentrations of PAHs and metals similar to soils found in the Chicago region. The U.S. Geological Survey, in cooperation with the Chicago Department of Environment, assessed the concentration of PAHs and inorganic constituents in ambient surface soils in the city of Chicago (USGS 2003). USGS found that PAH compounds are ubiquitous in ambient surface soils due to atmospheric settling of particulate matter. The majority of PAHs released to the environment are derived from anthropogenic sources such as the operation of motor vehicles; burning coal, wood, or trash in a residential furnace; and industrial sources such as thermoelectric power generation and coking operations. USGS also found that while concentrations of various inorganic constituents (metals) in surface soils in the city of Chicago appeared to be affected by the natural development of the soils, the concentrations of arsenic, mercury, calcium, magnesium, phosphorus, copper, molybdenum, zinc, selenium were from 2 to 8 times higher, and concentrations of lead were about 20 times higher, than in typical soils from the surrounding area and indicate an anthropogenic source for these analytes as well. Background de minimis concentrations of PAHs and metals found in soils on the Chicago region are not RECs.

Surface Water Quality

The State of Illinois is responsible for specifying appropriate water uses for state waters; identification of appropriate water uses takes into consideration the usage and value of public water supply, protection of fish, wildlife, recreational waters, agricultural, industrial, and navigational water ways. The assessment of suitability of a river, lake, stream, or wetland for a particular use is based on physical, chemical, and biological characteristics of the water body. Illinois Environmental Protection Agency (IEPA) applies water quality criteria to protect designated uses of waters of the state, and documents the quality of water of the state in the *National Water Quality Inventory Report,* an integrated report submitted biennially to EPA that is required to comply with Sections 305(b) and 303(d) of the Clean Water Act (CWA). Section 303(d) of the Clean Water Act requires states to develop a list of water quality limited waters (i.e. waters where uses are impaired), the pollutants causing impairment to those waters, and a priority ranking for the development of Total Maximum Daily Load (TMDL) calculations.

The DuPage River is classified as a general use water and should be protected for aquatic life, wildlife, agricultural use, secondary contact use, and most industrial uses, and ensure the aesthetic quality of the State's aquatic environment; primary contact uses are protected for all general use waters whose physical configuration permits such use. Review of the State of Illinois Integrated Water Quality Report for the 2105/2016 water year (IEPA 2016) suggests that the mainstem DuPage River, West Branch DuPage River, and East Branch DuPage River are 303(d) listed impaired waterways. The following impairments are noted in the study area:

- Mainstem DuPage River, portions of the West Branch DuPage River, and portions of the East Branch DuPage River are impaired for fish consumption due to the presence of mercury and/or PCBs.
- Mainstem DuPage River, portions of the West Branch DuPage River, and portions of the East Branch DuPage River are impaired for primary contact recreation due to the presence of *fecal coliform.*
- Mainstem DuPage River, West Branch DuPage River, and East Branch DuPage River are impaired for indigenous aquatic life use due to the presence of a variety of contaminants including, but not limited to, phosphorus, arsenic, chloride, methoxychlor, dieldrin, hexachlorobenzene, PCBs, TSS, pH, temperature, and dissolved oxygen, and/or excess sedimentation and siltation.
- Portions of the West Branch DuPage River are impaired for aesthetic quality due to excess concentrations of phosphorous in the stream.

The water quality in Lacey Creek has not been assessed by the IEPA. No project specific studies were conducted to characterize the surface water quality in the study area.

Air Quality

The Illinois Annual Air Quality Report includes data generated by Illinois EPA's monitoring network that consists of 154 monitors at 65 sites. As part of the overall monitoring program, Illinois EPA issues a daily air quality forecast for fourteen sectors in Illinois. Each sector receives a daily air quality forecast that is assigned a category with a corresponding color: good (green), moderate (yellow), unhealthy for sensitive groups (orange), unhealthy (red), very unhealthy (purple), and hazardous (maroon). Data is presented for the six criteria pollutants (those for which air quality standards have been developed - particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with some heavy metals, nitrates, sulfates, volatile organic compounds, and toxic compounds.

In terms of the Air Quality Index (AQI) presented in the most recent annual report (2014), air quality was either good or moderate 98 percent of the time throughout Illinois. There were zero days when air quality in any part of Illinois was considered unhealthy (category red). There were seven days (five for 8-hour ozone and two for $PM_{2.5}$) when air quality in some part of Illinois was considered unhealthy for sensitive groups (category orange). Air quality trends for the criteria pollutants are continuing to show downward or stable trends well below the level of the standards. For the study area (South and West Suburbs, including parts of Cook and Du Page Counties south of I-290 and outside of Chicago city limits) the air quality was unhealthy for sensitive groups 0.8% of the time, moderate 48.2% of the time, and good 51.0% of the time. In the Will County area, the air quality was unhealthy for sensitive groups 0.3% of the time, moderate 31.0% of the time, and good 68.8% of the time (IEPA 2014).

HISTORICAL TOPOGRAPHIC MAP AND AERIAL PHOTOGRAPH REVIEW

Indications of potential RECs can be determined by identifying the past land use and site activities at the project area and surrounding areas. Identifying industrial and residential areas, observing any evidence of topographic changes, and locating extensive areas that lack vegetation can determine indications of a potential REC.

Lisle Levee

A series of historical topographic maps between 1908 and 2012 were reviewed for the Lisle levee project area. Findings are presented in **Table 1**. Historical topographic maps for the project areas are included in **Attachment 1.**

Table 1: Summary of Topographic Map Review – Lisle Levee

1908 Topographic Map	The EBDR appears unchannelized/unmodified in 1908 topo. The areas adjacent to the river are undeveloped, with the exception of a roadway in the current location of Ogden Avenue and the Quincy railroad, which bisects the site. There are meander bends along the EBDR. St. Joe Creek is a tributary to EBDR and appears to outlet/cross near Ogden. There are structures in the vicinity of the project along major roadways, such as Ogden to the east, and along current location of Lincoln. Maple Ave. present.
1948 Topographic Map	No changes in the project area, or adjacent to the EBDR between 1908 and 1948.
1954 Topographic Map	Between 1948 and 1954 there is significant changes to the project area. Minor roadways and structures (likely residential) are present along the EBDR from the Quincy rail to the northern project limits. The EBDR appears to be channelized and the largest meander bends are cut off. Significant development has occurred in the vicinity of the project with the inclusion of schools, churches and recreational features, such as Rott's Lakes to the southwest. A small creek that previously outleted to the EBDR south of the project area appears to have been rerouted to outlet to the EBDR near the railroad. A small pond is present along the rerouted creek. Possible side cast materials adjacent to EBDR for channelization.
1962 Topographic Map	Between 1954 and 1962 the east west toll way is constructed north of the project area. The northern residential developed portion of the project area is part of incorporated "Lisle". Rott's Lake, renamed Four Lakes, have established elevations. Additional schools in the vicinity of the project area. A sewage disposal area is noted just southeast of the project alignment.
1972/1980 Topographic Maps	Few changes in the project area between 1962 and 1980. Topographic changes noted along project alignment in 1980 with addition of a small pond present south and west of rail and

	elimination of the small pond on creek reroute indicated in 1954. New EBDR crossing (Short St.). Surrounding areas continue to develop.
1993 Topographic Maps	Between 1980 and 1993, significant development south of rail. The sewage disposal feature is replaced with a gaging station. A large structure is present on the west bank of the EBDR across from gaging station. Additional structures further to the west. Much of the previously undeveloped area is now designated as a community park, and the small pond south and west of the rail is a larger pond system, and is adjacent to a new high school. Spoil material appears to be placed in a mound between ponds. The St. Joe Creek outlet/crossing is modified. Two detention ponds constructed between 1980 and 1993 directly north of the project area.
1998/2012	Few changes in the project area between 1993 and 2012.

A series of historical aerial photographs were reviewed between 1939 and 2012. Findings from review of aerials are included in **Table 2**. Because the aerial photographs were collected from the center of the project area, not all photos capture changes to the extreme northern and southern portions of the project area. Historical aerial photographs for the project area are included in **Attachment 2**.

Table 2: Summary of Historical Aerial Photograph Review – Lisle Levee

1939	Project area is developed with residential north of rail. EBDR appears channelized and tree lined. South of Ogden, property appears farmed. Meander present, unclear if removed.
1946	Begin construction of creek reroute south of rail; indicated by disturbed land surface and new small pond. Large vegetation growing along EBDR (*presumed trees*).
1952	Additional development in residential area, farming continues south of rail. No changes in project area.
1954/1962	Large structure east of EBDR south of rail built between 1954 and 1962, appears commercial in nature. *Current location of Lisle Lanes, a recreational facility*. There appears to be access to the EBDR at this location – investigate during site visit. Crossing north of rail, *presumed Burlington Ave*, constructed.
1972	Between 1962 and 1972 the large vegetation is removed from the banks of the river. *Possible levee construction in the project area occurred between 1962 and 1972.* New structure adjacent to previous and further south along Lincoln, *presumed P&L motor and school*. Access to river in area removed. Ogden ramps constructed in vicinity. Meanders no longer wet signature.
1974	Short Street overpass constructed, development to the west (*high school*)
1983	Ponds south and east of rail present, along creek reroute, and other land disturbing activities noted to the west. Recreational features being

	developed in the community park. Little vegetation along EBDR. Some residential structures appear to encroach into what is presumed levee near Ogden.
1988	Large land disruption near the high school and ponds west of the EBDR. Filling or other land modifications on the east bank EBDR, coloration is black, unknown action between rail and Short St.
1994	Ponds south and west of rail graded and recreational amenities added, including piers, trails, and access. Parking facilities constructed in community park, near project area.
1998/2005	Unknown land activities conducted adjacent to the EBDR, east bank. Behind P&L and Lisle Lanes to the south. *This area appears disturbed in current aerials and is adjacent to a fenced lot, presumed junk yard – investigate during site visit.*
2006/2007/ 2007/2010/ 2011/2012	Additional amenities added to the community park area, both along the west and east banks. No additional questionable land disturbing activities. Vegetation appears to flourish in recent aerial images. Only the area highlighted in older photos (1962, 1988, 1998, 2005) remains a concern – east bank between the rail and Short St. Current aerial images suggest soil staining onsite.

Review of historical topographic maps and aerial photographs suggest that the project area was undeveloped and not used for industrial purposes. Adjacent properties are a combination of residential, recreational, and commercial facilities. It appears that the waterway has been modified over time consisting of creek reroutes, channelization of the EBDR, construction of levee (between 1962 and 1972), and creation of ponds and/or detention facilities. Additional information gathering is recommended during site reconnaissance to determine the status of the following potential RECs:

- The property adjacent to the project area along the east bank between the rail and Short St. has consistently undergone a series of unknown land disruptions starting in 1954 through 2012. In addition, east bank south of the St. Joseph Creek near Lisle Auto and Tire is disturbed in recent aerial images. No topographic changes are noted in historical maps in these areas, but there are portions of the areas that are currently unvegetated. The status of these properties should be investigated during a site visit because they are adjacent to the project, the nature of activities conducted on the site are unknown, and access to the river from these adjacent areas (and across the levee) is noted in historical images.
- Sewage disposal area noted in the 1962 topographic map.

Lacey Creek

A series of historical topographic maps between 1908 and 2012 were reviewed for the Lisle levee project area. Findings are presented in **Table 3**. Historical topographic maps for the project areas are included in **Attachment 3.**

Table 3: Summary of Topographic Map Review – Lacey Creek

1908 Topographic Map	The EBDR appears unchannelized/unmodified. The areas adjacent to the river are undeveloped. An unimproved roadway is located north of Lacey Creek and leads to a structure. There are wetlands upstream of the restrictor area.
1948 Topographic Map	No changes in the project area, or adjacent to the Lacey Creek, between 1908 and 1948.
1954 Topographic Map	The EBDR is channelized. The unimproved roadway that was north of Lacey Creek has been removed by 1954 and is replaced with an improved roadway that runs south from Butterfield Road. The road leads to multiple structures located north of Lacey Creek. Two small inlets to Lacey Creek have formed, one from the north and east, and one from the south and west. A series of roadways are present south and west of the restrictor project area, where Morton Arboretum is currently located. The area surrounding the project area appears to be developing residential.
1962 Topographic Map	Between 1954 and 1962, a utility corridor has developed along the alignment of Lacey Creek. Topographic maps indicate power transmissions lines and towers extend through the project area. Morton Arboretum labeled. Residential development continues in the surrounding area.
1972/1980 Topographic Maps	Few changes in the project area between 1962 and 1980. Lacey Creek no longer meanders in the utility corridor and appears to be aligned along the power transmission lines in 1972.
1993 Topographic Maps	Between 1980 and 1993, structures present along roadway north of Lacey Creek have been removed, roadway remains. The area is labeled “Hidden Lake County Forest Preserve”. Radio tower located along developed road at Butterfield. Toll way construction south and east of project area. Multiple in-line reservoirs or water bodies adjacent to the EBDR in the area.
1998/2012	1998, additional water storage along EBDR near Lacey Creek outlet. No changes in 2012.

A series of historical aerial photographs were reviewed between 1939 and 2015. Findings from review of aerials are included in **Table 4**. Historical aerial photographs for the project area are included in **Attachment 4**.

Table 4: Summary of Historical Aerial Photograph Review – Lacey Creek

1939	The project area is undeveloped. EBDR meanders are visible, but it appears that the River has been channelized by 1939. Inlet north and east of Creek present.
1946	Some areas adjacent to Lacey Creek appear to have consistent rows of disturbance/plots, presumed to be part of an orchard. There is a series of buildings further upstream along Lacy Creek of unknown origin, possibly farm and outbuildings (southeast of project site). Surrounding areas are undeveloped or farmed.
1952/1955/ 1962	Consistent rows of plots removed from adjacent property in 1953 image, no other changes in land use in the area during the period of 1952-1962. Wet signatures upstream along Lacey Creek, indicating floodplain limits. Filled in DuPage River previous meanders continue to be wet and are visible in 1955 north of project area, as are areas adjacent to the EBDR. Series of buildings further upstream have changes in topography and land disturbance.
1972/1974/ 1983	Structure crossing Lacey Creek present in 1972. Creek is channelized in the area (1972). No change in the land use between 1972 and 1983. Utility towers are clearly visible in 1983 image and appear to be offset from the creek crossing by ~200 feet.
1993	Between 1983 and 1993, Hidden Lake is constructed north and west of the project area, with the Lacey Creek outlet no longer terminating at the EBDR, but appears to flow through wetland or inline storage, or flooded area. Property east of the creek crossing may have been used for staging and/or storage. Structures present upstream of project area, south and east of project, have been removed.
1998-2015	Few changes in the project area. Utility corridor well-kept and adjacent forest preserve and amenities for public access to areas develops.

Review of historical topographic maps and aerial photographs suggest that the project area was undeveloped and not used for industrial purposes. Adjacent properties appear to remain undeveloped, with conversion of previously undeveloped or farmed areas into recreational facilities and forest preserve. A utility corridor is present along the previously meandering Lacey Creek and appears to be well-kept. A site visit is recommended to determine the current condition of the project area.

Bolingbrook Quarry

A series of historical topographic maps between 1892 and 2012 were reviewed for the Bolingbrook Quarry project area. Findings are presented in **Table 5**. Historical topographic maps for the project areas are included in **Attachment 5**.

Table 5: Summary of Topographic Map Review – Bolingbrook Quarry

1892 Topographic Map	Project area undeveloped. "East Fork" noted (EBDR). Multiple small drainage ways draining into the river from both the north and south.
1923 Topographic Map	Isolated structures on major roadways present in the project vicinity. One structure located in project area along Royce road (to the north). All small drainage ways eliminated, with the exception of one, which enters the river west of the project area. Floodplain wetlands noted along river to the east.
1954 Topographic Map	Between 1923 and 1954, quarrying began onsite. The river is channelized east of the quarry through the floodplain wetlands.
1962 Topographic Map	Open water located within the quarry and project area, elevations 638/639 from previous upland elevation of 650. Large meanders cut off from river to the south.
1973/1980 Topographic Maps	Development in the vicinity of the project with the addition of multiple residential communities and developments to the south. Extent of quarrying operation expanded, fewer open water ponds onsite. Structure along Royce Road removed. Previous inlet stream appears to be rerouted into quarried area west of project site.
1993/1998 Topographic Maps	Hidden Lakes Park located in previous large meander bend that was disconnected from the river. Quarrying west of project area, Whalon Lake present, though not named. Gravel pit boundaries extended with ongoing quarrying, temporary access roads added on the north side of the project area. "Sewage disposal" indicated adjacent to the project area on the east side of the quarry. Residential development to the north.
2012	"Sewage disposal" note removed and replaced with multiple small structures on the east side of the quarry.

A series of historical aerial photographs were reviewed between 1939 and 2012. Findings from review of aerials are included in **Table 6**. Historical aerial photographs for the project areas are included in **Attachment 6**.

Table 6: Summary of Historical Aerial Photograph Review – Bolingbrook Quarry

1939	Project area is undeveloped, farming. Large meander channelized. Homestead north along Royce Road. South of river, vegetated with dense trees.
1946	No change.
1952	Quarry active. Several structures noted in the homestead along Royce Road. Access roads onsite. Small inlet stream channelized to the northwest.
1954	Quarry extends operation to the east.
1962	Quarry operation extends further east. Several open water ponds onsite.

1973/1978/1983	Extent of open water ponds increased. Additional open water areas west of the project site (Whalon Lake). Structures along Royce Road removed.
1994	Fill activities onsite in previous open water ponded area east.
1998	Fill activities extend. More than half of previous open water pond is converted to upland area.
2006	Open water ponds filled. Whalon Lake appears under construction.
2009/2012	Whalon Lake complete with trail and amenities. Quarry/project area dry, with the exception of a small pond and ditch on southern portion of property.
2015	Open water pond located on northern portion of project area.

Review of historical topographic maps and aerial photographs suggest that the project area was extensively modified with a combination of quarrying and filling operations and is a potential REC. Recommendations for future investigations, if area is selected for implementation:

- While the project area may not need to be modified to store water onsite (due to previous quarrying activity leaving a large void onsite), additional investigation into the extent of historic site modifications and potential to encounter unknown quality fill in the project footprint should be investigated further.
- The impacts of storing flood water at the quarry facility may have the potential to impact existing groundwater users or facilitate leaching of contaminants from previously placed fill materials. Coordination with the State of Illinois Environmental Protection Agency should be conducted to address site modifications and how the modifications may impact the current adjacent site users.

DATABASE SEARCH

A search of available environmental records was conducted utilizing Environmental Database Resources, Inc. (EDR). EDR searched federal and state databases using the minimum search distances issued in the ASTM E 1527-13 guidelines; radius searches were extended where necessary to accommodate the size of the site. **Table 7** notes the recommended ASTM search distances for federal and state databases. The EDR overview maps displaying the project areas and the search results are given in **Figures 7, 8 and 9**. The comprehensive EDR database reports are provided in **Attachments 7, 8 and 9**. Analysis of information included in the EDR database, the status of the sites, and a summary of the potential project impacts are included in **Tables 8, 9 and 10**.

Table 7: Minimum Search Distance for Federal and State Databases

Database	Approximate Minimum Search Distance (mi)
Federal NPL Site List	1.0
Federal CERCLIS List	0.5
Federal CERCLIS NFRAP site list	Property and Adjoining Properties
Federal RCRA CORRACTS Facilities List	1.0
Federal RCRA non-CORRACTS TSD Facilities List	0.5
Federal RCRA Generators List	Property and Adjoining Properties
Federal ERNS List	Property Only
State Equivalent NPL	1.0
State Equivalent CERCLIS	0.5
State Landfill/Solid Waste Disposal Site Lists	0.5
State LUST Lists	0.5
State registered UST List	Property and Adjoining Properties

Federal and State Databases

CERCLIS

The Comprehensive Environmental Response, Compensation, and Liability, Information System (CERCLIS) contains data on any potential hazardous waste site that has been reported by states, municipalities, private companies, or private persons pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLIS database indicates the stages of evaluation and remediation that have been completed for any given site. The CERCLIS database includes the National Priority List

(NPL), which identifies over 1,200 sites for priority cleanup under the Superfund program, and the CERCLIS-No Further Remedial Action Planned (NFRAP) List, which includes a listing of sites that have been removed from CERCLIS.

RCRIS

The Resource Conservation and Recovery Information System (RCRIS) lists sites which generate, transport, store, and/or dispose of hazardous waste defined by the Resource Conservation and Recovery Act (RCRA). The RCRIS database includes RCRA Corrective Action Report (CORRACTS), which identify hazardous waste handlers with RCRA corrective action activity; RCRA treatment, storage, and disposal facilities (TSDFs), and RCRA conditionally exempt small quantity generators (CESQGs), RCRA small quantity generators (SQGs), and large quantity generators (LQGs) facilities.

SPILLS

The SPILLS database contains a listing of hazardous materials incidents reported to the Illinois Emergency Management Agency and the Office of Emergency Response.

ERNS

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

SSU

A State equivalent CERCLIS database: the State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA's State Sites Unit. These sites may or may not have already been listed on the federal CERCLIS list.

SWF/LF

The IEPA records the state's Solid Waste Facilities/Landfill sites (SWF/LF). These sites may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

IMPDMENT

Statewide inventory of industrial, municipal, mining, oil & gas, and large agricultural impoundment. This study was conducted by the Illinois EPA to assess potential for contamination of shallow aquifers. This was a one-time study. Although many of the impoundments may no longer be present, the sites may be contaminated.

LUST/UST

The Illinois State Fire Marshall maintains a listing of registered underground storage tanks (UST), as required by RCRA Subtitle I. The Illinois Environmental Protection Agency maintains a listing of leaking underground storage tank reports (LUST).

BOL

Bureau of Land inventory for facility information. Data results are cross-linked with all on-line database system applications from IEPA - Bureau of Land as well as USEPA FRS database.

SRP

The Site Remediation Program (SRP) database lists all voluntary remediation projects administered through the pre-notice site clean-up program (1989 to 1995) and the site remediation program (1996 to present). Some of the SRP sites have engineering and/or institutional controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. Institutional controls include administrative measures, such as groundwater use restriction, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restriction are considered an institutional control.

Finds

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Lisle Levee

A database report for the Lisle Levee project site is included in **Attachment 7**. The database search for Lisle Levee was extended ½ mile beyond the recommended ASTM search distances to accommodate the length of the project area. As a result, the database report contains an excessive number of returns. Only facilities that are on, adjacent, or within ¼ mile of the levee area project area are reviewed as part of this report; results are shown in **Figure 7** and summarized in **Table 8**. In general, there are several entries in the EDR report that are directly adjacent to the project area with little to no information of

the history of environmental compliance activities at each site. Due to the proximity of the site to the project area, the status of the following facilities should be conducted during site reconnaissance to determine the current status:

- FINDS, EDR Site # A2/A3, located at 4722 Dumonlin. The site is adjacent to the project area along the east bank. There is no additional information on the facility, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4722 Dumoulin appears to be a private residence.
- FINDS, EDR Site #4, located at 4723 River Drive. The site is adjacent to the project area along the west bank. There is no additional information on the facility, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4723 River Drive appears to be a private residence.
- Il SWF/LF, EDR Site #E31 is registered to Valente, Orlando located at 1600 Ogden Avenue, approximately < 1/8 mile west of the project area. The landfill is listed as inactive, unpermitted, and unauthorized, and was discovered 7/23/80. Property appears to be a business, Crest Lighting.
- IMPDMENT, EDR Site #AE187 is registered to the DuPage County of Public Works, and is adjacent to the project area along the west bank. The facility is listed as a municipal impoundment, oxidation treatment.

Lacey Creek

The recommended ASTM search distances were used for the Lacey Creek restriction project site; a database report is included in **Attachment 8**. Results are shown in **Figure 8** and summarized in **Table 9**. In general, it appears that there are very few regulated environmental facilities on or near the project area. One LUST, registered for Shell Oil Product, U.S., is located ¼ to ½ mile north northwest of the project site. A NFA/NFR letter dated December 6, 2004 signifies no further action is required for the reported release at the facility.

Bolingbrook Diversion Channel with Quarry Storage

The recommended ASTM search distances were used for the Bolingbrook Quarry site; a database report is included in **Attachment 9**. Results are shown in **Figure 9** and summarized in **Table 10**. In general, results suggest that the quarrying operation has obtained permits required to operate, including NPDES water and AIR permits, with no indication or records of uncontrolled releases or permit violations. According to TIER2 database, the facility appears to store chemicals onsite. Database returns also indicate that fly ash may be present onsite; it is unknown if fly ash was used as fill onsite after quarrying or if the material is used for processing. The site is also registered as a CCDD disposal facility, which suggests that recent fill placement at the site may be "clean" material. The nature and extent of chemical storage, waste materials, and/or fly ash presence on the site should be confirmed during site reconnaissance and/or during interviews with the site owner.

Table 8: Lisle Levee EDR Search Results

Database	Map ID	Site Name	Proximity to Site	Status	Potential Impact
ERNS	1	1505 Burlington Ave	*Adjacent, west bank*	Unknown material released from outfall creating sheen on the waterway on 5-8-2001, East Branch. No other information available.	Sediments in the area of the release may have been impacted, the scope and scale of impact is unknown. Because levee improvement activities will not require excavation in the channel, any previous releases in the channel are unlikely to have impacted project area or upland levees.
FINDS	A2/A3	4722 Dumonlin	*Adjacent, east bank*	No additional information on site, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4722 Dumoulin is a private residence.	*Due to proximity of site to project area, confirm status during site reconnaissance. Structures appear in current aerial near levee in area (unimproved access road).
FINDS	4	4723 River Dr	*Adjacent, west bank*	No additional information on site, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4723 River Dr. is a private residence.	*Due to proximity of site to project area, confirm status during site reconnaissance. Structures appear in current aerial near levee in area (unimproved access road).
RCRA-SQG ECHO FINDS BOL	B5/B6	Village of Lisle (5040 Lincoln Ave)	*1/8 mile east*	RCRA SQG (2002), lead materials, no violations	No reported release. REC unlikely.
FINDS	11	Vernon Park Place (5010 Vernon Park Pl)	*1/8 to ¼ mile east*	No additional information on site, or why site is listed in FINDS. Additional queries conducted online did not reveal	No reported release. REC unlikely.

				additional information. 5010 Vernon Park Place appears to be a multifamily residential structure.	
UST SPILLS FINDS	E16/ E35	Ciaglia, Ron (1601 Ogden	*< 1/8 mile west*	1-gasoline UST exempt from registration, last used 1973	No reported releases, REC unlikely. Construction unlikely to impact UST - not on or adjacent to project area.
EDR Hist Auto BOL FINDS	F17/ F18/ F19	Lisle Automotive & Tire (1508 Ogden) – previously Tom's Clark Super Station	*< 1/8 mile west*	No additional information available on State or Federal databases	No reported releases. REC unlikely.
BOL	E22	Diehl Auto Repair (1532 Ogden)	*Adjacent, west bank*	No additional information available on State or Federal databases	No reported releases. REC unlikely.
Il SWF/LF	E31	Valente, Orlando (1600 Ogden Ave)	*< 1/8 mile west*	Inactive, unpermitted, unauthorized landfill. Discovered 7/23/80. Property appears to be a business, Crest Lighting.	*Confirm status of facility during site reconnaissance.
FINDS	32	4711 Garfield Ave	*¼ mile east*	No additional information available on State or Federal databases. Undeveloped property.	No reported release. REC unlikely.
SPILLS BOL FINDS	E33/ E34/ E35	Holleb & Co (1624 Ogden Ave)	*< 1/8 mile west*	Diesel fuel on property, reported 7/10/1989. Truck, 50 gallons from fuel line. Cleanup conducted by STS/Heritage Remediation.	Reported releases addressed. REC unlikely.
RCRA-CESQG UST	I46/ I47/	Curtis Graphics Corp (1702 Ogden Ave)	*1/8 to ¼ mile west*	RCRA-CESQG, no violations	No reported releases. REC unlikely.

BOL FINDS ECHO NY MANIFEST					
UST	I48	Santilli (Bob) (1710-1712 Ogden)	*1/8 to ¼ mile west*	Facility listed as an unattended self-service facility. 2-USTs, lasted used in 1968.	No reported releases. REC unlikely.
FINDS	102	Chirch (1304 Lacey)	*1/8 to ¼ mile east*	No additional information on site, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 1304 Lacey is a private residence.	No reported release. REC unlikely.
RCRA-SQG FINDS ECHO Hist Clean	V147/ V148	153 Cleaners (5328 Main)	*1/8 to ¼ mile east*	RCRA SQ generator, no violations	No reported releases. REC unlikely.
LUST UST SRP BOL FINDS	W151/ W153/ W154	Lincoln Center, Jones & Jones, Inc. (4513 Lincoln)	*1/8 to ¼ mile east*	UST – heating oil tank exempt from registration. Lasted used 1972. LUST – no NFA/NFR recorded. Addressed under SRP. SRP – active site, NFA/NFR letter dated 10/30/17.	Reported releases addressed. REC unlikely.
UST	167	Amoco SS 5483 Facility 13195	*1/8 to ¼ mile east*	Facility closed, USTs removed.	No reported releases. REC unlikely.

UST	170	Tate Woods School (1736 Middleton)	*1/8 to ¼ mile west*	1-Heating oil tank, exempt from registration.	No reported releases. REC unlikely.
RCRA-CESQG	182	Jewel Osco 3056 (1156 Maple Ave)	*1/8 to ¼ mile east*	RCRA-CESQG, no violations	No reported releases, REC unlikely.
RCRA-CESQG	AE183	EMSL IL (1440 Maple Ave)	*Adjacent, west bank*	RCRA-CESQG, no violations	No reported releases, REC unlikely.
IMPDMENT	AE187	DuPage County of Public Works	*Adjacent, west bank*	Municipal impoundment, oxidation treatment. Property contains multi-family housing complex, apartments.	*Due to proximity of site to project area, confirm status during site reconnaissance.

Table 9: Lacey Creek EDR Search Results

Database	Map ID	Site Name	Proximity to Site	Status	Potential Impact
LUST	1	Shell Oil Products (22 W Butterfield Road)	*¼ - ½ mile NNW*	LUST, unleaded gasoline, NFA/NFR letter dated 12/6/2004	Reported releases addressed. REC unlikely.

Table 10: Bolingbrook Quarry EDR Search Results

Database	*Map ID*	*Site Name*	*Proximity to Site*	*Status*	*Potential Impact*
FINDS ECHO	*A1*	*Elmhurst Chicago Stone (351 Royce Road)*	*onsite*	*Facility listed in IEPA database as an NPDES water discharger, ICIS-NPDES non-major source. Permit expired Feb 2017. No violations reported.*	*No reported uncontrolled releases. REC unlikely.*
US AIRS FINDS ECHO	*A2*	*American Material Sales (351 Royce Road)*	*onsite*	*Facility listed as a minor discharger. No violations reported.*	*No reported uncontrolled releases. REC unlikely.*
CCDD AIRS BOL TIER 2 RCRA nongen ICIS US AIRS	*A3/A4/ A5*	*Barbers Corners/Vulcan (351 Royce Road)*	*onsite*	*Registered CCDD clean fill site – status unknown.* *AIRS – multiple permits, previous violations are administrative and informal.* *Facility stored chemicals onsite (2016): calcium chloride, cement, fuel, fly ash, polarset* *RCRA nongen – confirmed – no violations*	*No reported uncontrolled releases from facility operations. However, multiple chemicals and/or waste products stored onsite. Confirm site status through site reconnaissance.*
LUST	*7*	*Elmhurst Chicago Stone (Royce and Green Road)*	*adjacent*	*LUST, diesel, NFA/NFR letter dated 12/10/1996*	*Reported releases addressed. REC unlikely.*

SITE RECONNAISANCE

A site visit was conducted to the Lisle Levee project area and the Lacey Creek project areas. The site visit was conducted on May 10, 2018. The weather on the date of the site visit was sunny, temperature in the mid-70s. There were thunderstorms and heavy rain in the area 24-hours prior to the site visit. Photo documentation of the site visit is provided in Attachment 10.

The Lacey Creek project area is accessible through the Hidden Lake Forest Preserve; an existing trail network was used to access the project area. An undeveloped path leads from a footbridge crossing the EBDR along the east bank of the river to Lacey Creek. The Hidden Lake Forest Preserve is well-kept and was actively being used for recreation on the day of the site visit. The area surrounding Hidden Lake and Lacey Creek appears to be undeveloped forest preserve and river floodplain. There are two existing culverts in Lacey Creek at the project location, both were clogged with a significant amount of woody debris. Some of the wood indicated signs of beaver activity in the area. Surficial substrate downstream of the culverts consisted of cobble and a thick layer of fine-grained sediments that were not stable for entry to the creek bed. Deposits of fine-grained material may originate from the creek that inlets on the east bank north of the culverts. Water depth was a few inches. Substrate upstream of the culvert consists of organics with woody debris and river cobble; water depth upstream of the culverts could not be determined, though appears to be several feet deep. Multiple utilities are located near the project area including overhead power lines, buried fiber optic cable, and gas line. In addition, flags noting location of existing drain tile were visible in the project area, and disabled/broken clay drain tile was found on the east side of the creek in multiple locations. There were several areas near the river where existing vegetation is in poor condition, likely a result of being the floodplain. There were no signs of HTRW in the project area. Photos of Lacey Creek project area are provided as images 713 through 727 in Attachment 10.

The required rights-of-entry onto the properties required for implementation of the Lisle Levee improvements project were not obtained prior to the site visit; the site visit did not include a complete review of all of the project areas as a result, and is a limitation to this investigation. Accessible areas adjacent to the existing levee include public roadways, including Maple Avenue, Lincoln Avenue, Short Street, Burlington Avenue, River Drive, Dumoulin Avenue, and Lacey Avenue. A community park is located on the west bank of the near Short Street and includes a trail that was used to view project areas south of Burlington Avenue. Photos of the project area are included in Attachment 10 and levee photo locations are presented in Figure 10. In general, most of the levee located in the northern portion of the project that is adjacent to private residences appears well-kept and mowed (images 702, 703, and 709 through 711). There are areas of the levee that contain shrub or trees on the levee itself and/or within the toe of the existing structure. In addition, utility poles are present within the crest of the levee. Existing pumps are located along both sides of the river at Lacey and River Avenues (images 707 and 708). There appear to be empty lots adjacent to the levee that have undergone recent changes, with multiple properties containing new vegetation and silt fencing (images 710 and 711).

There are locations throughout southern portions of the Lisle Levee project area where shrub vegetation and trees appear to densely vegetate the east bank of the river. The west bank of the river is well-kept through the community park. Photos of project area south of Short Street are included as images 697 through 701. No signs of HTRW were visible in portions of the project area visited.

The potential RECs identified in other sections of this report near the Lisle Levee project area were visited during the site visit and notes are summarized below:

- FINDS, EDR Site # A2/A3, located at 4722 Dumonlin. The site is adjacent to the project area along the east bank. There is no additional information on the facility, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4722 Dumoulin was visited and is the location of the pumps that are presumably part of the existing levee and flood protection system. The area showed no visible signs of HTRW.
- FINDS, EDR Site #4, located at 4723 River Drive. The site is adjacent to the project area along the west bank. There is no additional information on the facility, or why site is listed in FINDS. Additional queries conducted online did not reveal additional information. 4723 River Drive was visited and is the location of the pumps that are presumably part of the existing levee and flood protection system. The areas showed no visible signs of HTRW.
- Il SWF/LF, EDR Site #E31 is registered to Valente, Orlando located at 1600 Ogden Avenue, approximately < 1/8 mile west of the project area. The landfill is listed as inactive, unpermitted, and unauthorized, and was discovered 7/23/80. Property appears to be a business, Crest Lighting. 1600 Ogden Avenue was visited and currently appears to be an unoccupied building. The property was in good condition; no signs of a landfill were visible from adjacent roadways. The property does not appear to contain a REC.
- IMPDMENT, EDR Site #AE187 is registered to the DuPage County of Public Works, and is adjacent to the project area along the west bank. The facility is listed as a municipal impoundment, oxidation treatment. This site could not be located as mapped in the EDR report, which did not include an address. However, a public works building was located near the river at a community park, investigated because it is listed as a "sewage disposal area" in the 1962 topographic map, south and east of the project area. The area was in good condition (image 712). There were no visible signs of HTRW in the area.
- The property adjacent to the project area along the east bank between the rail and Short St. has consistently undergone a series of unknown land disruptions starting in 1954 through 2012. This portion of the project area was not accessible, and was only partially visible from Lincoln Avenue. One portion of the area is marked as private property, is gated, and contains warnings for potential fly dumpers. The current use of the property is unclear, but piles of gravel are visible from the roadway (image 704). It is unclear if current activities extend into the footprint of the levee improvement project. To the south, concrete pavement is present and is in poor condition (image 705). The property is currently unused but may have

housed a structure or business. A wetland may be present between the concrete pad and the river. Historical use of the property is unknown.

- East bank south of the St. Joseph Creek near Lisle Auto and Tire is disturbed in recent aerial images. No topographic changes are noted in historical maps in these areas, but there are portions of the areas that are currently unvegetated. Portions of the property are visible from Dumoulin Avenue. Unvegetated areas appear to be gravel lot for the current business (image 706). It is unclear if site activities encroach on the existing levee.

NONSTRUCTURAL MEASURES

In addition to consideration of structural measures for flood risk management, nonstructural measures, including the optimization or rehabilitation or existing structures to reduce flood risk, are also evaluated in the feasibility report. Physical nonstructural measures such as acquisitioning, floodproofing, and elevation of structures were evaluated to determine whether they are economically justified. Nonstructural features are included in the recommended plan within the communities of Shorewood, Plainfield, Bolingbrook, Lisle, and Glen Ellyn. The nonstructural plan includes modifications of 42 structures including likely acquisition of 6 structures, elevation of 9 structures, and floodproofing of 23 structures.

Phase I ESAs, or an initial assessment as appropriate for Reconnaissance Study, should be conducted as a first priority for nonstructural project areas included in the recommended plan that have no prior Phase I ESA HTRW investigation. The scope of HTRW assessment conducted for properties selected for non-structural treatment options is dependent on the invasiveness of the activity proposed. For instance, elevation or buyout and/or demolition of a structure may include land disturbing activity and waste generation/disposal. The risk of encountering an HTRW condition is greater for more invasive site work as opposed to floodproofing a structure. Because the addresses for the structures selected for nonstructural measures have not been identified, and the final nonstructural plan defined, Phase I HTRW assessments were not conducted in nonstructural project areas.

The likelihood of encountering lead-based paint or asbestos containing materials should be addressed in reconnaissance level Phase I ESA HTRW investigations for nonstructural project areas. Section 1018 of the Lead Disclosure Rule directs HUD and EPA to require the disclosure of known information on lead-based paint and lead-based paint hazards before the sale or lease of most housing built before 1978. In addition, despite asbestos being a known carcinogen, the United States has struggled to implement an asbestos ban of its own. In 1973, under the EPA's Clean Air Act, most spray-applied asbestos products were banned for fireproofing and insulating purposes. In 1976 the Toxic Substances Control Act (TSCA) gave the EPA the authority to regulate toxic chemicals like asbestos, and in 1989 the Asbestos Ban and Phase-Out rule would have imposed a full ban on the manufacturing, importation, processing and sale of asbestos-containing products. A court appeal in 1991 ruled that the ban would have been too burdensome, a violation of the TSCA, and limited the rule to only new uses of asbestos.

FINDINGS AND CONCLUSIONS

This HTRW investigation was performed to determine if HTRW and non-HTRW environmental issues at the DuPage River FRM project areas have impacted the project site or will impact implementation of the proposed project. According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW evaluation along with HTRW issues. Summary of findings from this investigation are outlined below.

A limited HTRW review was conducted for the St. Joseph Storage, Valley View Storage, and Fawell Dam project areas to determine the relative risk of encountering HTRW during implementation of a USACE project for planning screening-level purposes. While the St. Joseph Storage and Valley View Storage areas are relatively low risk sites, due to the high-risk nature of a Superfund thorium cleanup activity conducted in the area of Fawell Dam, any project proposed in the river upstream of the dam may have elevated risk for encountering HTRW. Additional investigation and/or information gathering would be required to mitigate the possible risks if a project is proposed in the area. A limited Phase I investigation for the initial Bolingbrook Quarry site is also documented in this report. Storage at the initial location identified for potential storage was eliminated during the planning phase of the study.

Complete Phase I ESAs for the Lisle Levee and Lacey Creek project areas are included in this investigation. No RECs, or potential HTRW, were identified in the Lacey Creek project area. Potential RECs have been identified for the Lisle Levee project area. Because rights-of-entry have not been provided to access all areas of the Lisle Levee project where construction may be implemented, site reconnaissance was limited to only those areas visible from public right-of-way and is a limitation to this report. Site reconnaissance should be conducted on all parcels required for construction of the project prior to project implementation to assess the current existing condition of the entire project area. Site reconnaissance is required to resolve the following potential RECs identified during completion of this investigation:

- The property adjacent to the project area along the east bank between the Railroad Bridge and Short St. has consistently undergone a series of unknown land disruptions starting in 1954 through 2012. No topographic changes are noted in historical maps. The east bank of the EBDR between the railroad bridge and Short Street was not accessible for site reconnaissance, but was visible from Lincoln Avenue. The northern portion of the area is marked as private property, is gated, and contains warnings for potential fly dumpers. The current and historical use of the property is unclear; piles of gravel are visible from the roadway. It is unclear if current activities extend into the footprint of the levee improvement project. North of the Lisle Police Department (north of Short Street) concrete pavement is present and is in poor condition. The property is currently unused but may have housed a structure or business. A wetland may be present between the concrete pad and the river. Historical uses of the property is unknown.

- East bank south of the St. Joseph Creek near Lisle Auto and Tire is disturbed in recent aerial images. No topographic changes are noted in historical maps in these areas, but there are portions of the area that are currently unvegetated. Portions of the property are visible from Dumoulin Avenue. Unvegetated areas appear to be gravel lot for the current business. It is unclear if site activities encroach on the existing levee.

Phase I ESAs, or an initial assessment as appropriate for Reconnaissance Study, should be conducted as a first priority for any project areas that have no prior Phase I ESA HTRW investigation, including areas where nonstructural measures may be implemented. If the results of additional investigations and/or site reconnaissance indicate the potential for HTRW, testing, as warranted, and analysis similar to a Feasibility Study, or Phase II Environmental Site Assessment (ESA), should be conducted as soon as practicable. Phase I ESA updates should be conducted in the design phase of the Lacey Creek and Lisle Levee projects to ensure that the Phase I ESA encompasses all features of the project and any modifications made to the project alignment during the feasibility and/or design phases.

No HTRW investigation can wholly eliminate uncertainty regarding the potential for HTRW associated with a project area. Performance of the HTRW investigation is intended to reduce, but not eliminate, uncertainty regarding the potential for HTRW in connection with a project area.

REFERENCES

American Society for Testing of Materials. Publication E 1527-13. Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process.

Department of the Army. U.S. Army Corps of Engineers. ER 1165-2-132. Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. June 1992.

IEPA Bureau of Water, 2016. Illinois Integrated Water Quality Report and Section 303(d) List, Water Resource Assessment Information and Listing of Impaired Waters.

IEPA 2014. Illinois Annual Air Quality Report 2014.

USGS 2003. Kay and others - Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02—U.S. Geological Survey Water-Resources Investigations Report 03-4105.

35 Illinois Administrative Code. Environmental Regulations for the State of Illinois.

Figure 1 – DuPage River FRM Study Area

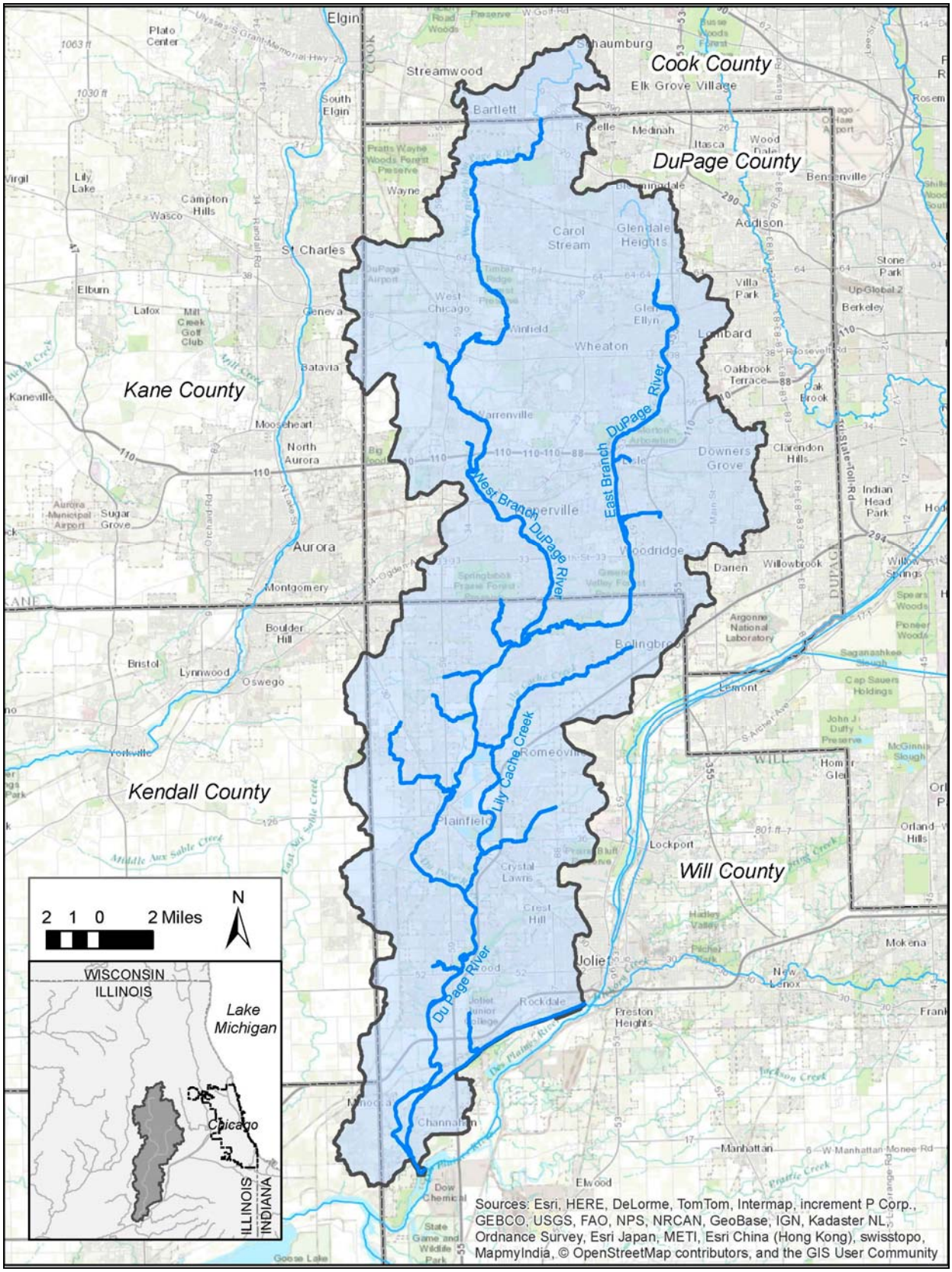
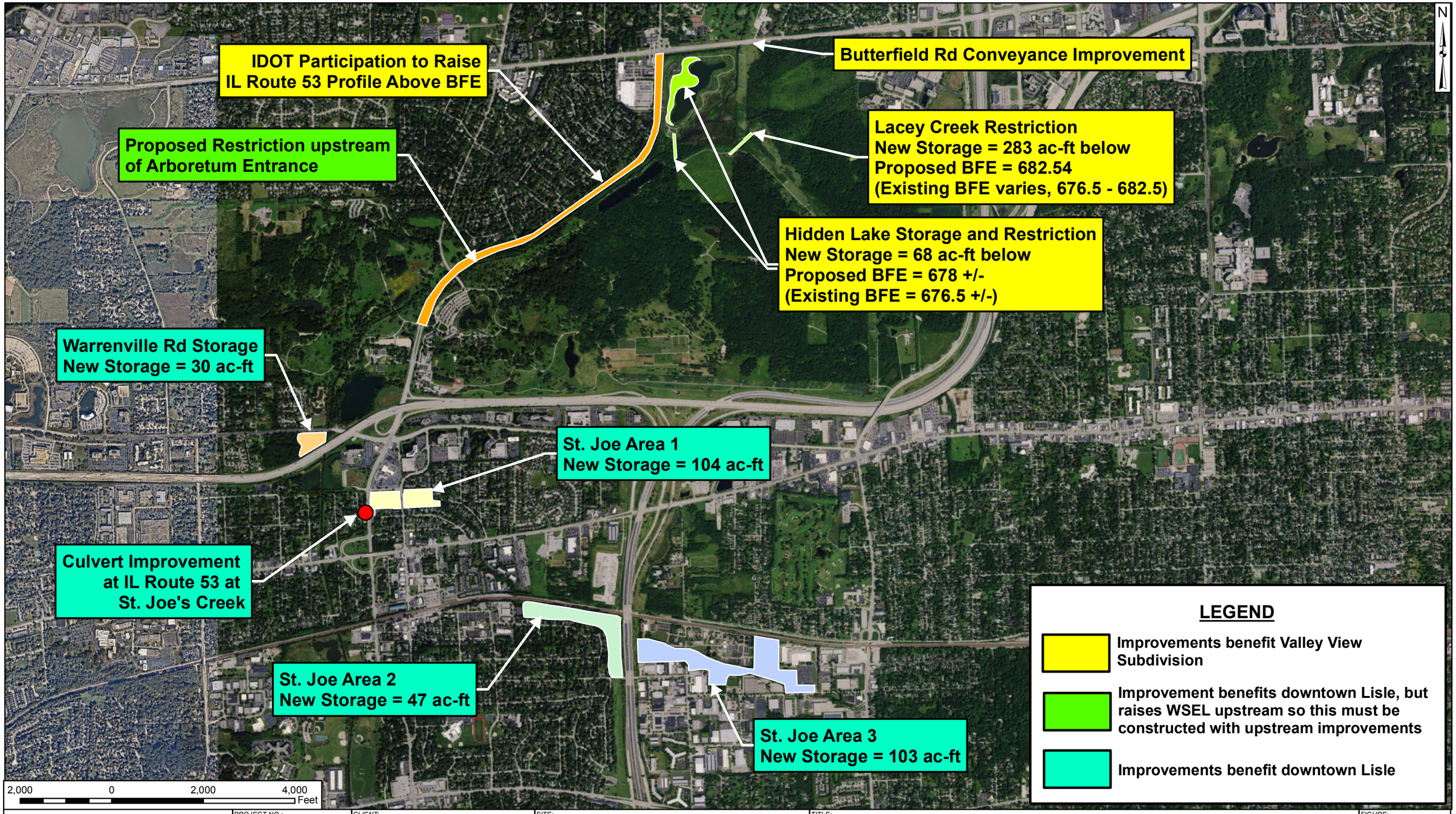


Figure 2 – Lisle Levee Project Area

Figure 3 – Bolingbrook Quarry Project Area

Figure 4 – St. Joseph and Valley View Storage Areas



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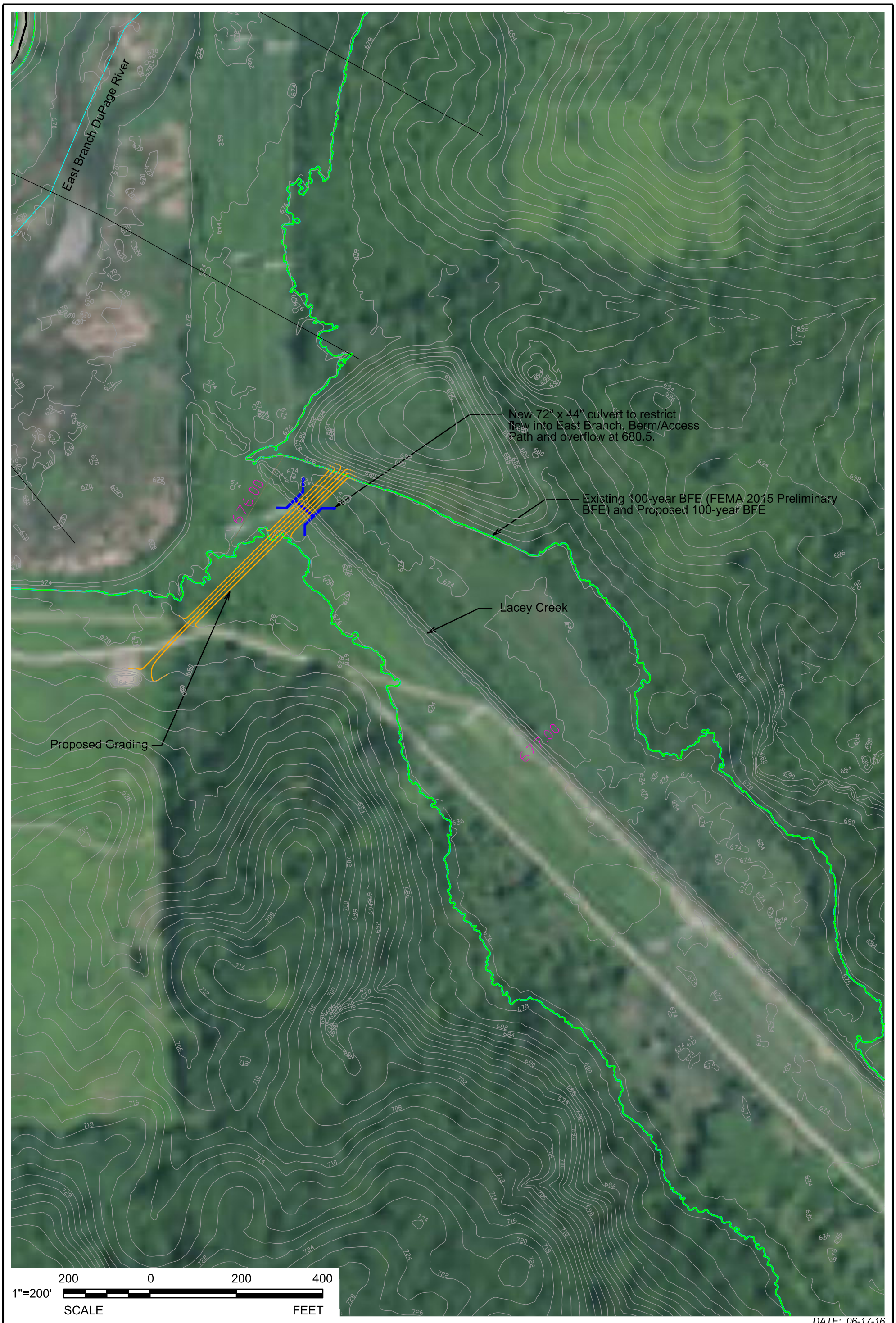
PROJECT NO.: 15109	CLIENT: DuPage County Illinois	SITE: DuPage County Flood Storage Evaluation	TITLE: **OVERVIEW OF PROPOSED IMPROVEMENTS**	FIGURE:
CREATED BY: BJV				
DATE: 10/20/16	BASE LAYER: DigitalGlobe Aerial Imagery (2015)			
SCALE: See Scale Bar				

E:\2015\15109\Drawings\ArcGIS\Exhibits\Exh1_Aerial_Overview.mxd

Figure 5 – Lacey Creek Project Area



DATE: 06-17-16

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EAST BRANCH DUPAGE RIVER RESILIENCY

DOWNERS GROVE ILLINOIS

4 - LACEY CREEK RESTRICTION

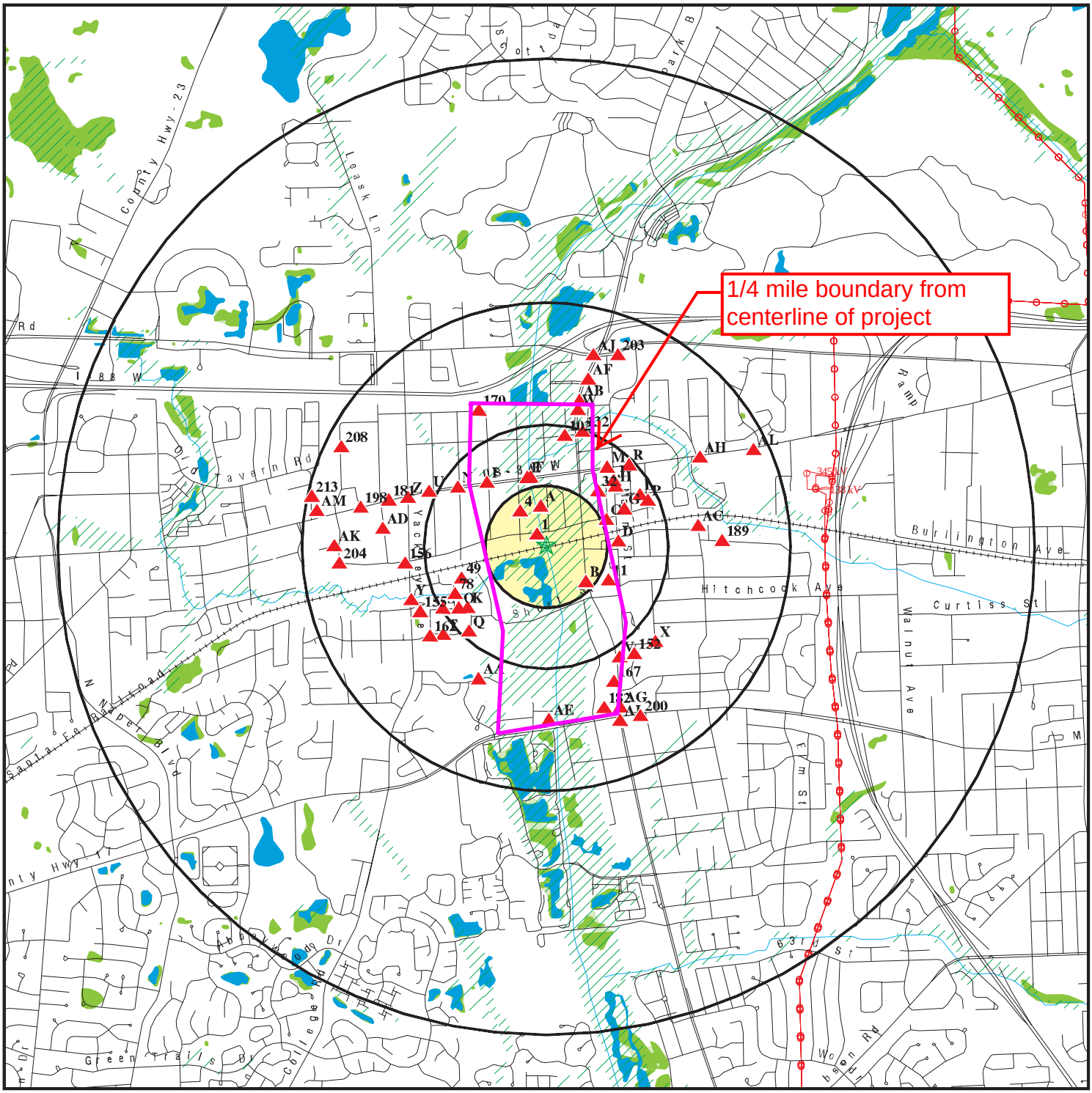
SCALE: 1"= 200'

$FILE$ 11/7/2016 10:46:33 AM

Figure 6 – Fawell Dam Project Area

Figure 7 – Lisle Levee EDR Radius Map

OVERVIEW MAP - 5157919.2S



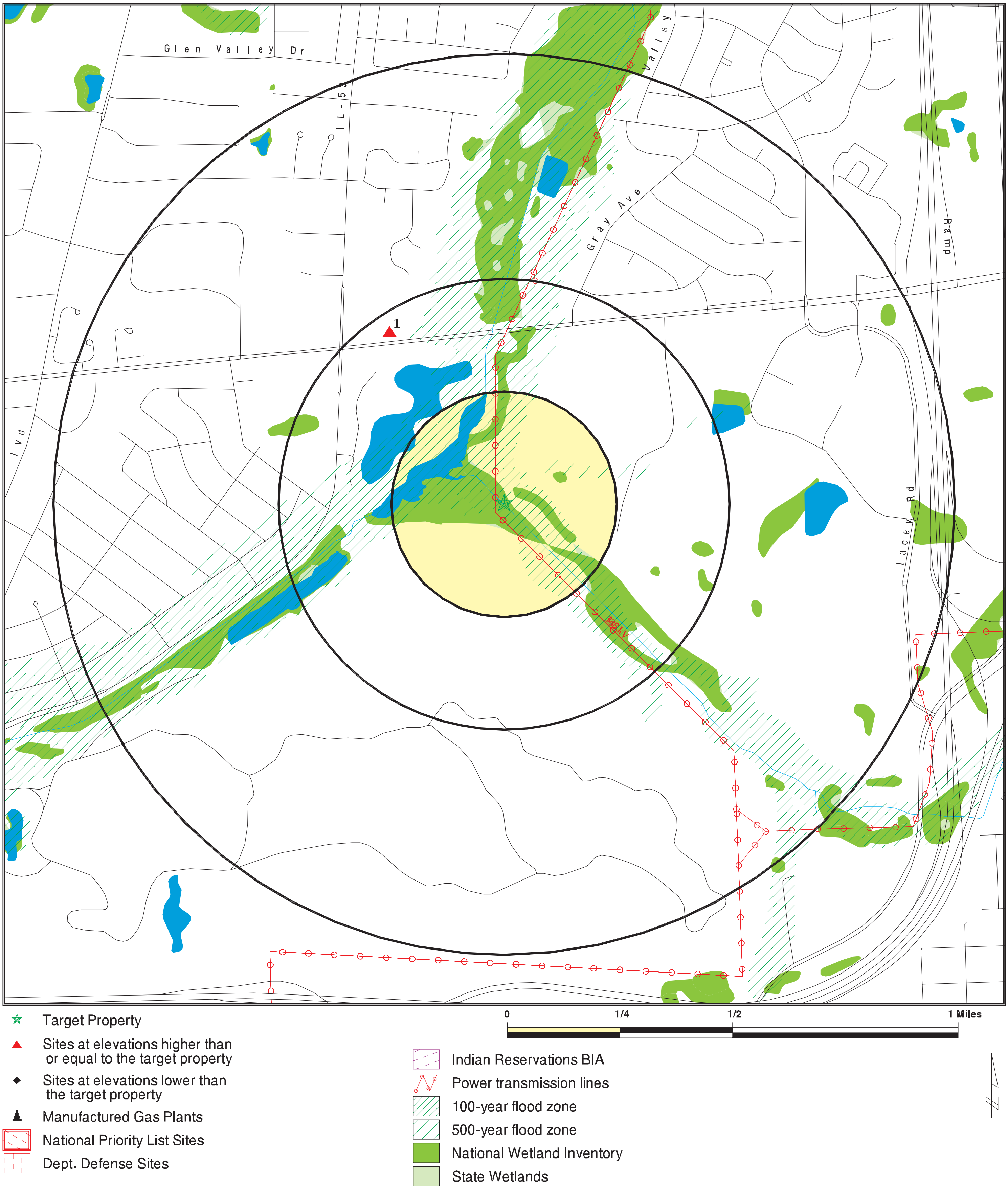
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Lisle Levee	CLIENT: U.S. Army Corps of Engineers
ADDRESS: 4920 Lincoln Ave Lisle IL 60532	CONTACT: Casey Pittman INQUIRY #: 5157919.2s
LAT/LONG: 41.796514 / 88.080103	DATE: January 12, 2018 12:59 pm

Figure 8 – Lacey Creek EDR Radius Map

OVERVIEW MAP - 5269518.2S

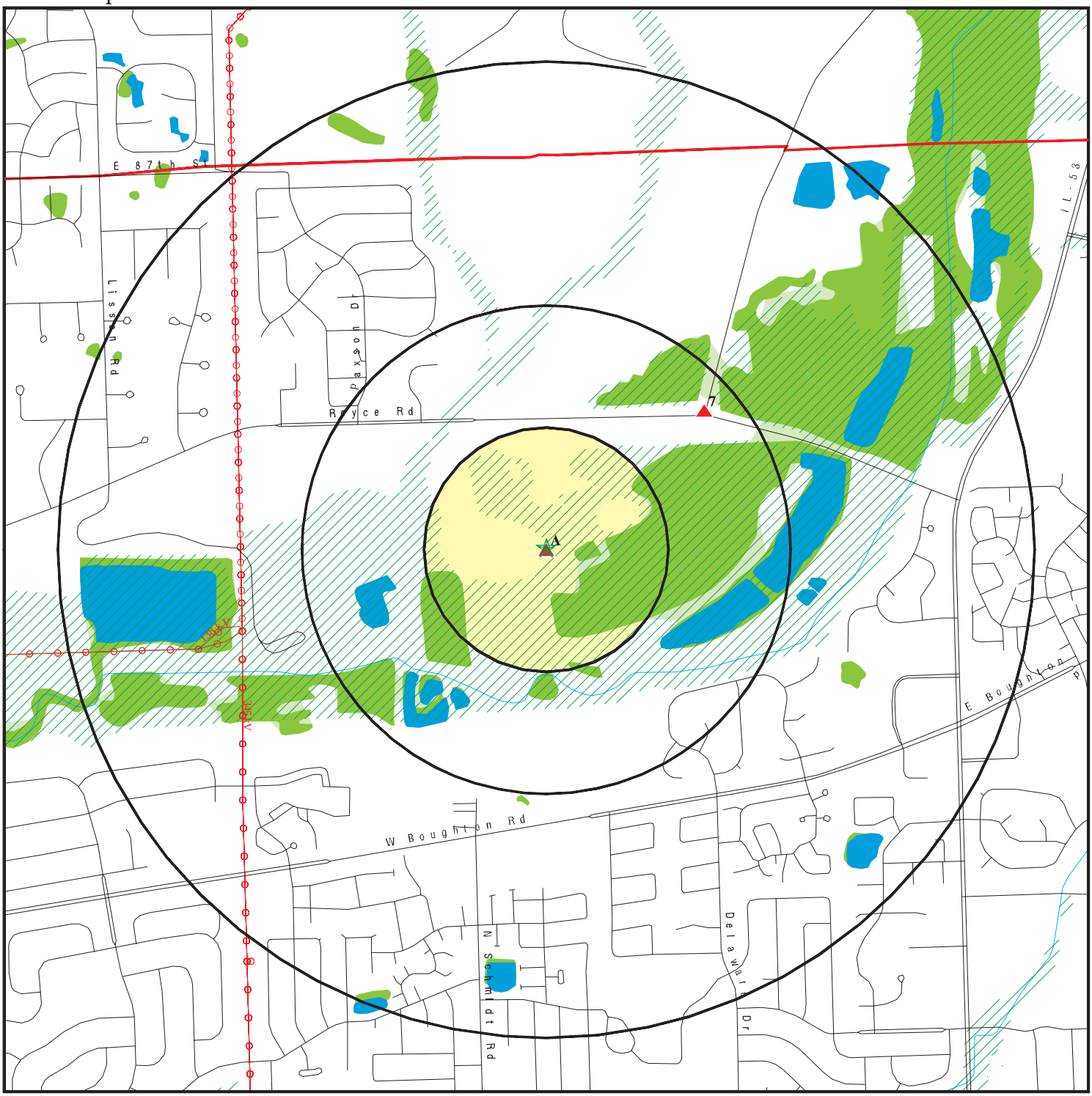


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Lacey Creek Restriction	CLIENT:	U.S. Army Corps of Engineers
ADDRESS:	Route 53/Butterfield Road	CONTACT:	Casey Pittman
	Downers Grove IL 60515	INQUIRY #:	5269518.2s
LAT/LONG:	41.826052 / 88.047318	DATE:	April 24, 2018 1:21 pm

Figure 9 – Bolingbrook Quarry EDR Radius Map

OVERVIEW MAP - 5191751.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

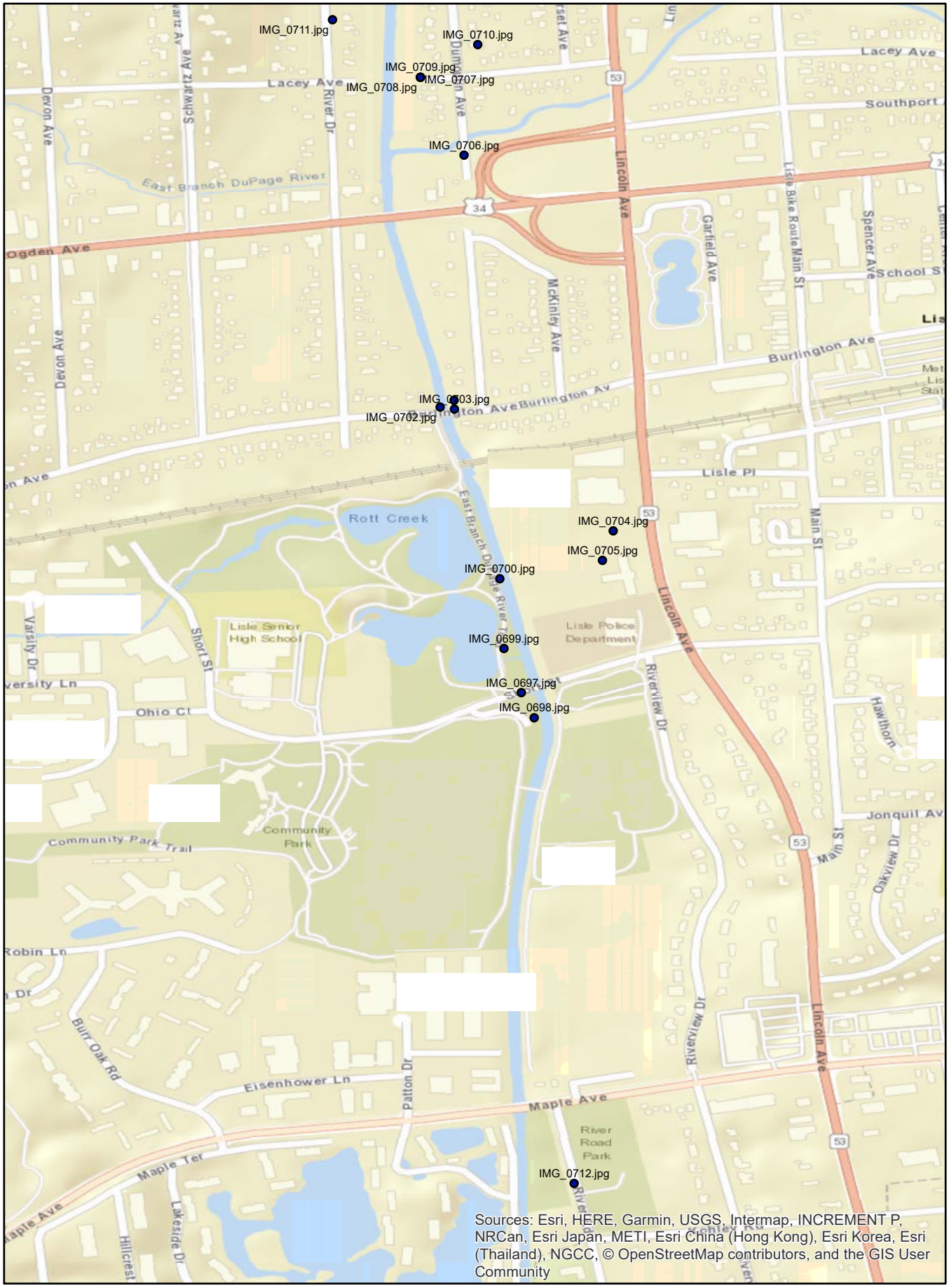
0 1/4 1/2 1 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Bolingbrook Quarry	CLIENT:	U.S. Army Corps of Engineers
ADDRESS:	351 Royce Road Bolingbrook IL 60440	CONTACT:	Casey Pittman
LAT/LONG:	41.716068 / 88.085071	INQUIRY #:	5191751.2s
		DATE:	February 16, 2018 1:50 pm

Figure 10 – Lisle Levee Site Visit Photograph Locations



HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 1. Lisle Levee Historical Topographic Maps

DIGITAL COPIES OF ATTACHMENTS ARE AVAILABLE UPON REQUEST

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 2. Lisle Levee Historical Aerial Photographs

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 3. Lacey Creek Historical Aerial Photographs

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 4. Lacey Creek Historical Aerial Photographs

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 5. Bolingbrook Quarry Historical Topographic Maps

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 6. Bolingbrook Quarry Historical Aerial Photographs

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 7. Lisle Levee Radius Search

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 8. Lacey Creek Radius Search

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DUPAGE RIVER FLOOD RISK MANAGEMENT STUDY

Attachment 9. Bolingbrook Quarry Radius Search

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
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Attachment 10. Site Visit Photographs