



Village of Rantoul

333 South Tanner Street | Rantoul, IL 61866

Stormwater System Master Plan - 2025

January 2025 – **FINAL DRAFT**



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Donohue Project No.: 14414

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ABBREVIATIONS

BFE	Base Flood Elevation
cfs	cubic feet per second
CMP	Corrugated Metal Pipe
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
gpm	gallons per minute
LIDAR	Light Detection and Ranging
LS	Lift Station
OPCC	Opinion of Probable Construction Cost
NFIP	National Flood Insurance Program
PLSS	Public Land Survey System
SCS	Soil Conservation Service
SFHAs	Special Flood Hazard Areas
TR	Technical Release

1. INTRODUCTION

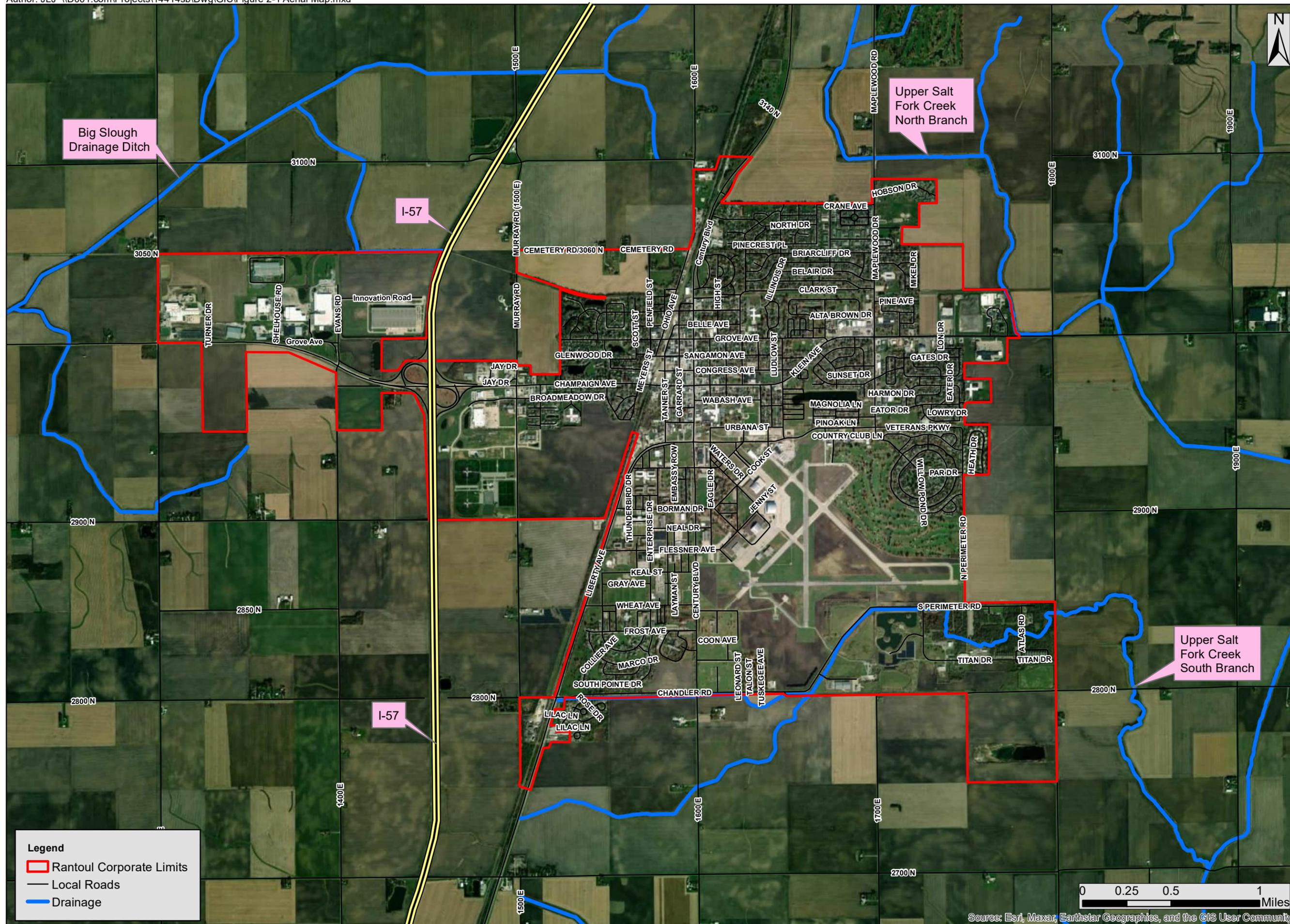
1.1 INTRODUCTION

Donohue and Associates, Inc. (Donohue) entered into an agreement with the Village of Rantoul (Village) to complete a stormwater system master plan for the Village. The project consists of review of the Village's stormwater system to identify current bottlenecks, flooding issues, undersized storm sewers, and stormwater detention issues and create a 20-year master plan for stormwater system improvements. Conceptual calculations for approximate sizing of pipes, channels and detention basins were prepared. Basin sizes were calculated based on assumed development patterns and conditions, as well as existing runoff characteristics. The project also includes gathering existing data and planning information about the Village along with applicable codes and references, developing alternate solutions to drainage issues, and developing cost opinions of proposed Phase 1 Improvements to critical areas of concern.

2. CURRENT CONDITIONS

2.1 PROJECT AREA

The Village of Rantoul is located in northern Champaign County, Illinois. Public Land Survey System (PLSS) Section data indicate that the Village lies within the Rantoul and Gifford Quadrangles, Townships 21 and 22 North, Ranges 9 and 10 East. Refer to Figure 2-1 and Figure 2-2 for aerial and topographical maps respectively of the project area.



Big Slough Drainage Ditch

I-57

Upper Salt Fork Creek North Branch

Upper Salt Fork Creek South Branch

FIGURE 2-1
AERIAL MAP

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

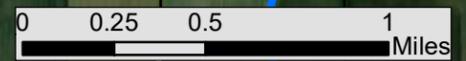
Legend

- ▭ Rantoul Corporate Limits
- Local Roads
- Drainage

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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

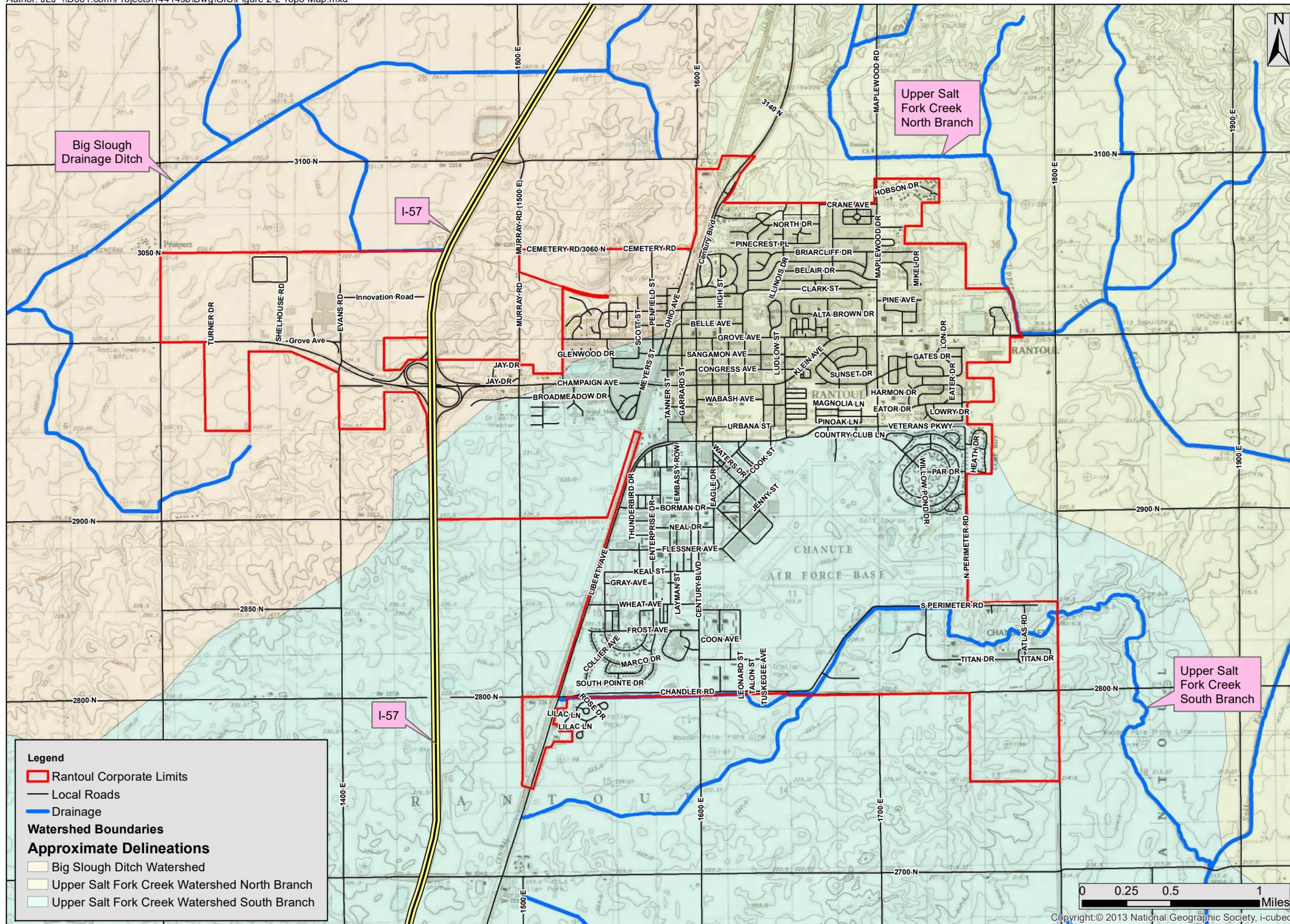


FIGURE 2-2
TOPOGRAPHIC MAP

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

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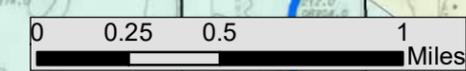
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- Rantoul Corporate Limits
- Local Roads
- Drainage

Watershed Boundaries

Approximate Delineations

- Big Slough Ditch Watershed
- Upper Salt Fork Creek Watershed North Branch
- Upper Salt Fork Creek Watershed South Branch



2.1.1 FLOODPLAINS

The Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) was utilized to acquire Flood Insurance Rate Maps (FIRM) for the project area. The relevant maps are panels 0200D and 0225D, which have an effective date of October 2, 2013. The identified Special Flood Hazard Areas (SFHAs) that are subject to inundation by the 100-year flood are the "Big Slough Ditch" and the "Upper Salt Fork Drainage Ditch." Both of these SFHAs are classified as "Zone A," indicating that there is no Base Flood Elevation (BFE) determined. Refer to **Appendix A** for the FEMA Panels.

2.1.2 WATERSHED BOUNDARIES

The Rantoul corporate limits spans three major drainage basins: the Big Slough Ditch, Upper Salt Fork Creek North Branch, and Upper Salt Fork Creek South Branch. These major watershed basins are shown on Figure 2-2. Smaller drainage sub-basins have been delineated during the development of this report.

2.1.3 DOWNSTREAM DRAINAGE DISTRICTS

There are two drainage districts that are downstream of Rantoul that receive stormwater runoff. They are the Big Slough Special Drainage District (97 MC 24) and the Upper Salt Fork Drainage District (97 MC 30). cursory investigations into the drainage districts and their boundaries were conducted, but existing data could not be found. Correspondence with the drainage districts should occur during the design stage of future projects to accurately determine what impacts will occur as a result of proposed improvements.

2.1.4 KEY AREAS OF CONCERN

The Village requested that Donohue investigate the condition and capacity of the five (5) existing lift stations currently in service. The Village also indicated eight (8) areas of concern to be evaluated by this master plan. The approximate location of the lift stations and areas of concern can be found in Figure 2-3 and are discussed in detail in the following sections of this report.

The Village noted at the initial project kick off meeting for this project that the overall main concern is that stormwater collects in areas and does not have a means for relief. There are some areas with very few inlets and storm sewers. It was reported that over time there have been sub-divisions built without storm sewers, some backyard ditches have been filled in or have silted in, and fences have been constructed in back lot's prohibiting access to these areas. The Village also reported that there are a few areas within the storm sewer network with bottlenecks, where the pipe size reduces in diameter, potentially causing backups. At the interim project progress meeting, the project concern areas were further discussed and defined.

During the period of July 9 through July 10, 2024 the Village received approximately 3.5-inches of rain over an approximate period of 10-hours, equivalent to a 10-year storm event per NOAA, from the remnants of Hurricane Beryl. The Village reported that they did not experience any flooding during this storm event.

Refer to Figure 2-4 through Figure 2-10 for a detailed overview of the concern areas discussed below.

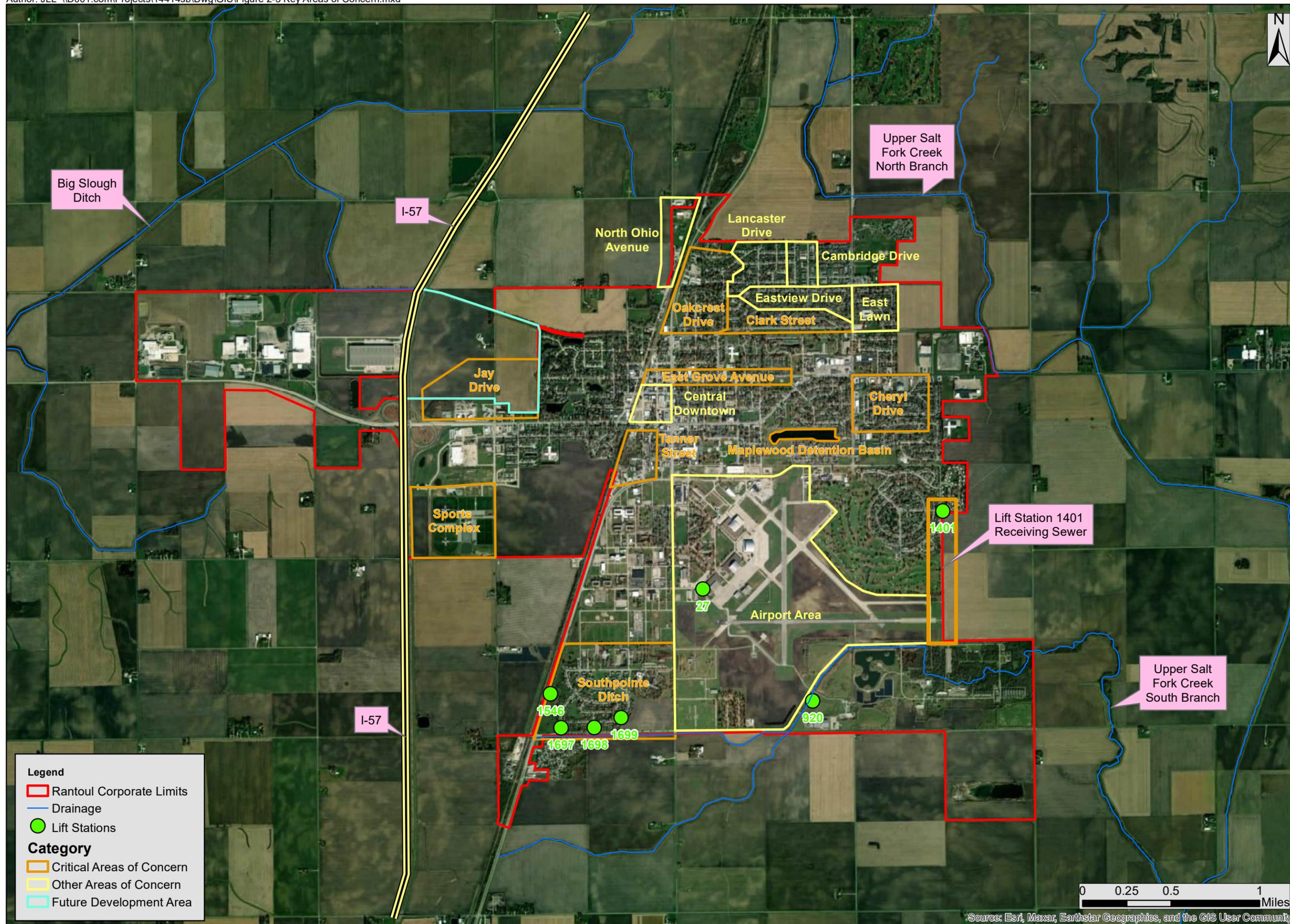


FIGURE 2-3
KEY AREAS OF CONCERN

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

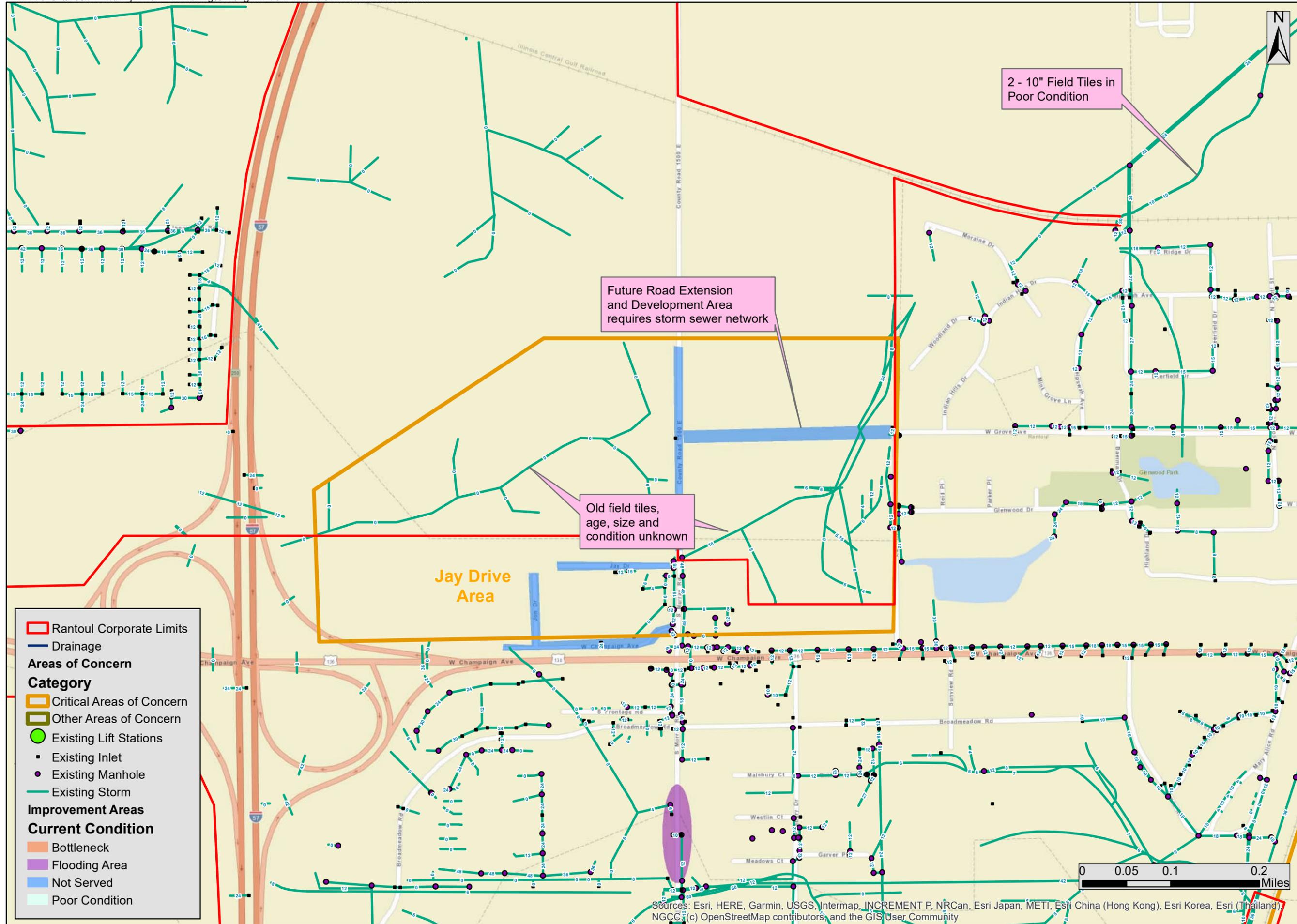


FIGURE 2-5
DETAILED CONCERN AREA NO. 1

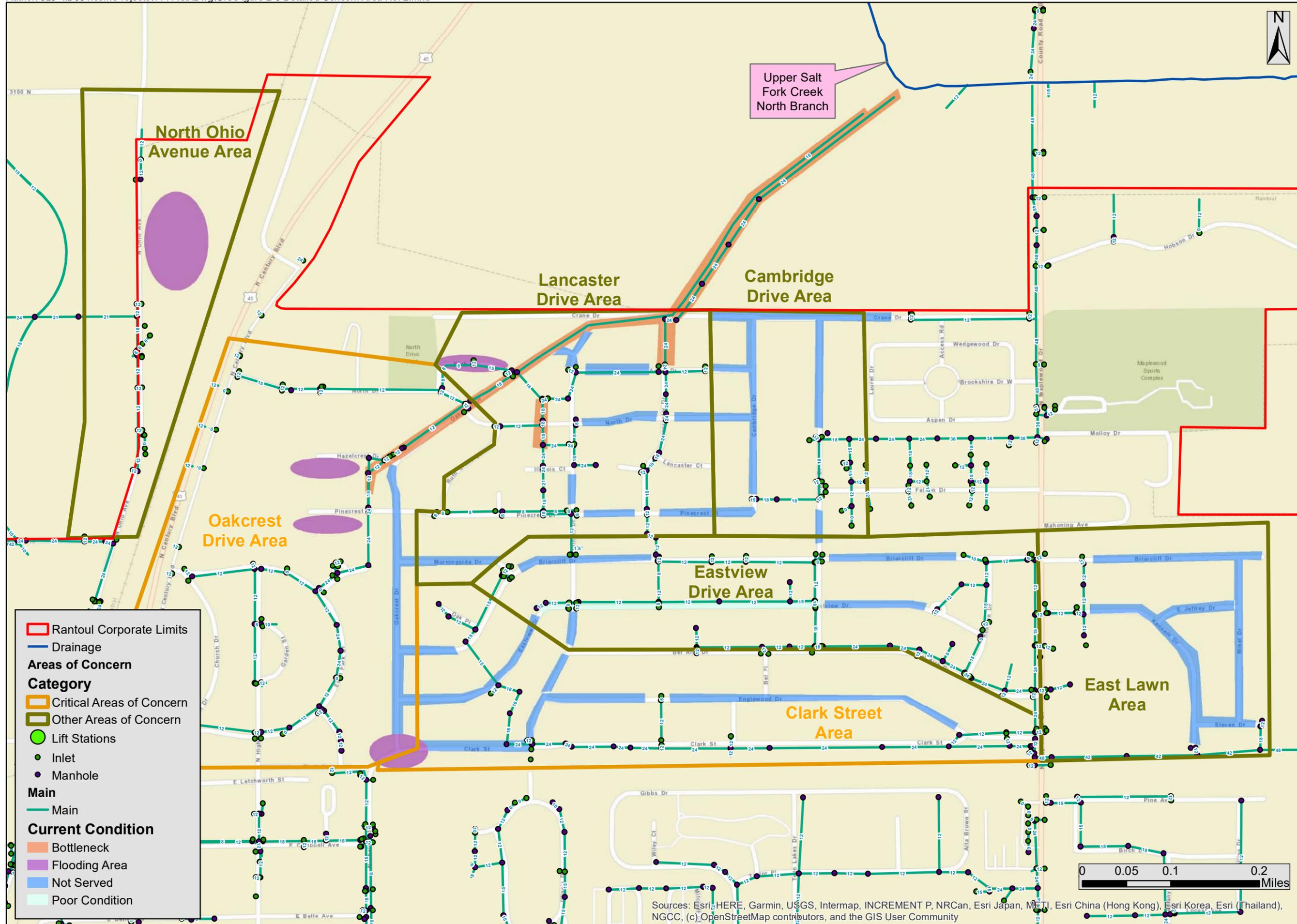
VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



- ▭ Rantoul Corporate Limits
- Drainage
- Areas of Concern**
- Category**
- Critical Areas of Concern
- Other Areas of Concern
- Lift Stations
- Inlet
- Manhole
- Main**
- Main
- Current Condition**
- Bottleneck
- Flooding Area
- Not Served
- Poor Condition

FIGURE 2-6
DETAILED CONCERN AREA NO. 2

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

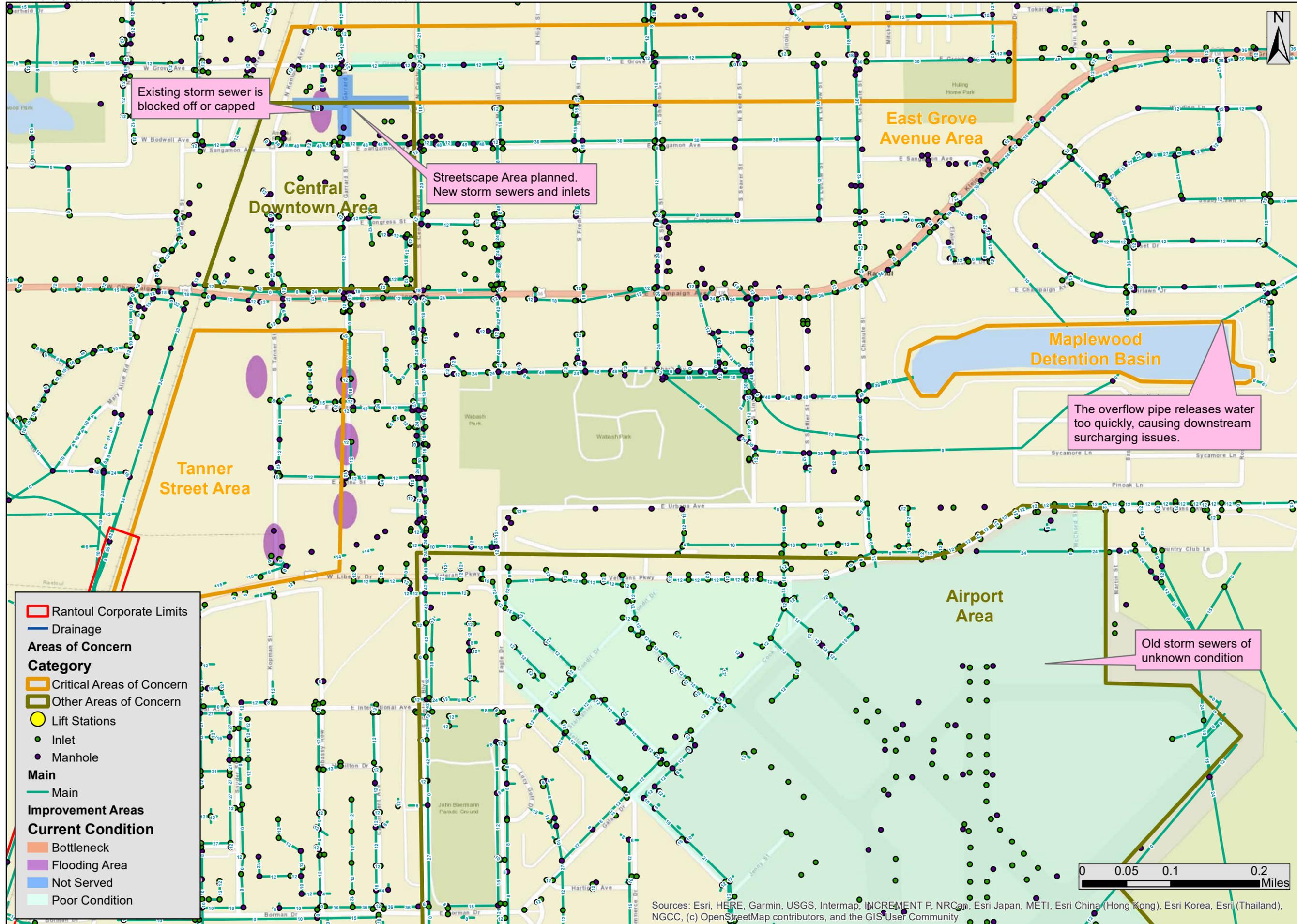
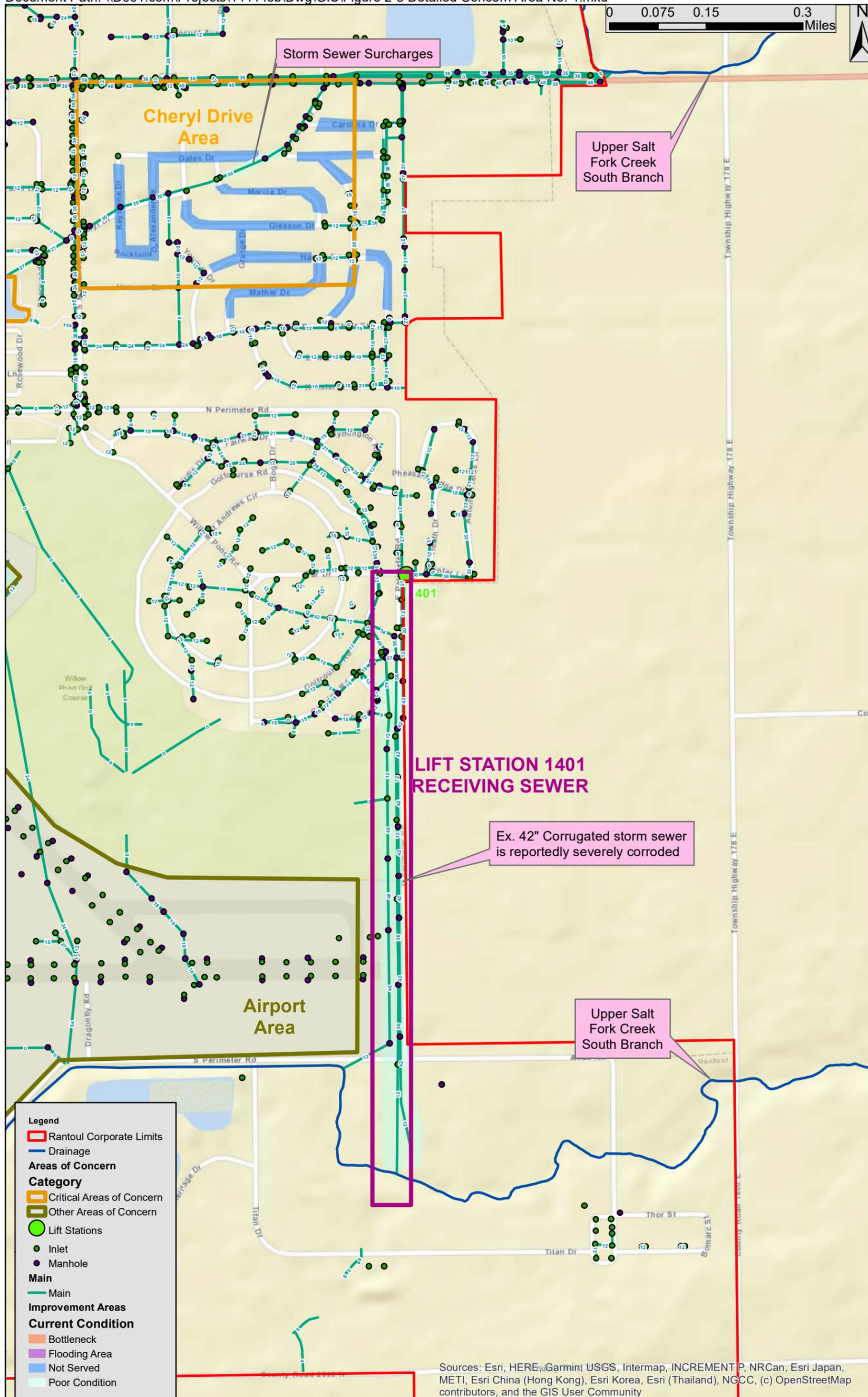


FIGURE 2-7
DETAILED CONCERN AREA NO. 3

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



PROJECT 14414 JANUARY 2025 **FIGURE 2-8 DETAILED CONCERN AREA NO. 4**
VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



FIGURE 2-9
DETAILED CONCERN AREA NO. 5

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

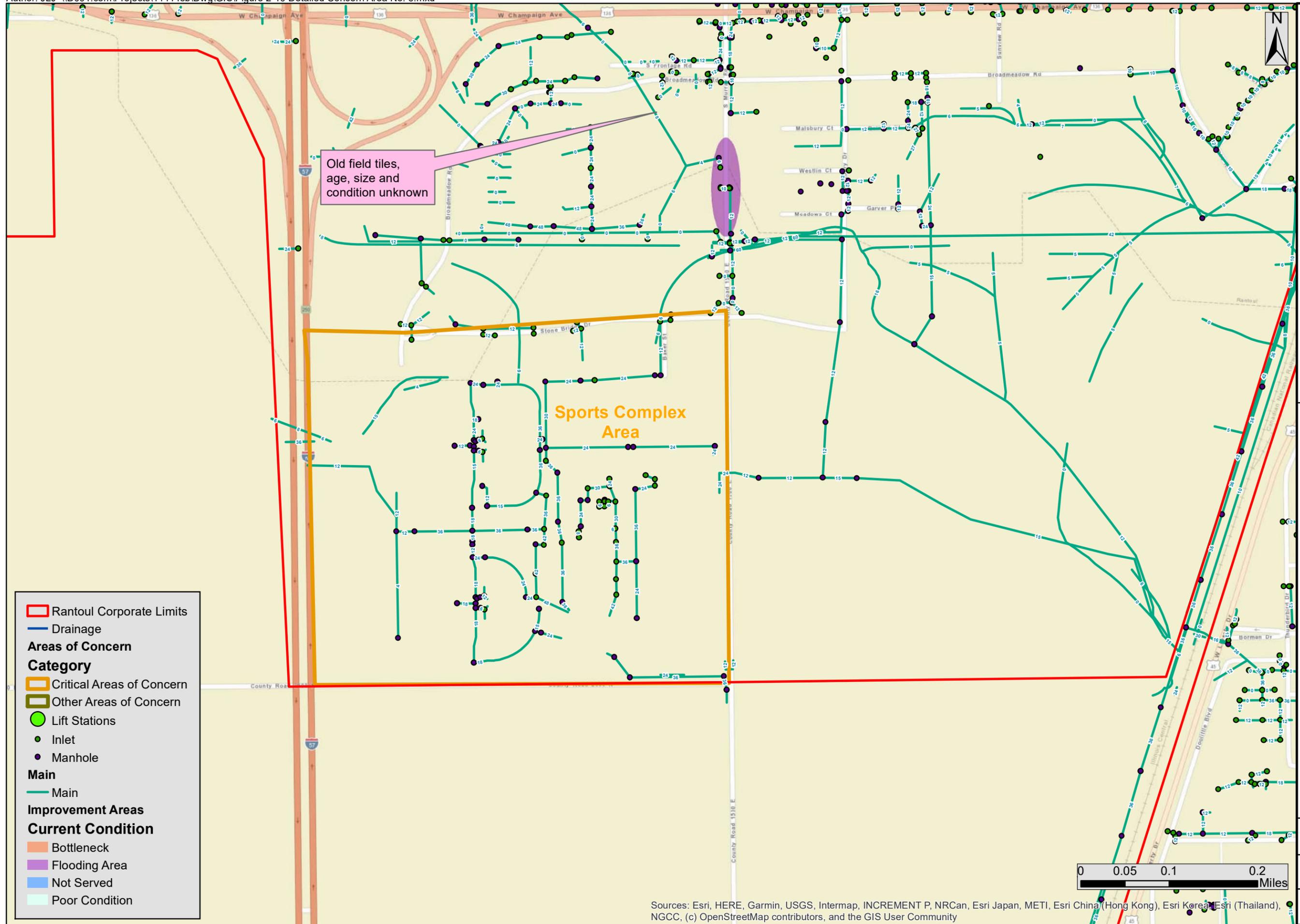


FIGURE 2-10
DETAILED CONCERN AREA NO. 6

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



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2.1.4.1 Storm Lift Stations

According to the Villages GIS stormwater network shapefiles, there are a total of seven (7) stormwater lift stations identified. Two of the lift stations are abandoned. It is our understanding that at one time these stations were owned by the U.S. Air Force and located on the grounds of Chanute Air Force Base (Chanute). When Chanute was decommissioned, ownership of these lift stations was transferred to the Village. General identification information for these lift stations is listed below.

Table 2-1 Lift Station Identification

Identification Number	Year Constructed	Status	Location
27	1939 1996 (Updated)	Active	Near the intersection of Pacesetter Drive and W. Flessner Avenue
920	Unknown	Inactive/Abandoned	Along South Perimeter Road approx. 1,680-ft west of Titan Street.
1401	1963	Active	Near the intersection of Par Drive and East Perimeter Road
1546	Unknown	Inactive/Abandoned	Along Hwy 45 approx. 1,365-ft north of Township Hwy 154 S.
1697	1960	Active	In a backlot south of the intersection of S. Pointe Drive & Collier Avenue
1698	1960	Active	In a backlot south of the intersection of S. Pointe Drive & Banyan Drive
1699	1960	Active	Along S. Pointe Drive approx. 685-ft south of Marco Drive.

Storm water lift stations 1697, 1698, and 1699 are configured to act as gravity flow through stations until the Southpointe Ditch reaches a highwater level. Then a backwater flap gate closes at each station. This causes the water level in the wet wells to raise, thus activating the lift station pumps. The pumps discharge into the same respective gravity flow through pipe causing them to become pressurized.

Donohue conducted a general evaluation of the various lift station's condition due to their age, as these stations have been in service since 1963 and before. Refer to section 2.2.3 of this report for additional lift station information and for a summary of the lift station condition assessment.

2.1.4.2 Cheryl Drive

The Cheryl Drive sub-basin area is generally bordered by Gleason Drive to the east, Short Street to the South, S. Maplewood Drive to the west, and E. Grove Street to the north. The sub-basin has an approximate area of 60.5 acres. The Village has noted flooding concerns in this area as there are very few storm sewers and inlets to drain the storm water. The existing 27-inch storm sewer pipe along Cheryl Drive, a portion of which was recently replaced due to a collapse, also serves as the overflow pipe to the Maplewood Detention Pond. As reported by the Village, this detention pond does not appear to be functioning properly, in that it seems to be releasing water too quickly. By releasing the water too quickly, the downstream storm sewer network (a.k.a. the Cheryl Drive System) becomes overwhelmed.

2.1.4.3 Clark Street

The Clark Street sub-basin is generally bordered by Maplewood Drive to the east and Oakcrest Drive to the west, Clark Street to the south, Englewood Drive to the north, and Morningside Drive to the northwest. The sub-basin has an approximate area of 55.9 acres. The Village has reported issues with flooding in the sub-basin mostly relating to areas lacking storm sewer and inlets. The intersection of Clark Street, Oakcrest Drive, and N. Sheldon Street lacks inlets and reportedly floods.

2.1.4.4 East Grove Avenue

The East Grove Avenue sub-basin is generally bordered by Gibbs Drive to the east and N. Kentucky Avenue to the west, centered along Grove Avenue. The sub-basin has an approximate area of 96.8 acres. The Village has reported that there are old field tiles in this area that are believed to be either collapsed or silted in. In the area along E. Grove Avenue between N. Marshall Street and N. Kentucky Avenue, the Village has reported the storm sewer pipes are old and possibly undersized. The Village reported that there is a storm sewer pipe segment extending south of E. Grove Avenue at the Police Station in an alley that is blocked off and that flooding occurs in this area.

2.1.4.5 Jay Drive

The Jay Drive sub-basin is generally bordered by East Avenue to the east and Interstate 57 to the west, centered along Jay Drive and Murray Road. The sub-basin has an approximate area of 130.8 acres. This is an area identified by the Village that is likely to be developed in the future with a mix of commercial and residential facilities. This area consists of various old field tiles of unknown size, depth, and condition most of which are private. There is the possibility of a future road planned for the northern portion of this sub-basin extending W. Grove Avenue to County Road 1500 E., which will require a storm sewer system. There are not any convenient receiving streams near this sub-basin, therefore a detention basin with a controlled discharge to the ditches along Interstate 57 or Highway 136 will be required. Coordination with Illinois Department of Transportation (IDOT) and the Big Slough Special Drainage District will be required. It should be noted that a portion of this sub-basin is currently outside the Villages corporate limits and should be annexed before the Village commits resources to these improvements.

2.1.4.6 Maplewood Detention Basin

The Maplewood Detention sub-basin is generally bordered by Sherwood Drive to the east, Magnolia Lane to the south, Chanute Street to the west, and Fairlawn Drive to the north. The sub-basin has an approximate area of 249.4 acres. The Village has noted concerns that the detention basin may not function properly as storm water appears to leave too quickly and overwhelms the downstream system.

2.1.4.7 Oakcrest Drive

The Oakcrest Drive Sub-Basin is generally bordered by Clark Street to the south, North Drive to the north, the Eden Park area, and centered along Oakcrest Drive. The sub-basin has an approximate area of 91.6 acres. There appears to be a storm sewer bottleneck segment resulting in flooding. This segment involves a 24-inch storm sewer from Eden Park Drive reducing in size to 12-inches at Hazelcrest Drive. Then increasing to 18-inches at North Drive. Then continuing as an 18-inch pipe to its discharge at the Upper Salt Fork Creek North Branch. The Village has reported flooding concerns in the backyards along Hazelcrest Place and Pinecrest Place, there are not any storm sewer inlets in this area. There are not any storm sewers along Oakcrest Drive from Clark Street north to Hazelcrest Drive. The Village expressed a concern that possibly runoff leaves this sub-basin and flows to the northwest across State Road 45 and the Rail-

Road tracks. Thus resulting in flooding in the North Ohio Avenue Area. This will need to be further investigated.

2.1.4.8 Southpointe Ditch Area

The Southpointe Ditch area sub-basin is generally bordered by Wheat Avenue to the north, Century Boulevard to the east and Liberty Drive to the west, and along Chandler Road to the south. The sub-basin has an approximate area of 322.5 acres. The Village reports flooding occurs in the area between Abram Drive and Marco Drive. There are few inlets and storm manholes in this area. Due to the lack of manholes, the Village has limited access to the storm sewers for inspection and maintenance.

The area along W. Liberty Drive near abandoned stormwater lift station 1546 is very wet and floods. When the lift station was abandoned, it is believed that the force main pipe was converted into a gravity line which flowed south to the ditch. This line is believed to be completely blocked. There are no manholes or means for the Village to access for inspection and maintenance.

According to the Village's GIS map, the 18-inch force main pipe from lift station 1699 appears to connect into a 48-inch gravity storm sewer from the north. This 48-inch pipe would become pressurized when the lift station operates and may force stormwater backwards in the system.

2.1.4.9 Rantoul Family Sports Complex

The Rantoul Family Sports Complex sub-basin is generally bordered by CR 1500 E. to the east, CR 2900 N. to the south, Broadmeadow Road to the west, and Stone Bridge Drive to the north. The sub-basin has an approximate area of 100.6 acres. The Village has noted there are no current concerns in the area of the sports complex, as it is a new development. The developers have constructed a new stormwater system including detention basins to serve this area.

The Village has identified a flooding concern area along Murry Road between Broadmeadow Road and the southerly entrance drive to the Wal-Mart store.

2.1.4.10 Tanner Street

The Tanner Street sub-basin is generally bordered by Garrard Street to the east, Veterans Parkway to the south, the Amtrak Railroad to the west, and the east-west alley one block south of Champaign Avenue to the north. The sub-basin has an approximate area of 11.3 acres. The Village has noted that this area is very flat with various low areas, including an area in front of the Domino's Pizza establishment. There are few storm sewers and few inlets with no means for stormwater to be relieved.

2.1.4.11 Other Areas of Concern

Other areas of concern are described below:

Chanute Airport: The Chanute airport area includes very old storm sewer pipes of unknown conditions. It is suggested that these storm sewer pipes be cleaned and televised to access their condition. This sub-basin consists of an approximate area of 879.2 acres.

Central Downtown: The central downtown sub-basin is generally bordered by E. Grove Avenue to the north, N. Century Boulevard to the east, Sangamon Avenue to the south, and N. Kentucky Avenue to the west. This sub-basin consists of an approximate area of 27.2 acres. The Village has reported that a

streetscape project is being planned for this area, centered along N. Garrard Street and the adjacent east-west Alley. New storm sewers and inlets will be installed as part of the project.

Eastview Drive: The Eastview sub-basin is generally bordered by Briarcliff Drive to the north, Maplewood Drive to the east, Bel-Aire Drive to the south, and Illinois Drive to the west. This sub-basin has an approximate area of 52.9 acres. The Village has reported that the storm sewer pipes along Eastview Drive are brittle and full of roots. There are a few locations lacking storm sewers and inlet coverage.

Cambridge Drive: The Cambridge Drive sub-basin area generally is bordered by Crane Drive (extended) to the north, Juniper Drive to the east, Pinecrest Drive to the south, and Cambridge Drive to the north. This sub-basin consists of an approximate area of 28.2 acres. This area lacks storm sewers and inlets.

Lancaster Drive: The Lancaster Drive sub-basin is generally bordered by Crane Drive (extended) to the north, Lancaster Drive to the east, Pinecrest Drive to the south, and Ruth Crane Drive to the west. This sub-basin has an approximate area of 50.1 acres. This sub-basin contains a few locations lacking storm sewers and inlets. However, the main concern of this sub-basin are two storm sewer bottlenecks. One bottleneck occurs on the storm sewer segment located in the backlots between Illinois Court and North Drive where the pipe reduces in size from 24-inches to 18-inches. The other bottleneck occurs near the intersection of Ascot Drive and Lancaster Drive where two 24-inch storm sewer pipes come together and only one 24-inch pipe leaves this junction. This pipe segment remains at 24-inches to its discharge point at the Upper Salt Fork Creek North Branch. The Village has indicated that flooding occurs along Park Drive northwest of Oakcrest Drive.

East Lawn: The East Lawn sub-basin is generally bordered by Briarcliff Drive to the north, Mikel Drive to the east, Steven Drive to the south, and N. Maplewood Drive to the west. This sub-basin consists of an approximate area of 43.3 acres. There are very few storm sewers and inlets in this area. A portion of the streets have curb and gutter. Side street ditches in this area have silted in over time.

Stormwater Lift Station 1401 Receiving Sewer: The Village has expressed concern regarding the condition of the existing CMP sewer pipe receiving flow from stormwater lift station 1401. It is reported that this sewer pipe is very corroded and in poor condition.

North Ohio Avenue: The North Ohio Avenue sub-basin is generally bordered by Cemetery Road to the south, County Road 3100 N to the north, and centered along Ohio Avenue. This sub-basin consists of an approximate area of 46.1 acres. There are private storm sewers within this sub-basin that the Village now maintains. The Village has reported that the area in the vicinity of the Knights of Columbus ball field floods from stormwater runoff from the rail-road tracks and possibly from the west side of the Oakcrest Drive area. Based on a cursory review of the contours of the surrounding area, it is not obvious as to where the stormwater runoff is coming from, especially from the west side of the Oakcrest Drive area. Further investigation will be required to make this determination, which is beyond the scope of this project.

2.2 EXISTING STORMWATER SYSTEM FACILITIES

The Village's storm water system contains a combination of retention/detention basins, lift stations, gravity sewers, and force mains. An overview map of the existing stormwater facilities from the Village's GIS system is shown in Figure 2-11.

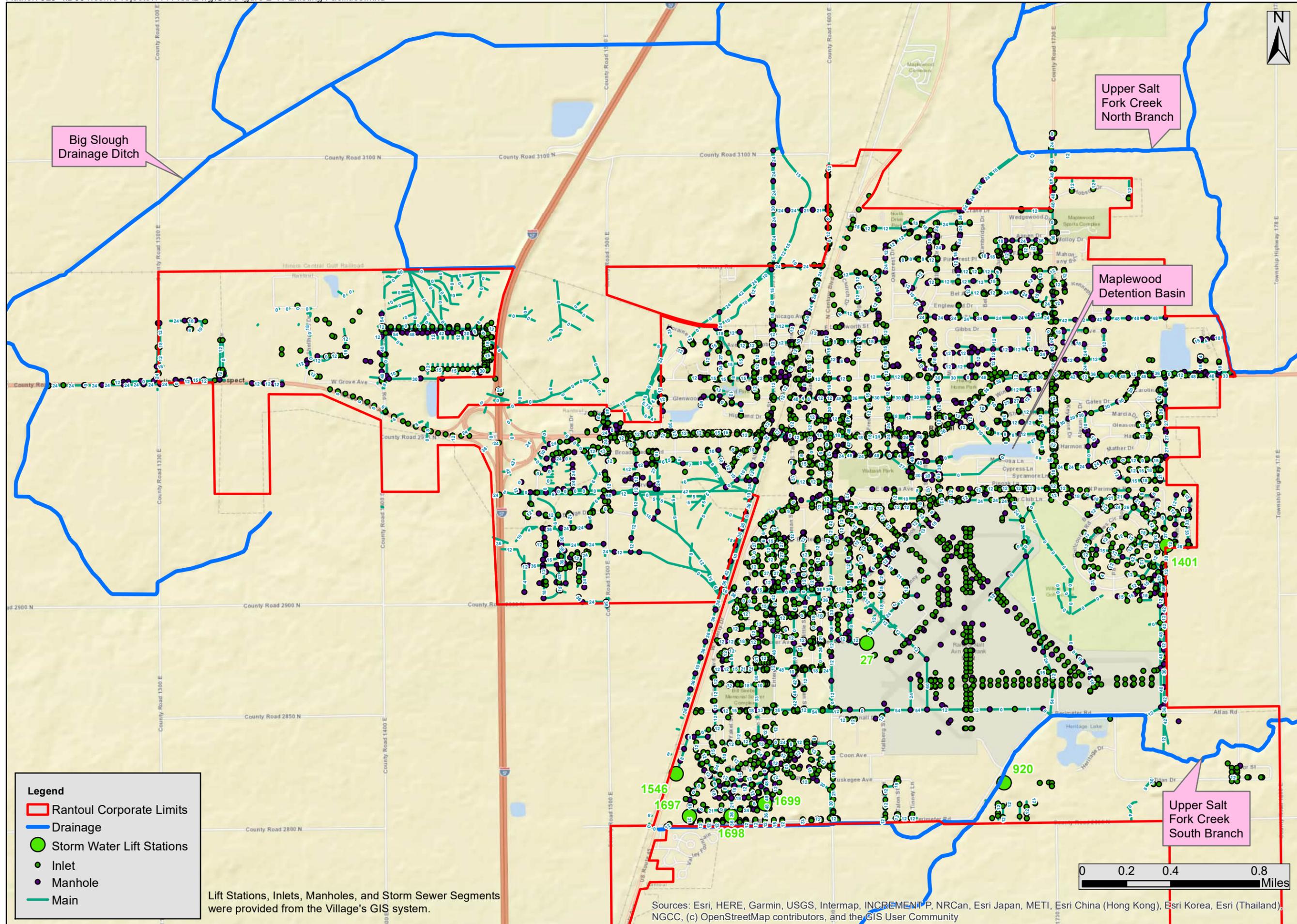


FIGURE 2-11
EXISTING FACILITIES

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



JANUARY 2025

PROJECT 14414

2.2.1 MAPLEWOOD DETENTION BASIN

The Maplewood Detention Basin currently serves a subbasin of approximately 249.9 acres and has around 39 acre-ft of storage for the 100-year storm event. The basin currently has a surplus of 4.5 acre-ft of storage beyond the required capacity. However, the Village has noted that the existing 27-inch outlet pipe is causing flooding issues downstream of the basin during major storm events. Therefore the Village requested that Donohue investigate restricting the outlet flow from the Maplewood Detention Basin to alleviate capacity concerns downstream. Restricting the outlet flow could potentially reduce the capability of the basin to contain the 100-year storm event, even when accounting for the current 4.5 acre-ft of surplus storage. The Maplewood Detention Basin would then have to be expanded to be able to adequately handle the 100-year storm given the new outlet flow. This report provides a rough estimate of 14.5 acre-feet (5-acre area if matching existing basin depth) of expansion for the purpose of estimating project costs. The actual expansion amount should be verified via hydraulic modeling software during design.

2.2.2 STORM SEWER NETWORK

There are approximately 125 miles of gravity sewer pipe in the Village's stormwater collection system. These sewers range in size from 6-inches to 60-inches. Around 21% of the gravity pipe segments have identified installation dates. The oldest storm sewers were installed in 1912 and the newest sewers were installed in 2022. Refer to Table 2-2 and Table 2-3 for a breakdown on the age and dimensions of the existing network. The pipe material of the storm sewers is a combination of reinforced concrete, vitrified clay, and polyvinyl chloride. The expected service life these materials range from 50 to 100 years indicating that lining or replacement may be necessary when assessing the Village's noted flooding concerns.

Table 2-2 Existing Storm Sewer Age

Year Constructed ¹	Number of Pipe Segments ¹	Percentage ¹	Associated Length (Feet) ¹
1910s	27	0.5	7,371
1930s	9	0.2	4,675
1940s	51	0.9	13,491
1950s	121	2.1	19,277
1960s	36	0.6	6,134
1970s	289	5.1	33,236
1980s	191	3.4	16,316
1990s	85	1.5	5,651
2000s	301	5.3	31,810
2010s	63	1.1	4,161
2020s	6	0.1	307
Total Known²	1179	20.7	142,429
Unknown²	4520	79.3	517,507

¹ Information acquired from GIS shapefiles provided by the Village.

² Associated pipe segments.

Table 2-3 Existing Storm Sewer Diameters

Diameter ¹	Number of Pipe Segments ¹	Total Length (Feet) ¹
6-Inch	113	13,782
8-Inch	327	32,178
10-Inch	196	24,737
12-Inch	3105	241,922
15-Inch	244	38,322
18-Inch	197	32,005
21-Inch	54	9,419
24-Inch	305	55,404
27-Inch	70	11,223
30-Inch	64	18,165
36-Inch	201	39,402
42-Inch	53	20,978
48-Inch	120	22,775
54-Inch	9	3,693
60-Inch	4	2,698
Unknown	637	93,235
Total	5,699	659,934

¹ Information acquired from GIS shapefiles provided by the Village.

It should be noted that it is not good practice to construct storm sewer pipes with a diameter of less than 12-inches due to ease of becoming blocked and other maintenance related concerns. The minimum recommended storm sewer pipe size to be constructed is 12-inches per the Village of Rantoul’s Manual of Practice and the State of Illinois, Illinois Department of Natural Resources – Model Stormwater Management Ordinance.

2.2.3 LIFT STATIONS CONDITION AND CAPACITY

On June 4, 2024, staff from Donohue and the Village conducted visual observation of the existing stormwater lift stations to develop a general assessment of their condition. The Village reported that there does not appear to be a capacity concern with the existing lift stations. General characteristics of these lift stations are summarized in Table 2-4.

Table 2-4 Lift Station Information

Lift Station ID	No. of Pumps	Pump Type	Flow Rate (gpm)	Hp	Electrical (volts/phase/Hz)
27	2	Submersible	250	NA	120/1/60
1401	2	Vertical Turbine	13,000	25	208 ⁽¹⁾ /3/60
1697 ⁽²⁾	1	Vertical Turbine	2,000	7.5	NA ⁽¹⁾ /3/60
1698	1	Vertical Turbine	9,000	25	220 ⁽¹⁾ /3/60
1699	1	Vertical Turbine	3,000	10	240 ⁽¹⁾ /3/60

Note:

1. Per the Village, “Wild Leg” – 3 Phase Power Source (i.e. 208v, 120v, 120v).
2. Pump is currently removed and in the shop for repairs.

Donohue’s condition assessment, based on visual observation, of these lift stations is summarized in Table 2-5.

Table 2-5 Lift Station Condition Assessment Summary

Lift Station ID	Age (yr.) Mechanical /Structure	Redundancy	Back-Up Power	Alarm Notification	Condition of Structure	Condition of Mechanical	Notes
27	28/85	Yes	Portable Generator	Cell phone dialer.	Conc. Structure condition – good. Brick exterior condition – fair. Roof condition – fair/poor.	Piping, fittings, and valves condition – good. Could not assess pumps as they were submerged. Electrical components condition – good.	
1401	61/61	Yes	On-Site Generator	Cell phone dialer.	Conc. Structure condition – fair. Valve vault cover and hatches condition – poor.	Pumps, piping, fittings, and valves condition – fair. Generator condition – fair. Electrical components condition – fair. Downstream receiving sewer consists of old 40” CMP, which is reportedly very corroded and in poor condition.	In April 2007 a new on-site generator and transfer switch was installed. In September 2008 the north pump motor was rebuilt with new bearings and the motor was dipped. Will need a boom truck to remove pumps.
1697	64/64	No	None	Beacon light.	Conc. Structure condition – fair.	A new pump was installed at this station in July 2024.	Pump is located directly under overhead power lines.
1698	64/64	No	On-Site Generator	Cell phone dialer.	Conc. Structure condition – fair.	Pump/piping condition – fair. Electrical components condition – fair. Generator condition – good. Discharge piping condition – poor, when pump operates, water spurts up through the grass at the joints.	Pump/electrical panels are located directly under overhead power lines. Overhanging trees/vegetation surrounds the station on three sides.
1699	64/64	No	On-Site Generator	Beacon light.	Conc. Structure condition – fair.	Pump/pipes condition – fair/poor. The Village is in the process of replacing the pump at this station. Generator is aging, fuel reservoir is located on the ground and is exposed to the elements, does not employ a means to contain fuel in the advent of a spill. Electrical components condition – fair/poor.	Station is adjacent to a street, there are no pipe bollards for protection of the facility. Large overhanging tree and power lines overhead.
920	NA	NA	NA	NA	NA	NA	This structure has been abandoned in place and is no longer in use. At the time of the

Lift Station ID	Age (yr.) Mechanical /Structure	Redundancy	Back-Up Power	Alarm Notification	Condition of Structure	Condition of Mechanical	Notes
							visual observation, it appeared that the hatches to the underground portion of the structure were unsecured.
1540	NA	NA	NA	NA	NA	NA	This structure has been abandoned in place with the force main being repurposed as a gravity storm sewer drainage pipe. This pipe is reported to be blocked and full of sediment.

2.3 DESIGN BASIS

2.3.1 CODES AND REQUIREMENTS

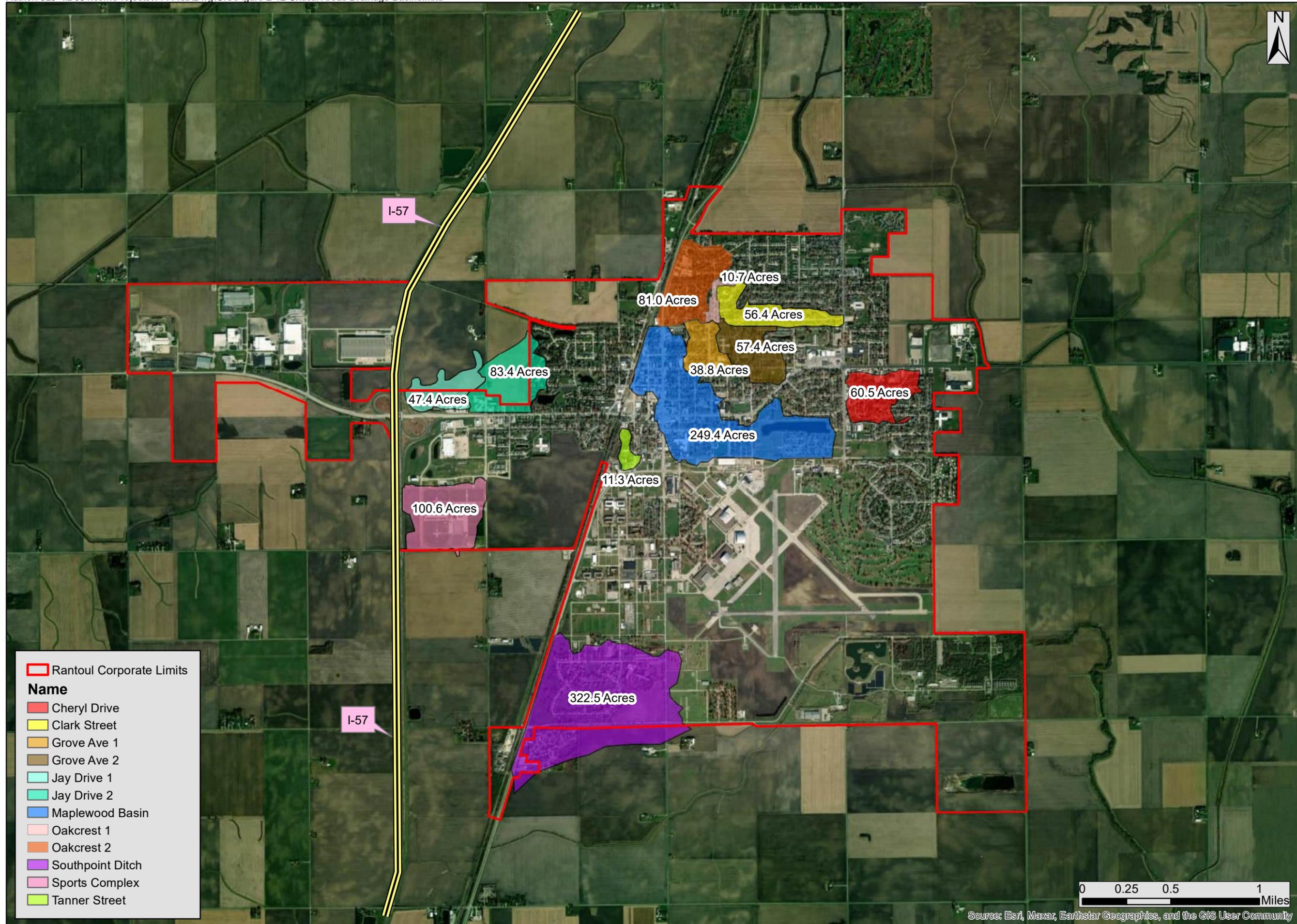
During the development of this report, the requirements set forth in Chapter 6 of the Village of Rantoul’s Manual of Practice were followed as much as possible for a planning level study.

Storm sewers are to have a sufficient capacity so as to convey the “ten-year storm reoccurrence period under the projected final stage of development” and inlets will be provided “so that water will not drain across the crown of any street or flow in the gutter for more than three hundred (300) feet.” Two methods were used to conduct runoff calculations. For any areas less than 200 acres, the Rational Method was utilized. Calculations for areas greater than 200 acres were conducted using the Soil Conservation Service’s (SCS) Technical Release 55 (TR-55) methodology as an acceptable design criterion noted in the Manual. The minimum recommended storm sewer pipe size to be constructed is 12-inches per the Village of Rantoul’s Manual of Practice and the State of Illinois, Illinois Department of Natural Resources – Model Stormwater Management Ordinance. The minimum recommended velocity of the storm sewers is 2.5 feet per second per the State of Illinois, Illinois Department of Natural Resources – Model Stormwater Management Ordinance. For purposes of developing conceptual level proposed pipe sizes, a minimum velocity of 3.0 feet per second was used.

Detention facilities are to have a sufficient capacity to control the excess stormwater runoff that results from the one hundred (100)-year storm period. Among other limitations, any detention facility would reserve at least one foot of freeboard above the water surface as well as ensure that storm water released from the facility will be at a non-erosive velocity.

2.3.2 METHODOLOGY

Light Detection and Ranging (LiDAR) information from the Illinois Geospatial Data Clearinghouse was utilized to acquire contours for the project area. Drainage basins were then delineated for each of the identified critical problem areas to acquire an acreage value for each area and serve as the basis for runoff calculations. Broader drainage areas based on street boundaries and other natural features were developed for the lift station and other problem areas. Refer to Figure 2-12 through Figure 2-14 for Donohue’s delineated drainage basins.



- Rantoul Corporate Limits
- Name**
- Cheryl Drive
- Clark Street
- Grove Ave 1
- Grove Ave 2
- Jay Drive 1
- Jay Drive 2
- Maplewood Basin
- Oakcrest 1
- Oakcrest 2
- Southpoint Ditch
- Sports Complex
- Tanner Street

FIGURE 2-12
 DELINEATED DRAINAGE BASINS
 (CRITICAL AREAS)

VILLAGE OF RANTOUL
 2025 STORMWATER MASTER PLAN
 RANTOUL, IL

0 0.25 0.5 1 Miles

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

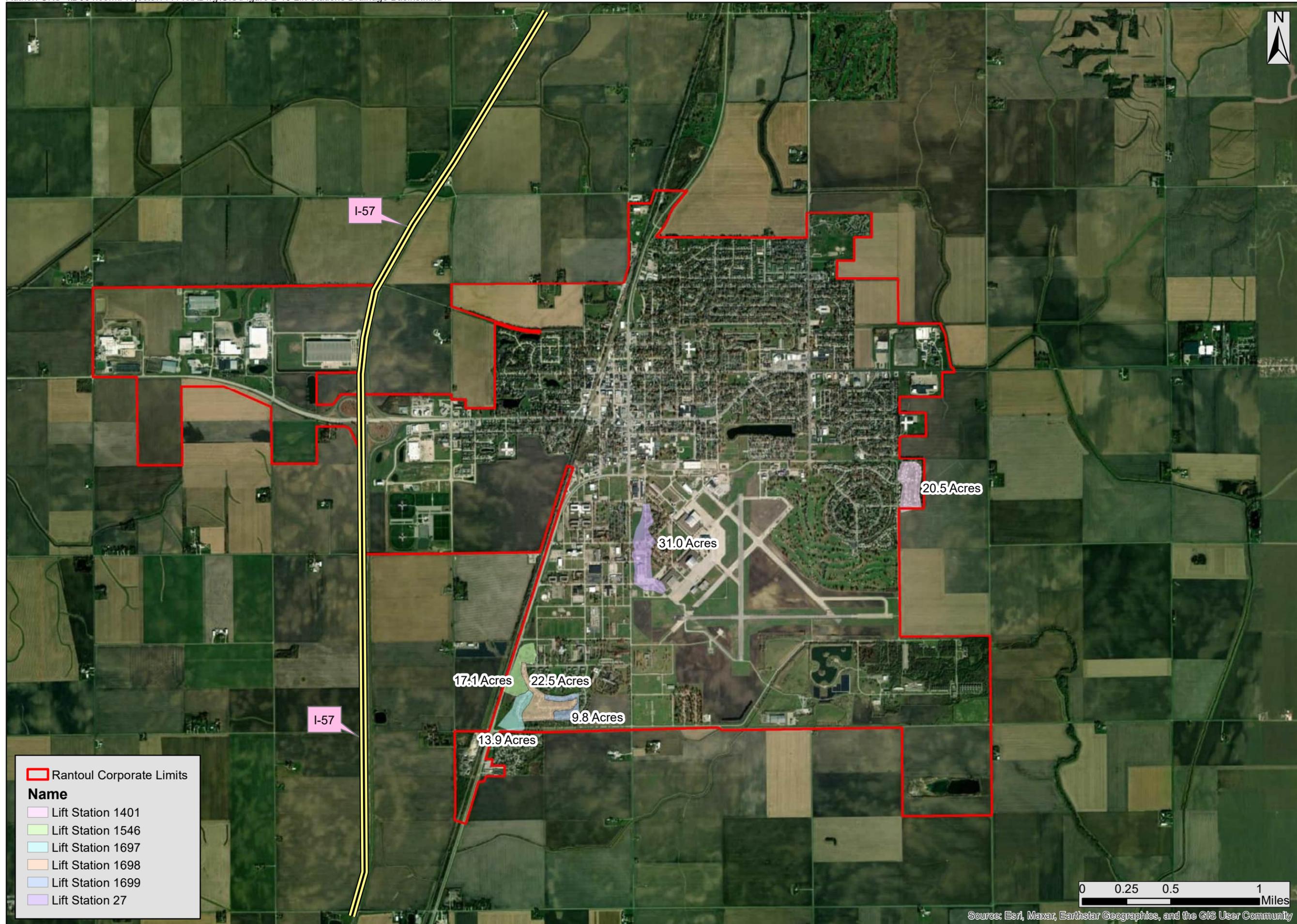


FIGURE 2-13
DELINEATED DRAINAGE BASINS
(LIFT STATIONS)

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

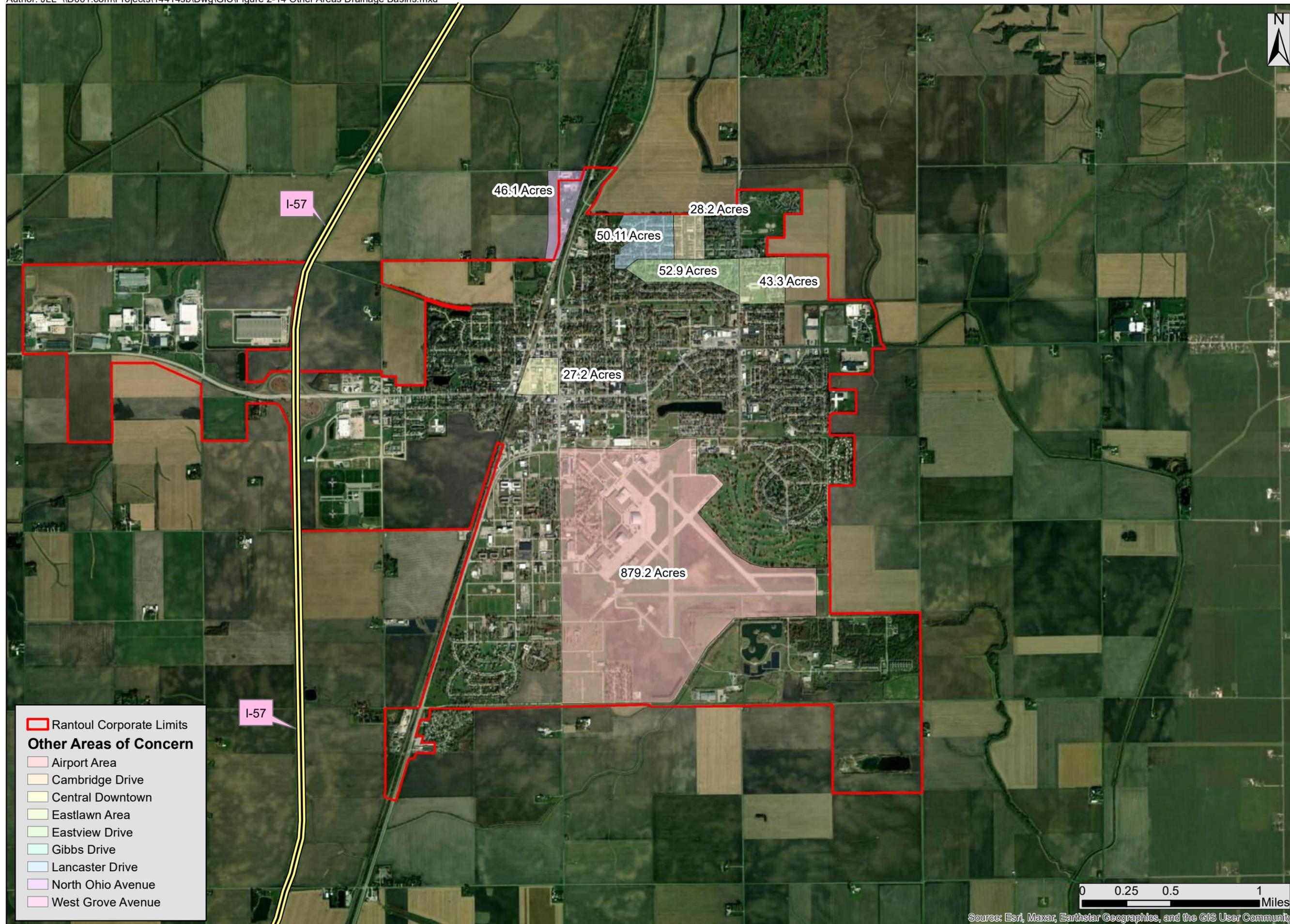


FIGURE 2-14
DELINEATED DRAINAGE BASINS
(OTHER AREAS)

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Run-off calculations were conducted to determine the peak flow rates that would be expected from the 2-year, 10-year, and 100-year storm events. National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data was used for precipitation depth and intensity estimates for the storm events. Refer to Table 2-6 for the NOAA Atlas 14 data that was used for runoff calculations.

Table 2-6 NOAA Atlas 14 Data

Precipitation Event	Units	2-Year	10-Year	100-Year
24-hour Duration - Depth	Inches	3.03	4.27	6.80
24-hour Duration - Intensity	In/hr	0.126	0.177	0.283

2.3.3 EXISTING LAND USE CONDITION ANALYSIS

The Village of Rantoul's Official Comprehensive Plan as Amended on March 11, 2008, served as the basis for determining land use throughout the project area. Refer to **Appendix B** for a graphical breakdown of the land use determined by the Comprehensive Plan. For the purpose of runoff calculations, both the Jay Drive and Grove Avenue Drainage Basins were split into two sub-basins.

2.3.3.1 Runoff Coefficients and Curve Numbers

Runoff Coefficients are used in the Rational Method to account for differing land uses within a drainage basin. A lower Runoff Coefficient indicates a more pervious area that will have a smaller peak runoff discharge than more impervious spaces. Curve Numbers act similarly to Runoff Coefficients but are used within the TR-55 method. Runoff Coefficients and Curve Numbers were developed for each drainage basin based on the Village's land use classifications from their Comprehensive Plan. Table 2-7 provides a breakdown of the composite Runoff Coefficients and Curve Numbers for each drainage basin.

2.3.3.2 Times of Concentration

Time of Concentration is the largest amount of time that rainfall will take to reach the outlet of a drainage basin. A Time of Concentration was developed for each drainage basin based on contour data and the roughness of the land through the flow path. For the Rational Method, the Time of Concentration determines what NOAA Atlas 14 duration storm (e.g. 30-min, 60-min, etc.) is utilized for calculations. For the TR-55 Method, the Time of Concentration is used in additional calculations for estimating the Peak Runoff Discharge. Refer to column 6 of Table 2-7 for the Times of Concentration for each drainage basin.

2.3.3.3 Runoff and Peak Discharge

Peak Runoff Discharge was calculated for each drainage basin utilizing either the Rational Method or the TR-55 Method. Areas smaller than 200 acres used the Rational Method and areas 200 acres and larger used the TR-55 Method. Refer to Table 2-7 for a summary of the peak runoff discharges of the 10-year storm events for each sub-basin within the identified critical areas of concern. Table 2-8 includes a summary of the peak runoff discharges of the 10-year storm events for each drainage basin that contributes to the five (5) existing active lift stations.

Table 2-7 Critical Areas of Concern Peak Runoff Summary

Sub-Basin	Contributing Area	Methodology ¹	C ²	CN ³	T _c ⁴	Peak Runoff Discharge ⁵
Cheryl Drive	60.6 ac	Rational Method	0.50	-	1.07 hr.	64.8 ft³/s
Clark Street	55.9 ac	Rational Method	0.55	-	0.81 hr.	66.6 ft³/s
East Grove Avenue 1	38.8 ac	Rational Method	0.49	-	1.04 hr.	41.3 ft³/s
East Grove Avenue 2	58.0 ac	Rational Method	0.45	-	1.15 hr.	56.2 ft³/s
Jay Drive 1	47.4 ac	Rational Method	0.75	-	0.47 hr.	120.4 ft³/s
Jay Drive 2	83.4 ac	Rational Method	0.56	-	0.62 hr.	159.5 ft³/s
Maplewood Basin	249.3 ac	TR-55	-	82	1.95 hr.	205.71 ft³/s
Oakcrest Street 1	10.6 ac	Rational Method	0.50	-	1.06 hr.	11.5 ft³/s
Oakcrest Street 2	81.0 ac	Rational Method	0.50	-	1.46 hr.	87.4 ft³/s
Southpoint Ditch	320.8 ac	TR-55	-	86	1.70 hr.	366.9 ft³/s
Sports Complex	100.6 ac	Rational Method	0.80	-	0.81 hr.	173.2 ft³/s
Tanner Street	11.3 ac	Rational Method	0.78	-	0.76 hr.	30.0 ft³/s

¹Indicates what Methodology was utilized for calculating the Peak Runoff Discharge.

²C = the composite Runoff Coefficient based on land use within the drainage basin.

³CN = the composite Curve Number based on land use within the drainage basin.

⁴T_c = Time of Concentration for the drainage basin.

⁵Peak Runoff Discharge is calculated based on the intensities resulting from the 10-year storm event, with the storm duration that occurs from the calculated Time of Concentration (e.g. Jay Drive 1 uses the 10-year, 30-min event).

Table 2-8 Lift Station Peak Contributing Runoff Summary

Lift Station ID	Lift Station Flow Rate	Contributing Area	Methodology ¹	C ²	Peak Runoff Discharge ³	Peak Runoff Discharge ³
27 ⁴	250 gpm	31.0 ac	Rational Method	0.60	40.2 ft ³ /s	18,042 gpm
1401	13,000 gpm	20.5 ac	Rational Method	0.50	22.2 ft ³ /s	9,963 gpm
1697	2,000	13.9 ac	Rational Method	0.37	11.0 ft ³ /s	4,936 gpm
1698	9,000 gpm	22.6 ac	Rational Method	0.50	24.4 ft ³ /s	10,951 gpm
1699	3,000 gpm	9.8 ac	Rational Method	0.50	10.6 ft ³ /s	4,757 gpm

¹Indicates what Methodology was utilized for calculating the Peak Runoff Discharge.

²C = the composite Runoff Coefficient based on land use within the drainage basin.

³Peak Runoff Discharge is calculated based on the intensities resulting from the 10-year storm event with the 1-hour storm duration.

⁴The peak runoff discharge for this lift station appears to be too high considering the size (flow rate) of the existing pumps. Further evaluation of this lift station is required to verify the contributing drainage area.

As shown in Table 2-8, the pump flow rates don't exactly match the calculated peak run-off rates for each respective lift station. The main contributing factor for Lift Stations 1697, 1698, and 1699 are that they are gravity flow through stations, where stormwater flows through the stations until the Southpointe Ditch raises high enough to activate the respective backwater flap gates. Then the respective lift station

turns on. The pumps most likely turn on after the peak flow has passed through the lift stations via the gravity line. To get a better understanding on how these lift stations operate, it is recommended that a comprehensive model of the Southpointe Ditch and the lift stations be conducted. This modeling is beyond the scope of this project.

Peak discharge was also calculated for the “other areas of concern” noted on Figure 2-3. While still representative of the problem areas, these calculations are a rougher estimate than the ones conducted for the “critical areas of concern” as their areas are based mainly on street boundaries as opposed to contour data, since these other areas are not well defined and were not considered to be of high priority. Refer to Table 2-9 for a summary of the peak runoff discharges of the 10-year storm events for each sub-basin within the identified “other” areas of concern.

Table 2-9 Other Areas of Concern Peak Runoff Summary

Sub-Basin	Contributing Area	Methodology ¹	C ²	CN ³	T _c ⁴	Peak Runoff Discharge ⁵
Airport Area	~879.2 ac	TR-55	-	80	~3 hr.	~518 ft ³ /s
Cambridge Drive	~28.2 ac	Rational Method	0.5	-	~1 hr.	~30.4 ft ³ /s
Central Downtown	~27.2 ac	Rational Method	0.8	-	~1 hr.	~47.1 ft ³ /s
East Lawn	~43.3 ac	Rational Method	0.5	-	~1 hr.	~46.7 ft ³ /s
Eastview Drive	~52.9 ac	Rational Method	0.5	-	~1 hr.	~57.1 ft ³ /s
Lancaster Drive	~50.1 ac	Rational Method	0.5	-	~1 hr.	~54.1 ft ³ /s
North Ohio Avenue	~46.1 ac	Rational Method	0.65	-	~1 hr.	~64.5 ft ³ /s

¹Indicates what Methodology was utilized for calculating the Peak Runoff Discharge.

²C = the composite Runoff Coefficient based on land use within the drainage basin.

³CN = the composite Curve Number based on land use within the drainage basin.

⁴T_c = Time of Concentration for the drainage basin.

⁵Peak Runoff Discharge is calculated based on the intensities resulting from the 10-year storm event, with the storm duration that occurs from the calculated Time of Concentration.

3. RECOMMENDED IMPROVEMENTS

3.1 CONCEPTUAL DESIGN BASIS

As discussed in Chapter 2 of this report, storm sewers are to have a sufficient capacity so as to convey the “ten-year storm reoccurrence period under the projected final stage of development” and inlets will be provided “so that water will not drain across the crown of any street or flow in the gutter for more than three hundred (300) feet.” Additionally, detention facilities are to have a sufficient capacity to control the excess stormwater runoff that results from the one hundred (100)-year storm period. Among other limitations, any detention facility would reserve at least one foot of freeboard above the water surface as well as ensure that storm water released from the facility will be at a non-erosive velocity.

The minimum recommended storm sewer pipe size to be constructed is 12-inches per the Village of Rantoul’s Manual of Practice and the State of Illinois, Illinois Department of Natural Resources – Model Stormwater Management Ordinance. The minimum recommended velocity of the storm sewers is 2.5 feet per second per the State of Illinois, Illinois Department of Natural Resources – Model Stormwater Management Ordinance. For purposes of developing conceptual level proposed pipe sizes, a minimum velocity of 3.0 feet per second was used.

Runoff calculations for the preliminary sizing of storm sewers utilized the Rational Method as shown in the equation below.

$$Q = C * i * A$$

Where:

Q = The peak discharge in cubic feet per second (cfs) from a given storm event.

C = The dimensionless runoff coefficient.

i = Rainfall Intensity in inches per hour.

A = Contributing Area in acres.

A standard 0.5 runoff coefficient was used to reflect the residential land use surrounding the proposed phase I storm improvements. Based on the LiDAR contours that were available, it was determined that the slope of the land is nearly flat. To account for this, a slope of 0.3% was used based on IDOT local roads and streets guidance due to the inability to reference as-builts for existing roadway infrastructure. This slope was used in conjunction with the predicted flow path of rainfall to develop times of concentration that determined the correct NOAA Atlas 14 rainfall intensity to use in the peak discharge calculations. Contributing area acreages were calculated based on the existing storm network and contour data.

3.2 RECOMMENDED IMPROVEMENTS

Based on development of this report and discussions with the Village, Donohue has identified recommended improvements. These recommended improvements are categorized into three phases, which are defined below:

Phase 1: Improvements which are recommended to be implemented within the next five (5) years.

Phase 2: Improvements which are recommended to be implemented between five (5) and ten (10) years.

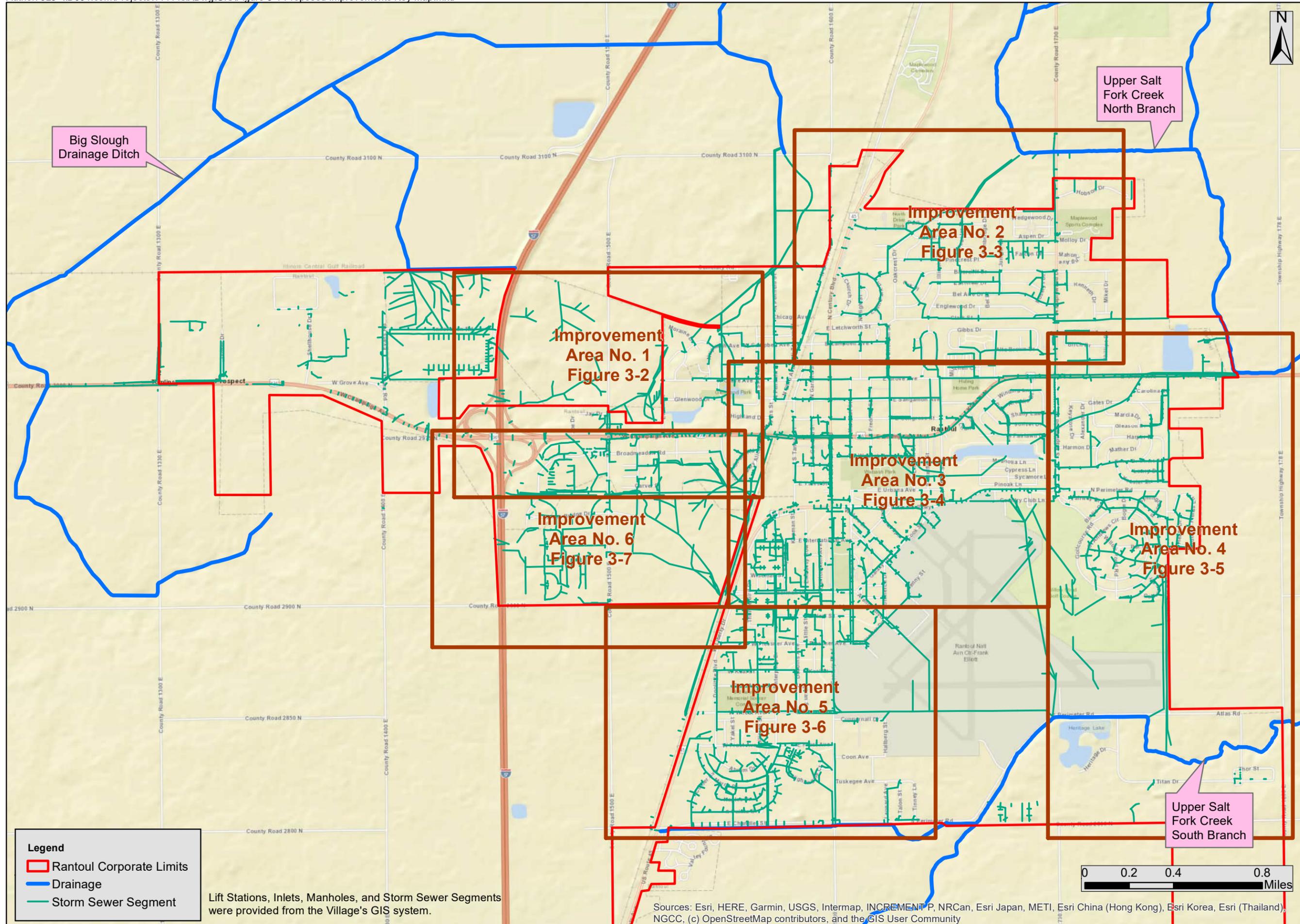
Phase 3: Improvements which are to be implemented based on the need.

Within the phases, individual projects have been prioritized based on discussions with the Village and severity of existing conditions. A summary of the owner review workshop questions and comments can be found in **Appendix C**. A summary of the recommended improvements is shown in Table 3-1 and in Figures 3-1 through 3-7. The figures also list preliminary pipe sizes for the proposed storm sewers associated with Phase 1 projects. These pipe sizes should not be used for construction of the proposed improvements without verification during the design stage.

Table 3-1 Recommended Improvements

PHASE	PRIORITY	DESCRIPTION	FIGURE
1	1	East Grove Ave and East Bell Ave: Replace old undersized storm sewers.	Fig. 3-4
1	2	Oakcrest Drive Area: Resolve flooding areas and correct pipeline bottlenecks. Correct pipeline bottleneck north of the Lancaster Drive Area. (To be coordinated with transportation project planned for 2027-2028 as described in Appendix D)	Fig. 3-3
1	3	Maplewood Detention Basin: Modify outlet structure and add relief storm sewer through the Cheryl Drive area discharging to the Upper Salt Fork Creek North Branch.	Fig. 3-4 Fig. 3-5
1	4	Lift Station 1699: Replace emergency power generator and electrical control panels. Install dedicated force main pipe.	Fig. 3-6
1	5	Stormwater Collection System Items: <ul style="list-style-type: none"> Line the discharge piping for Lift Stations 1401 and 1698. 	Fig. 3-5 Fig. 3-6
1	6	Lift Station 920: Secure the hatches on the top of the structure.	Fig. 3-5
1	7	Eastview Drive Area – Replace old brittle storm sewer pipes. (To be coordinated with transportation project planned for 2027-2028 as described in Appendix D)	Fig. 3-3
1	8	Update storm sewer GIS map (verify pipe diameter, connectivity, and ownership). Conduct additional modeling to finalize design details.	N/A

1	Varies	Coordinate additional storm sewer improvements with 5-year transportation plan, as needed	Appendix D
2	1	North Ohio Avenue Area: Correct flooding issues.	Fig. 3-3
2	2	Clark Street Area: Correct flooding issue at intersection of Clark Street, Oakcrest Drive, and North Sheldon Street.	Fig. 3-3
2	3	Lift Station 1401: Replace valve vault structure cover.	Fig. 3-5
2	4	Lift Station 27: Repairs to roof.	Fig. 3-6
2	5	Lift Station 1546: Replace existing gravity discharge pipe to alleviate flooding.	Fig. 3-6
2	6	Southpointe Ditch Area: Add manholes and inlets to back of yard areas between Abram Drive and Marco Drive to provide maintenance access and to alleviate flooding.	Fig. 3-6
3		Jay Drive Area: Extend storm sewer network and construct stormwater detention basin(s) and outlet storm sewers.	Fig. 3-2
3		Extend storm sewers and inlets to areas currently not served.	Fig. 3-2
3		Airport Area: Televising existing storm sewer network and make upgrades as required.	Fig. 3-4 Fig. 3-5 Fig. 3-6
3		Add relief storm sewers to the trunk line that contributes to the Maplewood Detention Basin.	Fig. 3-4
3		South Murray Road: Alleviate flooding in the area between Broadmeadow Road and the southeast entrance drive to Wal-Mart.	Fig. 3-7



Big Slough
Drainage Ditch

Upper Salt
Fork Creek
North Branch

Improvement
Area No. 2
Figure 3-3

Improvement
Area No. 1
Figure 3-2

Improvement
Area No. 3
Figure 3-4

Improvement
Area No. 4
Figure 3-5

Improvement
Area No. 6
Figure 3-7

Improvement
Area No. 5
Figure 3-6

Upper Salt
Fork Creek
South Branch

Legend

- Rantoul Corporate Limits
- Drainage
- Storm Sewer Segment

Lift Stations, Inlets, Manholes, and Storm Sewer Segments were provided from the Village's GIS system.



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

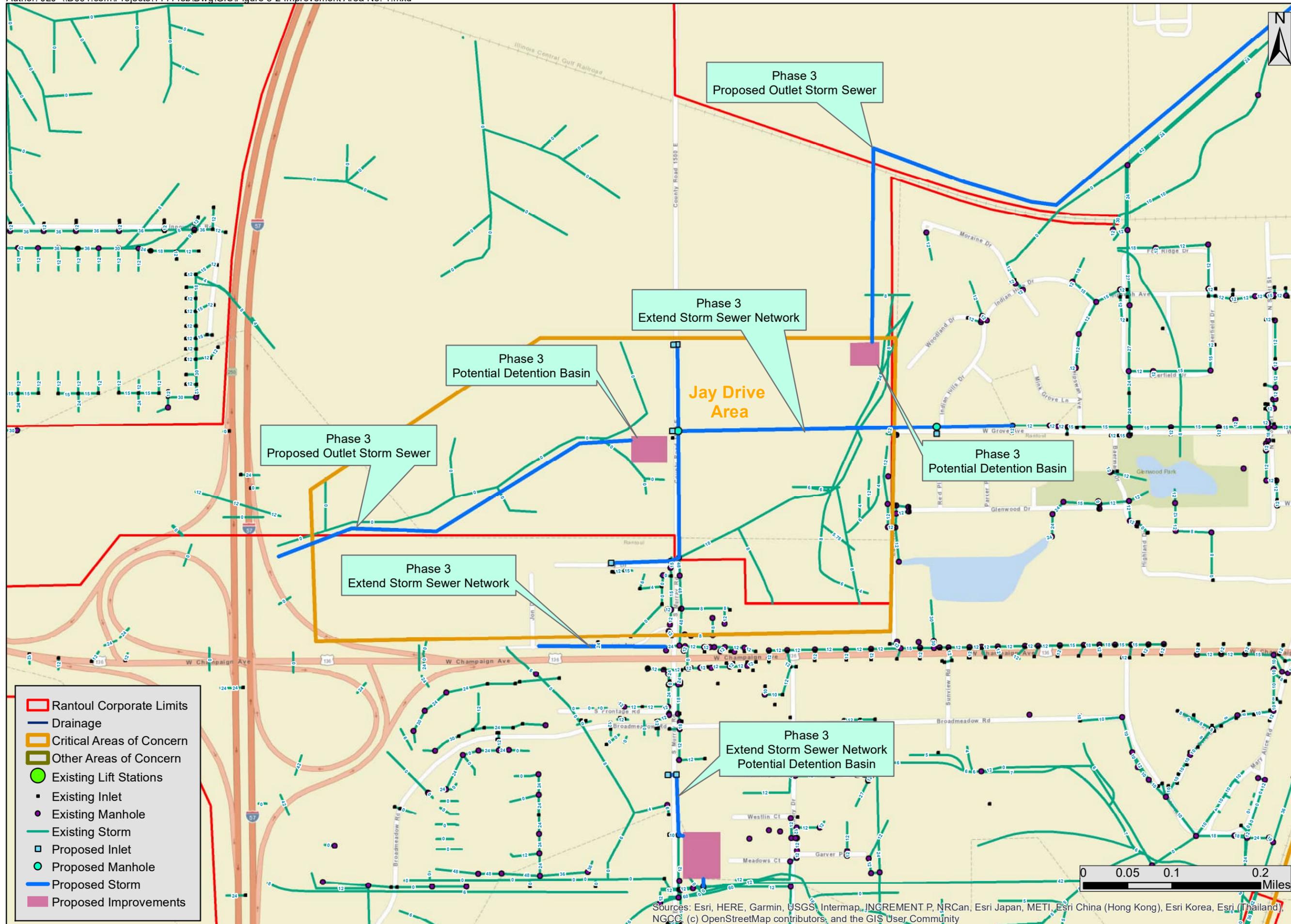
**FIGURE 3-1
PROPOSED IMPROVEMENTS
KEY MAP**

**VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL**

DONOHUE

JANUARY 2025

PROJECT 14414



- ▭ Rantoul Corporate Limits
- ▬ Drainage
- Critical Areas of Concern
- Other Areas of Concern
- Existing Lift Stations
- Existing Inlet
- Existing Manhole
- ▬ Existing Storm
- ▬ Proposed Inlet
- Proposed Manhole
- ▬ Proposed Storm
- ▭ Proposed Improvements



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

FIGURE 3-2
IMPROVEMENT AREA NO. 1

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL

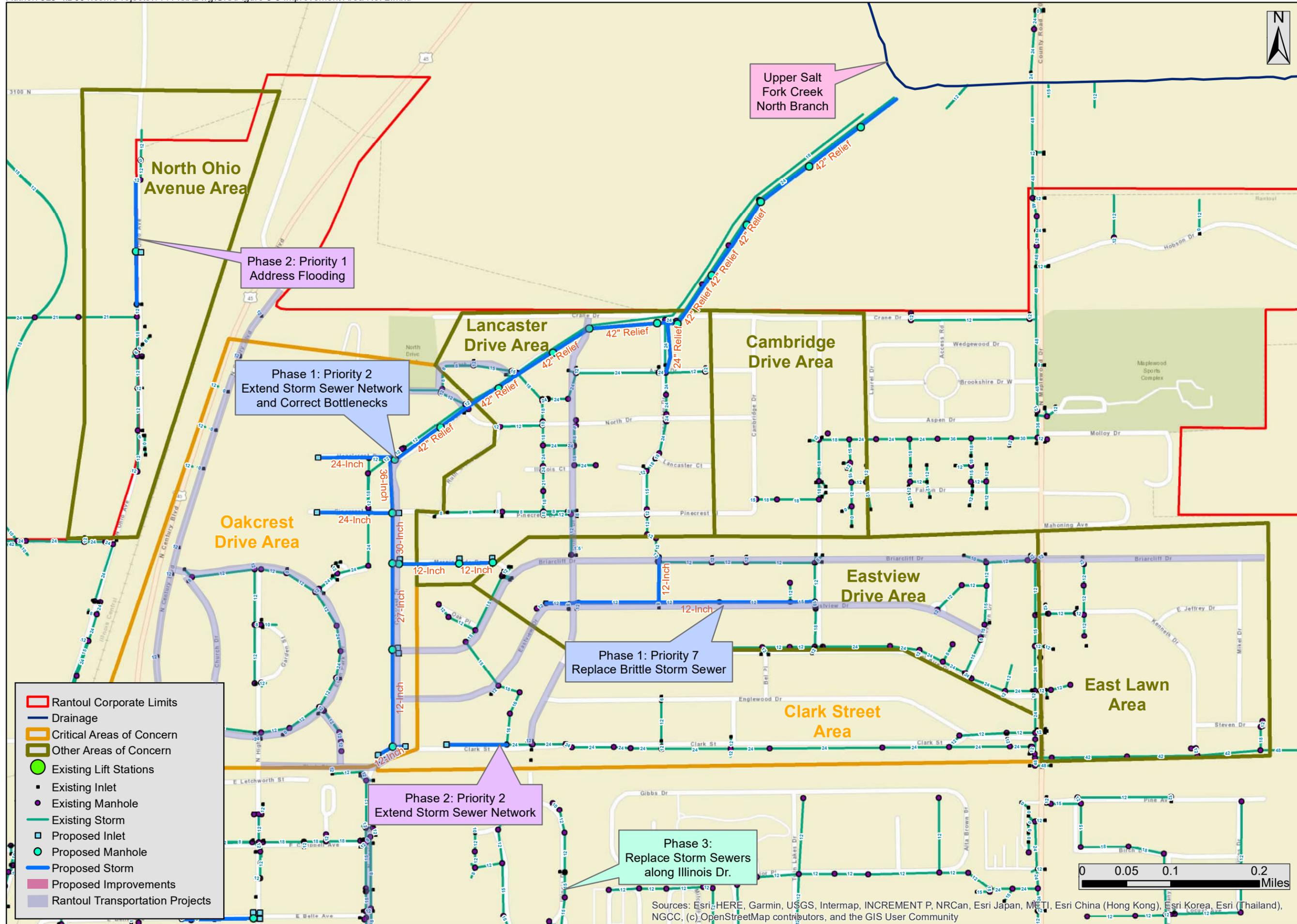


FIGURE 3-3
IMPROVEMENT AREA NO. 2

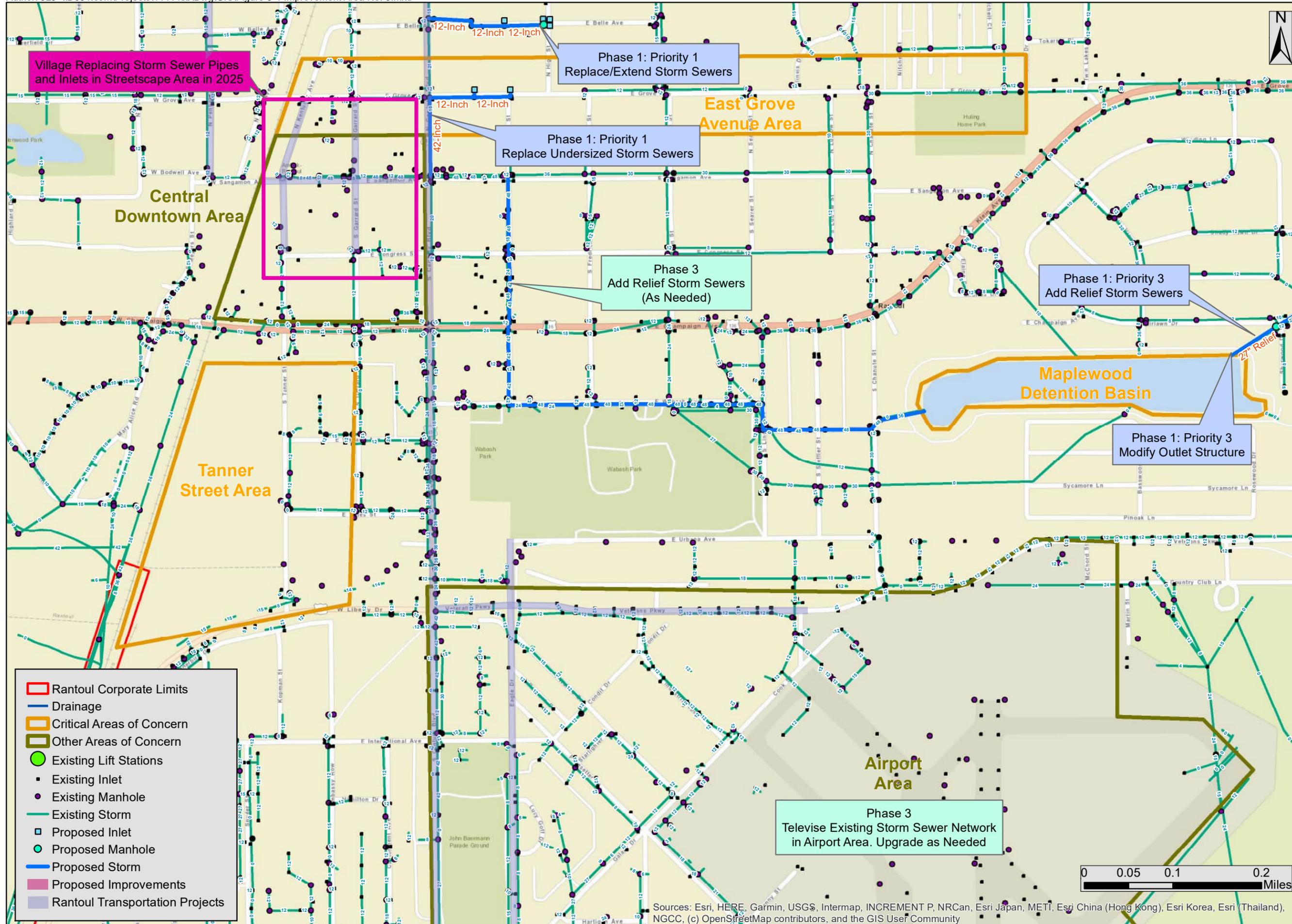
VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



JANUARY 2025

PROJECT 14414

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



Village Replacing Storm Sewer Pipes and Inlets in Streetscape Area in 2025

Phase 1: Priority 1 Replace/Extend Storm Sewers

Phase 1: Priority 1 Replace Undersized Storm Sewers

Phase 3 Add Relief Storm Sewers (As Needed)

Phase 1: Priority 3 Add Relief Storm Sewers

Phase 1: Priority 3 Modify Outlet Structure

Phase 3 Televis Existing Storm Sewer Network in Airport Area. Upgrade as Needed

East Grove Avenue Area

Central Downtown Area

Tanner Street Area

Airport Area

Maplewood Detention Basin

- Rantoul Corporate Limits
- Drainage
- Critical Areas of Concern
- Other Areas of Concern
- Existing Lift Stations
- Existing Inlet
- Existing Manhole
- Existing Storm
- Proposed Inlet
- Proposed Manhole
- Proposed Storm
- Proposed Improvements
- Rantoul Transportation Projects



FIGURE 3-4 IMPROVEMENT AREA NO. 3

VILLAGE OF RANTOUL 2025 STORMWATER MASTER PLAN RANTOUL, IL

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



FIGURE 3-6
IMPROVEMENT AREA NO. 5

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



JANUARY 2025

PROJECT 14414

- Rantoul Corporate Limits
- Drainage
- Critical Areas of Concern
- Other Areas of Concern
- Existing Lift Stations
- Existing Inlet
- Existing Manhole
- Existing Storm
- Proposed Inlet
- Proposed Manhole
- Proposed Storm
- Proposed Improvements
- Rantoul Transportation Projects



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

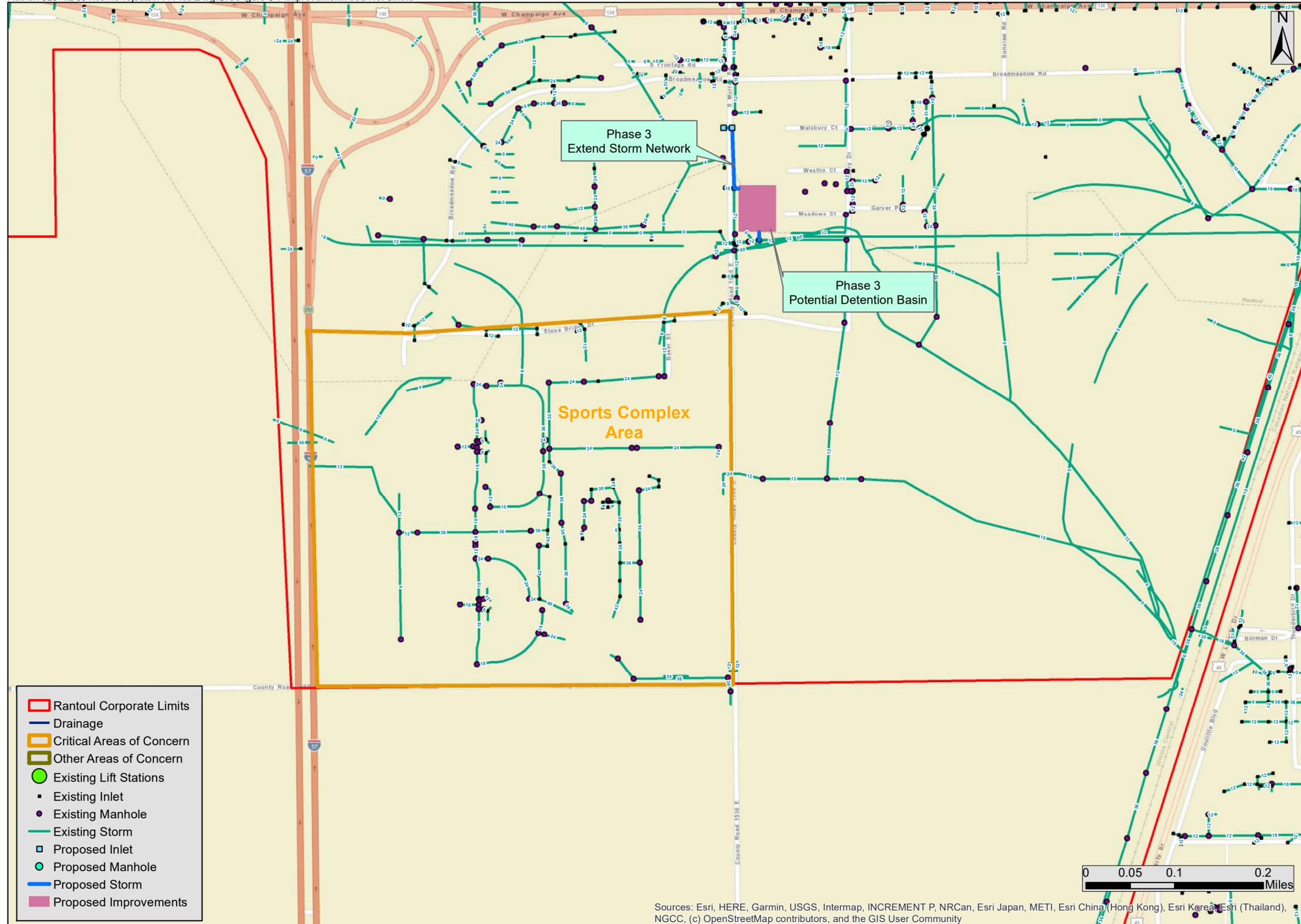


FIGURE 3-7
IMPROVEMENT AREA NO. 6

VILLAGE OF RANTOUL
2025 STORMWATER MASTER PLAN
RANTOUL, IL



JANUARY 2025

PROJECT 14414

- Rantoul Corporate Limits
- Drainage
- Critical Areas of Concern
- Other Areas of Concern
- Existing Lift Stations
 - Existing Inlet
 - Existing Manhole
- Existing Storm
- Proposed Inlet
- Proposed Manhole
- Proposed Storm
- Proposed Improvements



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

3.3 PHASE 1 IMPROVEMENTS OPCC

Conceptual level Opinion of Probable Construction Cost (OPCC) of the proposed Phase 1 recommended improvements is shown in Table 3-2. Quantity calculations include the assumption that storm sewer improvements would affect half of the street cross-section, from the centerline to the back of the sidewalk. Considering the OPCCs for this report are conceptual, a 30% contingency has been included. The OPCCs do not include costs associated with easements/property acquisition, engineering design, permitting, and construction administration. Refer to **Appendix E** for a more detailed breakdown of the OPCCs. Hydraulic and Hydrologic calculations should be conducted in greater detail during the design of the proposed improvements. The costs and quantities included in this report should be considered as preliminary and not serve as the basis for design.

Table 3-2 Phase 1 - OPCC

Priority	Description	Costs
1	East Grove Avenue and East Bell Avenue Storm Sewer Improvements <ul style="list-style-type: none"> ~1,155 L.F. of 12-Inch RCP ~460 L.F. of 42-Inch RCP 	\$1,177,000
2	Oakcrest Drive Area Storm Sewer Improvements <ul style="list-style-type: none"> ~1,215 L.F. of 12-Inch RCP ~40 L.F. of 18-Inch RCP ~1,175 L.F. of 24-Inch RCP ~515 L.F. of 27-Inch RCP ~300 L.F. of 30-Inch RCP ~335 L.F. of 36-Inch RCP ~3,915 L.F. of 42-Inch RCP 	\$4,920,000
3	Maplewood Detention Basin Improvements <ul style="list-style-type: none"> Control Structure and Relief Sewer Outlet Pipe Cheryl Drive Storm Sewer Improvements <ul style="list-style-type: none"> ~4,665 L.F. of 12-Inch RCP ~6,190 L.F. of 27-Inch RCP 	\$6,075,000
4	Lift Station 1699 Improvements <ul style="list-style-type: none"> ~500 L.F. of 18-Inch PVC Forcemain New Generator and Automatic Transfer Switch Electrical System Upgrades 	\$374,000
5	Lift Station Stormwater Collection System Items <ul style="list-style-type: none"> Line ~240 L.F. of 36-Inch discharge piping for LS 1698 Line ~3,600 L.F. of 42-Inch discharge piping for LS 1401 	\$1,603,000
6	Lift Station 920 Improvements <ul style="list-style-type: none"> Secure hatches 	\$43,000
7	Eastview Drive Area – Replace old brittle storm sewer pipes <ul style="list-style-type: none"> ~1,875 L.F. of 12-Inch RCP 	\$866,000
Varies	Stormwater Improvements in conjunction with transportation projects as detailed in the Village’s 5-Year Transportation Plan (Appendix D), as needed.	TBD during Design
TOTAL PHASE 1 OPCC*:		\$15,058,000

*Does not include any undetermined costs associated with stormwater improvements that occur in conjunction with projects listed in the Village’s 5-Year Transportation Plan

APPENDIX A

FEMA FLOOD MAPS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodway** data have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or flood plain management.

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

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Floodways restricted by anthropogenic features such as bridges and culverts are drawn to reflect natural conditions and may not agree with the model computed widths listed in the Floodway Data table in the Flood Insurance Study report.

Multiple **topographic sources** may have been used in the delineation of Special Flood Hazard Areas. See Flood Insurance Study report for details on source resolution and geographic extent.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

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NGS Information Services, NOAA, NNGS12
National Geodetic Survey SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3252
(301) 713-3242

To obtain current elevation, description, and/or location for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Champaign County GIS Consortium. Color digital orthophotos with a 2-foot pixel resolution were photogrammetrically compiled from aerial photography obtained in 2008. Photography Copyright © 2008 by Champaign County GIS Consortium.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The Special Flood Hazard Areas and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

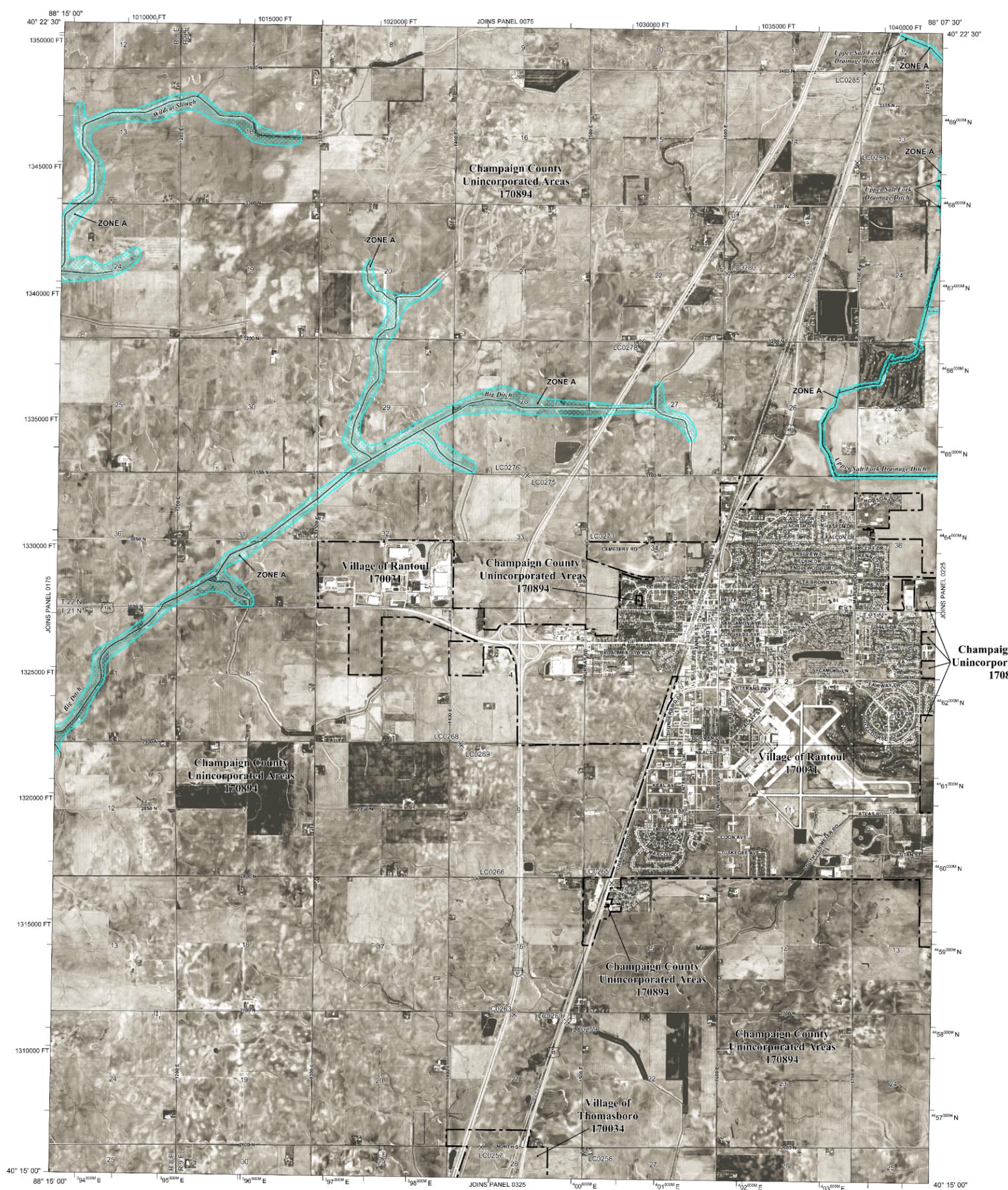
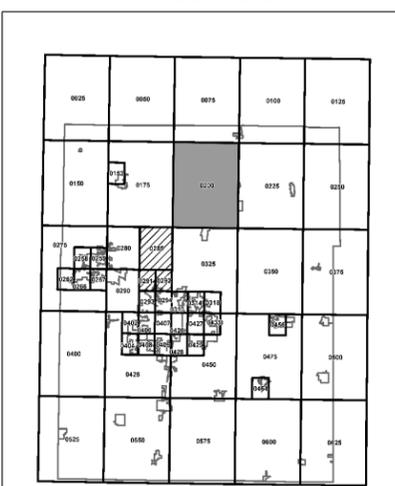
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Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

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PANEL INDEX



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equal or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined; Base Flood Elevations determined.
- ZONE AE** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AO** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decommissioned. Zone AO indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AR** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE A99** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*

(EL 987)

*References to the North American Vertical Datum of 1988

○ Cross section line

○ Transsect line

45° 02' 08" 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

1000-meter Universal Transverse Mercator grid values, zone 16

5000-foot grid ticks: Illinois State Plane East Coordinate System, 3776 zone (FIPSZONE 1201) Transverse Mercator

DX551b; Bench mark (see explanation in Notes to Users section of this FIRM panel)

• M1.5 River Mile

MAP REPOSITORIES Refer to Map Repository for Map Index

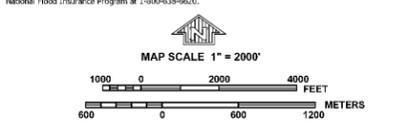
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

OCTOBER 2, 2013

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6600.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0200D

FIRM FLOOD INSURANCE RATE MAP CHAMPAIGN COUNTY, ILLINOIS AND INCORPORATED AREAS

PANEL 200 OF 625
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHAMPAIGN COUNTY	170894	0200	D
RANTOUL VILLAGE OF	170031	0200	D
THOMASBORO VILLAGE OF	170034	0200	D

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 17019C0200D

EFFECTIVE DATE OCTOBER 2, 2013

Federal Emergency Management Agency

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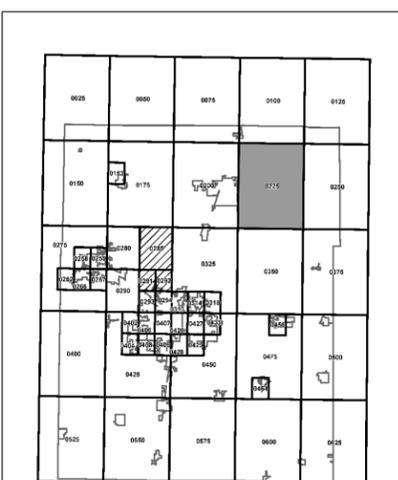
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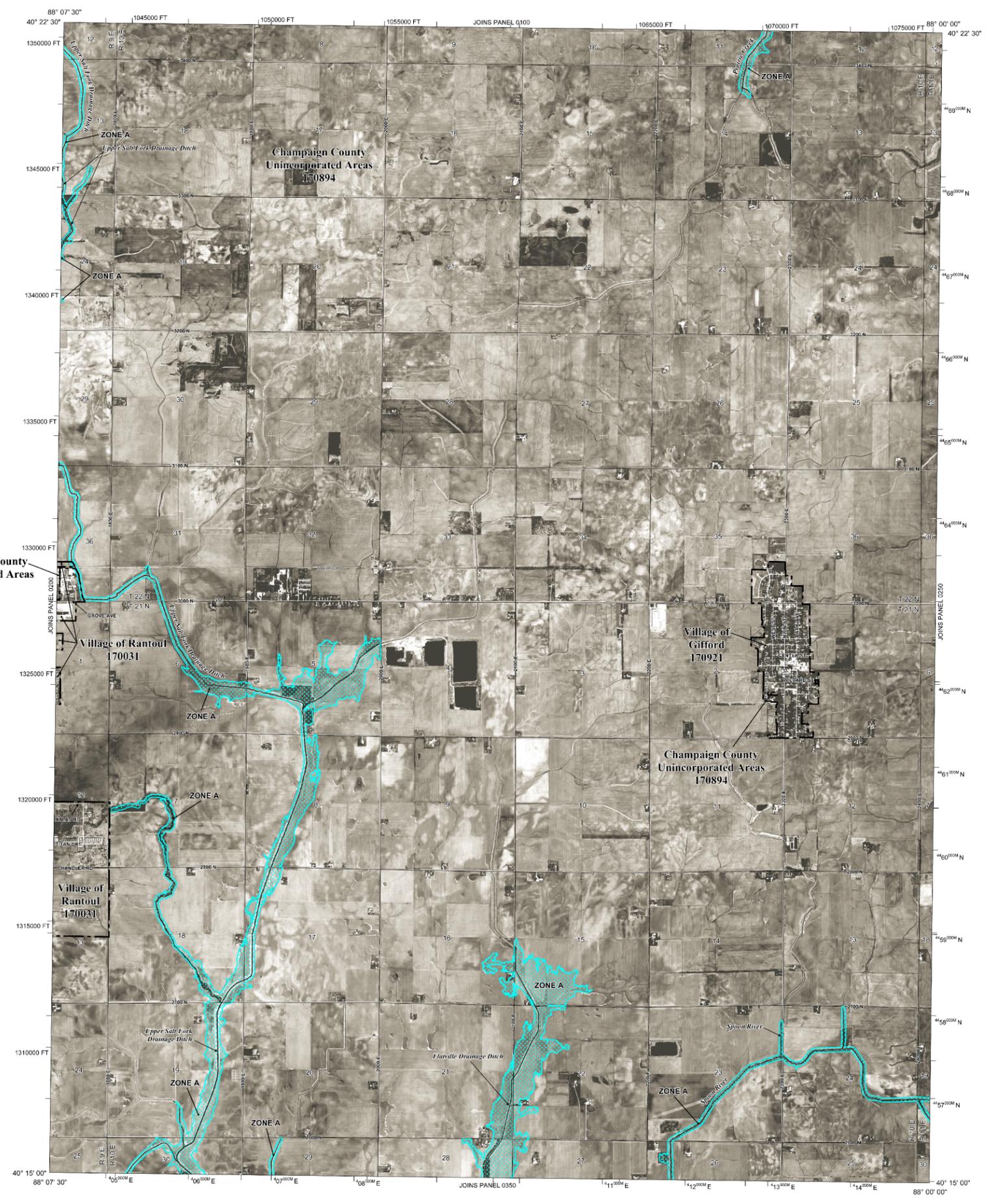
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PANEL INDEX



Panel Not Printed



LEGEND

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- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet* (EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transsect line
- 45° 02' 08" 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 16
- 5000-foot grid tick: Illinois State Plane East Coordinate System, 3776 zone (FIPS ZONE 1203) Transverse Mercator
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- M1.5 River Mile

MAP REPOSITORIES

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EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
OCTOBER 2, 2013

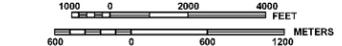
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MAP SCALE 1" = 2000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0225D

FIRM
FLOOD INSURANCE RATE MAP
CHAMPAIGN COUNTY,
ILLINOIS
AND INCORPORATED AREAS

PANEL 225 OF 625
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

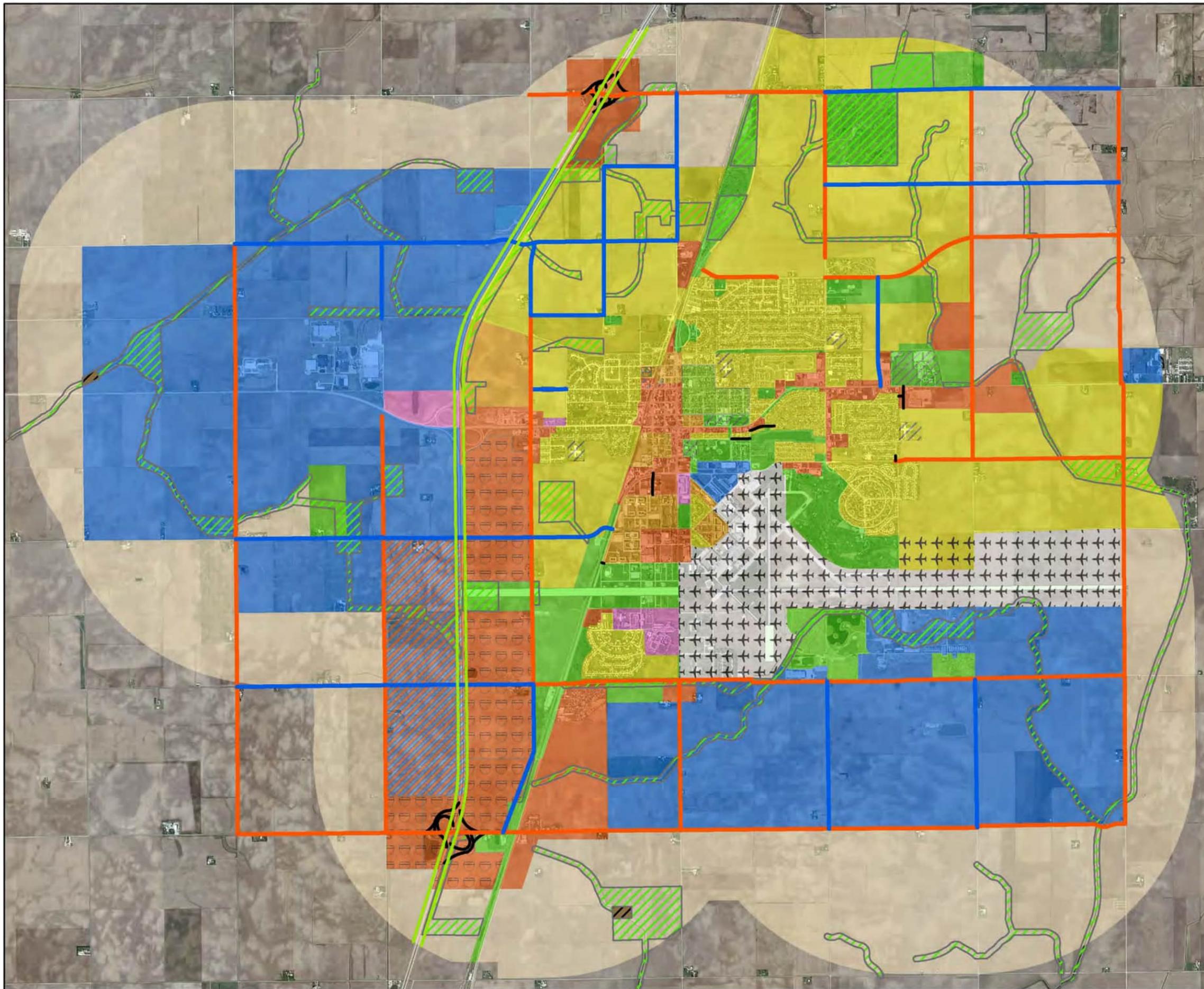
COMMUNITY	NUMBER	PANEL	SUFFIX
CHAMPAIGN COUNTY	170894	0225	D
GIFFORD, VILLAGE OF	170921	0225	D
RANTOUL, VILLAGE OF	170031	0225	D

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MAP NUMBER
17019C0225D
EFFECTIVE DATE
OCTOBER 2, 2013

Federal Emergency Management Agency

APPENDIX B
VILLAGE OF RANTOUL 2008
COMPREHENSIVE PLAN



LEGEND

- AGRICULTURAL,
- AVIATION
- AVIATION, RESIDENTIAL
- GENERAL COMMERCIAL
- GENERAL COMMERCIAL, PUBLIC BUILDINGS
- INDUSTRIAL OR COMMERCIAL,
- INDUSTRIAL
- INTERSTATE COMMERCIAL
- MIXED USE
- MIXED USE, PUBLIC BUILDINGS
- OFFICE / HOSPITALITY
- OLD NEIGHBORHOOD HOUSING
- OPEN SPACE
- OPEN SPACE, PUBLIC BUILDINGS
- RESIDENTIAL
- RESIDENTIAL, PUBLIC BUILDINGS
- Greenways
- Drainage
- WWTP
- Existing Roadways

vorgis.VOR.CPProRoads

Class

- Local
- Primary
- Secondary

**Village of Rantoul
Official
Comprehensive Plan**

**As Adopted by
Ordinance #2019
February 14, 2006
(Amended by Ordinance #2129
March 11, 2008)**

APPENDIX C

Owner Workshop Comments and Responses

January 9, 2025

Re: December 2024 Owner Workshop Comments and Donohue Responses

PHASE 1:

Priority 1

Q. Storms sewers on Grove Ave. east of Rt. 45 were recently televised and determined to be 8" and not 12". There is over the curb flooding in this area with only 1 inlet at the northeast corner of Grove and Rt. 45.

R: This suggestion has been implemented into the master plan and accompanying figures by upsizing the 8" storm sewer on Grove Ave to a 12", as well as extending the 12" storm sewer east and adding additional inlets.

Q. There is also over the curb flooding on Belle Ave. just east of Rt. 45.

R: This suggestion has been implemented into the master plan and accompanying figures by upsizing the 8" storm sewer on Belle Ave to a 12", as well as extending the 12" storm sewer east and adding additional inlets.

Q. Are the drainage problems in the Illinois Dr. area resolved or are there needs for sewer or detention improvements?

R: The Village has purchased two properties east of Northview School, demolished the houses, and constructed a detention pond. If flooding becomes an issue again, then the storm sewers on Illinois Dr. will need to be replaced. This will be considered a Phase 3 Project.

Priority 2

Q. Should new storm sewers on Hazelcrest, Pinecrest, and Morningside be extended within the street right of way to connect to the new sewer on Oakcrest, instead of using the existing sewer on private property?

R: This suggestion has been implemented into the master plan and accompanying figures.

Priority 3

Q. Should the outfall storm sewer from the Maplewood basin be replaced through the Cheryl Dr. area and possibly to the ditch? That would also lower high water levels in the basin and sewers upstream of the basin.

R: This suggestion has been implemented into the master plan and accompanying figures as a 27" dedicated relief sewer that starts at the Maplewood basin outfall and ends at the ditch.

Priority 7

Q: Are all necessary drainage improvements being done with the current downtown street scape project, including the 48" along Sangamon and 42" along Century?

R: No, the 48" Storm Sewer along Sangamon Ave should be constructed as a part of the downtown street scape project, however, the 42" Storm Sewer along Century Boulevard is not within the Street Scape Project's scope and must be constructed separately as a part of Phase 1: Priority 1.

Q. Why is a 36" relief sewer needed from Sangamon/Marshall to the Maplewood basin? Was the existing 48" sewer not sized for a 10 year event?

R: Donohue made the assumption that the existing 48" storm sewer was constructed at a minimum slope to convey flows at a velocity of 3 feet per second per. From this assumption, it was determined via the TR-55 method that the existing 48" storm sewer is undersized if conveying the full flow from the contributing drainage basin. If the Village is not currently observing any issues with the 48" storm sewer, there could be multiple contributing factors. One possibility is that the lack of inlets in several areas within the drainage basin could be preventing the runoff from reaching the Village's stormwater system and thus the 48" storm sewer. As the Village continues to add inlets and mitigate street/yard flooding, the 48" storm sewer could become overwhelmed. The 36" relief sewer is suggested to be implemented only if these issues with the current 48" storm sewer materialize. The relief sewer is being shifted back to Phase 3 to account for this.

Priority 8

Q. Modeling of Maplewood basin with new outfall sewer and additional storage may eliminate the need for a new 36" sewer upstream of the basin.

R: From the conservative TR-55 method calculations that Donohue conducted, the 36" storm sewer would still be required upstream of the basin (refer to the response to the question from Priority 7). The need for the 36" storm sewer should be confirmed during the design stage.

PHASE 2:

Priority 4, 5, & 6

Q. Have any studies been done for replacing lift stations or eliminating them and using gravity sewers?

R: Lift Stations 1697, 1698, and 1699 currently act as gravity flow until the water level in the Southpoint Ditch becomes too high. Then the pumps activate. For these lift stations, they should be kept as is.

Lift station 1401 could possibly be converted to gravity flow, this will need to be evaluated further. Donohue will need elevation data regarding the invert of the influent sewer into the wet well and the elevation data of the outfall discharge pipe.

Lift station 27, Donohue does not have enough information regarding this station to make a determination. As-built Information is required for this station and its discharge point. Also, the contributing area to this station needs to be verified.

PHASE 3:

Q. What is the condition of the outfall sewers north on Indian Hills to the ditch? Will it be necessary to replace these sewers if additional developments occur in the Jay Dr. area?

R: The condition of the existing storm sewers in the Indian Hills area to the ditch are unknown. According to the GIS Map some of their sizes are ambiguous. According to the GIS Map, Ownership of these sewers and existing detention ponds varies between private, IDOT, and Village. It is being recommended that dedicated outfall sewers be constructed for the Jay Drive development area.

Q. Are new outfall sewers or detention basins needed for the south Murray Rd. area to accommodate new land developments?

R: Yes, detention basins and new outfall sewers will be needed for the development of South Murray Road.

APPENDIX D
5-Year Transportation Plan

CAPITAL PROJECTS SCHEDULE
FIVE YEAR SUMMARY FORM

FUND

DATE: 1/10/2025

Reference Number	Equipment/Project/Activity	Total Cost	25-26	26-27	27-28	28-29	29-30
	Murray Road & Airport Fuel Pump Station Till lime mod new hma over	\$900,000	\$900,000				
	Broadmeadow Rd New Concrete Road for Sports Complex	\$0	Funded from outside source(Drainage will be a part of the project)				
	Veterans Pkwy Concrete Rehad from Century to Cook	\$850,000	\$850,000				
	Rockland/Keystone/Gates/Alexander Asphalt Resurfacing	\$408,040		\$408,040			
	Eastview Dr Asphalt Resurfacing from Oakcrest to Roselyn	\$728,643		\$728,643			
	Briarcliff Dr Asphalt Resurfacing from Oakcrest to Maplewood	\$777,219		\$777,219			
	Oakcrest Dr Asphalt Resurfacing from Hazelcrest to Illinois	\$244,824		\$244,824			
	Illinois Dr Asphalt Resurfacing from Pinecrest to Oakcrest	\$279,799		\$279,799			
	Park Dr Asphalt Resurfacing from North to Oakcrest	\$106,868		\$106,868			
	North Dr Asphalt Resurfacing from Park to Cambridge	\$446,901		\$446,901			
	East Perimeter Rd Asphalt Resurfacing from Golfview to S. Perimeter	\$602,345		\$602,345			
	South Perimeter Rd Asphalt Resurfacing from 2800 North to East Perimeter	\$1,272,696		\$1,272,696			
	Fairway Dr Asphalt Resurfacing from Willow Pond to Perimeter	\$476,046		\$476,046			
	Birdie Dr Asphalt Resurfacing from Willow Pond to Fairway	\$106,868		\$106,868			
	Bogie Dr Asphalt Resurfacing from Willow Pond to Fairway	\$77,722		\$77,722			
	Golfcourse Rd Asphalt Resurfacing from Willow Pond to Par	\$412,897		\$412,897			
	Par Dr Asphalt Resurfacing from Willow Pond to Perimeter	\$200,134		\$200,134			
	Symington Dr Asphalt Resurfacing from Fairway to Fairway	\$161,273		\$161,273			
	Penfield St Asphalt Resurfacing from Sangamon to Campbell	\$728,643		\$728,643			
	Eden Park Dr From Century to Century	\$524,623		\$524,623			
	Clark St Asphalt Resurfacing from High to Sheldon	\$145,729		\$145,729			
	Sheldon S Asphalt Resurfacing from Grove to Eden Park	\$516,073		\$516,073			
	Eagle Dr Asphalt Resurfacing from Urbana to Flessner	\$699,497				\$699,497	
	Borman Dr Asphalt Resurfacing Rte 45 to Arends	\$743,798				\$743,798	
	Enterprise Dr Asphalt Resurfacing from Frost to Borman	\$699,497				\$699,497	
	Century Blvd Mill and Fill, FAU Route	\$500,000				\$500,000	
	Downtown Streetscape (Out for bid, includes drainage) Garrard, Sangamon, Tanner, Kentucky		\$5,000,000				
	Alleys Various Locations to be determined by Paver Software	\$600,000		\$300,000			
	Concrete Patching Various Locations to be determined by Paver Software	\$1,500,000	\$300,000	\$300,000		\$300,000	\$300,000
	Thin lift surface, Micro Seals, Reclamite Various Locations to be determined by Paver Software	\$1,250,000	\$250,000	\$250,000		\$250,000	\$250,000
Sub-Totals		\$15,960,135	\$6,450,000	\$1,700,000	\$3,842,294	\$5,775,049	\$3,192,792

Source of Funding:
State Motor Fuel Tax Revenue/ Local Motor Fuel Tax/TIF/Federal Revenue Sharing/ Grants/Developers/CDBG

APPENDIX E

OPCC

Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 1

Rantoul, IL

General Description

Replace Undersized Storm Sewers in the East Grove Avenue Area.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 15,500.00	\$ 15,500.00
2	Traffic Control	1	LS	\$ 15,000.00	\$ 15,000.00
3	Construction Staking	1	LS	\$ 4,000.00	\$ 4,000.00
4	Asphalt	1020	Ton	\$ 110.00	\$ 112,200.00
5	Compacted Aggregate Base	1750	Ton	\$ 35.00	\$ 61,250.00
6	Curb & Gutter Replacement	1900	LF	\$ 50.00	\$ 95,000.00
7	Sidewalk Replacement	7600	SF	\$ 10.00	\$ 76,000.00
8	Mulched Seeding	1060	SY	\$ 5.00	\$ 5,300.00
9	Topsoil	1940	CY	\$ 30.00	\$ 58,200.00
10	Dewatering	1000	LF	\$ 15.00	\$ 15,000.00
11	12-Inch RCP	1440	LF	\$ 80.00	\$ 115,200.00
12	42-Inch RCP	460	LF	\$ 350.00	\$ 161,000.00
13	Inlets	8	ea	\$ 2,900.00	\$ 23,200.00
14	48-Inch Manhole	5	ea	\$ 6,000.00	\$ 30,000.00
15	84-Inch Manhole	2	ea	\$ 17,000.00	\$ 34,000.00
16	Utility Conflict Resolution	1	LS	\$ 25,000.00	\$ 25,000.00
				SUBTOTAL	\$ 845,850.00
17	Insurance and Bonds	2	%		\$ 16,917.00
18	Mobilization and Demobilization	5	%		\$ 42,293.00
				SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY	\$ 905,060.00
				Contingency (30%)	\$ 271,500.00
				TOTAL	\$ 1,176,560.00

Engineers Opinion of Probable Construction Cost



Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 2

Rantoul, IL

General Description

Extend Storm Network in the Oakcrest Drive Area and Correct Bottleneck North of the Lancaster Drive Area.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 68,000.00	\$ 68,000.00
2	Traffic Control	1	LS	\$ 45,000.00	\$ 45,000.00
3	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
4	Asphalt	3070	Ton	\$ 110.00	\$ 337,700.00
5	Compacted Aggregate Base	5260	Ton	\$ 35.00	\$ 184,100.00
6	Curb & Gutter Replacement	5735	LF	\$ 50.00	\$ 286,750.00
7	Sidewalk Replacement	22940	SF	\$ 10.00	\$ 229,400.00
8	Mulched Seeding	8460	SY	\$ 5.00	\$ 42,300.00
9	Topsoil	2470	CY	\$ 30.00	\$ 74,100.00
10	Dewatering	2500	LF	\$ 25.00	\$ 62,500.00
11	12-Inch RCP	1355	LF	\$ 80.00	\$ 108,400.00
12	18-Inch RCP	40	LF	\$ 103.00	\$ 4,120.00
13	24-Inch RCP	1175	LF	\$ 116.00	\$ 136,300.00
14	27-Inch RCP	515	LF	\$ 150.00	\$ 77,250.00
15	30-Inch RCP	300	LF	\$ 233.00	\$ 69,900.00
16	36-Inch RCP	335	LF	\$ 309.00	\$ 103,515.00
17	42-Inch RCP	3915	LF	\$ 350.00	\$ 1,370,250.00
18	Control Structure	3	ea	\$ 30,000.00	\$ 90,000.00
19	Inlets	18	ea	\$ 2,900.00	\$ 52,200.00
20	48-Inch Manhole	5	ea	\$ 5,000.00	\$ 25,000.00
21	60-Inch Manhole	15	ea	\$ 6,000.00	\$ 90,000.00
22	42-Inch Outlet	1	LS	\$ 20,000.00	\$ 20,000.00
23	Utility Conflict Resolution	1	LS	\$ 50,000.00	\$ 50,000.00
				SUBTOTAL	\$ 3,536,785.00
24	Insurance and Bonds	2	%		\$ 70,736.00
25	Mobilization and Demobilization	5	%		\$ 176,840.00
				SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY	\$ 3,784,361.00
				Contingency (30%)	\$ 1,135,300.00
				TOTAL	\$ 4,919,661.00

Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 3

Rantoul, IL

General Description

Modify Outlet Structure of the Existing Maplewood Detention Basin, Relief Sewer, and Cheryl Drive Storm Sewers.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 79,700.00	\$ 79,700.00
2	Traffic Control	1	LS	\$ 45,000.00	\$ 45,000.00
3	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
4	Weir Structure	1	LS	\$ 150,000.00	\$ 150,000.00
5	Asphalt	5640	Ton	\$ 110.00	\$ 620,400.00
6	Compacted Aggregate Base	9660	Ton	\$ 35.00	\$ 338,100.00
7	Curb & Gutter Replacement	10535	LF	\$ 50.00	\$ 526,750.00
8	Sidewalk Replacement	42140	SF	\$ 10.00	\$ 421,400.00
9	Mulched Seeding	7100	SY	\$ 5.00	\$ 35,500.00
10	Topsoil	1310	CY	\$ 30.00	\$ 39,300.00
11	Dewatering	10855	LS	\$ 25.00	\$ 271,375.00
12	12-Inch RCP	4665	LF	\$ 80.00	\$ 373,200.00
13	27-Inch RCP	6190	LF	\$ 150.00	\$ 928,500.00
14	Inlets	21	ea	\$ 2,900.00	\$ 60,900.00
15	48-Inch Manhole	2	ea	\$ 5,000.00	\$ 10,000.00
16	60-Inch Manhole	24	ea	\$ 6,000.00	\$ 144,000.00
17	Bore & Jack Crossing of Maplewood Drive, 36-Inch	130	LF	\$ 1,200.00	\$ 156,000.00
18	Bore & Jack Crossing of State Route 136, 36-Inch	75	LF	\$ 1,200.00	\$ 90,000.00
19	27-Inch Outlet	1	LS	\$ 12,500.00	\$ 12,500.00
20	Utility Conflict Resolution	1	LS	\$ 45,000.00	\$ 45,000.00
					\$ 4,367,625.00
21	Insurance and Bonds	2	%		\$ 87,353.00
22	Mobilization and Demobilization	5	%		\$ 218,382.00
SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY					\$ 4,673,360.00
Contingency (30%)					\$ 1,402,000.00
TOTAL					\$ 6,075,360.00

Engineers Opinion of Probable Construction Cost



Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 4

Rantoul, IL

General Description

Lift Station 1699 Improvements.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 5,100.00	\$ 5,100.00
2	15KW Diesel Emergency Generator	1	LS	\$ 30,000.00	\$ 30,000.00
3	Automatic Transfer Switch	1	LS	\$ 20,000.00	\$ 20,000.00
4	Electrical System Upgrades	1	LS	\$ 150,000.00	\$ 150,000.00
5	Mulched Seeding	560	SY	\$ 5.00	\$ 2,800.00
6	Topsoil	280	CY	\$ 30.00	\$ 8,400.00
7	18-Inch PVC Forcemain Pipe	500	LF	\$ 85.00	\$ 42,500.00
8	Utility Conflict Resolution	1	LS	\$ 10,000.00	\$ 10,000.00
				SUBTOTAL \$	268,800.00
9	Insurance and Bonds	2	%		\$ 5,376.00
10	Mobilization and Demobilization	5	%		\$ 13,440.00
				SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY \$	287,616.00
				Contingency (30%) \$	86,300.00
				TOTAL \$	373,916.00

Engineers Opinion of Probable Construction Cost



Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 5

Rantoul, IL

General Description

Line Discharge Piping for Lift Stations 1401 and 1698.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
2	Line 36-Inch Storm Pipe	240	LF	\$ 290.00	\$ 69,600.00
3	Line 42-Inch Storm Pipe	3600	LF	\$ 315.00	\$ 1,134,000.00
				SUBTOTAL \$	1,208,600.00
4	Insurance and Bonds	2	%		\$ 24,172.00
				SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY \$	1,232,772.00
				Contingency (30%) \$	369,800.00
				TOTAL \$	1,602,572.00

Engineers Opinion of Probable Construction Cost



Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 6

Rantoul, IL

General Description

Lift Station 920 Improvements.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 600.00	\$ 600.00
2	Secure Hatches	3	ea	\$ 10,000.00	\$ 30,000.00
				SUBTOTAL \$	30,600.00
3	Insurance and Bonds	2	%		\$ 612.00
4	Mobilization and Demobilization	5	%		\$ 1,530.00
				SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY \$	32,742.00
				Contingency (30%) \$	9,800.00
				TOTAL \$	42,542.00

Village of Rantoul

Stormwater Masterplan Recommended Improvements: Phase I - Priority 7

Rantoul, IL

General Description

Replace Old Brittle Storm Sewer Pipes in the Eastview Drive Area.

Donohue Project Number: 14414

No.	Item	Qty	Unit	Unit Price	Price
1	Clearing and Grubbing	1	LS	\$ 11,400.00	\$ 11,400.00
2	Traffic Control	1	LS	\$ 45,000.00	\$ 45,000.00
3	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
4	Asphalt	1010	Ton	\$ 110.00	\$ 111,100.00
5	Compacted Aggregate Base	1720	Ton	\$ 35.00	\$ 60,200.00
6	Curb & Gutter Replacement	1875	LF	\$ 50.00	\$ 93,750.00
7	Sidewalk Replacement	7500	SF	\$ 10.00	\$ 75,000.00
8	Mulched Seeding	1050	SY	\$ 5.00	\$ 5,250.00
9	Topsoil	180	CY	\$ 30.00	\$ 5,400.00
10	12-Inch RCP	1875	LF	\$ 80.00	\$ 150,000.00
11	Utility Conflict Resolution	1	LS	\$ 45,000.00	\$ 45,000.00
					. \$ 622,100.00
12	Insurance and Bonds	2	%		\$ 12,442.00
13	Mobilization and Demobilization	5	%		\$ 31,105.00
					SUBTOTAL OF ALL ITEMS WITHOUT CONTINGENCY \$ 665,647.00
					Contingency (30%) \$ 199,700.00
					TOTAL \$ 865,347.00