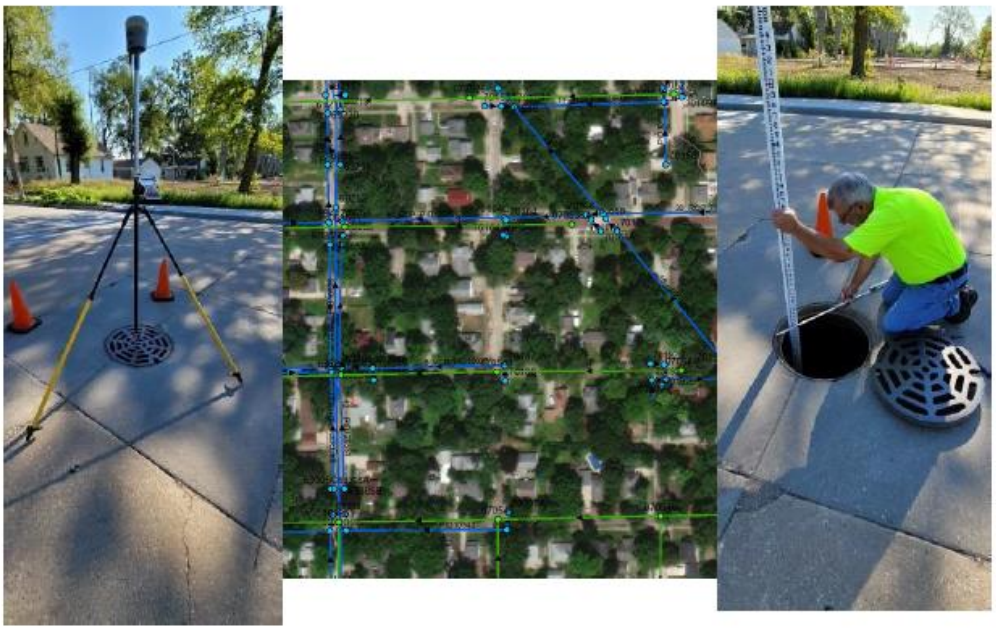
Section 5: Sewer Systems

Table of Contents

Operations

Planning and GIS Data Acquisition

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40412 - STORMWATER MANAGEMENT PLANNING	201 SWUF	697,500	-	-	-	-	-
40514 - SANITARY PLANNING AND GIS	204 SAN	240,000	-	-	-	-	-
	TOTAL	937,500	0	0	0	0	0



Description
Acquisition of detailed survey measurements, inventory data, and condition assessment of storm and sanitary manholes and inlets, and integration of data into the City's Geographical Information System (GIS).

Location
2,376 sanitary manholes, 4,195 storm manholes, and 4,077 storm inlets in the City's sewer system.

Purpose and Need
Existing GIS data for manholes and inlets is incomplete (only 3% of storm and 20% of sanitary structures are complete to date), generally lacking accurate elevation measurements and condition assessments. A complete set of measurements, inventory data, and condition assessment will allow for more robust analysis and planning for the City's sewer system.

Timeline
Begin FY23 and Finish FY25

Changes from Previous CIP
Increased budget for more comprehensive scope.

Public Sanitary Sewer Service Gaps

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40501 - SANITARY SEWER PRIVATE TO PUBLIC	204 SAN	25,000	25,000	25,000	25,000	25,000	25,000
40515 - PUBLIC SANITARY SEWER GAPS STUDY	204 SAN	-	175,000	-	-	-	-
TOTAL		25,000	200,000	25,000	25,000	25,000	25,000

Description
Studies and improvements to fill in service gaps in the public sanitary sewer system. Solutions may include construction of new public sanitary sewer or conversion of an existing private sewer to City ownership and public use.

Location
Locations within the City of Urbana where a public sanitary sewer is not within a reasonable distance from the property.

Purpose and Need
Some properties in the City of Urbana are connected to the sanitary sewer system by privately-owned sewer laterals that serve multiple properties, while some properties have private sewage disposal (a septic system). Sewer laterals shared by multiple properties are not allowed for new construction or reconstruction. When private sewer laterals serve multiple properties, there is typically no written easement or agreement to establish the rights and responsibilities of the property owners, and this can result in private disputes when the shared sewer lateral is clogged or damaged. Private sewage disposal is not allowed when a public sanitary sewer is within a reasonable distance from the property, as defined by City Code.

Timeline
Annual budget for private to public conversion.
Study in FY24 to identify public sanitary sewer gaps throughout the City and propose feasible solutions.

Changes from Previous CIP
Added study as new project.

Maintenance Programs

Miscellaneous Sewer Repairs

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40400 - STORMWATER SEWER MISC. REPAIRS	201 SWUF	238,258	250,000	260,000	270,400	281,216	292,465
40500 - SANITARY SEWER MISC. REPAIRS	204 SAN	225,869	250,000	260,000	270,400	281,216	292,465
	TOTAL	464,127	500,000	520,000	540,800	562,432	584,930

Description
Unplanned repairs of storm and sanitary infrastructure.

Location
Various locations in the sewer system owned by City of Urbana.

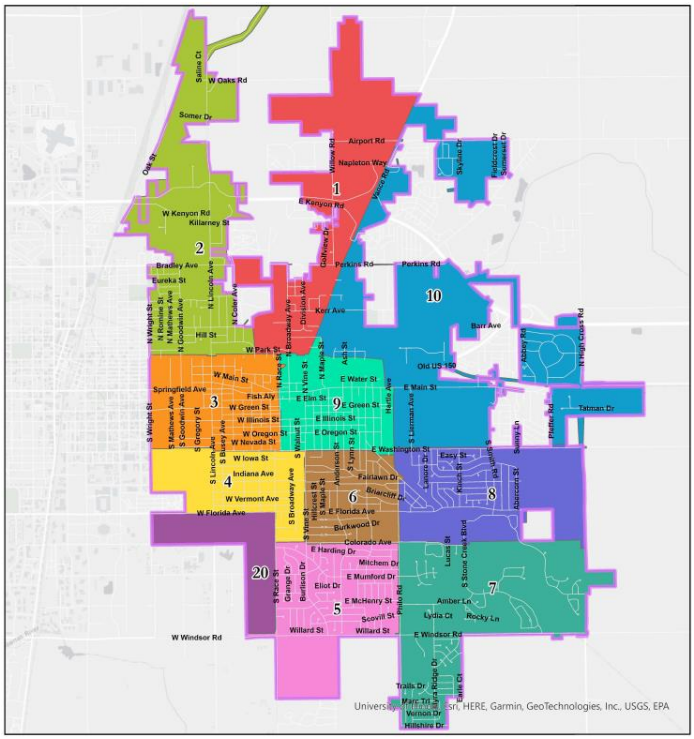
Purpose and Need
Response to structural failures of pipes or structures, operational failures such as obstructions or severe root intrusion, localized flooding, and other urgent or emergency needs.

Timeline
Annual budget.

Changes from Previous CIP
Increased budget for storm sewer repairs to meet anticipated needs.

Sewer Cleaning and Televising

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40402 - STORM SEWER CLEANING & TELEVISING	201 SWUF	-	400,000	416,000	432,640	449,946	467,943
40510 - SANITARY SEWER TELEVISING	204 SAN	-	240,000	249,600	259,584	269,967	280,766
TOTAL		0	640,000	665,600	692,224	719,913	748,709



Description
For storm sewer mains and sanitary sewer collectors, clean sediment, roots, and debris from pipes; and inspect condition of pipes with closed circuit television (CCTV) equipment.

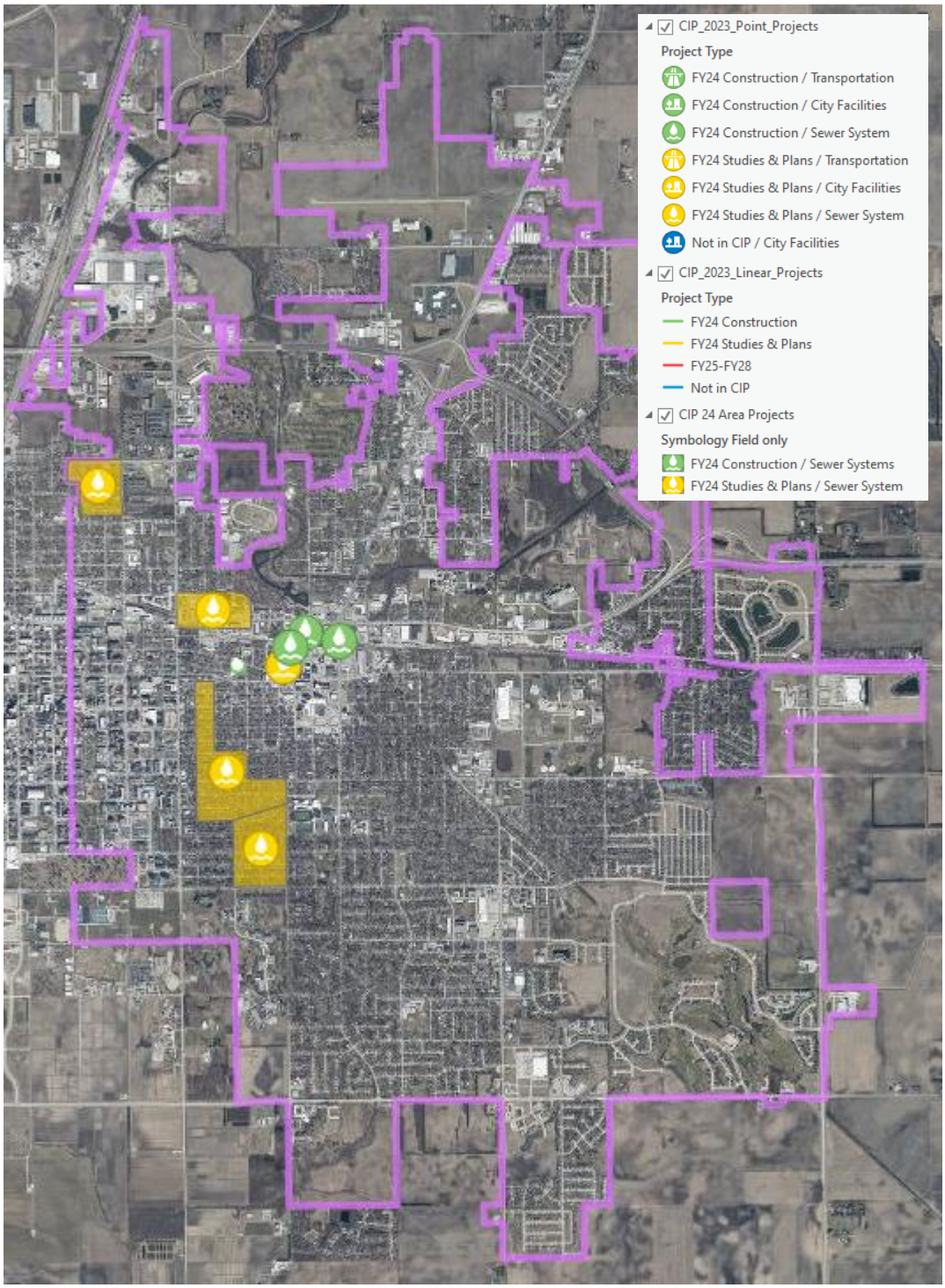
Location
146.0 miles of storm sewer mains and 104.1 miles of sanitary sewer mains City-wide, organized into 11 maintenance zones.

Purpose and Need
Cleaning for regular maintenance of sewer lines, and condition inspection of pipes for asset management, capital improvement planning, and identification of unplanned repairs. Systematic cleaning and televising to supplement the cleaning and televising by City staff. Target annual budget for storm cleaning and televising is $80,000 more than current budget.

Timeline
Zone 4 (yellow on map) in FY24.
Zone 3 (orange on map) in FY25.
Zone 9 (turquoise on map) in FY26.
Zone 6 (brown on map) in FY27.
Zone 5 (pink on map) in FY28

Changes from Previous CIP
Increased budget for sanitary and established annual contract cleaning and televising program. Reduced budget for storm due to fund balance constraints.

Capital Projects (Summary)



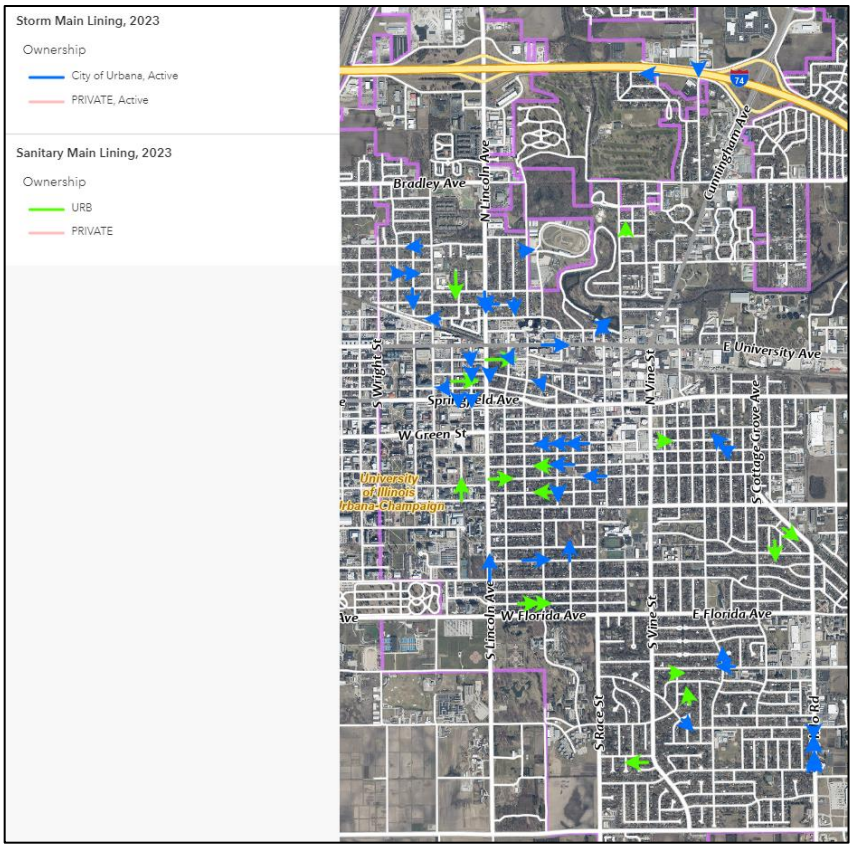
Map of Sewer System Capital Projects

https://urbana.ccgisc.org/portalurbana/apps/webappviewer/index.html?id=b4b48ecfae094b62b439911db8efda43

Capital Projects (FY24 Construction)

Sewer Lining

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40418 - STORM SEWER LINING	201 SWUF	500,000	425,000	330,000	343,200	356,928	371,205
40511 - SANITARY SEWER LINING	204 SAN	200,000	320,000	240,000	249,600	259,584	269,967
	TOTAL	700,000	745,000	570,000	592,800	616,512	641,172



Description
Cured in place pipe (CIPP) lining of existing storm sewer mains and sanitary sewer collectors.

Location
146.0 miles of storm sewer mains and 104.1 miles of sanitary sewer mains City-wide.

Purpose and Need
Rehabilitation of pipe segments that are candidates for lining and which were identified through cleaning and televising inspections. Most pipes will be lined once in their service life. In order to line all sewers over a 50-year period, the annual budget for lining would have to be $1.4 million for storm and $970,000 for sanitary.

Timeline
Annual rehabilitation program.

Changes from Previous CIP
For storm sewers, separated lining from reconstruction budgets.

Boneyard Creek Crossing Improvements

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40414 - BONEYARD CREEK CROSSING IMPROVEMENT	EPA 319 GRANT	-	64,800	-	-	-	-
	201 SWUF	258,205	240,000	-	-	400,000	-
40169 - BONEYARD CREEK LIGHTING	344 CENT TIF	48,950	159,000	-	-	-	-
49201 - FUND 201 - CIP	UCSD IGA	-	150,000	-	-	-	-
	TOTAL	307,155	613,800	0	0	400,000	0

Description
Bank stabilization, electrical repairs and enhancements, sediment control and water quality improvements, and retaining wall repairs.

Location
Boneyard Creek Crossing is located where Race Street crosses Boneyard Creek. Bank stabilization on north bank upstream (west) of Broadway Ave. Electrical work near Race St. Sediment control upstream (west) of Race St. Retaining wall repairs east of Race St.

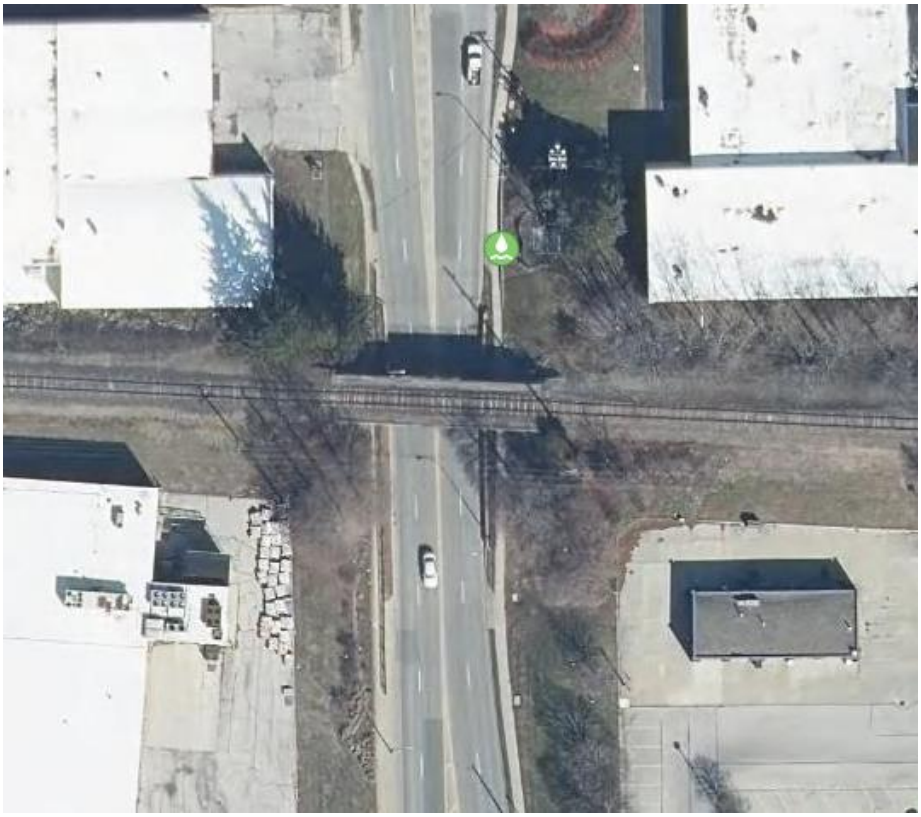
Purpose and Need
Bank erosion requires repair to prevent property damage – UCSD participation is due to sewer crossing. Electrical work and sediment control to improve utilization of Boneyard Creek Crossing for events and activities. Poor surface drainage is damaging a section of retaining wall. Applied for IL EPA 319 grant for design of sediment control and water quality improvements.

Timeline
Bank Stabilization Construction FY24; Electrical Plans and Construction FY24; Stream Improvements Studies & Plans FY24, Construction FY27.

Changes from Previous CIP
Increased budget for bank stabilization based on bid prices.

Vine Street Pump Station

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40416 - VINE STREET PUMP STATION	201 SWUF	-	75,000	-	-	-	-



Description
Replace one or both pumps, and upgrade control and communications systems.

Location
Vine St. crossing under Norfolk Southern Railway bridge, between Main and University.

Purpose and Need
Pump station for Vine Street storm runoff. The pump station is in need of rehabilitation, and it has no functioning communication system to alert City staff of pump failure or other problems.

Timeline
Construction FY24.

Changes from Previous CIP
Delayed schedule and increased budget to add pump replacement to project.

Brick Arch Storm Sewers

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40417 - MAIN ST BRICK ARCH STORM SEWER RECONSTRUCTION	201 SWUF	26,260	225,000	-	-	-	-
40420 - COLER AVE BRICK ARCH STORM SEWER STUDY	201 SWUF	-	50,000	-	-	-	-
	TOTAL	26,260	275,000	0	0	0	0

Description
Feasibility studies and improvements for existing, large diameter brick arch storm sewers.

Location
One sewer line from Main St. to Boneyard Creek, west of McCullough St. Another sewer line from Carle Park to Boneyard Creek, generally along Coler Ave. Both lines are located under or adjacent to private buildings.

Purpose and Need
Public sewer lines located under or adjacent to private buildings presents a risk for high maintenance costs or property damage that the City seeks to mitigate by relocating the existing sewers.

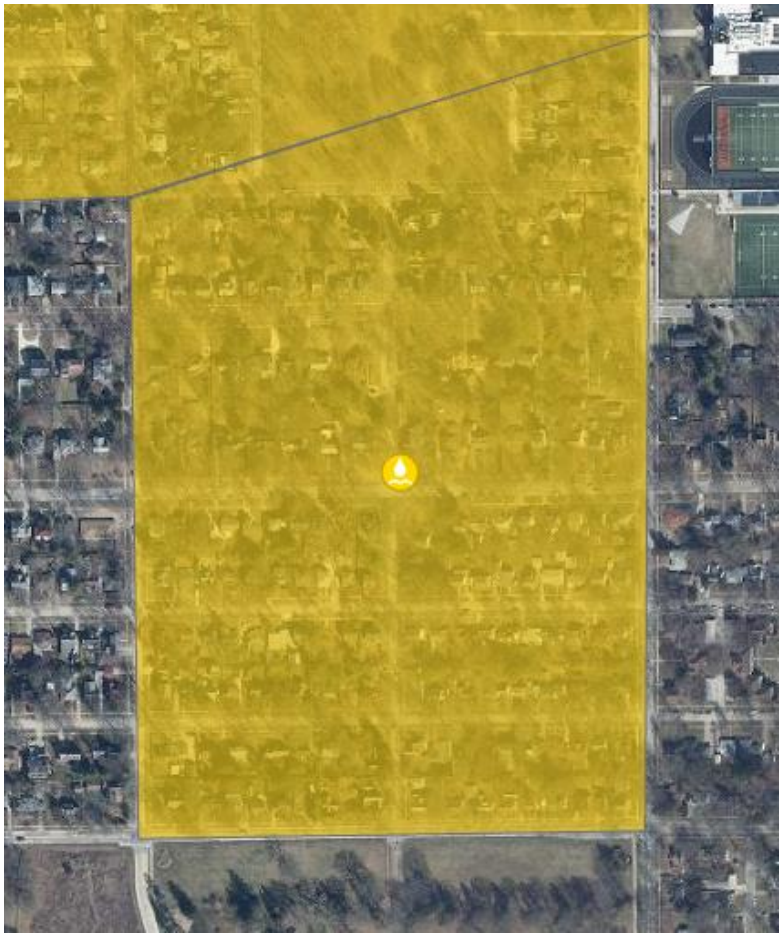
Timeline
Main St. Study FY23, Plans & Construction FY24; Coler Ave. Study FY24.

Changes from Previous CIP
New projects.

Capital Projects (FY24 Studies and Plans)

Storm Sewer Abandonment Study

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40419 - STORM SEWER ABANDONMENT STUDY	201 SWUF	45,000	55,000	-	-	-	-



Description
Feasibility study for existing storm sewers located in backyard utility easements.

Location
Neighborhood with existing storm sewers in backyard utility easements, generally bounded by Florida Ave. to the south, Race St. to the east, Carle Park to the north, and Orchard St. to the west.

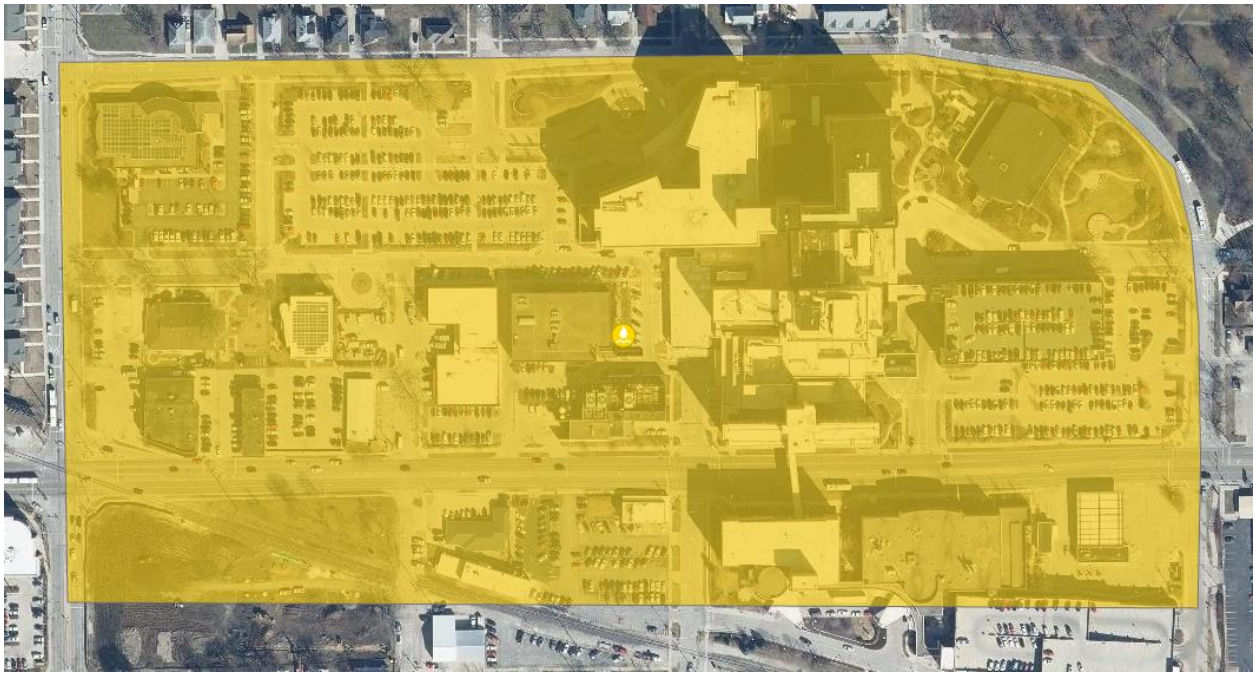
Purpose and Need
Existing backyard sewers may have originally been combined sewers (for storm and sanitary flow). Feasibility study to determine what purpose these sewers serve today and what improvements would be required to abandon the existing sewers. Private improvements at ground level on the backyard utility easements make access very difficult for maintenance or repair to these sewers.

Timeline
Study FY23-FY24.

Changes from Previous CIP
New project.

Carle Hospital Sanitary Sewer

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
40513 - CARLE SANITARY SEWER	200 CR&I	-	713,000	-	-	-	-
	204 SAN	54,300	-	-	-	-	-
TOTAL		54,300	713,000	0	0	0	0



Description
Provide alternative route for public sanitary flow which currently passes under buildings in the Carle Foundation Hospital campus.

Location
Study area generally bounded by Lincoln Ave. to the west, Church St. to the north, McCullough St. to the east, and University Ave. to the south.

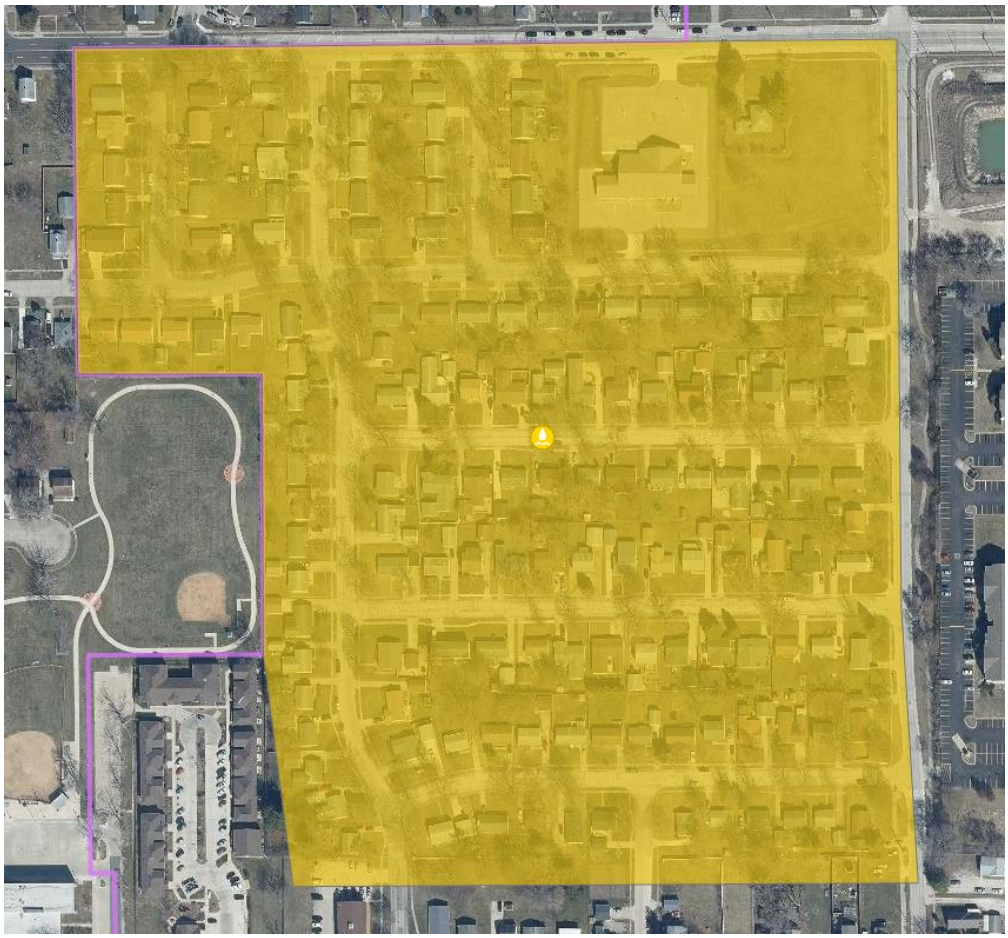
Purpose and Need
Public sewer lines located under or adjacent to private buildings presents a risk for high maintenance costs or property damage that the City seeks to mitigate by relocating the existing sewers.

Timeline
Study FY23, Design FY24, and Construction FY24-FY25.

Changes from Previous CIP
Project timeline extended.

Sanitary Sewer Lateral Lining

PROJECT	FUND	FY23 Projected	FY24 Allocated	FY25 Allocated	FY26 Allocated	FY27 Allocated	FY28 Allocated
ARPA LATERAL LINING	ARP-24	-	130,000	1,166,000	-	-	-



Description
Cured in place pipe (CIPP) lining of existing, private sanitary sewer laterals.

Location
Dr. Ellis Subdivision, generally bounded by Bradley Ave. to the north, Goodwin Ave. to the east, Ellis Dr. to the south, and City Boundary to the west.

Purpose and Need
Rehabilitation of private sanitary sewer laterals with lining can be a reliable, cost effective, and proactive alternative to excavating and replacing a pipe after it has failed. Reduces risk of costly repairs borne by property owner, and improves efficiency of sanitary sewer network by reducing infiltration. Pilot program funded by American Rescue Plan (ARPA).

Timeline
Studies & Plans FY24, Construction FY25.

Changes from Previous CIP
New project.