

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

and

THE STATE OF ILLINOIS,

Plaintiffs,

v.

CITY OF CAHOKIA HEIGHTS, ILLINOIS,

Defendant.

CONSENT DECREE

APPENDIX B

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

PREPARED BY



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EXECUTIVE SUMMARY

The City of Cahokia Heights, newly formed from consolidation of the former communities of Alorton, Centreville and Cahokia, plus the Commonfields of Cahokia Public Water District, is located in the southwestern portion of St. Clair County, IL, and in the region known as the American Bottoms. The Bottoms are a floodplain of the Mississippi River, between the current east riverbank and the line of limestone bluffs more or less parallel to Illinois Rt. 157, being part of the ancient riverbed, protected from surface water flooding by riverfront levees and interior levees and drainage canals, but subject to frequent groundwater flooding from seasonal precipitation and river level surcharges.

This plan, designed to describe investigative steps to be taken to identify and better understand the causes of sanitary sewer overflows (SSO's) during wet weather, and related sewer backups and pump station failures, will detail how the problem areas, probable causes of the SSO's, characteristics of the sewer system in these areas, and potential corrective actions can be identified, outlined and planned for corrective actions later.

BACKGROUND AND HISTORY

The City of Cahokia Heights was formed through a series of elections, consolidations, and dissolutions from the former communities of Centreville, Alorton, and Cahokia, along with the sewer and water systems owned and operated by the Commonfields of Cahokia Public Water District, in early 2021. Prior to that time, these former municipal entities had tried for decades, unsuccessfully, to keep up with needed operation and maintenance needs, combatting frequent flooding disasters, causing millions of dollars of damages to infrastructure, along with a dwindling tax base and limited annual funds to keep operating. With the consolidation of the former communities into Cahokia Heights, and the combined new population of over 20,000 residents, an increased tax base, economies of scale, increased eligibility for state and federal funds, and similar benefits, the City is better positioned to seek funds as well as operate and maintain systems, once the needed repairs and upgrades are addressed.

The City now owns and operates a sanitary sewer collection system consisting of 90 of miles of gravity sewer, 69 pump stations/lift stations, and force mains, all designed to convey sewage from residents and businesses in the City to a large pump station, which the pumps the discharge to the regional wastewater treatment plant (WWTP), known as the American Bottoms Regional Wastewater Treatment Plant, in adjacent Sauget, Illinois. The number of pump stations and lift stations is significant, and could be considered a contributing factor to the difficulty of operations and maintenance (O&M) of the system. These pump stations, many at least 50 years old, are so numerous and necessary because of the very flat topography in the Bottoms region. This floodplain of the Mississippi River is protected from surface water inundation by riverfront and interior levees and interior drainage ditches and canals, but is susceptible to periodic and seasonal groundwater flooding from rising river levels, which saturate the floodplain from underneath, and raise groundwater levels accordingly. The rise and fall of these groundwater levels plays havoc with the sewer infrastructure, frequently causing infiltration, subsidence, blockage of flow, sewer line failure, and backups and overflows.

In addition, because of the flat topography, and the surface water runoff that accumulates from rainfall within the city and from surrounding higher areas draining into the city, surface water can often pond and accumulate in low or poorly drained areas. This water can then find its way into the sewers via traditional infiltration and inflow (I/I) pathways, such as open manholes, manhole lifting holes, access hatches on pump stations, and open cleanouts. In addition, drainage into the ground via infiltration, often combined with higher groundwater elevations caused by the nearby Mississippi River levels, can create surcharged groundwater conditions, contributing to infiltration through open pipe joints and sewer breaks.

These I/I processes can bring with the water, soil and sand to further interrupt sewer flows and cause backups and blockages, pump failures, etc. This plan will outline the investigative steps needed to identify these conditions and prioritize them into a plan for future correction actions.

The findings and compliance orders issued by the USEPA as part of the Administrative Order on Consent (hereinafter the "AOC") on August 16, 2021, resulted from several inspections of the area and sewer systems owned and operated by the City's predecessors from early 2021, prior to the incorporation of the new City. The City entered into the Consent Order with EPA, which, among other stipulations, requires investigative and action plans to address sanitary sewer overflows (SSO's) and other system deficiencies, to ensure compliance with the Clean Water Act.

KNOWN SSO, SEWER BACKUP AND DRAINAGE AREAS

The City has identified, through past years of reported and observed problems, nineteen (19) main areas of known SSO, sewer backup, and surface water drainage issues. These areas are marked on the map included as Appendix A, and in maps included in Appendix F, and are listed below:

Area 1 – Ping Pong – This neighborhood, bounded by IL Rt 157 on the east, Lake Drive on the south, the Metro East Sanitary District's Canal No 1 on the west, and the City boundary (formed by the old Belleville and St. Louis Electric Railroad ROW, known locally as the "Dayline Railroad") on the north, is well known and documented for its local drainage problems, and also for known dry weather SSOs from an open sewer lateral cleanout at [REDACTED] N. 82nd Street. The area is directly downstream of surface water runoff from the adjacent bluffs that discharge under IL Rt 157 and into the neighborhood. This water is intended to be carried by local ditches into the Metro East Sanitary District's Canal No. 1, but these local ditches no longer work according to their original design purpose, for several reasons, including lack of funds for maintenance, increased development and runoff from upland areas, deterioration of roadway ditches and culverts, etc., although the City is currently in the process of cleaning some of these ditches out to restore positive drainage.

The impact of these drainage problems is deterioration of pavements and roads, inundation of private lands and homes, and I/I into the sewers. In addition, as this area is currently tributary to the East St. Louis City sewer system, which is, in part, a combined storm and sanitary system. It is also subject to sewer backups during times of heavy rains, I/I, and/or pump station issues downstream, all of which are beyond the City's control.

The City completed replacement of two pump stations in this neighborhood in 2023 – at N 82nd St. and Bellevue Ave., and at N. 82nd St. and Bluff Ave. These projects helped resolve some of the SSO occurrences at [REDACTED] N. 82nd. However, the stations have been hindered at times from backups from the East St. Louis system to the north, preventing effective pumping occasionally.

Area 2 – Parkside East – This area, just east of the City of East St. Louis' Parkside neighborhood, is bounded roughly by Parkside (and Harding Ditch) on the west, Canal No. 1 on the east, the Dayline RR ROW on the north, and Lake Drive on the south. The area drains poorly and is subject to inundation during heavy rains. In addition, as this area is also currently tributary to the East St. Louis City sewer system, it is also subject to sewer backups during times of heavy rains, I/I, and/or pump station issues downstream.

Area 3 – Piat Place – This area is bounded by 59th Street (aka Kingshighway) on the west, the City boundary on the north, I-255 and its associated embankment on the east, and Lake Drive on the south. Like the first two areas, it has similar issues and similar causes and effects.

Area 4 – I-255 East – Located just west of the Touchette Regional Hospital campus, it is bounded by Market and Bond Ave. on the north, the hospital and adjacent City park on the east, Central Ave. and a large vacant tract on the south, and I-255 and its high embankment on the west. The area drains poorly and has no apparent surface water outlet at the present time.

Area 5 – Bridgedale Subdivision – Located at the southern end of the City, between IL Rt 157 and the levees of Harding Ditch, this area drains poorly and relies on outfalls of local ditches into Harding Ditch to the south, and into Goose Lake Ditch to the north, which in turn drains into the Blue Water Ditch, which is tributary to the Metro East Sanitary District (MESD) South Stormwater Pump Station nearby, and to the Prairie du Pont Creek further downstream. When the Mississippi River rises, causing backflow into Harding and Blue Water/Goose Lake, and/or when local rains cause these local ditches to surcharge, there is no outlet for the surface water from Bridgedale.

Area 6 – Falling Springs – At the northwest corner of the City, near its northern border with Sauget, this area is bounded by Dead Creek and IL Rt 3 on the west, and by Upper Cahokia Road on the east, and features low-lying areas between these highways with surface water becoming trapped therein, and ponded in and around the old remnants of Dead Creek on both sides of Falling Springs Road.

Area 7 – DePaul Gardens – Along the south edge of the City, bounded roughly by IL Rt 157 on the north, the Blue Water Ditch on the south, the City Park and Prairies Golf Course on the west, and I-255 on the east, this area contains some drainage issues, but more importantly a handful of pump/lift stations scheduled for repair, along with a few sewer breaks and bypass pumping operations, the cause of one reported SSO in 2022. All of the repairs to these stations and sewer breaks are scheduled to be done in the next 2-3 years as part of the Illinois Environmental Protection Agency (IEPA) Bureau of Water grant, which is discussed in more detail in the next section.

In addition to surface water drainage issues, the above 7 areas all contain sewer problem areas as well, including sewer breaks, reported backups, and pump/lift station issues. See sewer map of these areas included as Appendix G. As a result of these two coinciding, and interrelated problems, these seven areas will be the starting point and focus of the investigation plan going forward, and as further described herein.

These areas encompass all of the known repeated, or “chronic” as termed in the AOC, SSO areas that are part of the AOC, with the exception of sewer backup complaints and other service issues reported in the following additional areas:

Area 8 – Parkside South – The area is bounded by the City boundary and Parkside subdivision (roughly at Ames Drive) to the north, I-255 to the west, 72nd St. to the east, and Lake Drive to the south. The area has similar issues to Area 2 to the east.

Area 9 – Signal Hill – This is an area separated significantly from the rest of the City, bounded by IL Rt 157 on the west, W Main St. on the north, and Foley Drive on the south. It is also topographically different than the rest of the City, as this neighborhood sits on top of the bluffs that form the western edge of the city of Belleville, and which contribute a large portion of the surface water runoff to the Ping Pong neighborhood (Area 1) below and to the west. Sewer issues in this area are believed to be primarily related to a failing pump station at Superior Drive, as opposed to the typical drainage and I/I issues elsewhere, but will be investigated throughout nonetheless.

Area 10 – Old Missouri Ave – An area bounded by IL Rt 15 on the north, I-255 on the west, and the Norfolk Southern RR on the south. The area is flat, with little surface water drainage infrastructure, and also contains two pump stations scheduled for repair.

Area 11 – I-255 West – Bounded by I-255 to the east, Old Missouri Ave. to the north, 47th St. to the west, and Tudor Ave. to the south. Similar to Area 10, this area is flat and poorly drained. It contains two pump stations scheduled for repairs and one sewer break along Bond Ave.

Area 12 – IL 163 & IL 157 – Bonded by the N&S RR to the north, Harding Ditch to the east, 58th St. to the west, and the Kansas City Southern RR to the south, the area is sparsely populated but does include two pump stations scheduled for repairs.

Area 13 – Lauralee & Violet - The area around Lauralee and Violet Avenues, where two existing lift stations are scheduled for replacement, along with new force main and abandonment of an existing failing sewer reach.

This project is not yet in final design phase, and is part of the schedule of the implementation of funds from the current grant from IEPA for \$10 million dollars for sewer improvements. This grant is known as the City of Cahokia Heights, IEPA, Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration Project (IEPA Grant). It is anticipated that as part of this work, the scope will include:

- One pump station at Lauralee to replace the two failing existing stations
- One new pump station at Renois Blvd. to intercept existing gravity flows
- New force main along Renois Blvd. to the existing sewer to the south
- Abandonment of the existing sewer across the open field between Renois and Lauralee
- Associated repair and investigative work, including cleaning, CCTV, CIPP, and proper abandonment of existing lines and structures
- Inclusion of a flow meter at the Lauralee station to monitor flow conditions for clean water sources and volumes

Area 14 – Delores & Louise – Bounded by Carol St. to the northeast, IL Rt 157 and Harding Ditch to the southeast, Mousette Lane to the northwest, and Delano Drive to the southwest, the area is somewhat locked in between the major highways, with no main drainage feature. It drains into the main trunkline to the south and west, which feeds into a large pump station at Jerome and Mousette scheduled for repairs.

Area 15 – Marseilles & Fleur de Lis – A relatively new development adjacent to Jerome Lane, between Paris Avenue and IL Rt 157/Mousette Lane, the area is not known for drainage or sewer issues, and will be investigated to determine the source of backup complaints. It does feature one of the two pump stations on the trunkline on Jerome Lane schedule for repairs, but it is not known to have issues associated with this station.

Area 16 – Range Lane – This area has numerous sewer repair issues. It is an area on both sides of Range Lane, bounded by the Union Pacific RR to the west, Paris Ave. to the east, Jerome Lane to the north, and IL Rt 157 to the south. The main trunkline does weave its way through this area as it works its way south and west, and there are 5 pump stations and 4 known sewer breaks scheduled for repairs here. In addition, sewers in this area serve the main campus of Cahokia High School.

Area 17 – Donald St. – This small, self-contained area is bound by IL Rt 157 on the north, Price St. on the south, the UP RR on the west, and Miskell Blvd on the east. Drainage would appear to be achievable to the RR ditch to the west, and to the City Park lake to the east, but may not be served by adequate drainage features to achieve this. In addition, the area contains two pump stations and one sewer break scheduled for repairs.

Area 18 – St. Monica – The area is bounded by E. 5th St. on the north, the UP RR on the east, and IL Rt 3 on the west. It also appears to be capable of draining to the RR ditch to the east and IL Rt 3 to the west, but is poorly served by stormwater infrastructure. Sewers in this area drain to the trunkline running in E. 5th St. There is one pump station to be repaired and one related sewer break in St. Maud Ave.

Area 19 – Water St. East – Bounded tightly by IL Rt 3 and its embankment on the east, Water St. and its embankment on the west, St. Lambert Dr. on the north, and a cutoff section of the Blue Water Ditch on the south, this low lying area simply suffers from its boundaries hemming in drainage. It includes a pump station and related sewer break scheduled for repairs in St. Margaret Dr.

In addition to the above areas, the AOC addresses SSO's at an existing pump station behind the small motels on Missouri Avenue at Pocket Rd. This station has been rehabbed, with completion of the project during early 2023. This work, which has resolved this SSO, included:

- New pumps and controls
- New valves and rails and access controls

COLLECTION/CONVEYANCE SYSTEM AND PUMP STATION EVALUATION & ASSESSMENT

It should be further noted that the City, and Hurst-Rosche, working with state and federal EPA officials, have already identified work to repair, replace, and rehab the City sewers and lift stations across the entire system, as detailed in the grant recently finalized with the IEPA Bureau of Water entitled Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration Project. This grant followed a similar, yet unsuccessful effort in 2019 to secure funds from FEMA under the Building Resilient Infrastructure and Communities (BRIC) program.

This IEPA grant, for approximately \$9.98 million dollars, will address the following scope of work:

- 22 known sewer break repairs (comprising all known breaks as of this time)
- 35 pump station rehabs (of the total system amount of 69 stations)
- 17,000 lineal feet (LF) of cured in place pipe (CIPP) (aka "slip lining") of the main trunkline
- Needed equipment for the water and sewer department
 - Backhoe with breaker attachment
 - Portable trash pumps
 - Closed circuit televising (CCTV) rig

In addition, more state and federal funds of approximately \$30 million dollars to date have been earmarked, budgeted, requested, announced, or otherwise dedicated (but not yet finalized) to work to repair and restore the City's water and sewer infrastructure. See attached summary as Appendix B. Among the work to be included in the use of these additional funds are:

- Remainder of the main trunkline CIPP slip lining
- Two interceptor sewer systems (new sewers, pump stations, and force mains) to remove the northern areas from the East St. Louis combined sewer system, and instead feed into the newly repaired and lined City main trunkline
- Drinking water system capital improvements
- Piezometer installation and groundwater modeling (in association with the United States Geological Survey (USGS))

In addition to the above, the City has continued or already begun the work to make needed repairs to the system, as they have always done, on a funds-available basis each year. The status of work either recently completed or currently in progress is shown on the summary included as Appendix C.

The point of all of the above discussion is to outline that much of the investigative work to determine and prioritize the work and projects to repair the system and protect against future SSOs and backups has either already been done or is under way, albeit somewhat reactively, not altogether proactively. The sheer numbers of repair/rehab/replacement projects detailed above, and the location of these spread throughout the City's sewer system, represents a detailed roadmap of areas needing attention, in addition to the known SSO's that are part of the regular recordkeeping and reporting process required by the AOC, and included as part of the current Capacity, Management, Operation, and Maintenance Program (CMOM) approved by the EPA in 2023.

While this hands-on information on sewer conditions was not perhaps generated through the normal investigative methods (i.e. flow monitoring, CCTV, smoke testing, etc.), it does represent real time and accurate information on sewer conditions throughout the system. It is well known where the major issues exist, and plans are in place to take corrective action to address the issues. As such, the first priority and step in the investigation and analysis process outlined herein will be the completion of the needed repair work, which will include investigative steps that will indicate if additional actions are needed in adjacent and tributary areas.

For example, the normal scope of work for any of these local repairs involving removal and replacement of sewer lines, pump/lift station structures, and similar work would involve some or all of the below work items:

- Mobilization
- Traffic Control & Protection
- Clearing
- Dewatering
- Care-of-Flow
- Remove Existing Pumps, Panel, & Appurtenances
- Remove Existing Wetwell
- Clean Existing Wetwell
- Install New Wetwell
- Install New Valve Vaults
- Install New Pumps, Panels, & Appurtenances
- Install New Force Mains and Valves
- Construct New Gravity Sewer Line
- Trench Backfill
- Clean & Televiser Existing Sewer
- Install CIPP Liner as Required
- Concrete Curb & Gutter
- Concrete Driveway
- Hot Mixed Asphalt (HMA) Pavement
- Concrete Sidewalk
- Fencing
- Seed & Mulch

In addition to the work outlined above throughout the City system, the three known SSO areas cited in the AOC, (82nd St., Lauralee & Violet, and Pocket & Missouri) are each addressed in detail in both the approved Dry Weather SSO Investigation Plan, and the Dry Weather SSO Corrective Action Plan approved by EPA. The Dry Weather SSO plans detail the areas upstream of the known, reported, and cited SSO's to receive smoke testing and CCTV investigation, to determine if further action is needed to address I/I clean water sources entering the sewers in these areas.

Nonetheless, in response to the requirements outlined in the Administrative Order on Consent, this plan will outline additional steps to be taken to further identify problem areas, and to work in conjunction with planned repairs to bolster the system against future deterioration and impacts from surface and groundwater I/I, and prevent wet weather SSO's. These additional steps will be taken in each of the 19 areas known or suspected to be impacted by poor surface water drainage as a potential cause of inflow, and/or reported sewer backup issues.

As groundwater monitoring information is obtained from the program currently in progress through a cooperative effort between the US Army Corps of Engineers, the USGS, and the City, additional areas may be added as potential sources of groundwater infiltration.

In addition, as repairs are made across the system over the next three years, and information is obtained through construction observation, dewatering installations, and other information from construction activities, additional areas may be added to the initial areas.

The following additional activities will help the City assess and prioritize additional needs of the sewer system in the study areas, according to the process flow chart for assessment included as Appendix D:

Visual Inspections –

Manholes in areas where sewer breaks are to be repaired, or upstream of pump stations being repaired/replaced, will be inspected as part of that work. See attached Manhole Inspection Report in Appendix E. In addition, the City, (via Hurst-Rosche records) possesses a complete library of manhole inspection reports from the last SSES investigation performed by Hurst-Rosche, in conjunction with Russell & Axon, Inc. in 1982. Virtually every manhole in the City system was individually inspected and a report generated. While this information is somewhat dated, it does form a baseline of data on which to determine conditions and age of the manhole inventory. This information, which is quite voluminous, is available for inspection by EPA upon request, and will be utilized as reference material for new inspections as part of this plan.

Flow Monitoring –

Acoustic inspection of flow between manholes utilizing sonic technology such as products and equipment produced by Infosense, or similar, will be employed as dictated by results of construction and repair work, to determine specific reaches of sewer line experiencing reduced flow or backups, and target these reaches for further investigation via CCTV work to pinpoint repairs needed.

In addition, planned and future pump station replacements or significant rehabilitation projects will include ultrasonic, electronic, or other flow metering to provide an indication of increased flow from I/I sources during wet weather times. This data may also be included in a SCADA system for the sewer system, at some future date. Because the City system includes 69 pump stations, including at least one station in each of the known drainage problem areas, this technology could be considered primary and essential to recording and predicting problems with I/I. Locations of these pump stations, as well as sewer breaks, and general layout and location of the City's sewer system are provided for general information in Appendix G.

Groundwater Monitoring -

As mentioned above, The City and Hurst-Rosche are currently working with the US Army Corps of Engineers and the USGS to locate and install piezometers throughout the area, for the purposes of both aiding hydrogeologic study and modeling that the USACE is performing, and as an investigative and information tool to be used by the City to help analyze and predict sewer areas subject to groundwater pressures and potential infiltration. This information, along with real-time information from dewatering wells and excavations as part of sewer break repairs and lift station replacements throughout the City will provide valuable information on sewers needing additional protection against clean water infiltration. Fifteen of these piezometers were installed during 2023, and readings are taken approximately twice per year by the USGS.

Smoke Testing –

Smoke testing of sewers adjacent to and tributary to repair areas, one of the priority areas, or areas in which flow monitoring indicates large volume fluctuations, would be conducted in order to identify the presence of potential infiltration and inflow sources such as broken cleanouts, improperly abandoned lots and structures, etc. Following this testing, order and priority of CCTV and repair work could be adjusted accordingly.

CCTV –

As mentioned above, 22 sewer breaks will be repaired as part of the scheduled and funded IEPA project. Part of these repairs include cleaning and CCTV work of the completed repair in each location. In addition, should the above steps indicate that a potential blockage or other obstruction exist in a sewer reach tributary to this area, cleaning and televising of that reach would be scheduled as both an investigative and preventative measure. See Appendix F for more information on scope and cost of this work.

Beyond the scheduled repairs, a more long-term schedule of CCTV work will be developed during and after the major repair work to log and identify additional potential future problem reaches of sewer. It is anticipated that these additional sewers would be scheduled and prioritized based on the following criteria

1. Areas with known repeated SSO/backup complaints
2. Areas discovered during repair work
3. Areas with sewers having the deepest elevations (i.e. subject to the greatest infiltration pressure from elevated groundwater levels)
4. Sewers located within any of the 19 drainage problem areas
5. Sewers with the largest amount of flow and/or the greatest number of tributary households and businesses

Special Field Investigation of Ping Pong - Area 1

In addition to the above planned activities, special field investigation of sewers downstream of the known SSO location at N 82nd Street, and its associated pump stations, was conducted during early 2023. These investigation activities included manhole location and inspection, , flow observation, and other tools to identify possible causes of backups and surcharging of the Ping Pong sewers, and specifically the cause of the 82nd St. SSO. It is reported by City and IEPA personnel from past incidents, the downstream sewer surcharging of the East St. Louis system has caused backups and surcharging of the City of Cahokia Heights sewers in the Ping Pong/82nd Street area. It is suspected that these conditions are caused, at least in part, by I/I into the East St. Louis system, restricting capacity of the Cahokia Heights sewers to flow into that system. Initial field work during January 2023 confirmed the presence of surcharged conditions in the East St. Louis system downstream of Cahokia Heights, particularly adjacent to Area 1 – Ping Pong, Area 2 – Parkside East, and Area 3 – Piat Place.

These two conditions (heavy rainfall and high groundwater levels) have historically overlapped during the late spring and early summer. Meanwhile, the City has been cooperating, as discussed above, with the USGS to locate and install permanent piezometers in the region, as a means of gathering groundwater level data. These piezometers were installed in November and December 2022, and details of reading and recording are being worked out with the USGS at this time. In any case, the system will be available during the spring/summer wet weather season, and so should be able to provide valuable groundwater data to assist in field investigations.

The contract work to replace the two failed existing and bypassed pump stations on N. 82nd St. was completed in October 2023. Completion of this work eliminated several causes of backups and SSOs in Ping Pong and along N. 82nd St., including bypass pump failures, clogged pumps, station power outages, and similar conditions.

Finally, the City has agreed to contract with Hurst-Rosche to undertake a process to evaluate alternate locations for the SSO at N. 82nd St., where less sensitive and extensive exposure to the environment could occur. Any alternate locations will be proposed to the EPA in a draft plan for approval prior to implementation.

Recordkeeping –

As discussed in each of the sections above, reports are generated by each process, and records of these reports will be maintained at the City Water and Sewer Department offices.

FINANCING

Financing of major contracted work and necessary O&M equipment will be funded by a combination of local, state, and federal resources as discussed above.

Financing of ongoing operation and maintenance programs, including system analytics and planning tools such as acoustic inspection, smoke testing, CCTV, etc., will be financed through a combination of local, state, and federal funds and the City's operating budget for the Water and Sewer Department.

SCHEDULE

The implementation schedule for the plan described herein can be best understood by examining the bar chart schedules included in Appendix F. Please note that the schedule indicates a critical path starting with the approval of this plan, followed by design of construction projects, bidding and award, actual construction, review and analysis of results from construction work completed, and then additional investigative work by the city as necessary. The City is currently pre-occupied with day-to-day operations of inspections, operation, and maintenance of existing systems and bypass or other temporary measures until the system-wide repairs can be completed. Once the system is brought back to a normal operating condition, attention and resources can then be turned to more investigative and preventative measures.

Also in terms of the timing of future investigative measures, once completion of construction indicates future priorities, the actual follow-up investigative work will need to be spread out over at least a decade. Because of the large amount of sewer just in the seven initial areas (over 100,000 LF), and the associated large O&M cost for smoke testing, cleaning, and CCTV work (over \$2.5 million – if performed in house, plus more if contracted out), the city will be able to do only a portion of this work each year for many years. See Appendix F for cost information.

COST

Cost information for the scheduled repairs and other activities is provided in Appendix F.

**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

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DATED AUGUST 16, 2021

ATTACHMENTS

Appendix A – Drainage and Sanitary Sewer Overflow Priority Areas Map

Appendix B - Funding Summary

Appendix C – Work in Progress Summary

Appendix D – System Assessment Process Flow Chart

Appendix E– Manhole Inspection Form

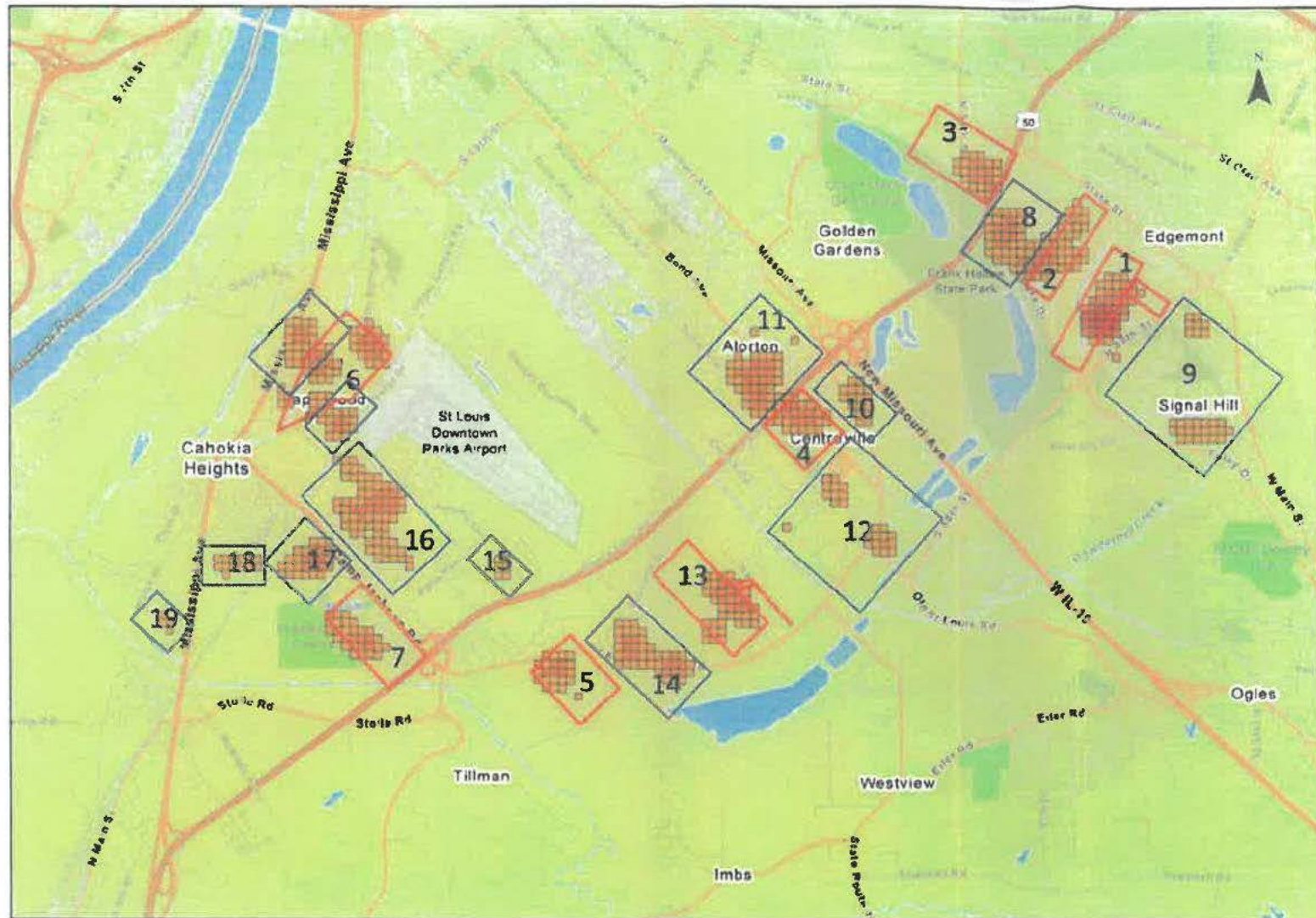
Appendix F – Maps, Schedule, Cost, and Inspection Forms for Each Area

Appendix G – Sewer Repair and Rehab Location Map

Appendix A

Drainage and Sanitary Sewer Overflow Priority Areas Map

WET WEATHER SSO INVESTIGATION PLAN – REVISED PRIORITY AREAS MAP



Cahokia Heights SSO Density*

Initial WW Investigation Plan Sewer Priority Areas

Areas added from backup reports received by EPA

* SSO density based on observations and complaints, 1/2016-9/2022

0 0.5 1 Miles

Appendix B

Funding Summary

NEEDS AND FUNDING WORKSHEET JUNE 2024					Hurst-Rosche, Inc. June 24
Amount	Source	Specific	Specific 2/Entity	Purpose	NOTES
\$ 40,000,000.00	NEEDED	WASTEWATER (Sewers)			
		FUNDS			
	COMMITTED				
\$ 3,500,000.00	US Army Corps of Engineers	Water Resource Dev. Act - sec 219	USACE - St. Louis Dist. (CEMVS)	CIPP SlipLining of Sanitary Sewer (+\$1.2MM local share)	construction beginning April 2024
\$ 9,980,750.67	IEPA Bureau of Water	Build Illinois Grant	IEPA/BOW	Wastewater Collect. & Sewer Infrastruct. Improvements	design commenced May 2023; bids received on Pkg 1-2-3, construction complete on Pkg 2, started on Pkg 1 & 3
\$ 8,500,000.00	State of Illinois	HB 900 (Approp) - Sec 210	ARPA/CURES/DCEO	Sewer System Improvements	
\$ 300,000.00	State of Illinois	HB 900 (Approp)		Cost Associated with Infrastructure Improvements	unknown assignment, agency, or status
\$ 200,000.00	State of Illinois	HB 900 (Approp)		Cost Associated with Infrastructure Improvements	
\$ 200,000.00	State of Illinois	HB 900 (Approp)		Cost Associated with Infrastructure Improvements	unknown assignment, agency, or status
\$ 150,000.00	State of Illinois	HB 900 (Approp)		Cost Associated with Infrastructure Improvements	
\$ 1,200,000.00	State of Illinois	HB 900 (Approp) - Sec 1350	Build Illinois Bonds/DCEO	Commonfields of Cahokia capital improvements	unknown status
\$ 2,000,000.00	Duckworth FY23 Earmark			East Interceptor System	disbursed to PM at EPA Region V
\$ 26,030,750.67	SUBTOTAL				NOTE: Does not include locally funded sewer projects (approx \$300k annually)
	REQUESTED				
\$ 1,100,000.00	Army Corps of Engineers	Durbin FY24 Earmark	via current PPA btwn Corps and City	Pump Station Telemetry and Flow Monitoring	to be changed to upper trunkline CIPP by USACE
\$ 3,161,670.00	Duckworth FY24 Earmark			East Interceptor System	\$500k in draft FY 24 budget
\$ 4,014,560.00	Duckworth FY 25 Earmark			Interceptor System	
\$ 6,600,000.00	Budzinski FY 25 Earmark			West Interceptor System	to replace the failed FY 24 request to Durbin
\$ 3,240,000.00	Army Corps of Engineers	Durbin FY25 Earmark	via current PPA btwn Corps and City	Trunkline CIPP (upper reaches, 10"-18" dia.)	to replace the failed FY 24 request to Durbin
\$ 18,116,230.00	SUBTOTAL				
\$ 12,950,000.00	NEEDED	WATER (Drinking Water)			
		FUNDS			
	COMMITTED				
\$ 6,000,000.00	State of Illinois	HB 900 (Approp) - Sec 1342	Build Illinois Bonds/DCEO	Water Infrastructure Improvements	2 Water Towers Rehab, 1 New Booster/Disinfect. Station, 1 Expanded Booster/Disinfect. Station
\$ 1,300,000.00	US Treasury via St. Clair County	ARPA State and Local Funds	\$1.3MM pledged from County to City	For Water System Projects	Church Rd Water Tower - in construction, complete in 2023
\$ 7,300,000.00	SUBTOTAL				
		Sewer or Water or General Infrastructure			
		FUNDS			
\$ 6,000,000.00	State of Illinois	HB 900 (Approp) - Sec 1200	ARPA/CURES/DCEO	Water, Sewer or Broadband Infrastructure	
\$ 2,811,054.86	US Treasury	ARPA State and Local Funds	in hand at Cahokia Hts.		
\$ 200,000.00	State of Illinois	HB 900 (Approp) - Sec 225	Build Illinois Bonds/DCEO		
\$ 125,000.00	State of Illinois	HB 900 (Approp) - Sec 3480	Build Illinois Bonds/DCEO	General Infrastructure	to be used for comprehensive plan and EQ
\$ 75,000.00	State of Illinois	HB 900 (Approp) - Sec 1735	DCEO		
\$ 3,000,000.00	State of Illinois	HB 900 (Approp)	DCEO	Community Development, Violence Prevention, Admin Costs	
\$ 12,211,054.86	SUBTOTAL				
\$ 20,000,000.00	NEEDED	ROADWAYS & DRAINAGE			
		FUNDS			
	COMMITTED				
\$ 25,000.00	Durbin FY22 Earmark	USACE- ESTL	Cahokia Heights Letter Report	Flood Risk Analysis Report	hydrology and watershed studies
\$ 919,868.74	State of Illinois		IEPA/BOW (to Heartlands Cons)	Watershed/Flood Plain Survey/Demonstration Project	
\$ 1,500,000.00	Durbin FY22 Earmark		(to Heartlands)	Watershed/Flood Plain Survey/Demonstration Project	
\$ 1,149,000.00	State of Illinois	Rebuild Illinois	IDOT/RBI Fund	Local Roadways	to be spent by 2025 (does not include local MFT funds)
	REQUESTED				
\$ 3,155,000.00	IEMA - OHS	FEMA HMGP 4676 Funds	Hazard Mitigation Grant Program	culverts, ditches, storm sewers in Ping Pong (per USACE/Heartlands studies)	includes 25% local match by IDNR
\$ 5,236,578.02	DOT	RAISE Grant		Local Roadways	
\$ 11,985,446.76	SUBTOTAL				

Appendix C

Work In Progress Summary

Cahokia Heights Sanitary Sewer System Projects
(06/17/24)

Category	Location	Address	Status	Cost
<u>Complete:</u>				
Lift Station Rehabilitation	42nd & Market		Complete	\$ 164,000
Sanitary Sewer Repair	4972 Bond Avenue		Complete	\$ 132,000
Lift Station Rehabilitation	4200 Missouri Avenue		Complete	\$ 103,000
Lift Station Rehabilitation	Racehorse Business Park		Complete	\$ 51,000
Sanitary Sewer Repair	Range Lane		Complete	\$ 69,000
Lift Station Rehabilitation	City Hall (Front)		Complete	\$ 130,000
Sanitary Sewer Repair	N. 82nd Street		Complete	\$ 158,000
Sanitary Sewer Repair	St. John Drive		Complete	\$ 121,000
Lift Station Rehabilitation	Mary Ryans		Complete	\$ 199,000
Sanitary Sewer Rehabilitation	Various Locations (CIPP)		Complete	\$ 58,000
Lift Station Rehabilitation	Jackson Street		Complete	\$ 121,000
Lift Station Rehabilitation	Johnson Lane		Complete	\$ 116,000
Lift Station Rehabilitation	82nd & Bluff		Complete	\$ 189,000
Lift Station Rehabilitation	82nd & Bellevue		Complete	\$ 189,000
Sanitary Sewer Repair	N. 63rd Street		Complete	\$ 96,000
Sanitary Sewer Repair	N. 73rd Street		Complete	\$ 111,000
				\$ 2,007,000
<u>In Construction:</u>				
Lift Station Rehabilitation	Lady of Snows		Complete except Punch List & Contract Closeout	\$ 209,000
Lift Station Rehabilitation	51st & Market		Complete by 6/30/24	\$ 263,000
Lift Station Rehabilitation	Bridgedale		Complete by 6/30/24	\$ 228,000
CIPP Sewer Lining	Main Trunkline		Complete by 3/31/25	\$ 4,628,000
Sanitary Sewer Repair	St. Zita Lane		Complete by 8/13/24	\$ 94,000
Sanitary Sewer Repair	Cooper Drive		Complete by 8/13/24	\$ 111,000
Sanitary Sewer Repair	Mildred Avenue		Complete by 8/13/24	\$ 303,000
Sanitary Sewer Repair	LaSalle Drive		Complete by 8/13/24	\$ 127,000
Sanitary Sewer Repair	Blue Water Lane		Complete by 8/13/24	\$ 79,000
Sanitary Sewer Repair	Kenneth Street		Complete by 8/13/24	\$ 176,000
Sanitary Sewer Repair	Parklane Drive		Complete by 8/13/24	\$ 69,000
Sanitary Sewer Repair	Halloran Street		Complete by 8/13/24	\$ 123,000
Sanitary Sewer Repair	White Street		Complete by 8/13/24	\$ 262,000
				\$ 6,672,000
<u>Bidding/Pending Award:</u>				
N/A				\$ -
				\$ -
<u>In Design:</u>				
Lift Station Rehabilitation	Beachland		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	63rd & Laura		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	73rd Street		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	73rd & Oakland		Complete/IEPA Permit Application Approved 5/29/24	\$ 275,000
Lift Station Rehabilitation	75th & Pershing		Complete/IEPA Permit Application Approved 5/29/24	\$ 150,000
Lift Station Rehabilitation	71st & Ames		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	Lake Drive Pill Box		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	Willie Holmes Pill Box		Complete/IEPA Permit Application Approved 5/29/24	\$ 200,000
Lift Station Rehabilitation	Cooper Drive		Complete by 6/30/24	\$ 130,000
Lift Station Rehabilitation	Ellen & Richard		Complete by 6/30/24	\$ 130,000
Lift Station Rehabilitation	Hutchings Street		Complete by 6/30/24	\$ 130,000
Lift Station Rehabilitation	Williams & Ellen		Complete by 6/30/24	\$ 130,000
Lift Station Rehabilitation	Williams & Kay		Complete by 6/30/24	\$ 50,000
Lift Station Rehabilitation	LaSalle		Complete by 6/30/24	\$ 130,000
Lift Station Rehabilitation	Donald Street		Complete by 6/30/24	\$ 120,000
Lift Station Rehabilitation	Miskell Blvd.		Complete by 6/30/24	\$ 70,000
Lift Station Rehabilitation	St. Monica		Complete by 6/21/24	\$ 200,000
				\$ 2,715,000
<u>Design Pending:</u>				
Lift Station Rehabilitation	75th & Clinton		Pending County IGD Grant Award	\$ 150,000
				\$ 150,000
				\$ 11,544,000

Notes:

- Includes projects since May 2021, rounded to the nearest \$1,000
- Includes Hurst-Rosche projects only. Does not include projects managed directly by the City of Cahokia Heights
- The cost information is for construction only. It does not include Engineering design & construction admin/oversight

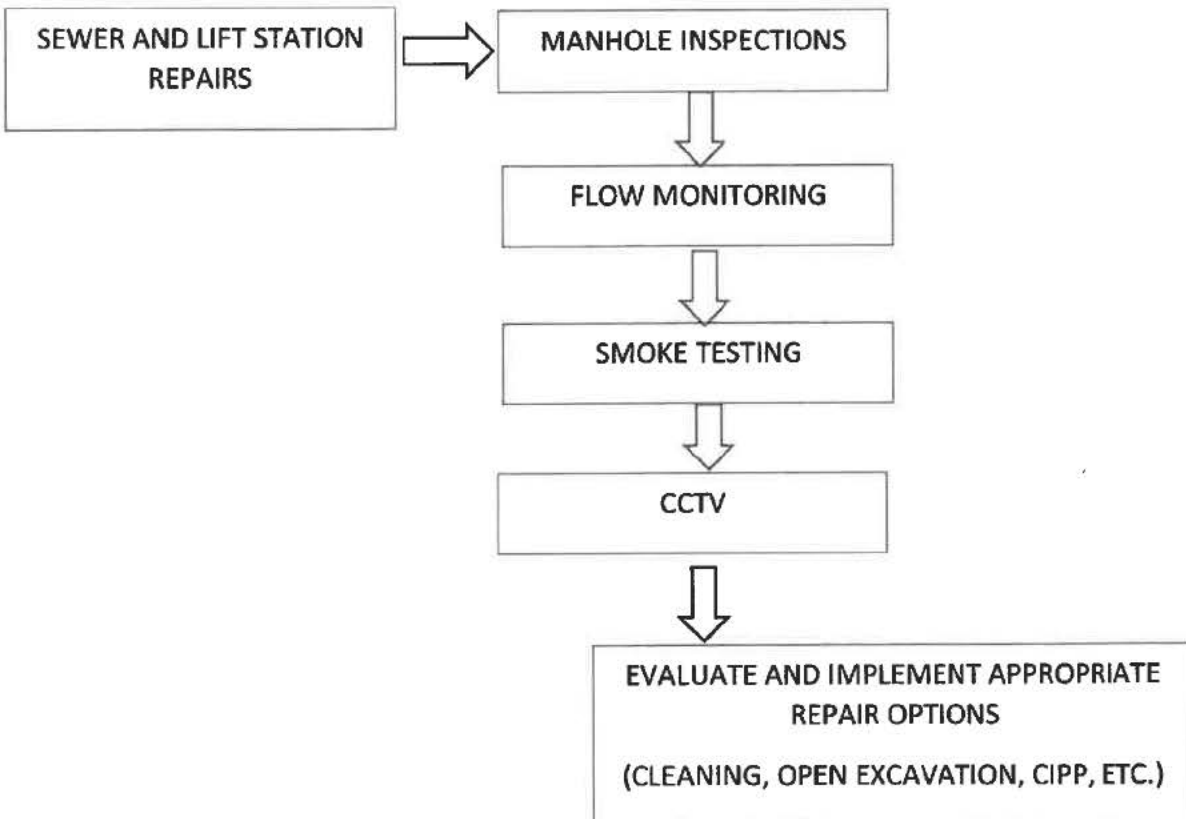
Appendix D

System Assessment Process Flow Chart

City of Cahokia Heights
Water and Sewer Department
SYSTEM ASSESSMENT PROCESS FLOW CHART

PRIORITY RANKING FOR INVESTIGATION AND ASSESSMENT ACTIVITY:

1. Reported backups, failures, and/or SSOs
2. Sewer problems indicated by repair & rehab work
3. Sewers with deepest elevations
4. Sewers located within any of the nineteen priority areas
5. Sewers with the largest amount of flow or tributary users



Appendix E

Manhole Inspection and Smoke Test Report Forms



CITY OF CAHOKIA HEIGHTS, IL **MANHOLE INSPECTION FORM**



DATE _____ TIME _____ MH NUMBER _____ SEWER DIST. _____ INSP. BY _____

LOCATION SETTING
north east top elev street easement other - notes

LID inundation & inflow area YES NO TYPE
solid slotted broken/missing/notes

FRAME TYPE CONDITION
standard locking other good fair poor

RISER TYPE CONDITION
cone rings none/other good fair poor

WALLS TYPE CONDITION
brick concrete other good fair poor

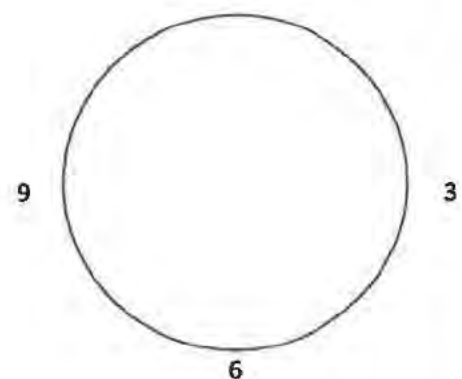
STEPS BENCHES
good fair poor good fair poor

PIPE SEALS TROUGH/INVERT
good fair poor good fair poor

DEPTH FROM RIM TO INVERT FT

PATTERN OF FLOW & PIPE LOCATIONS

12



PIPE DATA

CLOCK	DIA	MAT'L	DEPTH	FLOW (%)

DEFECTS AND OTHER NOTES

OVERALL MANHOLE CONDITION

good fair poor

SMOKE TEST REPORT

CITY OF CAHOKIA HEIGHTS
ST. CLAIR COUNTY, ILLINOIS

PAGE ____ OF ____

CONSULTING ENGINEER _____

DATE: _____

CREW # _____

TIME: _____

DISTRICT _____ SUBDISTRICT _____

BY: _____

MANHOLE NO. _____ TO MANHOLE NO. _____

REPORT NO. _____

[illegible]

Appendix F

Maps, Schedule, Cost, and Inspection Forms For Each Priority Area

Priority Area Schedule and Sequencing Description

As described in the System Assessment Process Flow Chart in Appendix D, the work proposed under this Wet Weather SSO Investigation Plan will proceed according to a critical path that begins with the planned and scheduled repairs to the sewer lines and pump stations in the 19 priority areas. The reasons for this path are multiple.

First, the majority of these repairs involve failed pump stations or blocked gravity sewer lines being bypassed by temporary pumping operations which, along with the conditions associated with the failures, tend to produce lines and structures that are surcharged, flowing full, filled with soils and solids, or some combination thereof. These conditions make it problematic for inspection of the lines and structures. Therefore, these inspection operations are scheduled to follow the repairs, which, along with repair or replacement of lines, structures, pumps, panels, etc., also include cleaning, televising, and CIPP lining of sewers adjacent to the repairs. This work, when completed, will afford more effective and practical inspections to take place.

Second, priority areas 1, 2, 3, and 8 are all upstream and tributary to sewers in the City of East St. Louis system, which are also frequently surcharged, and preventing Cahokia Heights sewers from entering the system, thereby causing backups and surcharging upstream, and contributing to SSO's. As a result, the ability to effectively inspect and assess conditions in these areas depends not only on the proposed repairs to the Cahokia Heights system, but also on the successful construction of the interceptor system to remove Cahokia Heights sewers from discharging into East St. Louis. Therefore, inspections and related work in these areas is scheduled to follow construction of the interceptor in these areas. There is a possibility that the City of East St. Louis is able to address conditions causing surcharging and backups in this area prior to the completion of the interceptor system. If that occurs, schedules for investigative measures in this area will be adjusted accordingly and submitted to EPA for approval.

Third, the City has been awarded the large (\$10MM) grant from IEPA to pay for many of the needed repairs. The current scope of this grant includes nearly all of the known sewer breaks in the system, and repairs or rehab to 50 of the systems 69 pump stations, as well as CIPP lining of a large portion of the main sewer trunkline. Per the terms of this grant, the work is required to be completed within three years of the start date, which is currently pending but imminent, as of February 2023. The schedule then must reflect that the locations listed in the grant must be completed first, before any other work, in order to protect the integrity of the grant funds.

Last, there are a few locations where sewer and/or pump station repairs have already been started, using local city and/or St. Clair County Intergovernmental Grant funds. These locations are scheduled accordingly.

Within the 19 priority areas, and in conjunction with consideration of factors explained above, scheduling of these areas has been further refined below. This additional refinement also takes into account the size, complexity, number of repair locations, and other important factors expressed in the Process Flow Chart. The listing of areas by relative order of proposed scheduling of investigative measures (first to last) is below:

Area 13 – Lauralee & Violet

Area 6 – Falling Springs

Area 7 – DePaul Gardens

Area 1 – Ping Pong, Area 2 – Parkside East, Area 3 – Piat Place, Area 8 – Parkside South

These areas are combined due to proximity and similar conditions, and are still the highest priority, due to the SSO's and backup conditions there, but as discussed, the investigative measures cannot proceed effectively until the interceptor is constructed to relieve surcharge conditions, approximately in 2028. There is a possibility that the City of East St. Louis is able to address conditions causing surcharging and backups in this area prior to the completion of the interceptor system. If that occurs, schedules for investigative measures in this area will be adjusted accordingly and submitted to EPA for approval.

Area 16 – Range Lane

Area 4 – I-255 East, Area 10 - Old Missouri Ave., Area 11 – I-255 West

These areas are combined due to proximity and similar conditions.

Area 5 – Bridgedale Subdivision

Area 12 – IL 163 & IL 157, Area 14 – Delores & Louise, Area 15 – Marseilles & Fleur de Lis

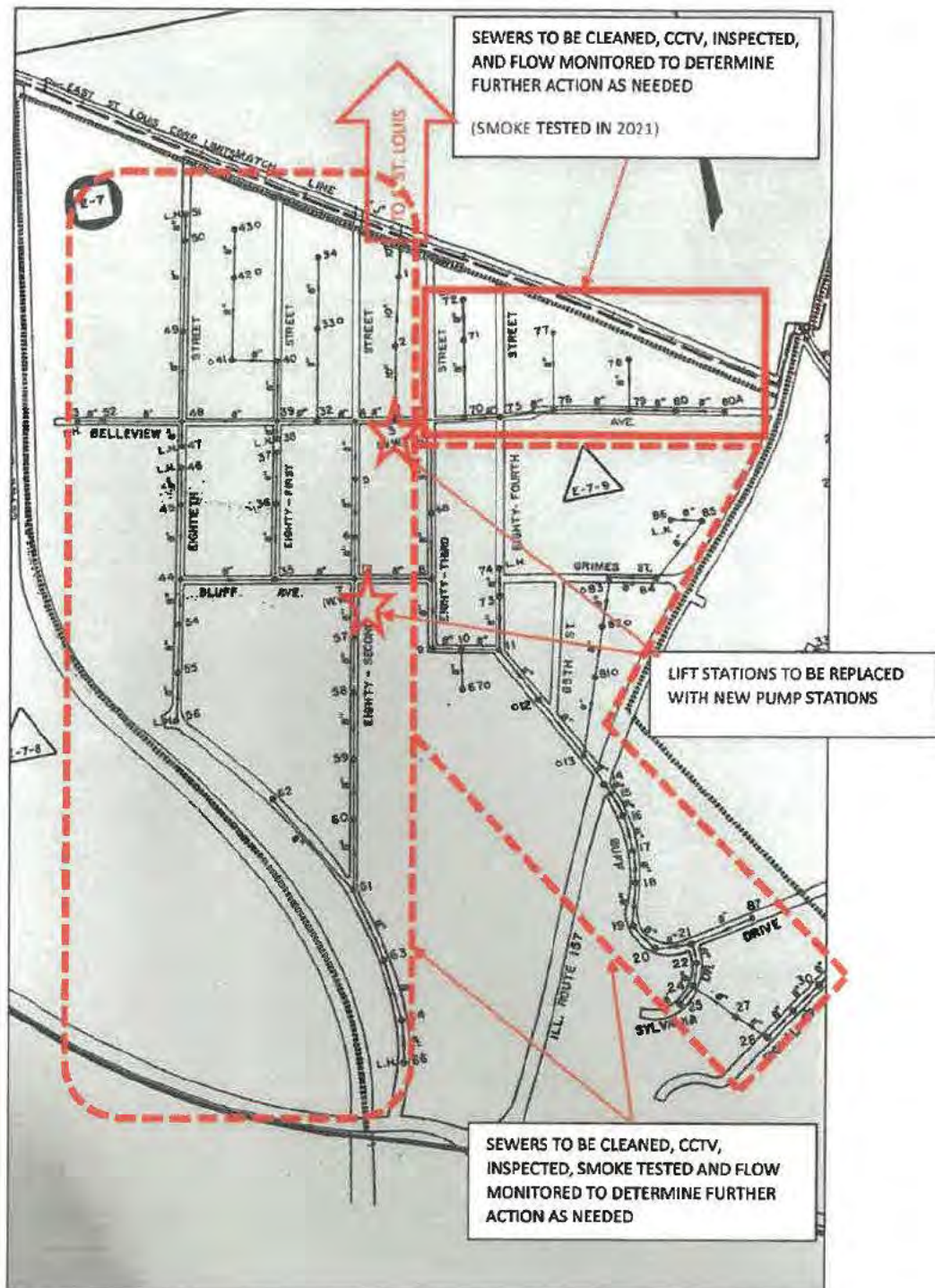
These areas are combined due to proximity and similar conditions.

Area 17 – Donald St., Area 18 – St. Monica, Area 19 – Water St. East

These areas are combined due to proximity and similar conditions.

The production of the investigative work for all the areas depends on too many factors to accurately predict in a schedule up front, however, consideration has been given to their relative sizes in the time allotted for completion. As a baseline, a small sized area (less than 100 manholes) is being given one calendar year for completion. A medium sized area (100-200 manholes) is being allotted two years, and larger than 200 manholes three years for completion. There is some overlap between areas, and once the program has been launched and production is more certain, this schedule could be condensed if possible.

Ping Pong Neighborhood (N. 82ND Street SSO) Area Sewer Map – Priority Area 1



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 1

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
N. 82nd St.	5/1/2023																				
N. 82nd St.	5/1/2023																				
Interceptor Construction (East Section)																					
Feasibility Study & Preliminary Design	12/31/2024																				
Detailed Design & Bid Documents	12/31/2025																				
Construction	12/31/2028																				
Cleaning & CCTV																					
areas east of IL Rt 157 (Signal Hill)	10/1/2028																				
areas west of IL Rt. 157 (Ping Pong)	12/31/2029																				
Visual Inspection																					
Manholes - 85 Total	11/1/2028																				
Sewer Reaches - 22140 LF Total - (inspected during CCTV work)	11/1/2028																				
areas west of IL Rt. 157 (Ping Pong)	12/31/2029																				
Smoke Testing																					
areas east of IL Rt 157 (Signal Hill)	1/1/2029																				
areas west of IL Rt. 157 (Ping Pong)	12/31/2029																				
Flow Monitoring																					
N. 82nd St.	continuing																				
N. 82nd St.	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area is dependent on elimination of frequent surcharged conditions from backups from downstream sewers in East St. Louis. Therefore this work is currently scheduled to follow the construction of the interceptor. Should the East St. Louis surcharge issue be able to be rectified earlier, this work would be moved up in schedule accordingly.

2. Detailed design of the interceptor and bid document production may not include receipt of or approval from all required entities and agencies by the listed date

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

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ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

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UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 1

OPINION OF PROBABLE COSTS

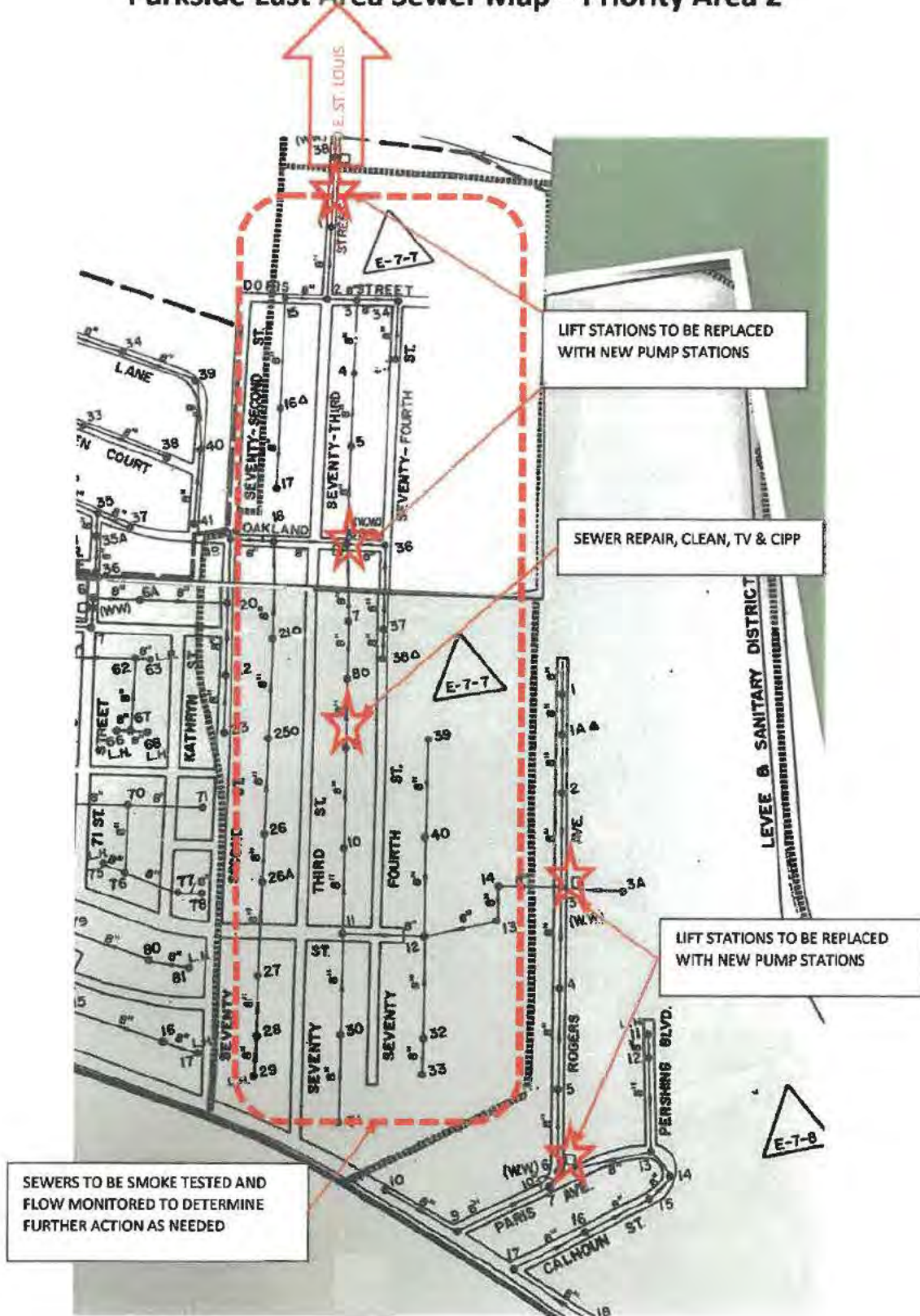
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
N. 82nd Street (2 locations)				
█ N. 82nd St.	LS	1	\$ 188,000.00	\$ 188,000.00
█ N. 82nd St.	LS	1	\$ 188,000.00	\$ 188,000.00
Interceptor Construction (East Section)	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
Cleaning & CCTV	LF	22140	\$ 10.00	\$ 221,400.00
Inspection (costs included above)				
Manholes	EA	85		
Sewer Reaches	LF	22140		
Smoke Testing	LF	19590	\$ 1.50	\$ 29,385.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. N. 82nd St. Lift Station work already designed, bid, and awarded, waiting on equipment deliveries
2. Interceptor Construction will remove flows tributary to E. St. Louis system. Funds anticipated to come from state and federal sources
3. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
4. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
5. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device
6. Lift station work and interceptor construction are precursors to other investigative work, necessary due to surcharging of system by backups from E. St. Louis system, other than certain sewer reaches in northern part which will be investigated as conditions allow asap to address N 82nd St. SSO.
7. 2250 LF of smoke testing performed previously in 2021

DS MH #	US MH #	LF OF REACH	FLOW	PIPE TYPE	DIA	CONDITION	NOTES
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Parkside East Area Sewer Map – Priority Area 2



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

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ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 2

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
N. 73th St	12/31/2025																				
73rd & Oakland	12/31/2025																				
75th & Clinton	7/1/2025																				
75th & Pershing	12/31/2025																				
Sewer Line Repair																					
N 73rd St	5/1/2024																				
Interceptor Construction (East Section)																					
Feasibility Study & Preliminary Design	12/31/2024																				
Detailed Design & Bid Documents	12/31/2025																				
Construction	12/31/2028																				
Cleaning & CCTV																					
overall	12/31/2029																				
Visual Inspection																					
Manholes - 60 Total	12/31/2029																				see note
Sewer Reaches - 10200 LF Total - (inspected during CCTV work)	12/31/2029																				see note
Smoke Testing																					
overall	12/31/2029																				see note
Flow Monitoring																					
N. 73th St	continuing																				
73rd & Oakland	continuing																				
75th & Clinton	continuing																				
75th & Pershing	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area is dependent on elimination of frequent surcharged conditions from backups from downstream sewers in East St. Louis. Therefore this work is currently scheduled to follow the construction of the interceptor. Should the East St. Louis surcharge issue be able to be rectified earlier, this work would be moved up in schedule accordingly.

2. Detailed design of the interceptor and bid document production may not include receipt of or approval from all required entities and agencies by the listed date

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 2

OPINION OF PROBABLE COSTS

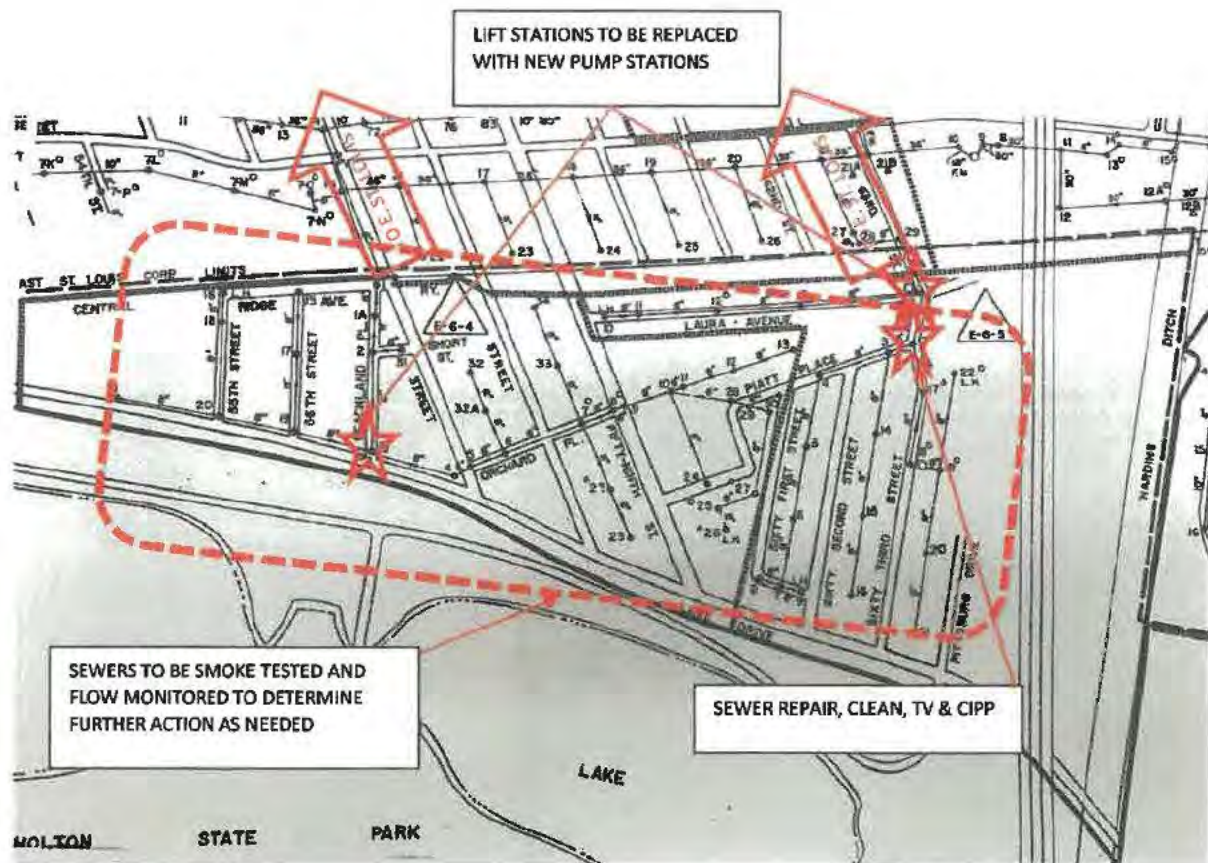
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
N. 73th St	LS	1	\$ 200,000.00	\$ 200,000.00
73rd & Oakland	LS	1	\$ 200,000.00	\$ 200,000.00
75th & Clinton	LS	1	\$ 200,000.00	\$ 200,000.00
75th & Pershing	LS	1	\$ 200,000.00	\$ 200,000.00
Sewer Line Repair				
█ N 73rd St.	LS	1	\$ 70,000.00	\$ 70,000.00
Interceptor Construction (East Section)	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
Cleaning & CCTV	LF	10200	\$ 10.00	\$ 102,000.00
Inspection (costs included above)				
Manholes	EA	60		
Sewer Reaches	LF	10200		
Smoke Testing	LF	10200	\$ 1.50	\$ 15,300.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station and line repair work yet to be designed
2. Interceptor Construction will remove flows tributary to E. St. Louis system. Funds anticipated to come from state and federal sources
3. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
4. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
5. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device
6. Lift station work and interceptor constuciton are precursors to other investigative work, necessary due to surcharging of system by backups from E. St. Louis system, other than certain sewer reaches in northern part which will be investigated as conditions allow asap to address SSOs.

[illegible]

Piat Place Area Sewer Map – Priority Area 3



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 3

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Beachland Pl.	12/31/2025																				
63rd & Laura	12/31/2025																				
Sewer Line Repair																					
N 63rd St.	5/1/2024																				
Interceptor Construction (West Section)																					
Feasibility Study & Preliminary Design	12/31/2024																				
Detailed Design & Bid Documents	12/31/2025																				
Construction	12/31/2028																				
Cleaning & CCTV																					
overall	12/31/2029																				
Visual Inspection																					
Manholes - 57 Total	12/31/2029																				
Sewer Reaches - 6600 LF Total - (inspected during CCTV work)	12/31/2029																				
Smoke Testing																					
overall	12/31/2029																				
Flow Monitoring																					
Beachland Pl.	continuing																				
63rd & Laura	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area is dependent on elimination of frequent surcharged conditions from backups from downstream sewers in East St. Louis. Therefore this work is currently scheduled to follow the construction of the interceptor. Should the East St. Louis surcharge issue be able to be rectified earlier, this work would be moved up in schedule accordingly.

2. Detailed design of the interceptor and bid document production may not include receipt of or approval from all required entities and agencies by the listed date

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 3

OPINION OF PROBABLE COSTS

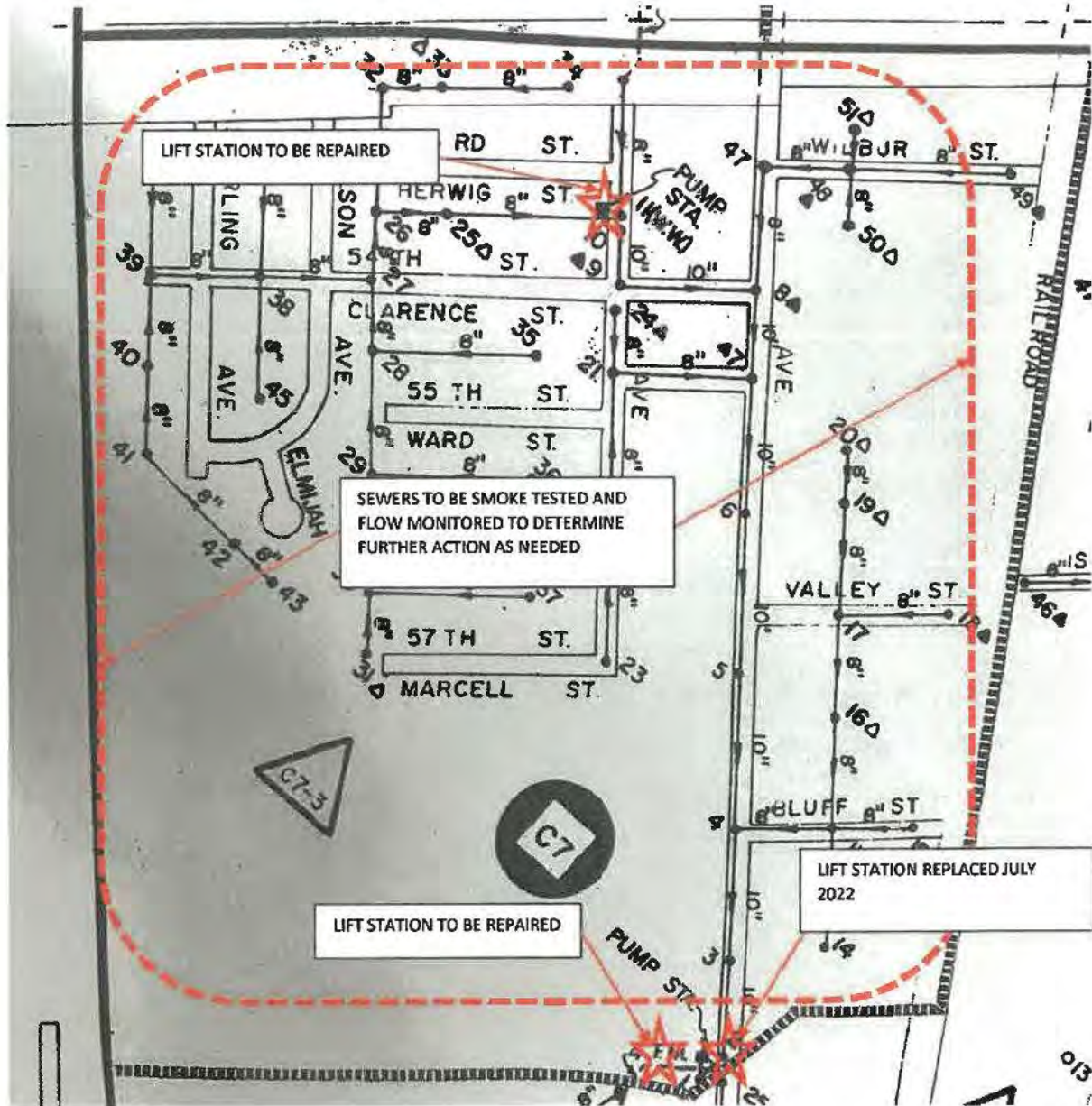
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Beachland Pl.	LS	1	\$ 200,000.00	\$ 200,000.00
63rd & Laura	LS	1	\$ 200,000.00	\$ 200,000.00
Sewer Line Repair				
█ N 63rd St.	LS	1	\$ 60,000.00	\$ 60,000.00
Interceptor Construction (West Section)	LS	1	\$ 5,000,000.00	\$ 5,000,000.00
Cleaning & CCTV	LF	6600	\$ 10.00	\$ 66,000.00
Inspection (costs included above)				
Manholes	EA	57		
Sewer Reaches	LF	6600		
Smoke Testing	LF	6600	\$ 1.50	\$ 9,900.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Interceptor Construction will remove flows tributary to E. St. Louis system. Funds anticipated to come from state and federal sources
3. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
4. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
5. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device
6. Lift station work and interceptor constuciton are precursors to other investigative work, necessary due to surcharging of system by backups from E. St. Louis system, other than certain sewer reaches in northern part which will be investigated as conditions allow asap to address SSOs.

[illegible]

I-255 East Area Sewer Map – Priority Area 4



CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 4

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
53rd & Market	7/1/2026																				
City Hall (rear)	12/31/2026																				
Sewer Line Repair																					
none																					
Cleaning & CCTV																					
overall	6/1/2031																				
Visual Inspection																					
Manholes - 51 Total	6/1/2031																				
Sewer Reaches - 7200 LF Total - (inspected during CCTV work)	6/1/2031																				
Smoke Testing																					
overall	6/1/2031																				
Flow Monitoring																					
53rd & Market	continuing																				
City Hall (rear)	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 4 and 11 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 2 years for completion, due to the large area and large number of reaches and manholes, with approximately 50% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 4

OPINION OF PROBABLE COSTS

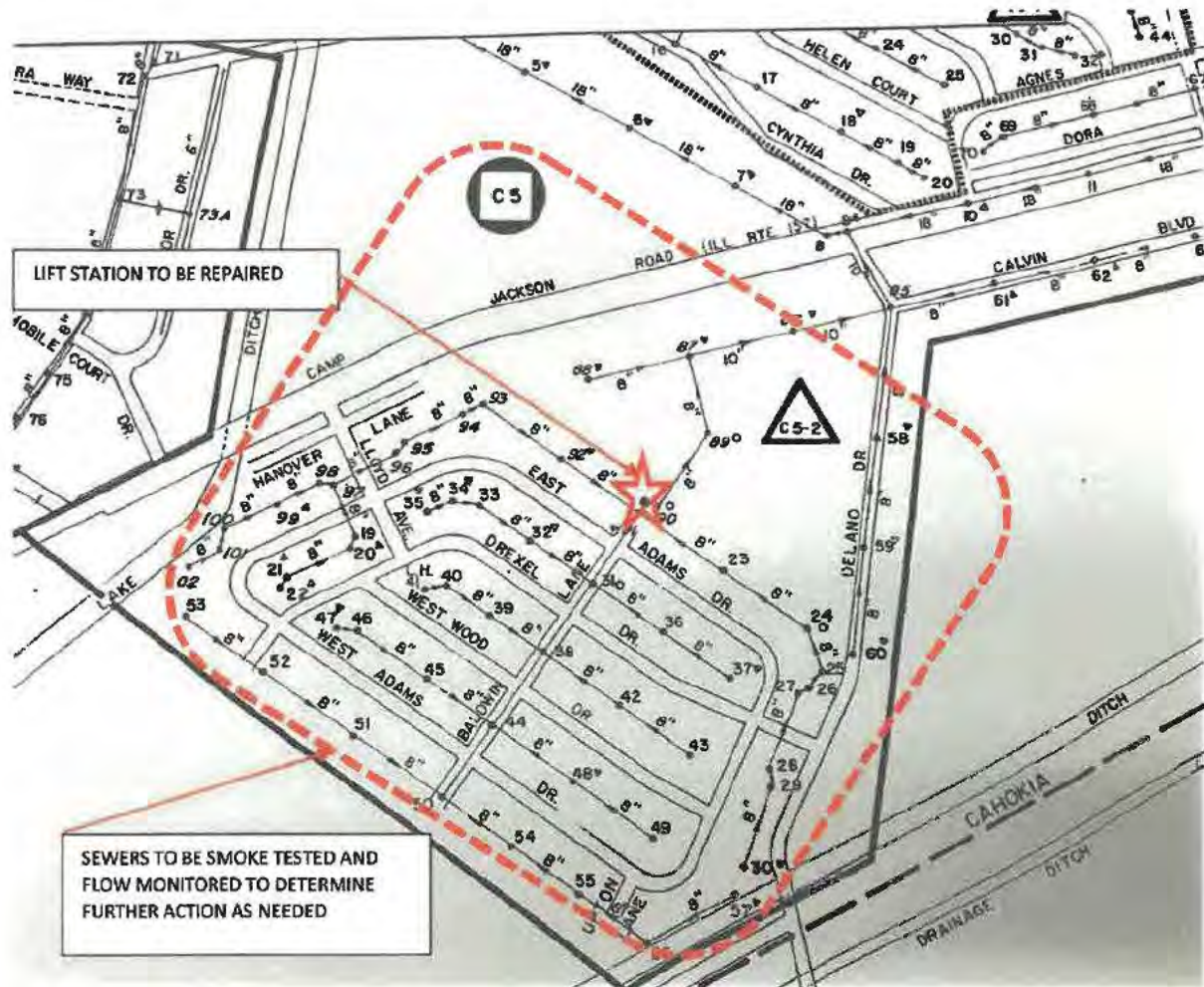
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
53rd & Market	LS	1	\$ 15,000.00	\$ 15,000.00
City Hall (rear)	LS	1	\$ 70,000.00	\$ 70,000.00
Sewer Line Repair				
none				
Cleaning & CCTV	LF	7200	\$ 10.00	\$ 72,000.00
Inspection (costs included above)				
Manholes	EA	51		
Sewer Reaches	LF	7200		
Smoke Testing	LF	7200	\$ 1.50	\$ 10,800.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Bridgedale Area Sewer Map – Priority Area 5



CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5

ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 5

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Bridgedale	7/1/2024																				
Sewer Line Repair																					
none																					
Cleaning & CCTV																					
overall	7/1/2031																	see note			
Visual Inspection																					
Manholes - 84 Total	7/1/2031																	see note			
Sewer Reaches - 11700 LF Total - (inspected during CCTV work)																		see note			
Smoke Testing																					
overall	7/1/2031																	see note			
Flow Monitoring																					
Bridgedale	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 5

OPINION OF PROBABLE COSTS

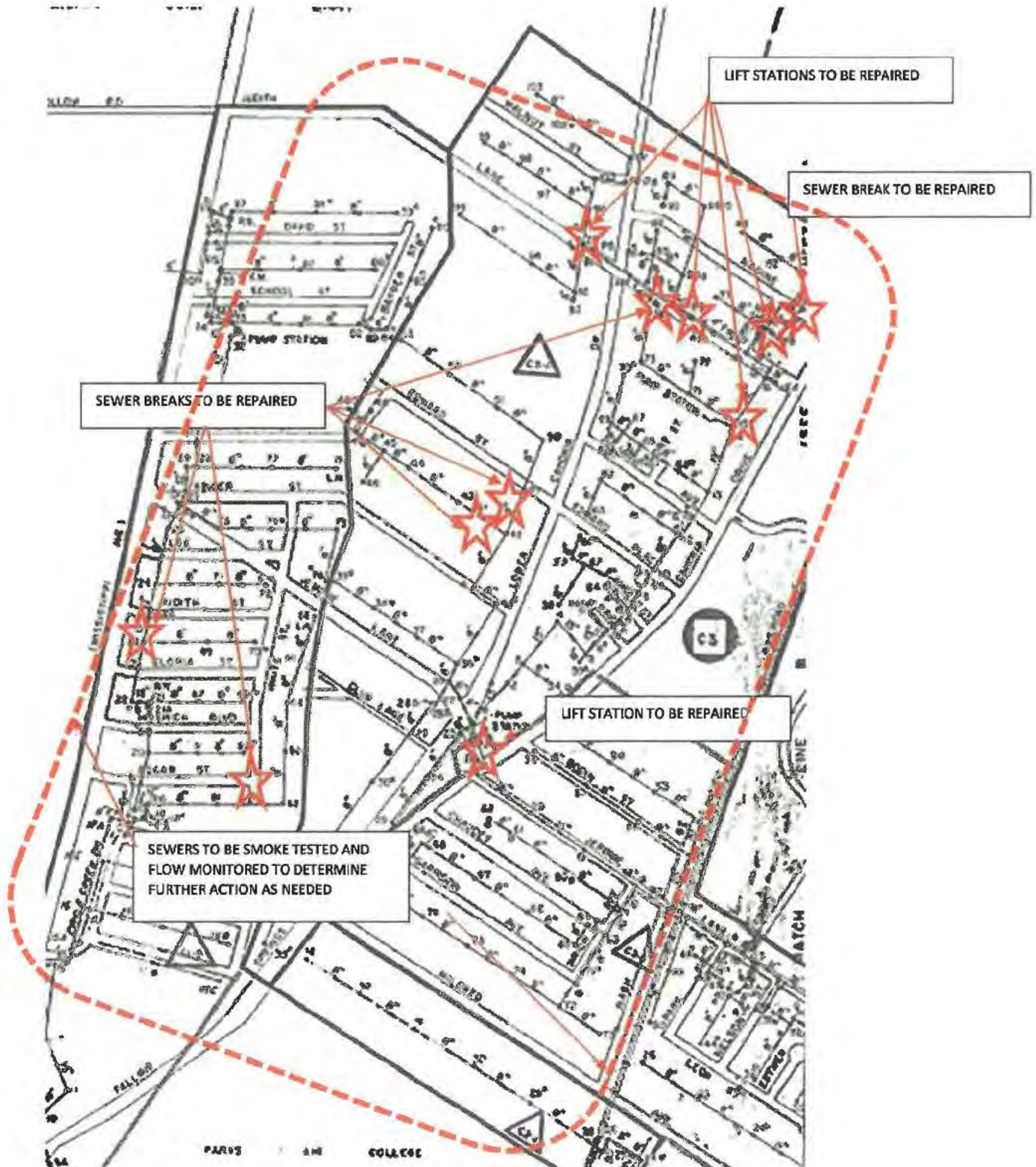
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Bridgedale	LS	1	\$ 200,000.00	\$ 200,000.00
Sewer Line Repair				
none				
Cleaning & CCTV	LF	11700	\$ 10.00	\$ 117,000.00
Inspection (costs included above)				
Manholes	EA	84		
Sewer Reaches	LF	11700		
Smoke Testing	LF	11700	\$ 1.50	\$ 17,550.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Falling Springs Area Sewer Map – Priority Area 6



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:
ADMINISTRATIVE ORDER ON CONSENT
UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)
DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 6

SCHEDULE OF ACTIVITIES			2023												2024	2025	2026	2027	2028	2029	2030	2031	2032
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC										
Pump Station Repair/Replacement																							
Edgar St	7/1/2026																						
Judith Ln	7/1/2026																						
Falling Springs Rd (Shack)	7/1/2026																						
Judith Ln (Bruce St)	7/1/2026																						
Hissrich Blvd (Singer)	7/1/2026																						
Falling Springs Rd (100 Blk of Judith)	7/1/2026																						
School St (Credit Union)	7/1/2026																						
David St (State Lottery)	7/1/2026																						
David St (Quickway)	12/31/2026																						
Upper Cahokia Rd (VFW)	12/31/2026																						
Sewer Line Repair																							
Edwards St (rear easement)	8/1/2025																						
Nadine St	8/1/2025																						
Edwards St (side easement)	8/1/2025																						
White St	10/1/2024																						
Edgar St	8/1/2025																						
Mississippi	8/1/2025																						
Judith Ln	8/1/2025																						
Cleaning & CCTV																							
overall	12/31/2032	approx 33% to be completed in each year													see notes								
Visual Inspection																							
Manholes - 211 Total	12/31/2032	approx 33% to be completed in each year													see notes								
Sewer Reaches - 40000 LF Total - (inspected during CCTV work)		approx 33% to be completed in each year													see notes								
Smoke Testing																							
overall	12/31/2032	approx 33% to be completed in each year													see notes								
Flow Monitoring																							
Edgar St	continuing																						
Judith Ln	continuing																						
Falling Springs Rd (Shack)	continuing																						
Judith Ln (Bruce St)	continuing																						
Hissrich Blvd (Singer)	continuing																						
Falling Springs Rd (100 Blk of Judith)	continuing																						
School St (Credit Union)	continuing																						
David St (Quickway)	continuing																						
David St (State Lottery)	continuing																						
Upper Cahokia Rd (VFW)	continuing																						

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 6

OPINION OF PROBABLE COSTS

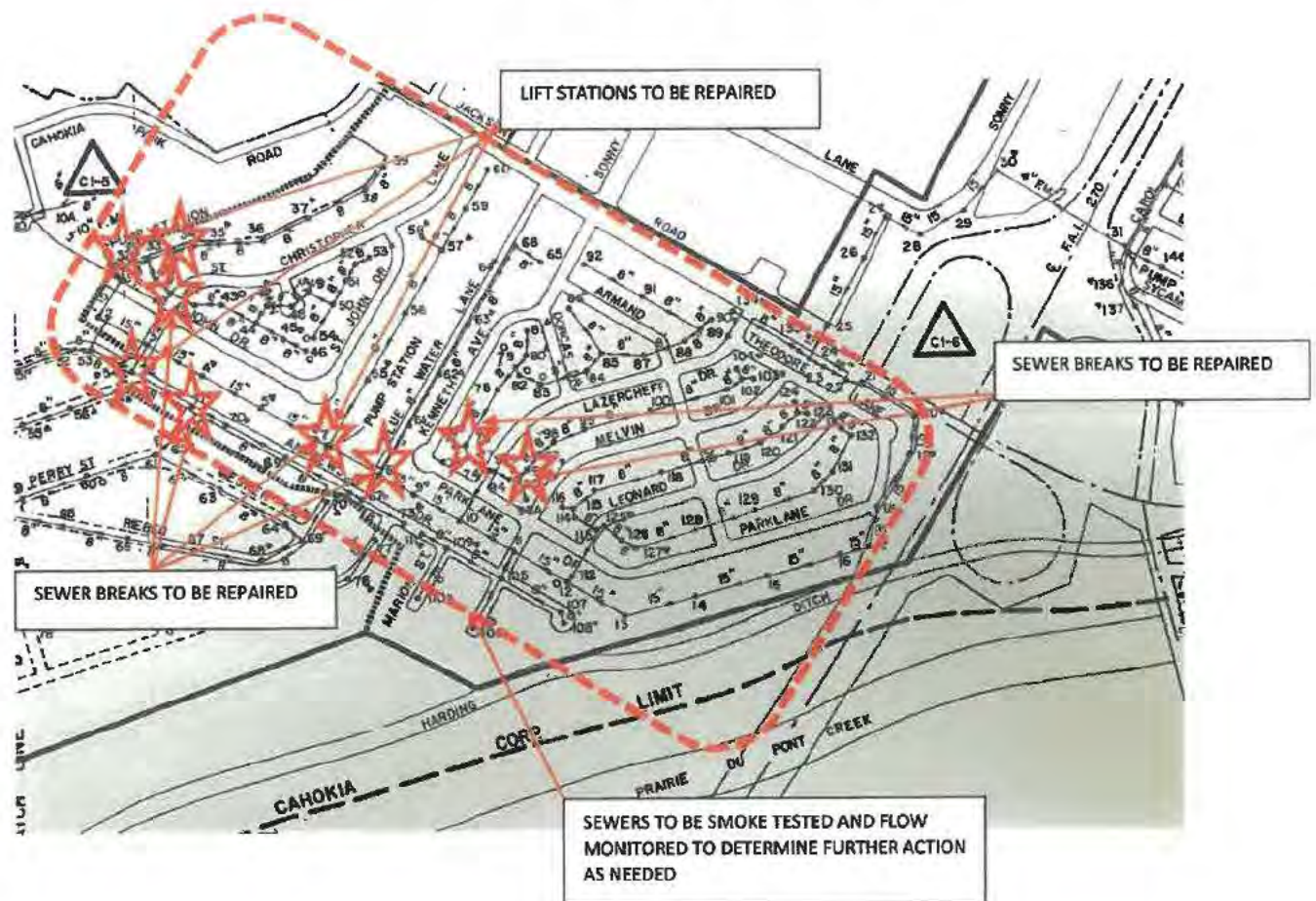
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
█ Edgar St	LS	1	\$ 130,000.00	\$ 130,000.00
█ Judith Ln	LS	1	\$ 130,000.00	\$ 130,000.00
█ Falling Springs Rd (Shack)	LS	1	\$ 130,000.00	\$ 130,000.00
█ Judith Ln (Bruce St)	LS	1	\$ 130,000.00	\$ 130,000.00
█ Hissrich Blvd (Singer)	LS	1	\$ 130,000.00	\$ 130,000.00
█ Falling Springs Rd (100 Blk of Judith)	LS	1	\$ 90,000.00	\$ 90,000.00
█ School St (Credit Union)	LS	1	\$ 130,000.00	\$ 130,000.00
█ David St (Quickway)	LS	1	\$ 60,000.00	\$ 60,000.00
█ David St (State Lottery)	LS	1	\$ 130,000.00	\$ 130,000.00
█ Upper Cahokia Rd (VFW)	LS	1	\$ 40,000.00	\$ 40,000.00
Sewer Line Repair				
█ Edwards St (rear easement)	LS	1	\$ 90,000.00	\$ 90,000.00
█ Nadine St	LS	1	\$ 70,000.00	\$ 70,000.00
█ Edwards St (side easement)	LS	1	\$ 110,000.00	\$ 110,000.00
█ White St	LS	1	\$ 90,000.00	\$ 90,000.00
█ Edgar St	LS	1	\$ 160,000.00	\$ 160,000.00
█ Mississippi	LS	1	\$ 80,000.00	\$ 80,000.00
█ Judith Ln	LS	1	\$ 90,000.00	\$ 90,000.00
Cleaning & CCTV	LF	40000	\$ 10.00	\$ 400,000.00
Inspection (costs included above)				
Manholes	EA	211		
Sewer Reaches	LF	40000		
Smoke Testing	LF	40000	\$ 1.50	\$ 60,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station and sewer repair work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

DePaul Gardens Area Sewer Map – Priority Area 7



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 7

SCHEDULE OF ACTIVITIES			2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																						
Blue Water Lane	12/31/2026																					
St. John Dr. (DePaul)	7/1/2026																					
Delores St. (Carol Rd)	12/31/2026																					
Andrews Dr.(St. Christopher)	7/1/2026																					
Sewer Line Repair																						
Blue Water Ln	10/1/2024																					
Kenneth St	10/1/2024																					
Parklane Dr	10/1/2024																					
Cleaning & CCTV																						
overall	12/1/2027																					
Visual Inspection																						
Manholes - 168Total	12/1/2027																					
Sewer Reaches - 22000 LF Total - (inspected during CCTV work)																						
Smoke Testing																						
overall	12/1/2027																					
Flow Monitoring																						
Blue Water Lane	continuing																					
St. John Dr. (DePaul)	continuing																					
Delores St. (Carol Rd)	continuing																					
Andrews Dr.(St. Christopher)	continuing																					

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 2 years for completion, due to the large area and large number of reaches and manholes, with approximately 50% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 7

OPINION OF PROBABLE COSTS

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Blue Water Lane		1	\$ 20,000.00	\$ 20,000.00
█ St. John Dr. (DePaul)		1	\$ 200,000.00	\$ 200,000.00
█ Delores St. (Carol Rd)		1	\$ 100,000.00	\$ 100,000.00
█ Andrews Dr.(St. Christopher)		1	\$ 110,000.00	\$ 110,000.00
Sewer Line Repair				
█ Blue Water Ln	LS	1	\$ 90,000.00	\$ 90,000.00
█ Kenneth St	LS	1	\$ 110,000.00	\$ 110,000.00
█ Parklane Dr	LS	1	\$ 60,000.00	\$ 60,000.00
Cleaning & CCTV	LF	22000	\$ 10.00	\$ 220,000.00
Inspection (costs included above)				
Manholes	EA	168		
Sewer Reaches	LF	22000		
Smoke Testing	LF	22000	\$ 1.50	\$ 33,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station and sewer repair work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 8

SCHEDULE OF ACTIVITIES			2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																						
71st. & Ames Dr.	12/31/2025																					
■ Park Place (rear) (Lake Dr Pill Box)	12/31/2025																					
■ Ames Dr (Willie Holmes Pill Box)	12/31/2025																					
Sewer Line Repair																						
none																						
Interceptor Construction (West Section)																						
Feasibility Study & Preliminary Design	12/31/2024																					
Detailed Design & Bid Documents	12/31/2025																					
Construction	12/31/2028																					
Cleaning & CCTV																						
overall	12/31/2029																					
Visual Inspection																						
Manholes - 82 Total	12/31/2029																					
Sewer Reaches - 16000 LF Total - (inspected during CCTV work)																						
Smoke Testing																						
overall	12/31/2029																					
Flow Monitoring																						
71st. & Ames Dr.	continuing																					
■ Park Place (rear) (Lake Dr Pill Box)	continuing																					
■ Ames Dr (Willie Holmes Pill Box)	continuing																					

NOTES

1. Cleaning, CCTV, visual inspection, and smoke testing of this area is dependent on elimination of frequent surcharged conditions from backups from downstream sewers in East St. Louis. Therefore this work is currently scheduled to follow the construction of the interceptor. Should the East St. Louis surcharge issue be able to be rectified earlier, this work would be moved up in schedule accordingly.
2. Detailed design of the interceptor and bid document production may not include receipt of or approval from all required entities and agencies by the listed date

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 8

OPINION OF PROBABLE COSTS

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
71St. & Ames Dr.		1	\$ 200,000.00	\$ 200,000.00
██████ Park Place (rear) (Lake Dr Pill Box)		1	\$ 200,000.00	\$ 200,000.00
██████ Ames Dr (Willie Holmes Pill Box)		1	\$ 130,000.00	\$ 130,000.00
Sewer Line Repair				
none				
Cleaning & CCTV	LF	16000	\$ 10.00	\$ 160,000.00
Inspection (costs included above)				
Manholes	EA	82		
Sewer Reaches	LF	16000		
Smoke Testing	LF	16000	\$ 1.50	\$ 24,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 9

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC													
Pump Station Repair/Replacement																										
Superior Dr.	7/1/2026																									
Sewer Line Repair																										
none																										
Cleaning & CCTV																										
overall	12/1/2036																						see note			
Visual Inspection																										
Manholes - 177 Total	12/1/2036																						see note			
Sewer Reaches - 35000 LF Total - (inspected during CCTV work)																							see note			
Smoke Testing																										
overall	12/1/2036																						see note			
Flow Monitoring																										
Superior Dr.	continuing																									

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 9

OPINION OF PROBABLE COSTS

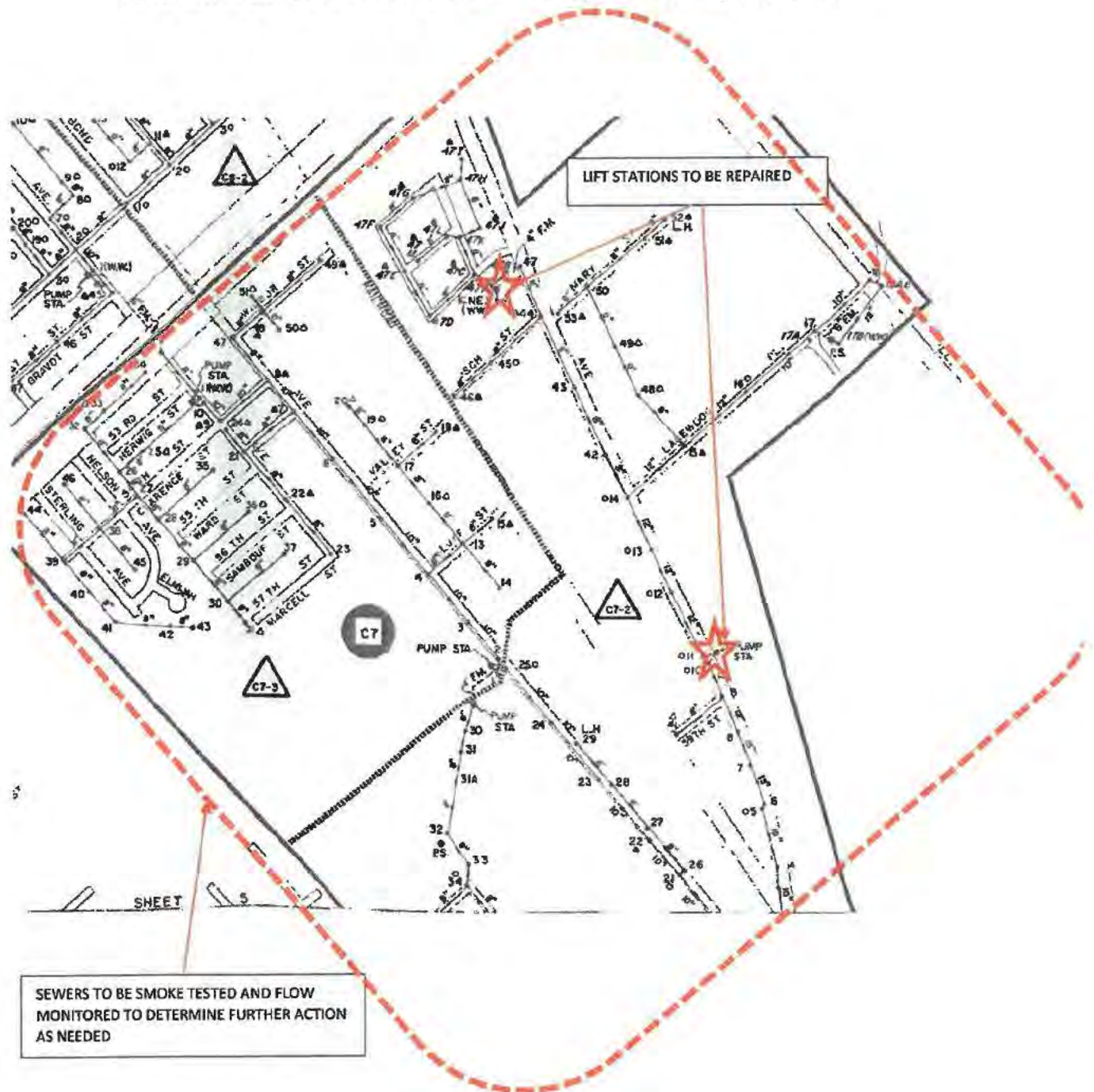
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Superior Dr.		1	\$ 130,000.00	\$ 130,000.00
Sewer Line Repair				
none				
Cleaning & CCTV	LF	35000	\$ 10.00	\$ 350,000.00
Inspection (costs included above)				
Manholes	EA	177		
Sewer Reaches	LF	35000		
Smoke Testing	LF	35000	\$ 1.50	\$ 52,500.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Old Missouri Ave. Area Sewer Map – Priority Area 10



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 10

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Greystone Dr.	12/31/2026																				
Old Missouri Ave. (Mary Ryans)	9/30/2023																				
Sewer Line Repair																					
none																					
Cleaning & CCTV																					
overall	12/31/2025																				
Visual Inspection																					
Manholes - 64 Total	12/31/2025																				
Sewer Reaches - 16000 LF Total - (inspected during CCTV work)	12/31/2025																				
Smoke Testing																					
overall	12/31/2025																				
Flow Monitoring																					
Greystone Dr.	continuing																				
Old Missouri Ave. (Mary Ryans)	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 10

OPINION OF PROBABLE COSTS

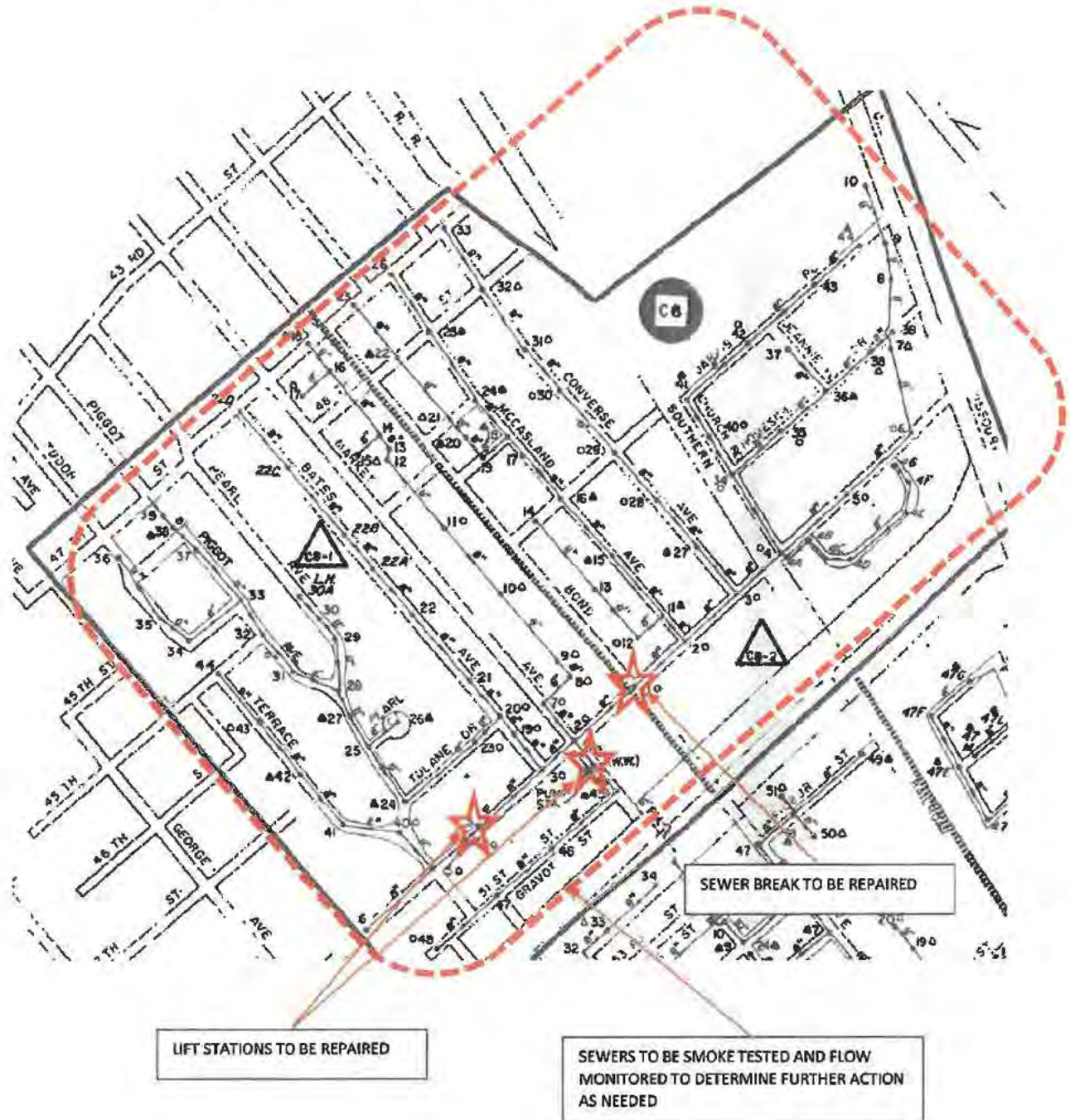
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
█ Greystone Dr.	LS	1	\$ 130,000.00	\$ 130,000.00
█ Old Missouri Ave. (Mary Ryans)	LS	1	\$ 205,000.00	\$ 205,000.00
Sewer Line Repair	LS			
none				
Cleaning & CCTV	LF	16000	\$ 10.00	\$ 160,000.00
Inspection (costs included above)				
Manholes	EA	64		
Sewer Reaches	LF	16000		
Smoke Testing	LF	16000	\$ 1.50	\$ 24,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work for Greystone yet to be designed. █ Old Missouri under contract as of Dec 2022
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

I-255 West Area Sewer Map – Priority Area 11



CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 11

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
51 St. & Market Ave.	7/1/2024																				
Sewer Line Repair																					
Bond Ave.	3/30/2023																				
Cleaning & CCTV																					
overall	12/31/2026																				see notes
Visual Inspection																					
Manholes - 101 Total	12/31/2026																				see notes
Sewer Reaches - 25000 LF Total - (inspected during CCTV work)	12/31/2026																				see notes
Smoke Testing																					
overall	12/31/2026																				see notes
Flow Monitoring																					
51 St. & Market Ave.	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 4 and 11 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 2 years for completion, due to the large area and large number of reaches and manholes, with approximately 50% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 11

OPINION OF PROBABLE COSTS

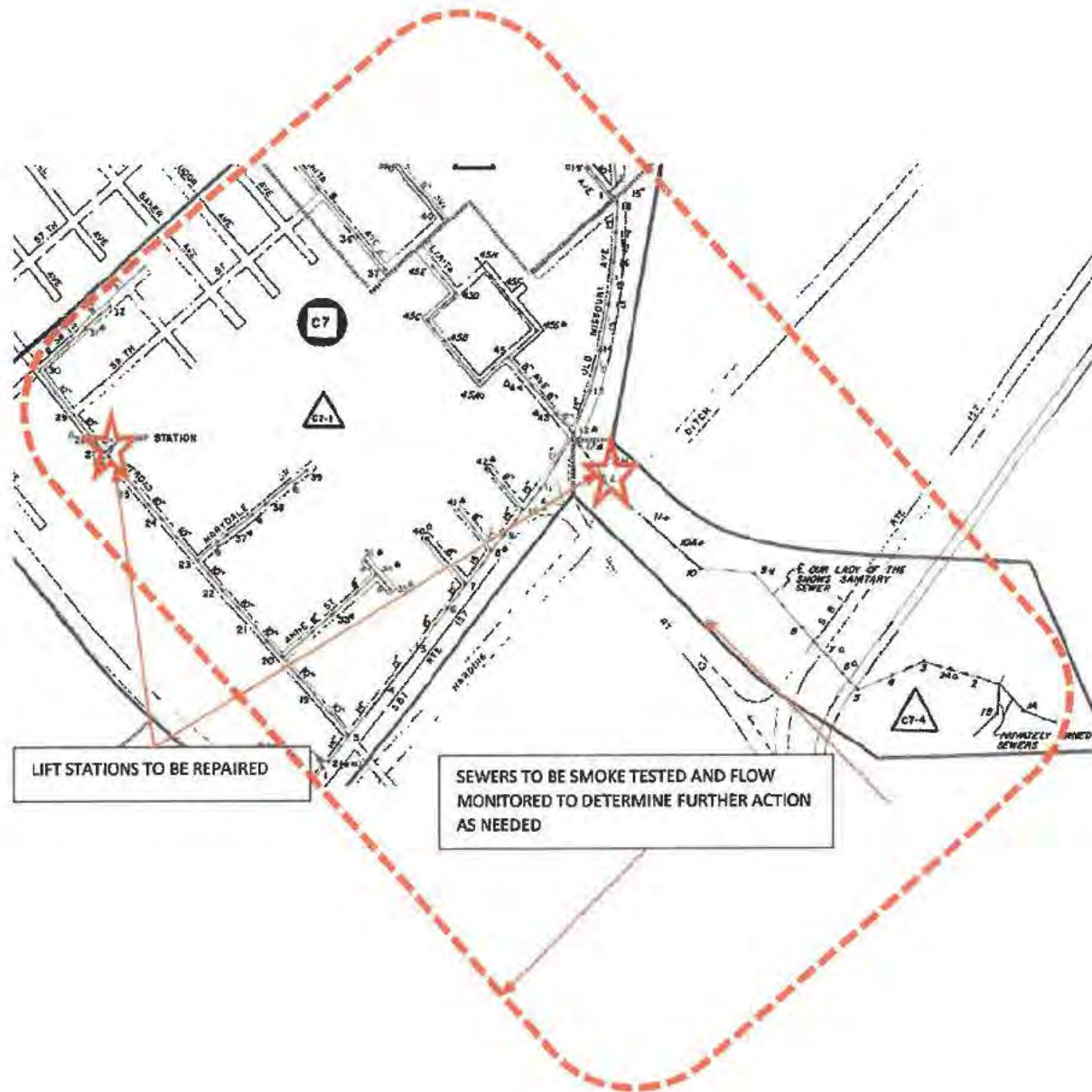
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
51st and Market Ave.	LS	1	\$ 180,000.00	\$ 180,000.00
Sewer Line Repair				
█ Bond Ave.	LS	1	\$ 60,000.00	
Cleaning & CCTV	LF	25000	\$ 10.00	\$ 250,000.00
Inspection (costs included above)				
Manholes	EA	101		
Sewer Reaches	LF	25000		
Smoke Testing	LF	25000	\$ 1.50	\$ 37,500.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work or sewer repair yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

IL 163 & IL 157 Area Sewer Map – Priority Area 12



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 12

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Church Rd	12/31/2026																				
Old Missouri Ave. (Lady of Snows)	12/1/2023																				
Sewer Line Repair																					
none																					
Cleaning & CCTV																					
overall	12/31/2031																				
Visual Inspection																					
Manholes - 64 Total	12/31/2031																				
Sewer Reaches - 16000 LF Total - (inspected during CCTV work)	12/31/2031																				
Smoke Testing																					
overall	12/31/2031																				
Flow Monitoring																					
Church Rd	continuing																				
Old Missouri Ave. (Lady of Snows)	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 12-14-15 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 50% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

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ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 12

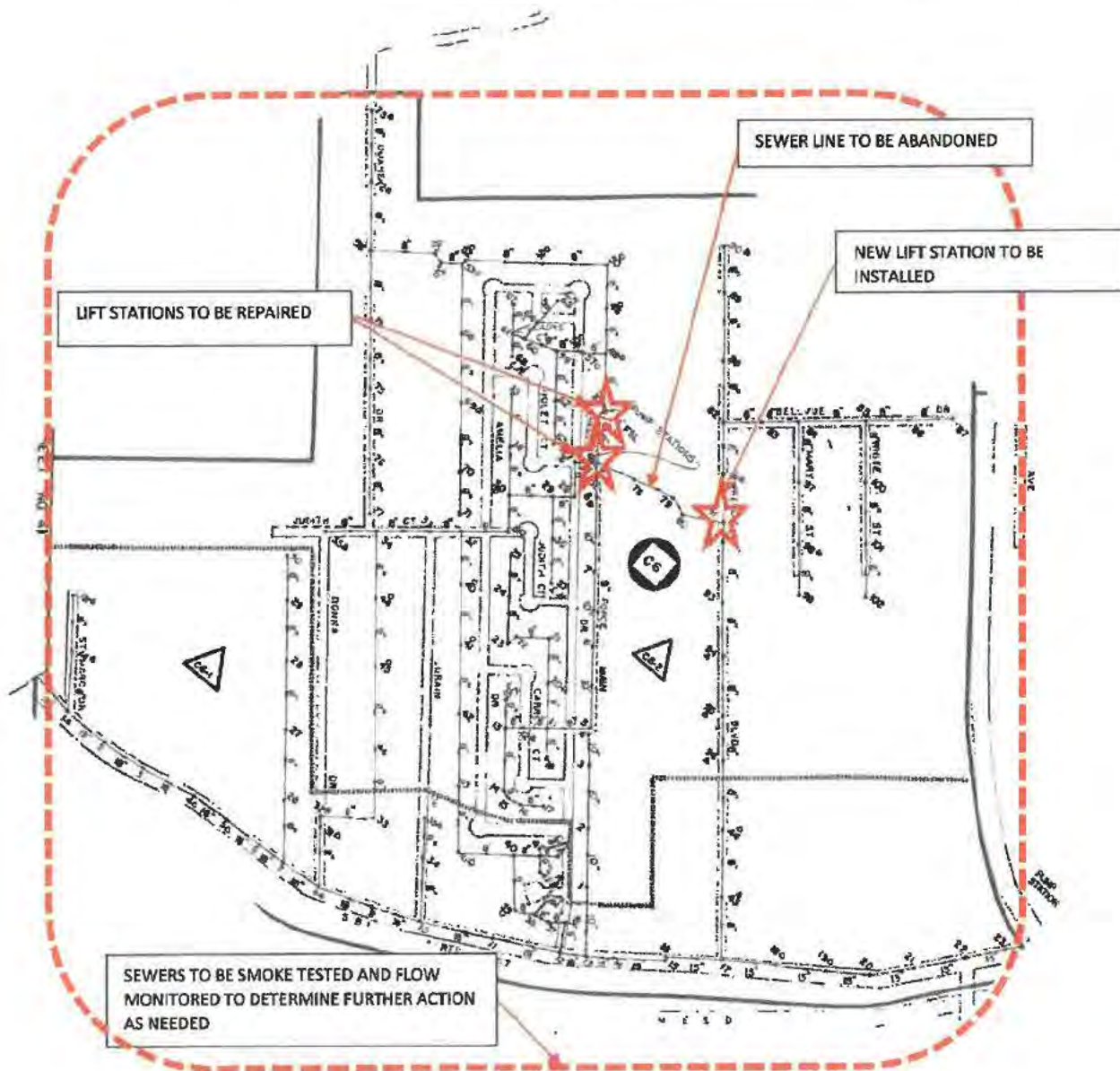
OPINION OF PROBABLE COSTS

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Church Rd	LS	1	\$ 20,000.00	\$ 20,000.00
Old Missouri Ave. (Lady of Snows)	LS	1	\$ 220,000.00	\$ 220,000.00
Sewer Line Repair				
none	LS			
Cleaning & CCTV	LF	16000	\$ 10.00	\$ 160,000.00
Inspection (costs included above)				
Manholes	EA	64		
Sewer Reaches	LF	16000		
Smoke Testing	LF	16000	\$ 1.50	\$ 24,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Sta. work on Church Rd yet to be designed, Old Missouri Ave. awaiting contract award as of Jan 2023
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

Lauralee & Violet Area Sewer Map – Priority Area 13



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

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ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

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UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)
DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 13

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Lauralee & Violet	6/1/2026																				
Sewer Line Repair																					
Abandon line between Renois and Lauralee (incl above)																					
Cleaning & CCTV																					
overall	12/1/2026																				
Visual Inspection																					
Manholes - 148 Total	12/1/2026																				
Sewer Reaches - 44000 LF Total - (inspected during CCTV work)	12/1/2026																				
Smoke Testing																					
overall	12/1/2026																				
Flow Monitoring																					
Lauralee & Violet	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 2 years for completion, due to the large area and large number of reaches and manholes, with approximately 50% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

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ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 13

OPINION OF PROBABLE COSTS

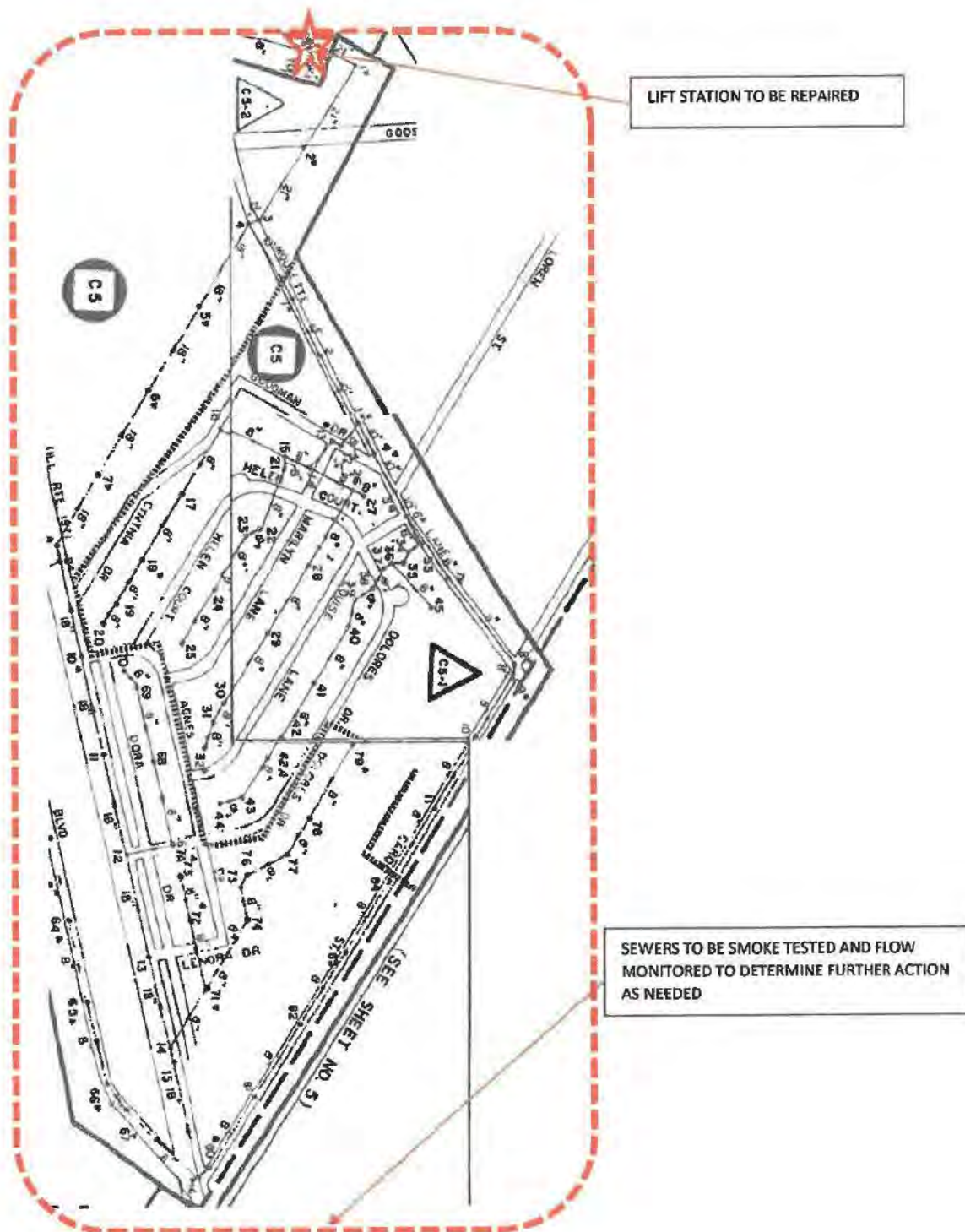
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Lauralee & Violet	LS	1	\$ 1,200,000.00	\$ 1,200,000.00
Sewer Line Repair				
none	LS			
Cleaning & CCTV	LF	44000	\$ 10.00	\$ 440,000.00
Inspection (costs included above)				
Manholes	EA	148		
Sewer Reaches	LF	44000		
Smoke Testing	LF	44000	\$ 1.50	\$ 66,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed, and will include a new station at Renois Blvd, and one station to be abandoned on Lauralee
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Delores & Louise Area Sewer Map – Priority Area 14



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 14

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC										
Pump Station Repair/Replacement																							
Jerome & Mousette (Sta. 5A)	12/31/2026																						
Sewer Line Repair																							
Cleaning & CCTV																							
overall	12/1/2029																						
Visual Inspection																							
Manholes - 76 Total	12/1/2029																						
Sewer Reaches - 27000 LF Total - (inspected during CCTV work)	12/1/2029																						
Smoke Testing																							
overall	12/1/2029																						
Flow Monitoring																							
Jerome & Mousette (Sta. 5A)	continuing																						

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 12-14-15 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 14

OPINION OF PROBABLE COSTS

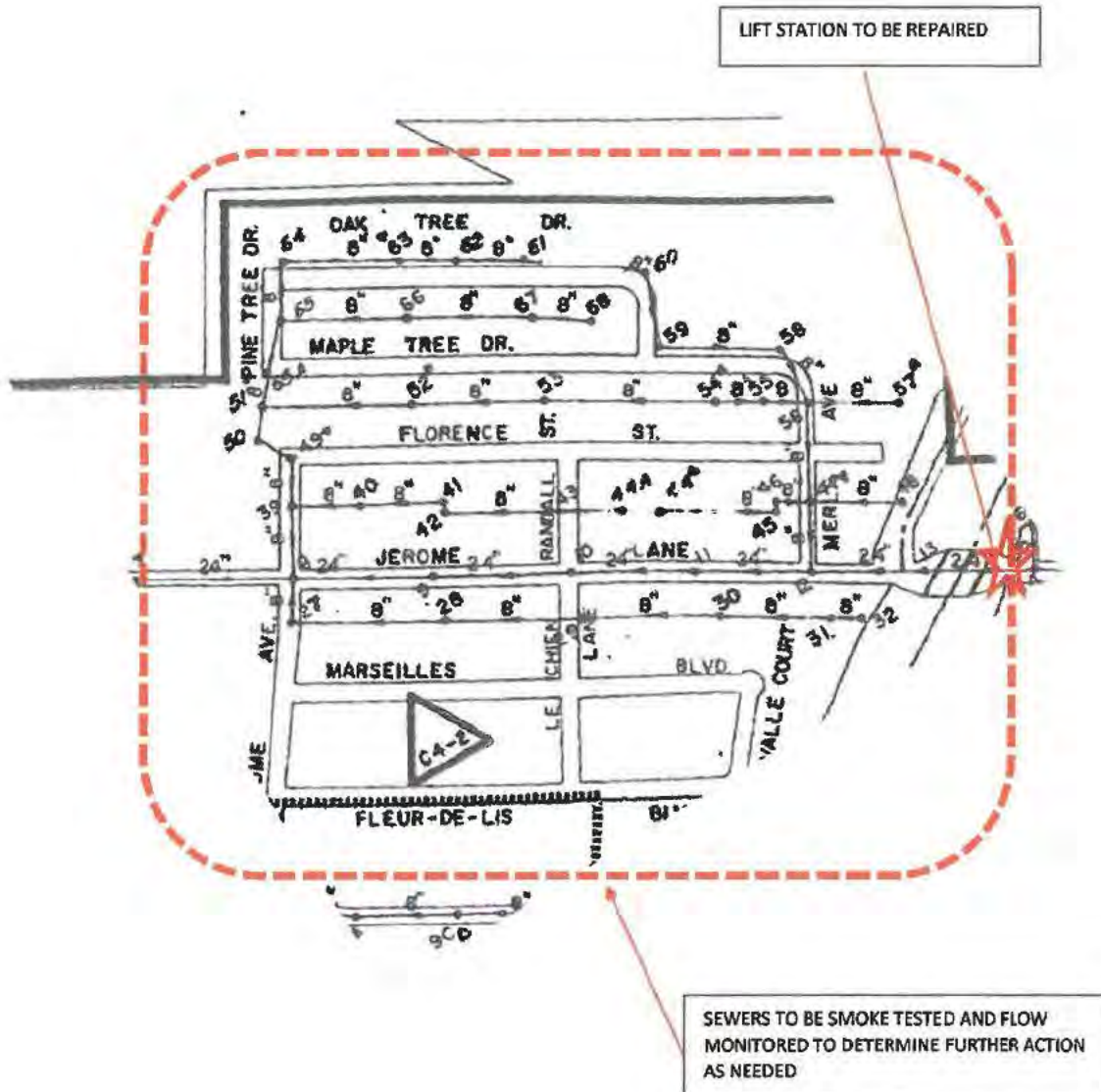
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Jerome & Mousette (Sta. 5A)	LS	1	\$ 50,000.00	\$ 50,000.00
Sewer Line Repair				
none	LS			
Cleaning & CCTV	LF	27000	\$ 10.00	\$ 270,000.00
Inspection (costs included above)				
Manholes	EA	76		
Sewer Reaches	LF	27000		
Smoke Testing	LF	27000	\$ 1.50	\$ 40,500.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Marseilles & Fleur de Lis Area Sewer Map – Priority Area 15



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

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ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 15

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
Pump Station Repair/Replacement																					
Jerome & Mousette (Sta. 5)	12/31/2026																				
Sewer Line Repair																					
none																					
Cleaning & CCTV																					
overall	6/1/2029																				see notes
Visual Inspection																					
Manholes - 84 Total	6/1/2029																				see notes
Sewer Reaches - 25000 LF Total - (inspected during CCTV work)	6/1/2029																				see notes
Smoke Testing																					
overall	6/1/2029																				see notes
Flow Monitoring																					
Jerome & Mousette (Sta. 5)	continuing																				

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 12-14-15 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 15

OPINION OF PROBABLE COSTS

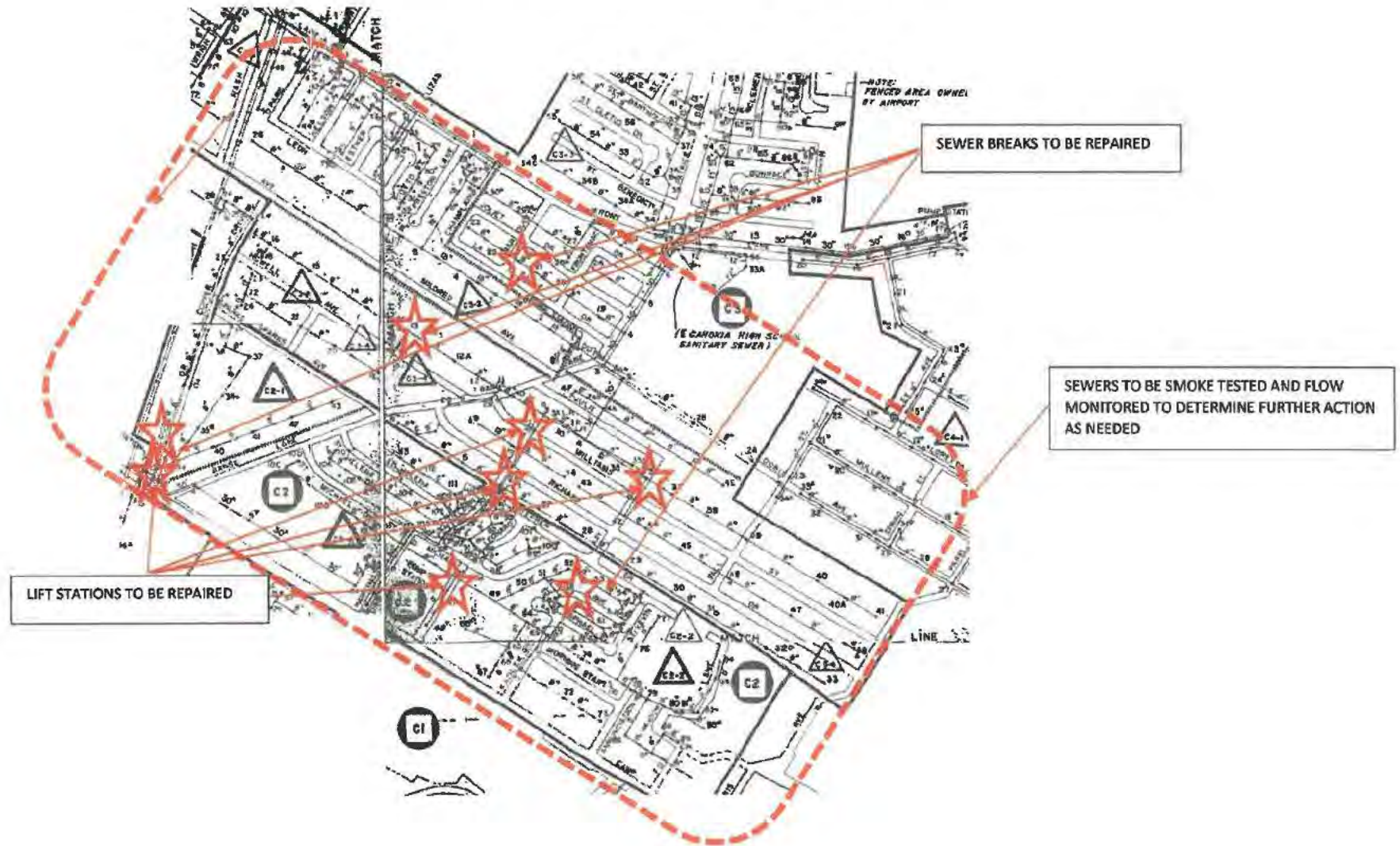
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Jerome & Mousette (Sta. 5)	LS	1	\$ 40,000.00	\$ 40,000.00
Sewer Line Repair				
none	LS			
Cleaning & CCTV	LF	24000	\$ 10.00	\$ 240,000.00
Inspection (costs included above)				
Manholes	EA	84		
Sewer Reaches	LF	25000		
Smoke Testing	LF	25000	\$ 1.50	\$ 37,500.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed.
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Range Lane Area Sewer Map – Priority Area 16



CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

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ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 16

SCHEDULE OF ACTIVITIES			2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Activity	End Date		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC												
Pump Station Repair/Replacement																										
Cooper Drive	12/31/2025																									
Ellen & Richard	12/31/2025																									
■ Hutchings	12/31/2025																									
Ellen & Williams	12/31/2025																									
Williams & Kay St.	12/31/2025																									
Sewer Line Repair																										
■ St. Zita Ln	10/1/2024																									
Cooper Drive	10/1/2024																									
■ Mildred Ave.	10/1/2024																									
LaSalle St.	10/1/2024																									
Cleaning & CCTV																										
overall	12/31/2035	approx 25% of total to be completed in each year																								
Visual Inspection																										
Manholes - 293 Total	12/31/2035	approx 25% of total to be completed in each year																								
Sewer Reaches - 87000 LF Total - (inspected during CCTV work)	12/31/2035	approx 25% of total to be completed in each year																								
Smoke Testing																										
overall	12/31/2035	approx 25% of total to be completed in each year																								
Flow Monitoring																										
Cooper Drive	continuing																									
Ellen & Richard	continuing																									
■ Hutchings	continuing																									
Ellen & Williams	continuing																									
Williams & Kay St.	continuing																									

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 25% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
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DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 16

OPINION OF PROBABLE COSTS

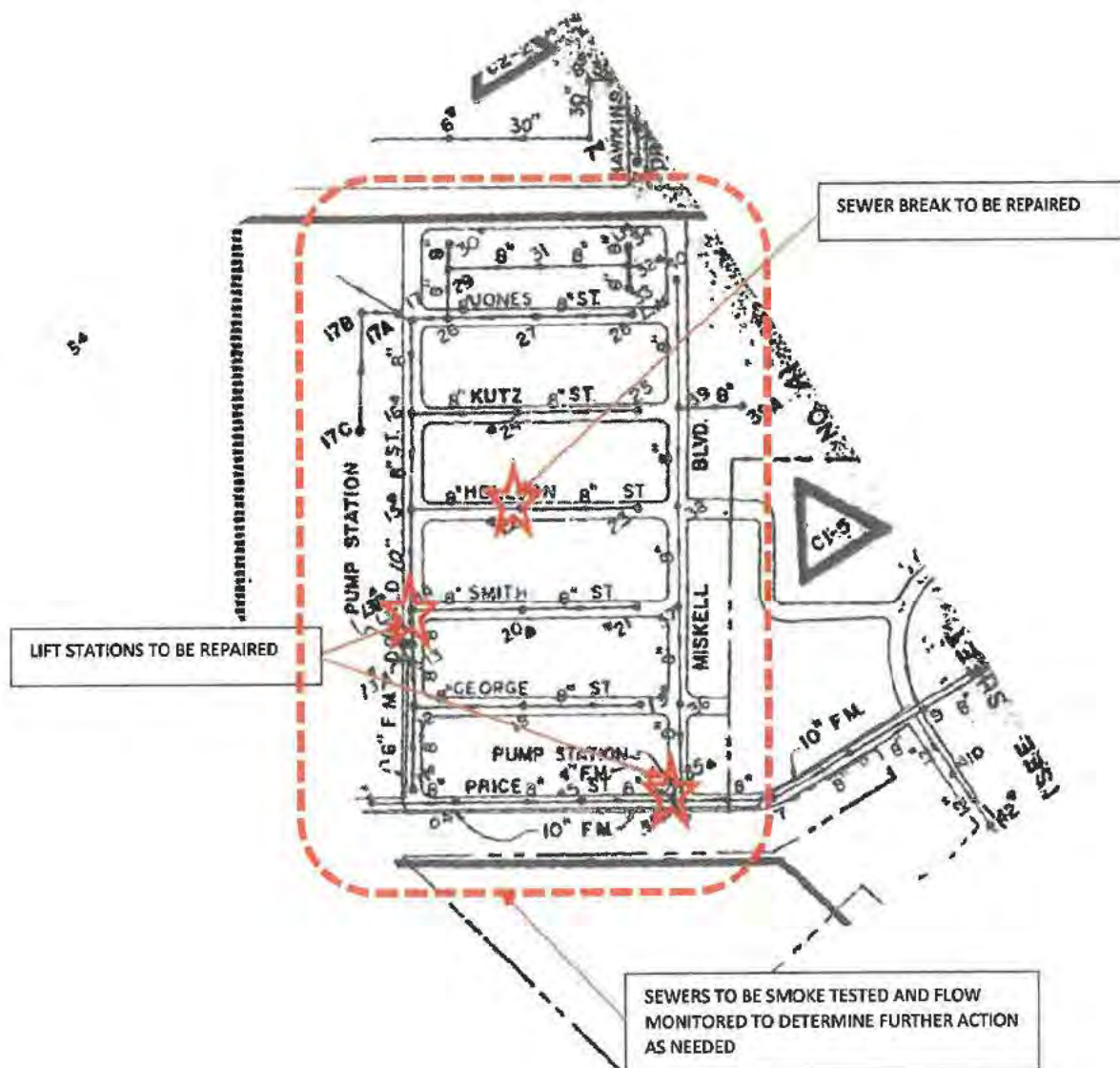
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Cooper Drive	LS	1	\$ 130,000.00	\$ 130,000.00
Ellen & Richard	LS	1	\$ 130,000.00	\$ 130,000.00
██████ Hutchings	LS	1	\$ 130,000.00	\$ 130,000.00
Ellen & Williams	LS	1	\$ 130,000.00	\$ 130,000.00
Williams & Kay St.	LS	1	\$ 50,000.00	\$ 50,000.00
Sewer Line Repair				
██████ St. Zita Ln	LS	1	\$ 90,000.00	\$ 90,000.00
Cooper Drive	LS	1	\$ 90,000.00	\$ 90,000.00
██████ Mildred Ave.	LS	1	\$ 180,000.00	\$ 180,000.00
██████ LaSalle St.	LS	1	\$ 130,000.00	\$ 130,000.00
Cleaning & CCTV	LF	87000	\$ 10.00	\$ 870,000.00
Inspection (costs included above)				
Manholes	EA	293		
Sewer Reaches	LF	87000		
Smoke Testing	LF	87000	\$ 1.50	\$ 130,500.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Donald St. Area Sewer Map – Priority Area 17



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 17

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC													
Pump Station Repair/Replacement																										
	Donald St	12/31/2025																								
	Miskell Blvd	12/31/2025																								
Sewer Line Repair																										
	██████ Halloran St.	10/1/2024																								
Cleaning & CCTV																										
	overall	12/1/2035	approx 33% of total to be completed in each year																			see notes				
Visual Inspection																										
	Manholes - 82 Total	12/1/2035	approx 33% of total to be completed in each year																			see notes				
	Sewer Reaches - 28000 LF Total - (inspected during CCTV work)	12/1/2035	approx 33% of total to be completed in each year																			see notes				
Smoke Testing																										
	overall	12/1/2035	approx 33% of total to be completed in each year																			see notes				
Flow Monitoring																										
	Donald St	continuing																								
	Miskell Blvd	continuing																								

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 17-18-19 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL SANITARY SEWER SYSTEM WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 17

OPINION OF PROBABLE COSTS

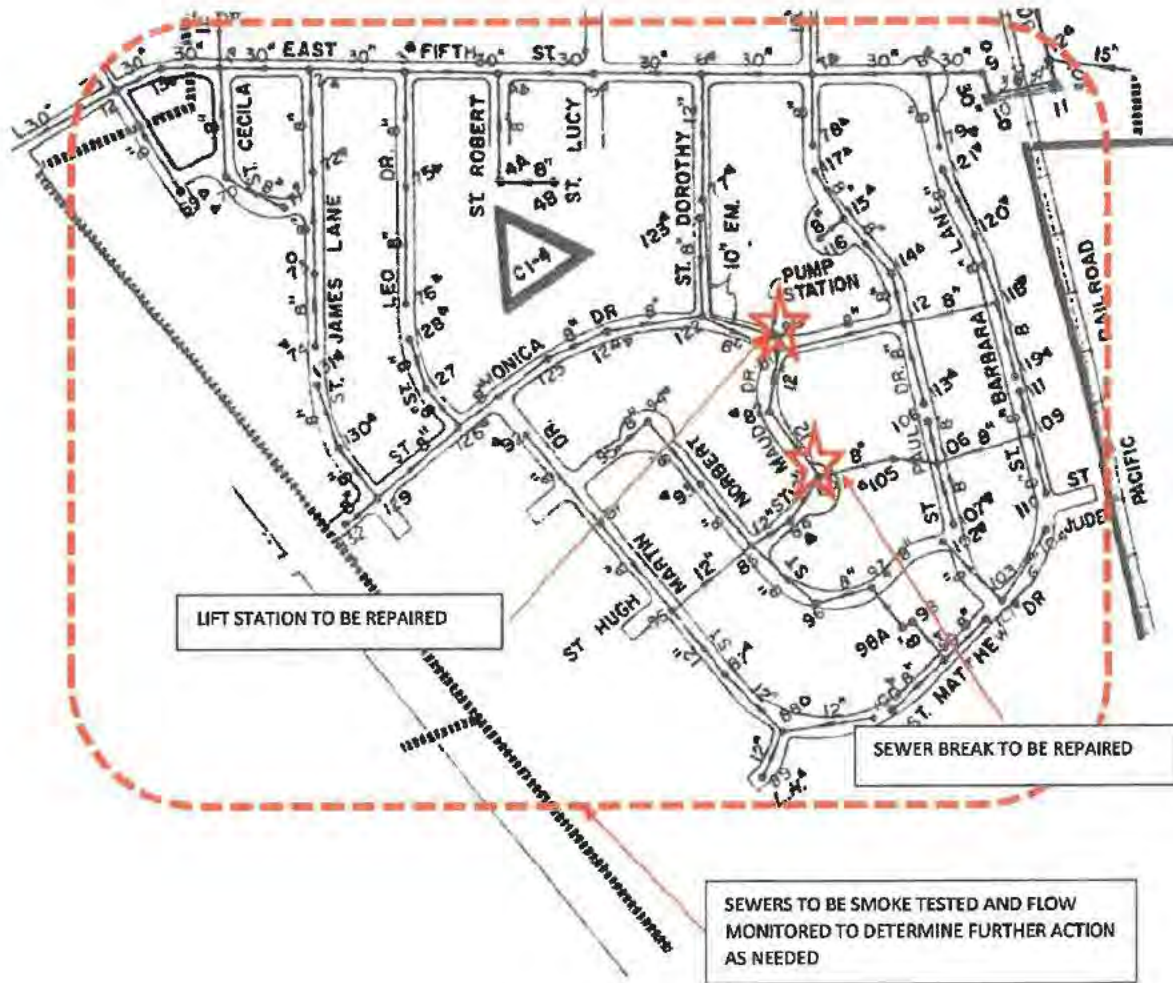
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
Donald St		1	\$ 120,000.00	\$ 120,000.00
Miskell Blvd		1	\$ 70,000.00	\$ 70,000.00
Sewer Line Repair				
██████ Halloran Dr.	LS	1	\$ 90,000.00	\$ 90,000.00
Cleaning & CCTV	LF	28000	\$ 10.00	\$ 280,000.00
Inspection (costs included above)				
Manholes	EA	82		
Sewer Reaches	LF	28000		
Smoke Testing	LF	28000	\$ 1.50	\$ 42,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

St. Monica Area Sewer Map – Priority Area 18



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021.

INVESTIGATION OF CONDITIONS - AREA 18

SCHEDULE OF ACTIVITIES			2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Activity	End Date		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC												
Pump Station Repair/Replacement																										
St. Monica	7/1/2026																									
Sewer Line Repair																										
St. Maud	8/10/2025																									
Cleaning & CCTV																										
overall	12/1/2035	approx 33% of total to be completed in each year																				see notes				
Visual Inspection																										
Manholes - 75 Total	12/1/2035	approx 33% of total to be completed in each year																				see notes				
Sewer Reaches - 26000 LF Total - (inspected during CCTV work)	12/1/2035	approx 33% of total to be completed in each year																				see notes				
Smoke Testing																										
overall	12/1/2035	approx 33% of total to be completed in each year																				see notes				
Flow Monitoring																										
St. Monica	continuing																									

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 17-18-19 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

CITY OF CAHOKIA HEIGHTS, IL

SANITARY SEWER SYSTEM

WET-WEATHER SSO INVESTIGATION PLAN

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

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DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 18

OPINION OF PROBABLE COSTS

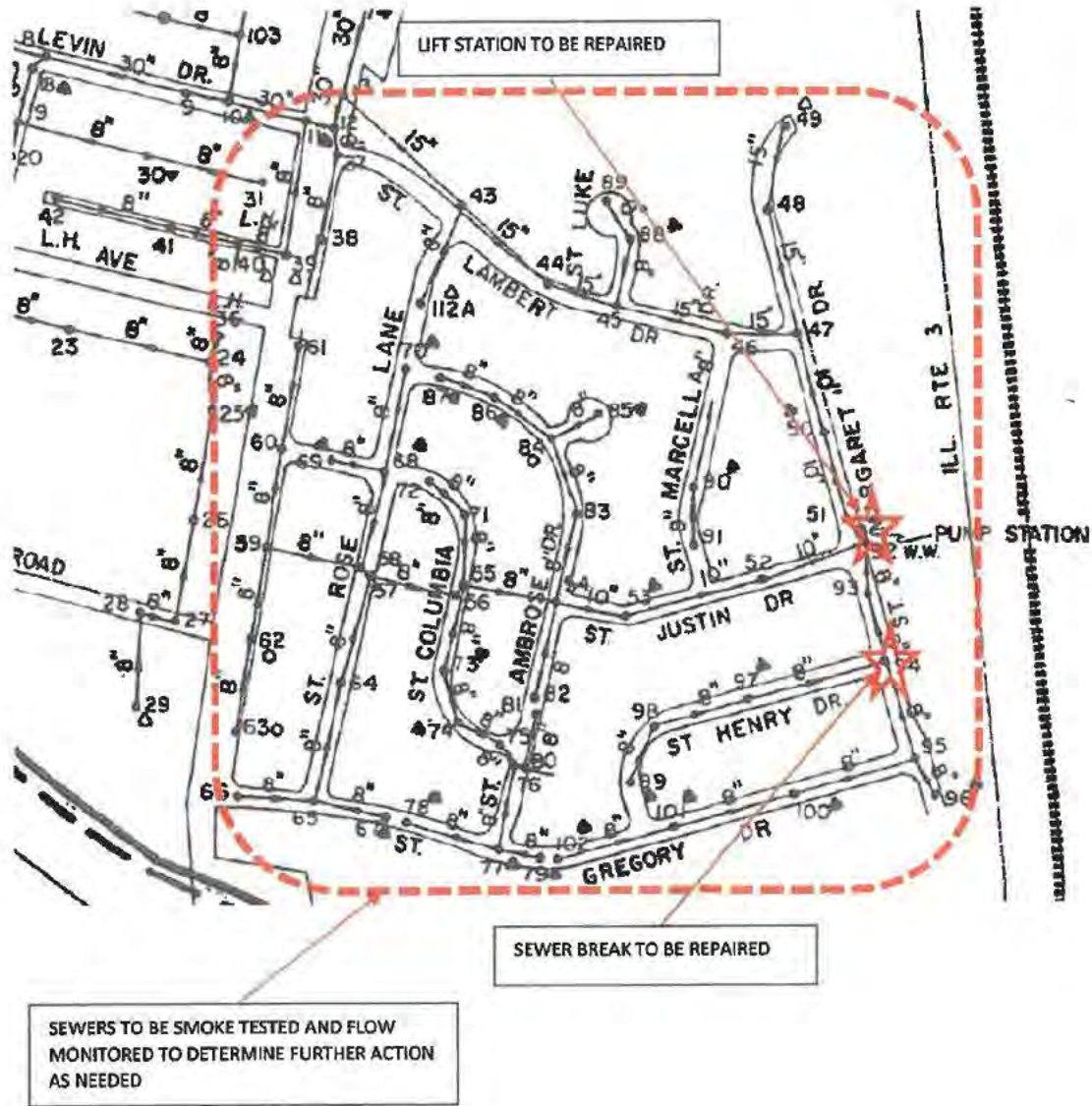
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Lift Station Repair/Replacements				
St. Monica		1	\$ 200,000.00	\$ 200,000.00
Sewer Line Repair				
St. Maud	LS	1	\$ 90,000.00	\$ 90,000.00
Cleaning & CCTV	LF	26000	\$ 10.00	\$ 260,000.00
Inspection (costs included above)				
Manholes	EA	75		
Sewer Reaches	LF	26000		
Smoke Testing	LF	26000	\$ 1.50	\$ 39,000.00
Flow Monitoring	EA	TBD	\$ 1,000.00	

Notes:

1. Lift Station work yet to be designed
2. Manholes and sewer reaches will be inspected as part of cleaning and CCTV work
3. Cleaning, CCTV, Smoke Testing, and Flow Monitoring to be done with City forces
4. Flow monitoring to be included in new lift stations. Other spot monitoring by manhole-top mounted sonic device

[illegible]

Water St. East Area Sewer Map – Priority Area 19



**CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
WET-WEATHER SSO INVESTIGATION PLAN**

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

INVESTIGATION OF CONDITIONS - AREA 19

SCHEDULE OF ACTIVITIES		2023												2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Activity	End Date	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC												
Pump Station Repair/Replacement																									
St. Margaret	7/1/2026																								
Sewer Line Repair																									
Cleaning & CCTV																									
overall	12/1/2035	approx 33% of total to be completed in each year																							
Visual Inspection																									
Manholes - 67 Total	12/1/2035	approx 33% of total to be completed in each year																							
Sewer Reaches - 17000 LF Total - (inspected during CCTV work)	12/1/2035	approx 33% of total to be completed in each year																							
Smoke Testing																									
overall	12/1/2035	approx 33% of total to be completed in each year																							
Flow Monitoring																									
St. Margaret	continuing																								

1. Cleaning, CCTV, visual inspection, and smoke testing of this area will depend on completion of similar work in other areas, according to available resources. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

2. Areas 17-18-19 will be combined during investigation work, due to proximity and size. Cleaning, CCTV, visual inspection, and smoke testing of this area will require up to 3 years for completion, due to the large area and large number of reaches and manholes, with approximately 33% of the total amount of work completed each year. See Schedule and Sequencing Description at the beginning of this Appendix F for more information.

Appendix G

Sewer Repair and Rehab Locations Map

