

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 I

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

April 18, 2023

Mayor Curtis McCall
City of Cahokia Heights
103 Main Street
Cahokia Heights, Illinois 62206

RE: Grant Agreement 21WWCTORR01 - Operation and Maintenance Plan Receives Illinois EPA Approval

Dear Mayor McCall:

The Illinois Environmental Protection Agency has approved the City of Cahokia Heights Sanitary Sewer System Operation and Maintenance Program document, as resubmitted on April 17, 2023. This approved document meets the Operation and Maintenance Plan (O&M Plan) requirements outlined in the Grant Agreement.

The document will be posted on Illinois EPA's webpage. In addition, the Grant Agreement requires that the City ensure the long-term viability (no less than 50 years) of all construction activities implemented pursuant to the Grant Agreement. Accordingly, the O&M Plan will be incorporated by reference as a condition of the City's Wastewater Collection System State Operating Permit (Permit) once that Permit is issued.

Like the Strategies previously developed under the Grant Agreement, the City may modify or update the O&M Plan with Illinois EPA's review and approval. Please contact me if the City determines that an update is necessary.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Christine Davis".

Christine Davis
Manager, Watershed Management Section

CC (email):

James Nold – Hurst-Rosche, Inc.
Mat Missey; Thompson Civil, LLC

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
2009 Mall Street Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000
595 S. State Street, Elgin, IL 60123 (847) 608-3131

2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

CITY OF CAHOKIA HEIGHTS

SANITARY SEWER SYSTEM

OPERATION AND MAINTENANCE PROGRAM

INTRODUCTION

This document summarizes the operation and maintenance programs maintained by the City of Cahokia Heights to ensure performance and reliability of the wastewater collection system. This includes a system description, financial information, a breakdown of the responsibility and authority, normal system operation, routine preventative maintenance criteria, current staffing organization and needs, equipment, new construction, records, safety and emergency response procedures.

SYSTEM DESCRIPTION

The City of Cahokia Heights sanitary sewer system services approximately 15 square miles of land within the City limits, serving a population of approximately 22,000 residents according to the 2020 census. The City of Cahokia Heights sanitary sewer system is separate from the City's storm water system (there are no combined sewers in the City of Cahokia Heights).

Other significant statistics of the City of Cahokia Heights sanitary sewer system include:

1. An average annual precipitation of 42 inches
2. More than 90 miles of gravity sewers ranging in size from 8 inches to 30 inches in diameter
3. More than 4 miles of force mains
4. More than 2,000 manholes
5. Sixty-nine (69) pump stations

A copy of the Wastewater Collection System Maps for the City of Cahokia Heights and adjoining communities are included in **Appendix A**. Areas within the City of Cahokia Heights Sewer District are those identified as Sewer Districts C1 through C8, as well as parts of Districts E6 and E7, lying outside and adjacent to the City of East St. Louis corporate limits. A small portion of this system in the extreme northern part of the City (formerly known as Centreville or Centreville Township) is tributary to the collection system owned and operated by the City of East St. Louis. The long-term plan is to install interceptor sewers in this area to redirect flows southward into the Cahokia Heights sewer system. The rest of the City sewer system flows south to a large pump station at the south end of Cahokia Heights. Both of these systems, (Cahokia Heights and East St. Louis) pump their total flow to the American Bottoms Regional Wastewater Treatment Plant (ABRWWT) in Sauget, IL.

The system varies in age of original construction as the areas of the city were developed. See below:

Sewer District	Age in Years
C1	75
C2	55
C3	50
C4	60
C4-2	35
C5	55
C6	55
C7	60
C8	70
E6	65
E7	75
Old Centreville/Alorton	35
Centreville Phase 3	20
Racehorse Business Park	15

For further clarification, the Centreville/Alorton sewer area consists of sewers constructed in the area between Bond Avenue and Lake Drive (mainly the Golden Gardens area), the Racehorse Business Park is a commercial/industrial development located along the north side of IL Rt. 15 between I-255 and IL Rt. 157, and Phase 3 Centreville is a small area of homes added to Centreville/Centreville Township in the vicinity of Church Road between IL Rt. 157 and Mousette Lane. All three of these areas were constructed after the SSES sewer plans were compiled in the 1980's by Hurst-Rosche, and plans for some these sewers are a mixture of as-builts, design plans, and other information that will be incorporated into the plan database, along with any new construction, either as part of repairs to the existing system, or new areas of development. These updates will occur by the City working with Hurst-Rosche to incorporate existing areas, new plans and as-builts as they are completed.

Information regarding the 69 pump stations within the City of Cahokia Heights, including pump station name, location, number of pumps, pump manufacturer, and horsepower, are included in **Appendix B**.

All sewers and pump stations are operated and maintained by the City of Cahokia Heights. There are no third party operators. Maintenance is sometimes contracted out for specialties, such as repair of pumps or electrical/control systems. Major repairs and construction are designed by Hurst-Rosche, and contracted out to the low responsive bidder.

The Water & Sewer Department is governed by the Mayor and a seven member City Council. The Director of Water & Sewer oversees the daily operations of the Department. The Director is Dennis Traiteur, who serves as the main contact for O&M issues with the system. He can be contacted at:

dtraiteur@cahokiaillinois.org

1-(618) 305-6601

The Department's Operations Facility is located at 2525 Mousette Lane, Cahokia Heights, IL.

FINANCIAL INFORMATION

The City of Cahokia Heights's sanitary sewer system is funded by a utility fee. The utility fee provides a dedicated source of funds for the operation, maintenance, rehabilitation, and improvement of the City's sanitary sewer system.

Because the sanitary sewer utility fee is a user fee and not a tax, all properties regardless of ownership are required to pay for the services provided by the City's sanitary sewer system. This includes non-profit entities such as churches, schools and institutions, as well as properties owned by the City of Cahokia Heights, the State of Illinois, and the federal government.

In 2021 the City approved a new Water and Sewer Ordinance No. 21-1404, which amended and adopted previous ordinances establishing rates and other conditions for sewer users. Under the utility structure, all residential dwelling units and churches are charged a flat rate sewer utility fee, and all commercial and industrial customers are charged a graduated sewer utility fee based on their amount of water usage. The sanitary sewer utility charges are calculated to recover the full cost of operating, maintaining, rehabilitating, and improving the sanitary sewer collection system.

A copy of the new Ordinance 21-1404 is included in **Appendix C**, along with the 5-year budget for the Department, which, as of March 2023, reflects 6,251 customers billed, with a total of user fees billed of \$295,073 per month.

In addition to the sanitary sewer system funding provided through utility fees, the City of Cahokia Heights also receives funding for sanitary sewer system operations, maintenance, rehabilitation, and improvement expenses from the following sources:

- TIF funding
- Grants

The City employs a full time Grants Coordinator to help secure grant funding, supported by Hurst-Rosche and staff. Currently, the City has been awarded a \$9.98 million dollar grant from the Illinois EPA Bureau of Water (IEPA BOW) for repairs to the city sewer system. Those monies are intended to be spent on community outreach, engineering, construction, and needed operations equipment for the Department, with the condition that all dollars are scheduled to be spent over the next three years, 2023-2025.

Additional sanitary sewer system funding is also anticipated from the following sources:

Amount	Source	Specific	Purpose
<u>COMMITTED</u>			
\$ 3,500,000.00	Army Corps of Engineers	Water Resource Dev. Act - sec 219	CIPP SlipLining of Sanitary Sewer (+\$1.2MM local share)
\$ 8,500,000.00	State of Illinois	HB 900 (Approp) - Sec 210	Sewer System Improvements
\$ 300,000.00	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
\$ 200,000.00	State of Illinois	HB 900 (Approp)	Cost Associated with Infrastructure Improvements
\$ 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	Commonfields of Cahokia capital improvements
\$ 260,000.00	HUD via St. Clair County	IGD-CDBG	Sewer Repairs
\$ 2,000,000.00	Duckworth FY23 Earmark		East Interceptor System
\$ 16,310,000.00	SUBTOTAL		
<u>REQUESTED</u>			
\$ 2,300,000.00	Army Corps of Engineers	Durbin FY24 Earmark	Trunkline CIPP (upper reaches, 10"-18"dia.)
\$ 6,600,000.00	Army Corps of Engineers	Durbin FY24 Earmark	West Interceptor System
\$ 1,100,000.00	Army Corps of Engineers	Durbin FY24 Earmark	Pump Station Telemetry and Flow Monitoring
\$ 3,161,670.00	Duckworth FY24 Earmark		East Interceptor System

Current capital improvement estimates and projections place the funding need at between \$30 and \$40 million dollars to bring the system back to an up-to-date, operable, compliant condition, depending on the cost of construction, materials, and supplies over the next 3-5 years.

STAFFING AND TRAINING

The Mayor and City Council set or approve the general policies for the operation of the Water and Sewer Department. As of March, 2023, the Department is staffed by a total of 28 full-time employees organized by specific duties, including three operators (one EPA certified and two pending testing), 15 laborers, 2 field directors, a maintenance supervisor, a Department director, an assistant director, a billing director, and four full time billing clerks. All operations staff assigned to the operation and maintenance of the sanitary sewer system are supervised by the licensed and certified Department director. See **Appendix D** for an organizational chart.

The following positions are assigned to the sewer portion of the Water and Sewer Department:

Field Staff:

1 – Field Supervisor

1 – Lead Man

6 – Laborers

Administrative Staff:

1 – Director of Operations & Maintenance

1 – Assistant Director of Operations & Maintenance

5 – Clerical Employee's

The Department staff is also supported by a part-time electrician from the City's Electrical Department, as well as additional manpower from Street and Parks Department employees as needed.

Engineering staff from the City's engineering consultant, Hurst-Rosche Engineers, Inc., East St. Louis, Illinois provides engineering support for the operation, maintenance, rehabilitation, replacement, and improvement of the sanitary sewer system.

The Water and Sewer Department's Administrative Staff also provides support by answering, documenting, and forwarding any phoned in complaints regarding the sanitary sewer system to the appropriate operations staff.

There are currently no Illinois State certification requirements for wastewater collection system operators. Collection crew employees are expected to have a mechanical aptitude, with experience with pipelines and pumps and their controls preferred. The City does encourage participation in a voluntary program of collection system certification. The Department currently has 4 employees that are seeking class 4 certification as a Collection System Maintenance Operator. In addition, all personnel performing wastewater system related duties receive training in the following areas:

- Confined space
- Trenching and shoring
- Traffic flagging
- First Aid/CPR/blood borne pathogens
- Electrical safety training

In addition to the above items, all of the sewer collection system field employees will receive training regarding this O&M Manual and its aspects at least annually.

The training will cover the following subjects, in addition to a review of the O&M plan:

- Impacts associated with illegal discharges of sewage, and SSO's
- Proper storage of materials
- Proper disposal and management of wastes
- Proper management and use of equipment
- Proper maintenance of indoor and outdoor working areas including parking lot surfaces
- Sewer lateral connection maintenance, replacement and repair
- Sewer gravity main maintenance, inspections and repair
- Wet well maintenance and repair
- Lift station maintenance and repair
- Gravity manhole inspection and repair
- Plan review and project punch list preparation

Training of the Water and Sewer Department staff is an ongoing process. The Water & Sewer Department Management will dictate, based on industry standards and regulatory requirements, the specific training menu that all employees will receive, and incorporate the details of all training in a training manual and a log of trained staff as a stand-alone document. An example of a training log sheet is included in **Appendix H**.

Safe work practices are reviewed at the start of each O&M task, taking into consideration the risks associated with each activity, and preventative measures to mitigate those risks.

Water and Sewer Department staff also receive awareness training on responding to emergency situations, including notifications to the Illinois Emergency Management Agency, the St. Clair County Health Department, and the local drinking water authorities (the Columbia Water Department, , Illinois American Water Company, and/or the City of Cahokia Heights Water Department) as appropriate.

Should any workplace accidents occur, they will be investigated by the Mayor's office. Any findings resulting from accident investigations will be incorporated into the employee training program.

OPERATION AND MAINTENANCE FACILITIES AND EQUIPMENT

Adequate maintenance of the sanitary sewer system relies on the availability of equipment and parts. Maintenance facilities are locations where equipment, materials and personnel are dispatched and where operations records are kept. Industry guidance recognizes that properly planned and supported equipment facilities are essential to collection system operations.

Equipment

The City has the following equipment assigned to the operation and maintenance of the sanitary sewer system:

- Two Combination Jet-Vactor Trucks
- Three Back Hoes
- One Dump Truck
- Six Pick-Up Trucks with Tools
- One Boom Truck
- Three Trash Pumps

In addition, as part of the IEPA BOW grant, the City will purchase one more backhoe with a breaker attachment, two more trash pumps, and a CCTV rig.

Facilities

The City self-performs its own maintenance of and coordination for replacement of the City's sanitary sewer system maintenance equipment.

The operations and maintenance of the system, including storage of equipment when not in use, is located at the Water and Sewer Department facility, at 2525 Mousette Lane, Cahokia Hts., IL. The following specific functions are performed for the City's sanitary sewer system maintenance vehicles and equipment, per the Maintenance Program detailed and included in **Appendix E:**

- Perform preventive maintenance and repairs at proper intervals
- Evaluate, rehabilitate and modify equipment to include minor accident damage
- Oversee outside fueling services
- Administer a repair record system
- Evaluate equipment replacement and administer the bidding process for purchasing new equipment
- Train City personnel on the proper operation of new equipment

Note that equipment is typically depreciated over 7-10 years, but the actual useful life of a particular piece of equipment depends on the type, hours of use, and maintenance. The Department supervisor and maintenance mechanic will confer and advise the Department Director of the status and need of equipment inventory on an annual basis. The original documents and records for maintenance are stored on the Department computer. Master copies are kept in the vault located at 2525 Mousette Lane, Cahokia Heights, IL. Each Field Director is supplied with a copy.

ROUTINE AND PREVENTATIVE MAINTENANCE

The role of maintenance is to preserve the value of the physical infrastructure and ensure that the District can continue to provide a safe and reliable wastewater collection system. The most cost-effective method for maintaining a wastewater collection system is to provide a planned preventative maintenance (PM) program. Through a planned PM program, the optimum level of maintenance activities can be provided for the least total maintenance cost.

The Department's PM program involves defining the tasks to be performed, scheduling the frequency of each task, and providing necessary staff to perform the task.

More information regarding maintenance, including facilities, equipment, and vehicles, is provided in **Appendix E**.

SYSTEM STANDARD OPERATING PROCEDURES (SOPs)

INSPECTIONS OF SYSTEM COMPONENTS

Inspection reports and maintenance logs are kept on file in the vault at 2525 Mousette Lane, Cahokia Heights, IL. Sewer system inspections, including detailed manhole and pump station inspections, inspections for infiltration and inflow sources, and cleaning of the City's sewer system, are performed on an as needed basis, and as detailed below. Manhole Inspection and Pump Station Checklist sheets are completed for each inspection and copies are retained in the City of Cahokia Heights Water and Sewer Department. Staff responsible for inspections complete the inspection report, and include any recommended or needed repairs via work orders. These work orders are reviewed weekly by supervisors, and prioritized for follow up actions. Samples of corrective actions tracking and daily work sheets are included in **Appendix H**.

The Department's pipe televising and manhole inspection efforts and associated sanitary sewer system repairs and rehabilitation activities are prioritized using the following criteria:

1. Threat to public safety (sinkholes in streets, etc.)
2. Threat to public health (loss of sewer service, basement back-ups, SSO's, etc.)
3. The severity of structural defects (manholes, etc.)

Lift Stations

The City visits and observes each lift station on a daily basis to check for obvious issues, such as SSO's, power failures, or other malfunctions. Lift stations are thoroughly inspected every other day. Lift stations are cleaned annually or as needed and their wet wells are vacuumed out as needed. See **Appendix B** for a list of the 69 total lift stations in the City sewer system, and a copy of the lift station inspection checklist. Daily job sheets and work sheets are maintained for all pump stations. The pump station pumps are serviced and calibrated on an annual basis through "draw-down" tests or equivalence to verify pumping capacities. A warning light is provided on each pump station control panel to indicate malfunctioning equipment and/or alarm conditions.

Portable electrical generators are available in the event power is disrupted at any of the City's pump stations, and temporary pumps and hoses are available to bypass a pump station if necessary.

Emergency operating procedures are available to staff for each pump station, and any pump station failures and/or overflows are responded to by Water and Sewer Department personnel. Off hour/emergency notifications are provided through the City after hours call center.

Force Mains

The City has a goal to exercise (open and close) all force main valves on an annual basis. The City's force mains are designed to achieve scouring velocities that self-clean under normal system operations and therefore require no active maintenance. Each of the 60 conventional lift stations in the system includes a force main associated with it to reach from the wet well or valve vault to the nearest gravity manhole. The 9 existing eductor-type stations, which use compressed air to force sewage up a discharge pipe to a gravity departure point, do not include force main piping. All of these old, outdated eductor type stations are projected to be replaced by new duplex submersible lift stations as part of the planned improvements to the system over the next 3 years.

Air and vacuum relief assemblies would typically be located at the high points in the force mains, however, since the City's topography is essentially flat, there are only two locations with air release valves on any of the system force mains. They are located in the Racehorse Business Park and at the Diversion Station on the main trunkline at Jerome Lane. A malfunction in these pump stations or the pump station not pumping to full capacity would prompt an inspection of the valve.

Manholes and Gravity Sewer Lines

The City's manholes are inspected and gravity lines jetted once every 3 years under normal maintenance. In some cases segments of pipe have been identified to receive more frequent inspection and jetting, based on things like sewer backup reports, SSO's, lines tributary to non-functioning lift stations awaiting repair and being bypassed, sewer breaks and bypasses of same, and regulatory mandates. For example, the City has entered into an agreement with the USEPA to implement a Wet Weather SSO Investigation Plan that targets activities like cleaning and CCTV of manholes and lines in 19 different areas of the system, based on past reported sewer backups or SSO's. These areas will receive priority in scheduling over other areas in the system.

Also, cleaning and CCTV work of lines and manholes adjacent to sewer breaks are routinely conducted by contractors as part of the repair work. Manhole inspection forms are included in **Appendix F**.

Inspection Schedule

Type	Frequency
Lift Stations	Daily observation, every other day full inspection
Force Mains	Annually and as needed
Manholes and Gravity Lines	Every three years and as needed
Bypass Operations	Daily

EMERGENCY RESPONSE

Wastewater utilities have the responsibility to provide collection of wastewater in a reliable manner at all times. Therefore, utilities must reduce or eliminate the effects of natural disasters, accidents, and intentional acts.

Though it is not possible to anticipate all potential disasters affecting the City's wastewater system, formulating procedures to manage and remedy several common emergencies is appropriate. The City has completed a Vulnerability Assessment and Emergency Response Plan (VA/ERP) in December 2021, and updates it as appropriate. A comprehensive update will be completed in 2027. A copy of the entire plan is kept on file at the Department, and is available for review. The portion of that plan dealing with SSO procedures is included herein as **Appendix G**.

The most common emergency affecting the sanitary sewer system is a power failure. Various types of weather can cause loss of power, such as wind, lightning, freezing rain, heavy rain fall and snowstorms. Power may also be lost through traffic accidents, as well as general power grid issues at the power utility. The City's lift stations do not have auxiliary power, although portable generators are available as needed. Should power be interrupted, the power utility, Ameren Illinois, will be contacted to determine the estimated length of the power outage. If an extended power outage is anticipated, such as more than a few hours, City's work crews report to check sites for problems and monitor levels. Should temporary power be required to maintain function of lift stations, maintenance crews with portable generators are dispatched to the affected location(s), and temporary power is hooked up to pumps and controls.

If service is interrupted for a long enough duration to cause line backups to residents, those affected are notified by the City staff via door-to-door or phone. If service interruption results in SSO's, reports are filed with the IEPA immediately.

SSO's are never a accepted practice or routine occurrence in the City's sewer system. Priorities are given to reducing, preventing and eliminating any SSO's from occurring, in the planning, operation, maintenance, funding, and construction of sewer system repairs and improvements. There have been SSO's in several locations in the City's system in the recent past. These are documented in the reports filed with the IEPA within 24 hours of the occurrence.

The main causes of past SSO's have been power failures at lift stations, mechanical failures of pumping systems and bypass lines (such as pipe and fitting separations), in-line sewer failures resulting in backups, inundation of the system by overland flooding from rainwater or infiltration of elevated groundwater, and blocked flows at the north end of the system by surcharged receiving lines in the City of East St. Louis' system.

All of these causes are planned to be addressed by the funding and repairs described and detailed in this document in the Financial Information section, and in the IEPA Wastewater Grant Construction Strategies information. In addition, **See Appendix G** for more information on procedures for SSO's.

SAFETY PROCEDURES

Work place hazards for this system are primarily limited to confined space entry, electrical equipment, health hazards associated with sewage, construction and excavation safety, and traffic hazards associated with doing work in the right of way. Staff is trained as to proper entry into confined spaces such as below grade equipment vaults and wet wells, as well as trenching safety. Staff uses Warning Lights of Southern Illinois for traffic control and signage, and to ensure job safety.

RECORDKEEPING

The Water and Sewer Department maintains the following databases to ensure the use of timely, relevant information. These include:

1. Wastewater collection system maps
2. Sewer system inspections
3. Manhole inspections
4. Pump station inspections
5. Manhole replacement information
6. Pump station repair information
7. Sewer replacement information
8. Sewer point repair information
9. Sewer televising data
10. Sewer lining information
11. Sanitary sewer overflow data
12. Sanitary sewer system complaint forms

These data are updated on an as-needed basis, such as after changes, additions, or repairs to system components. Updates are made via a combination of effort between City staff, contractors, and Hurst-Rosche.

The City maintains a record of all sanitary sewer system complaints received by the City and the results of their investigation/resolution. This information provides a useful tool in planning future sewer repairs and/or replacements.

CUSTOMER RESPONSE AND COMMUNITY OUTREACH

The Water and Sewer Department is staffed during the hours of 8:30 A.M. to 4:30 P.M. on Monday through Friday. Calls to the Water and Sewer Department after normal working hours are routed to the after hours call center. The call center then contacts the Water and Sewer Department to respond to any reported problems. To insure quick, reliable notification of a problem, mobile telephones are carried by the on-call staff.

The City maintains a log of public communications with respect to the wastewater system. Depending on the nature of the issue, a staff member may be contacted to confirm if a public health issue is apparent. If the issue does not require immediate attention, a work order will be completed and staff will respond as soon as feasible.

In general, if repair work is scheduled on a part of the system, residents in those areas are notified by door to door contact by City staff, or by phone. As part of agreements with state and federal authorities, the City is in the process of developing a community outreach program, including contacts, a web page, and public meetings to inform the residents of plans and progress of repairs, upgrades, or issues with the sewer system, and to give residents an opportunity to ask questions.

LIST OF APPENDICES

Appendix A – Plans of Sewer System

Appendix B – Pump Station List and Inspection Checklist

Appendix C – Sewer Ordinance and Budget

Appendix D – Organizational Chart

Appendix E – Maintenance Program Information

Appendix F – Manhole Inspection Forms

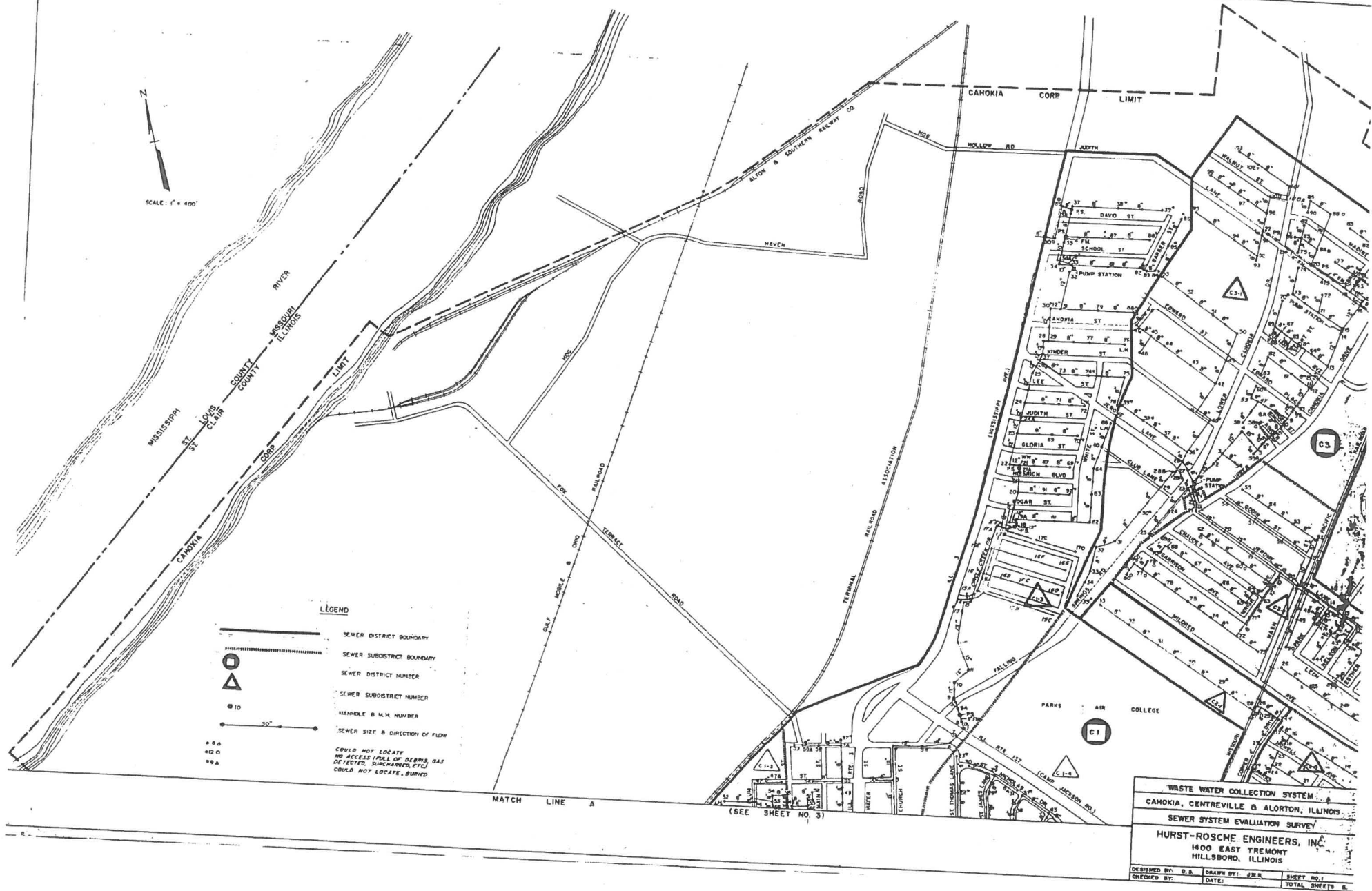
Appendix G – SSO Procedures

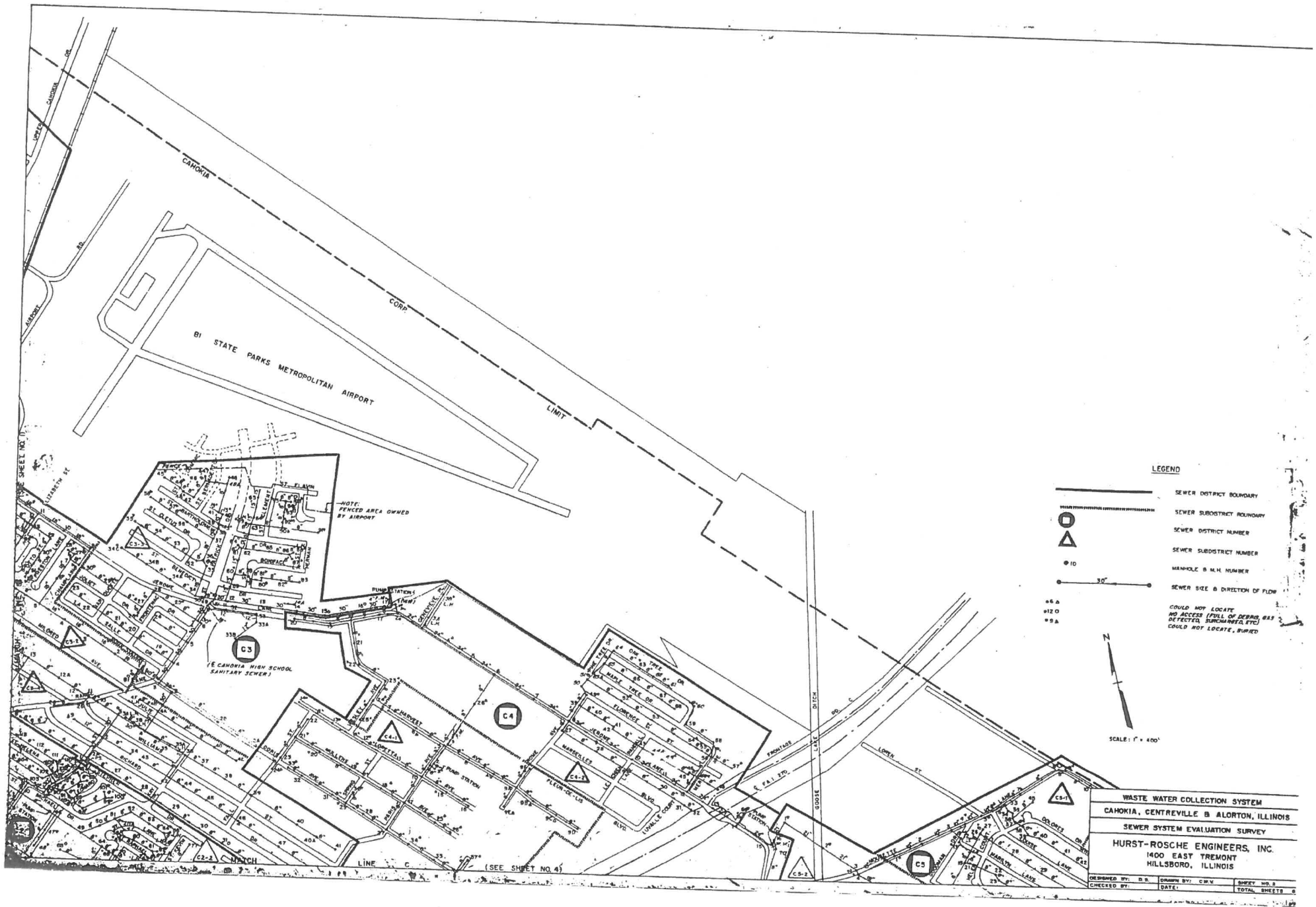
Appendix H – Checklists, Log Sheets, and Other Documentation Tools

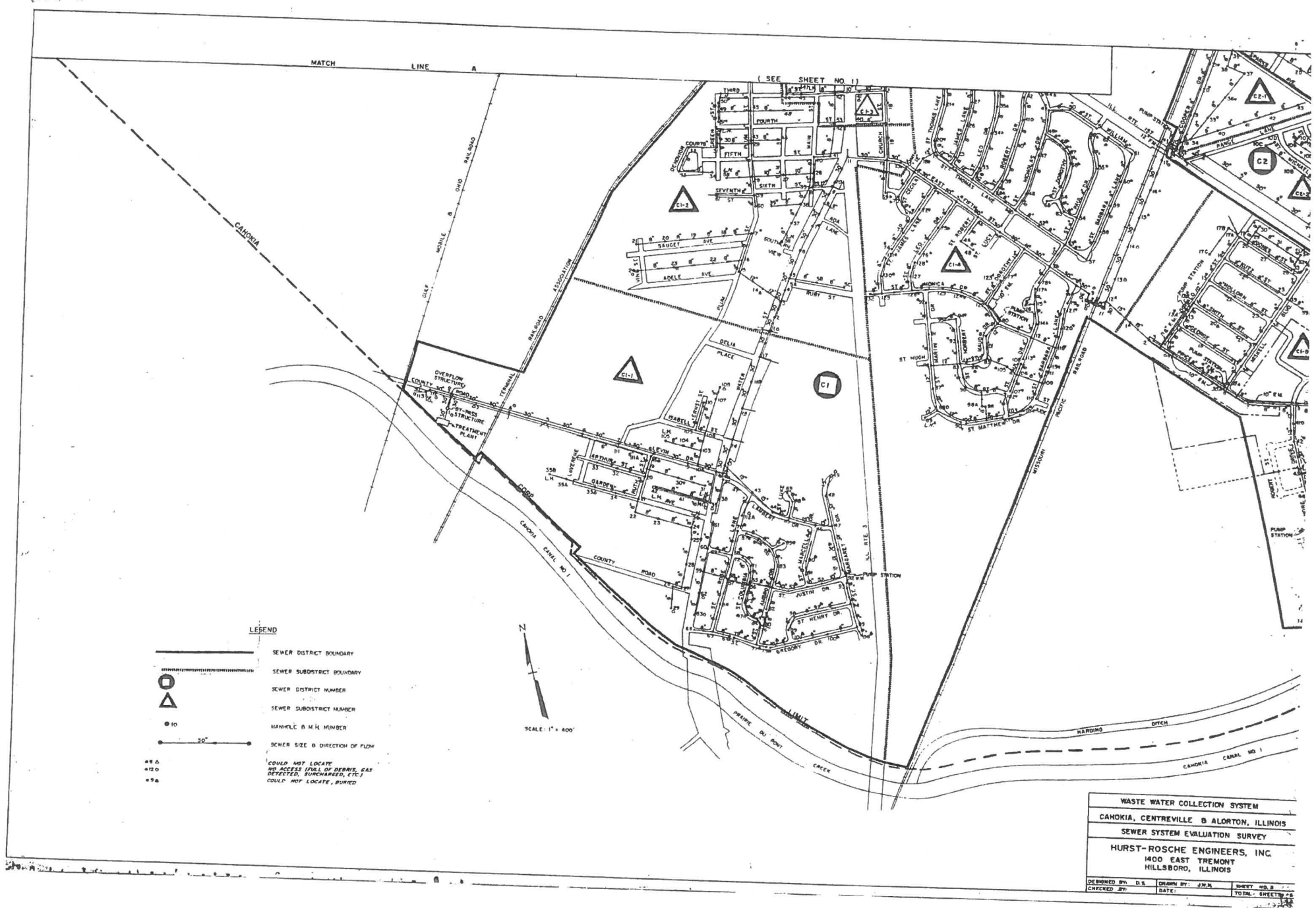
**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

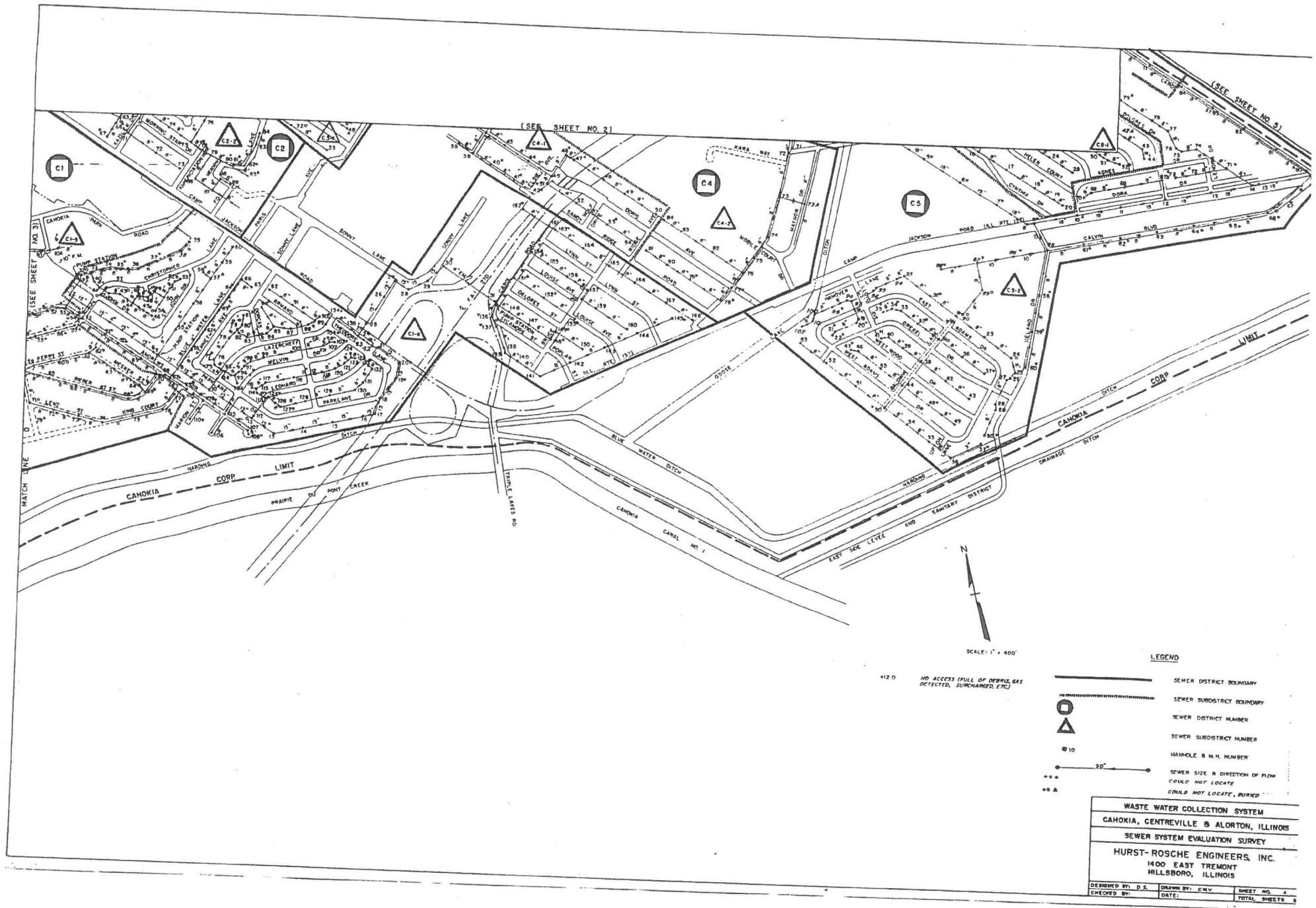
APPENDIX A

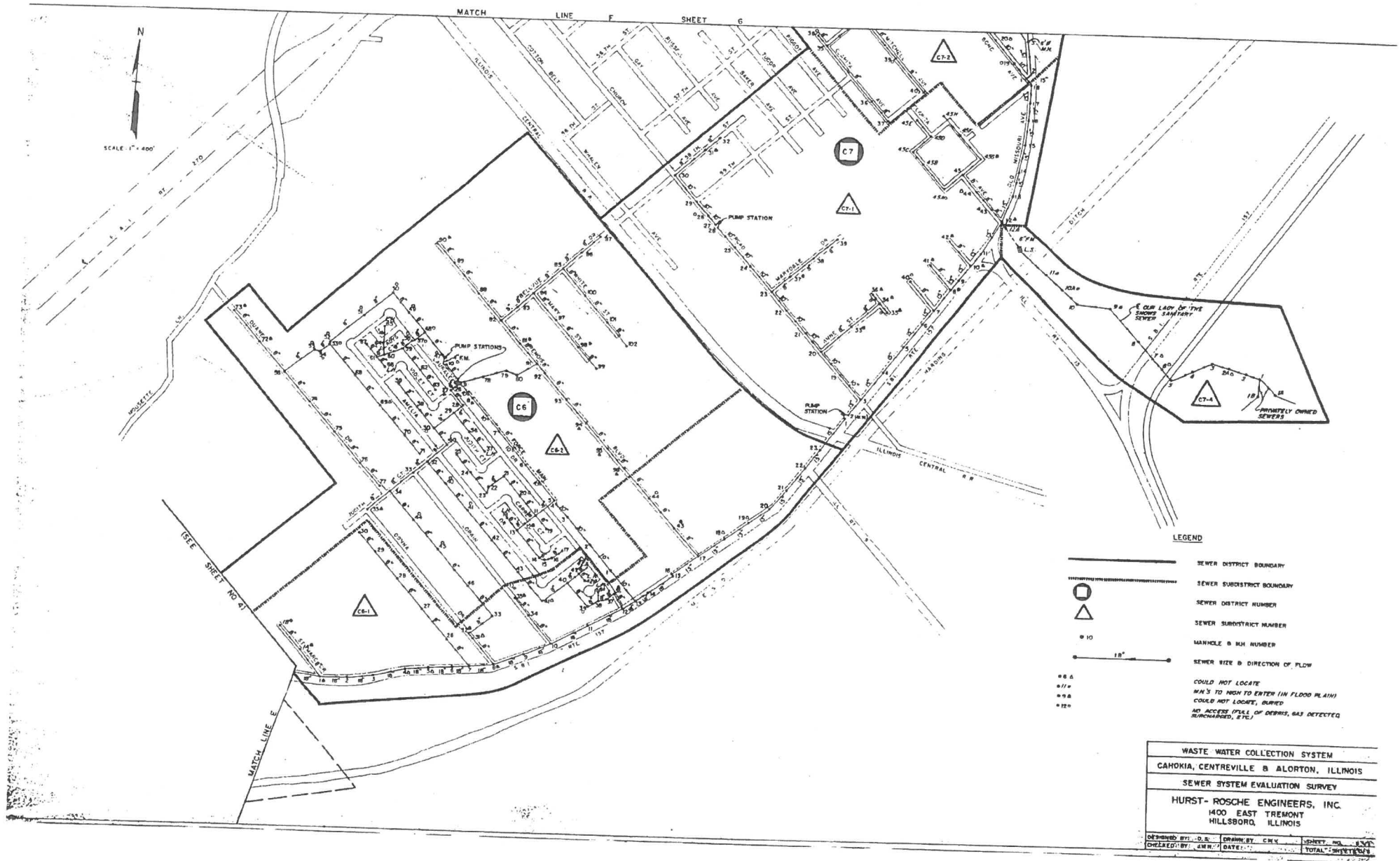
Sewer System Plans



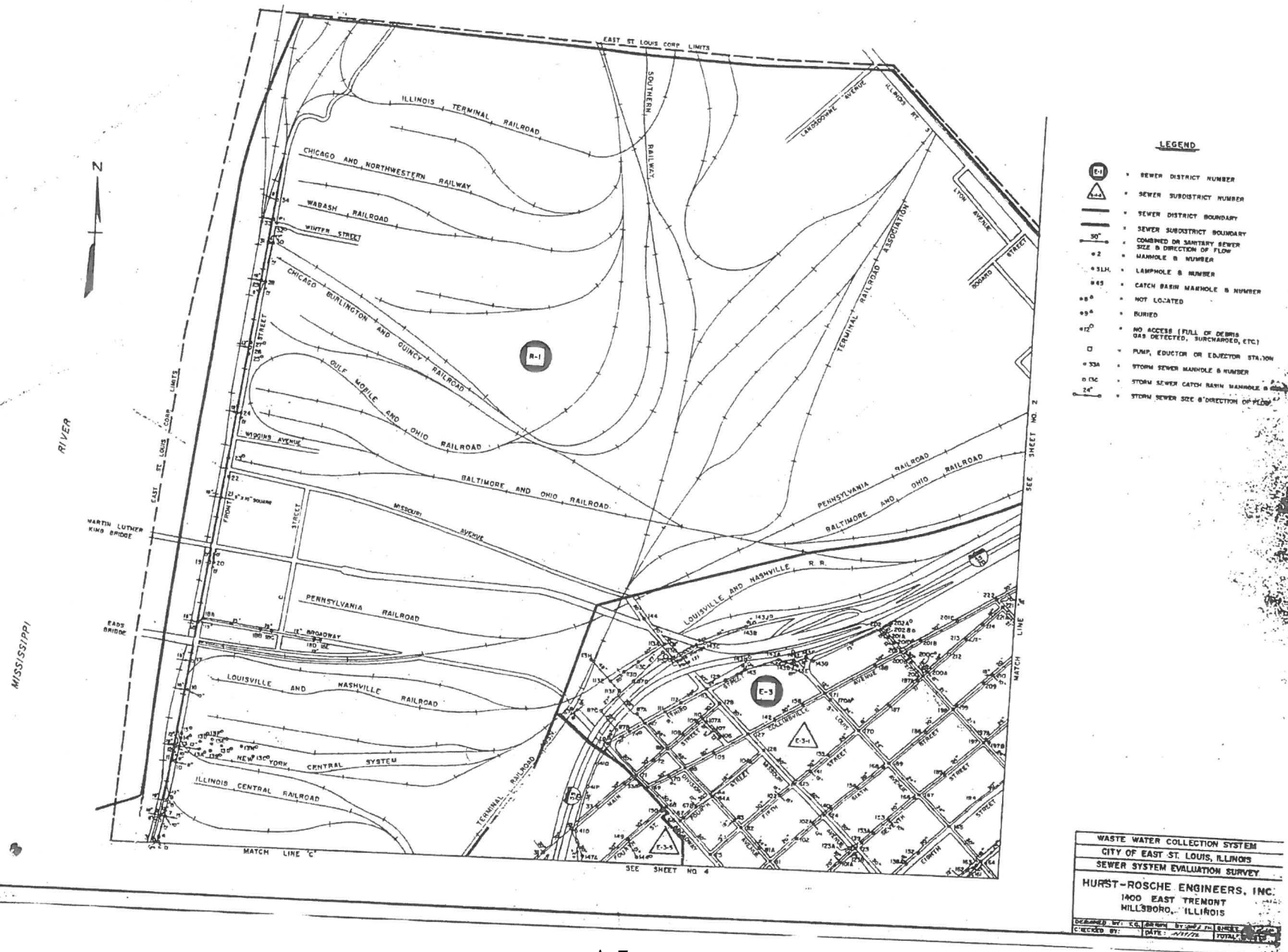


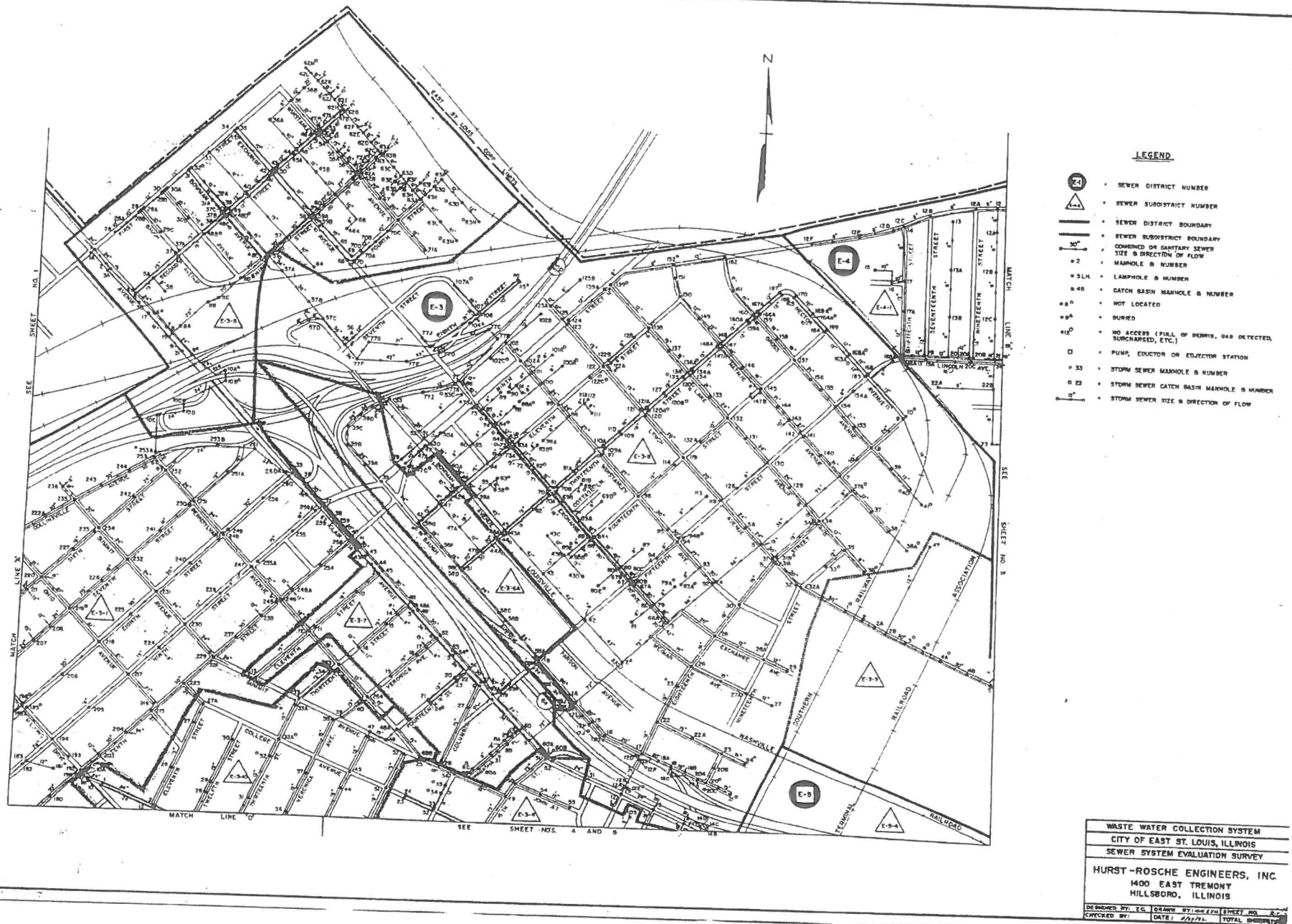


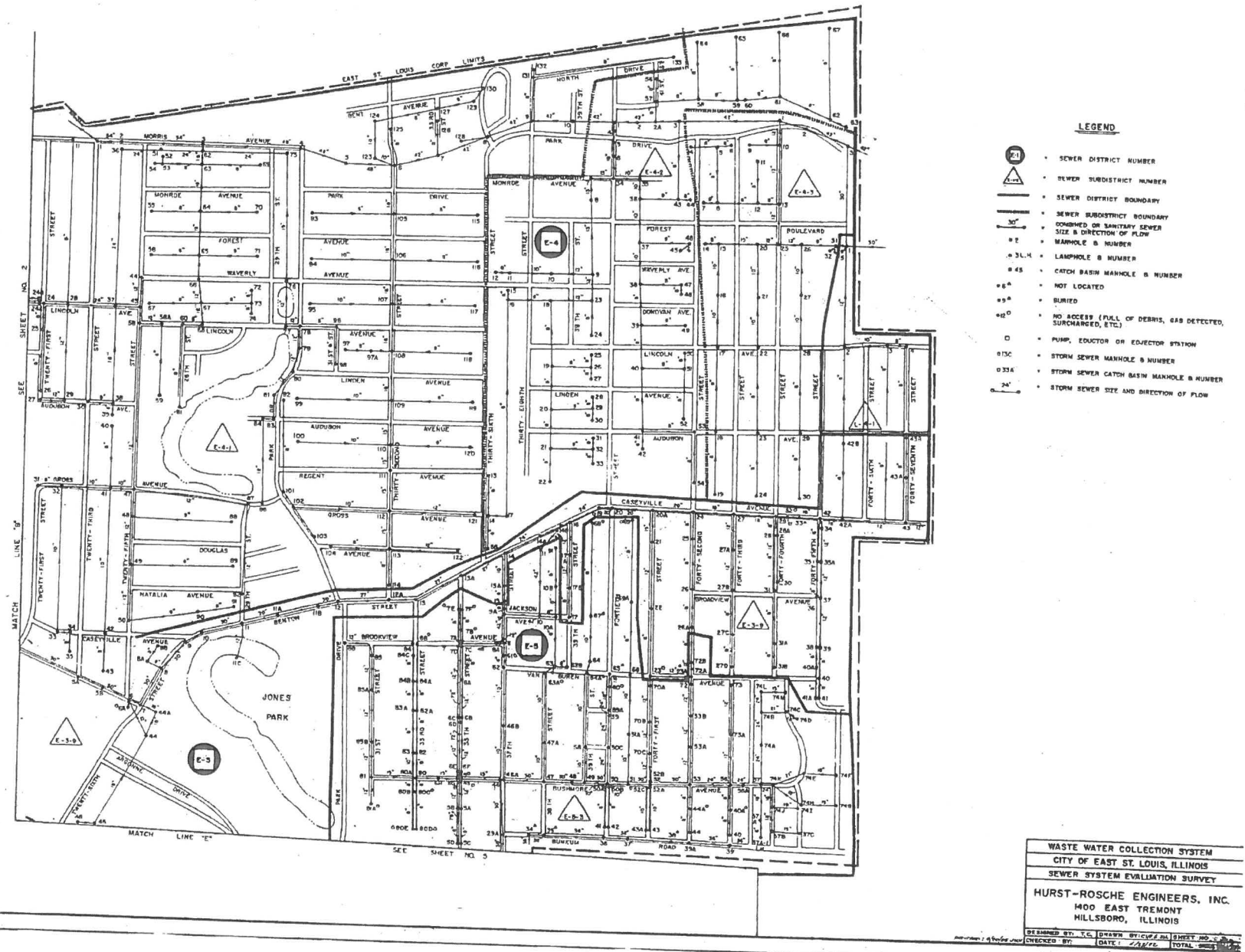


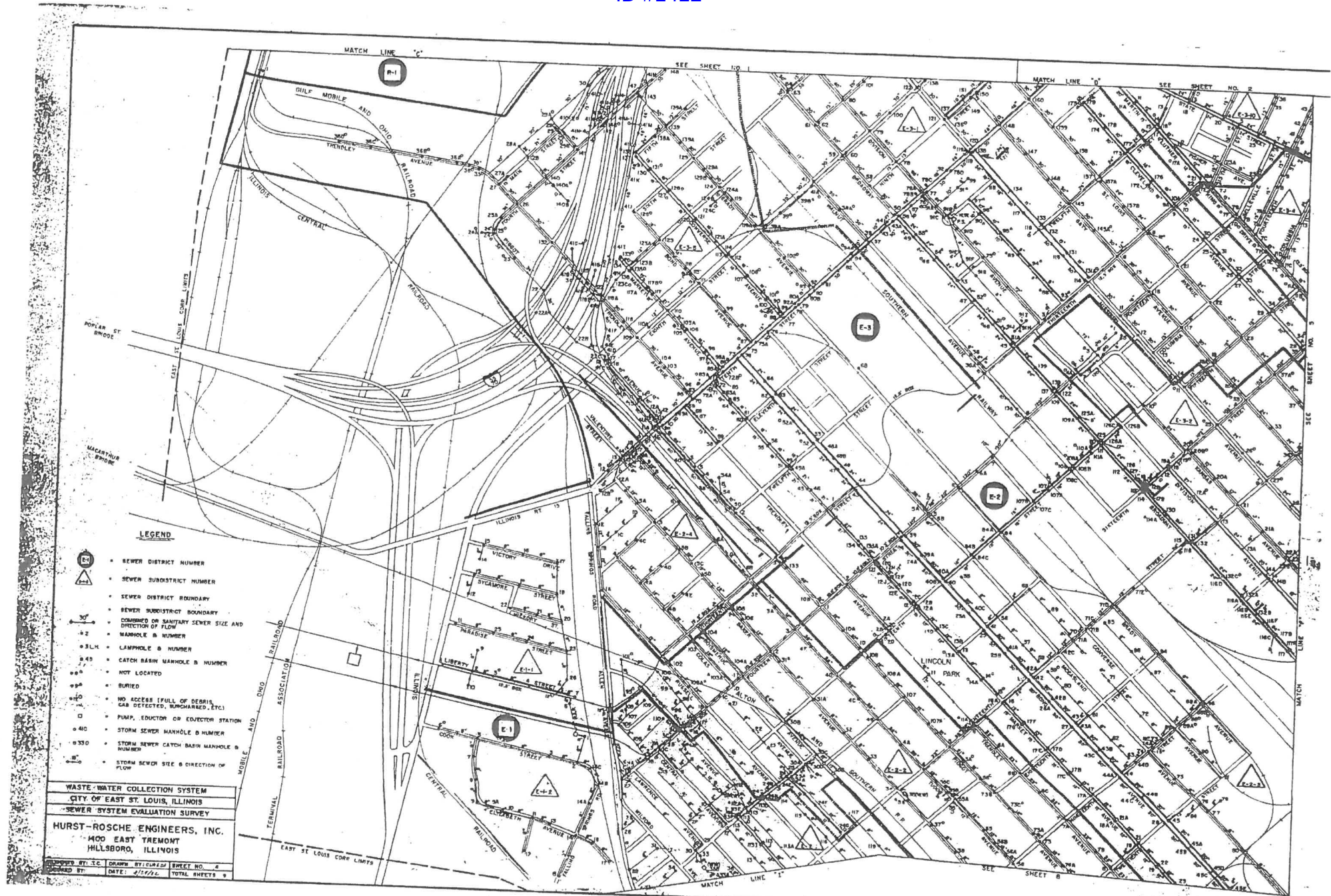




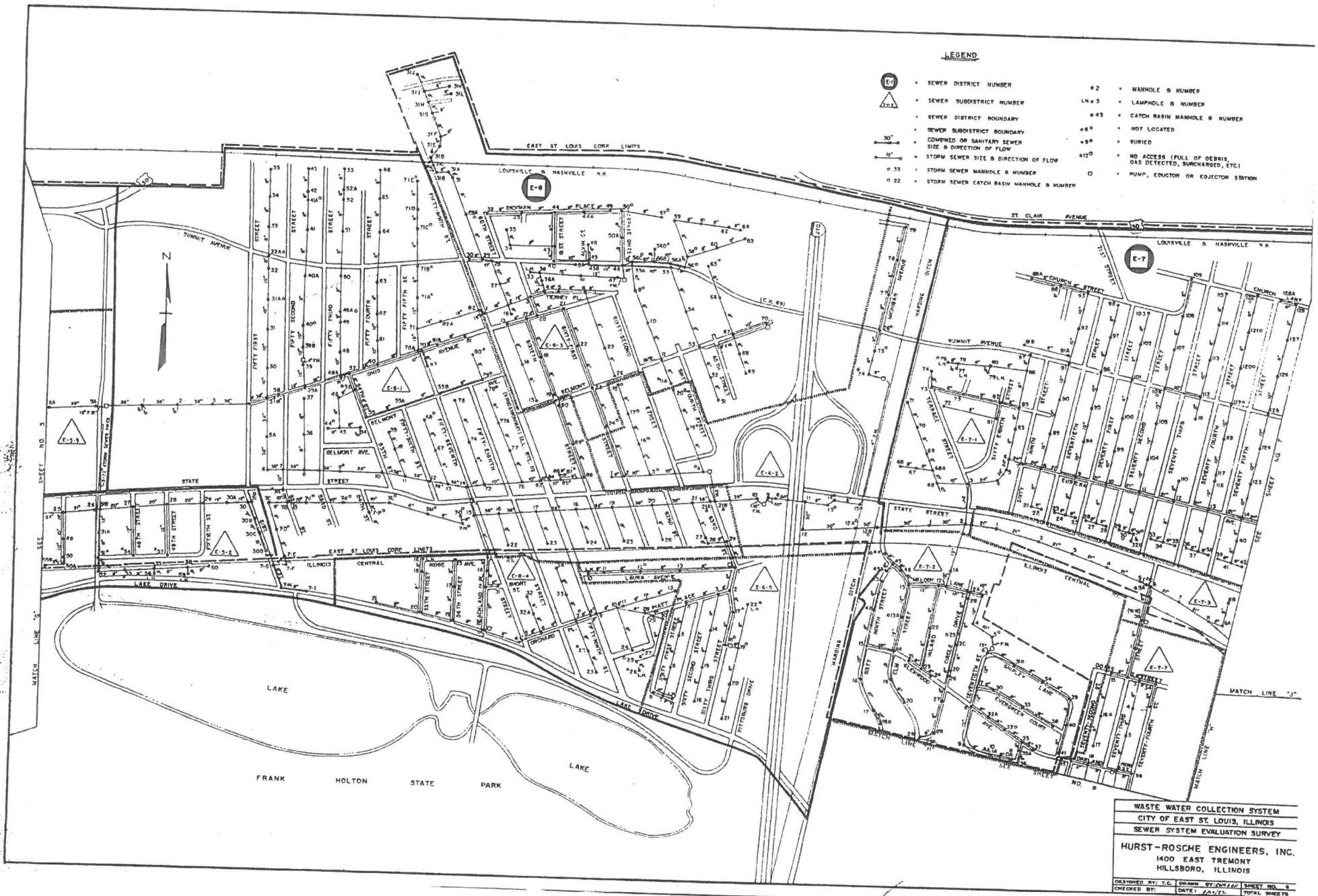




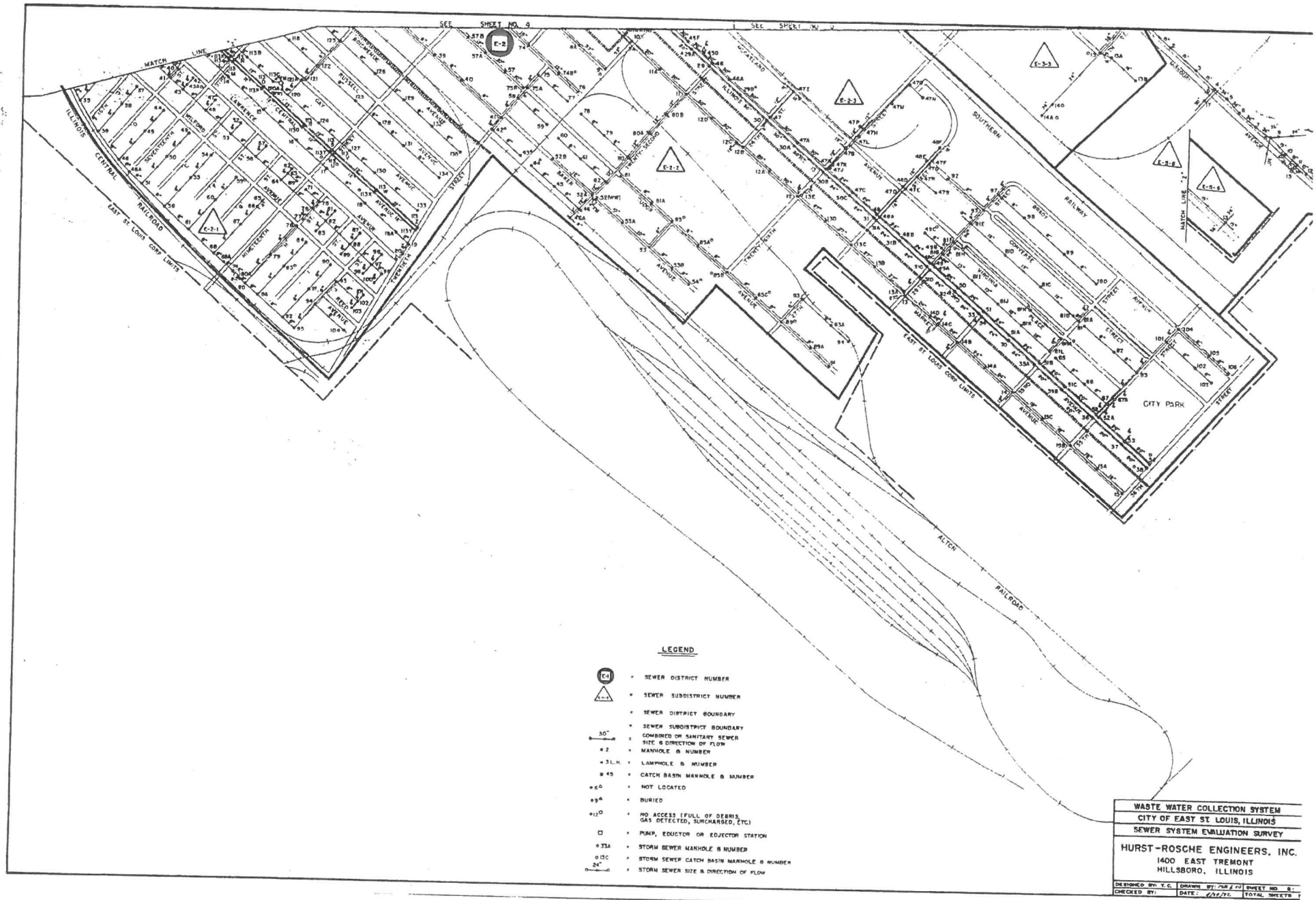


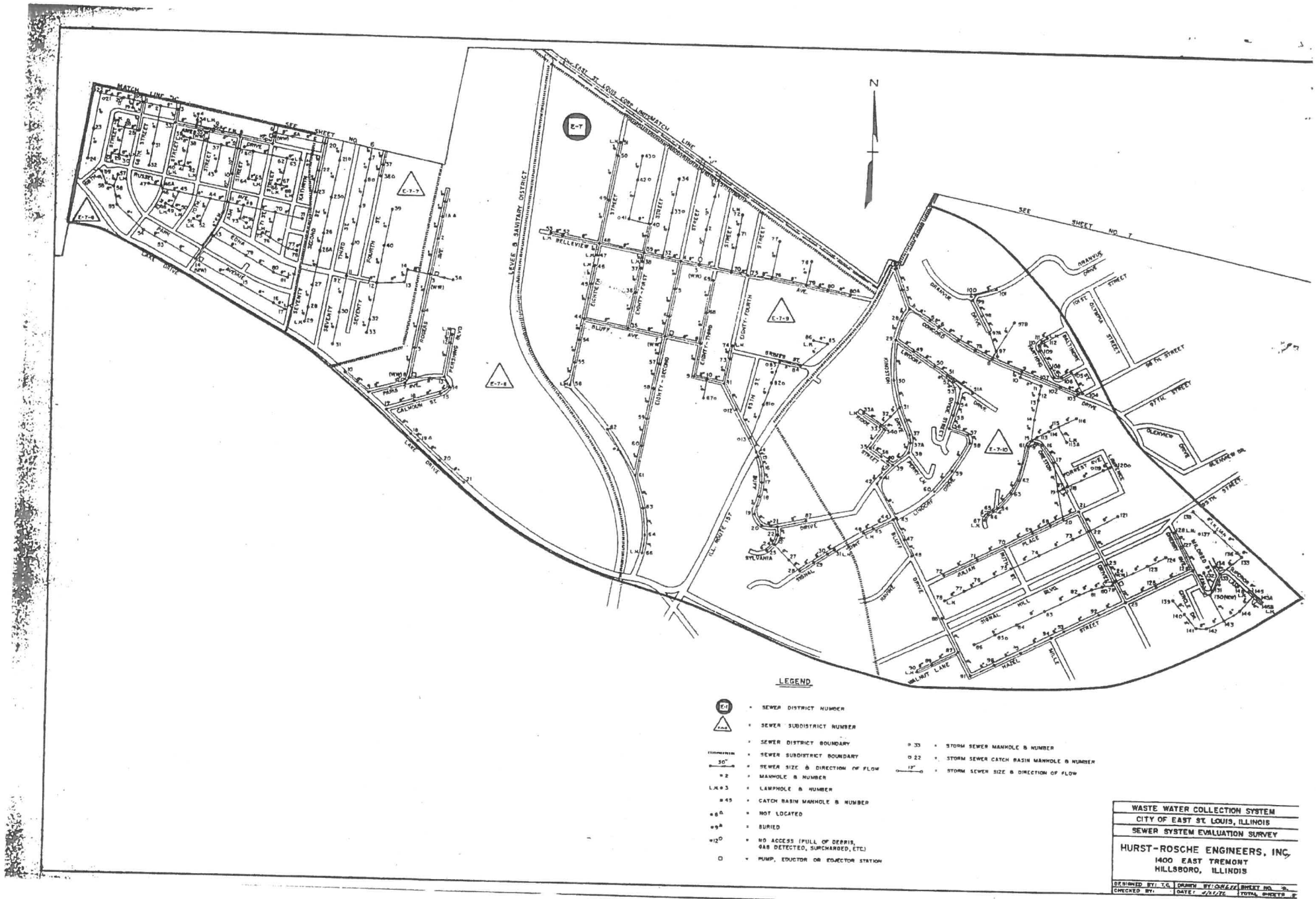












**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

APPENDIX B

Pump Station List and Inspection Checklist

Cahokia Heights Sanitary Lift Stations

No.	Lift Station Name	Location	Nearest Intersection	# of Pumps	Pump Manufacturer	Pump Horsepower	Warning Light	Bypass	Previous No.
1	Cooper Drive	Ex. 6 security	Cooper Drive & IL Route 157	2		40			C-6
2	Station 5		Jerome Lane & Moussette Lane	2		40			C-27
3	Blue Water Lane		Blue Water Lane & Andrews Drive	1		10	yes		C-3
4	DePaul		St. John Drive & St. Christopher Lane	1		10			C-8
5	Donald Street		Donald Street & Smith Street	2		3			C-9
6	Edgar Street		Edgar Street & Circle Creek Drive	1		5			C-10
7	Ellen & Richard		Ellen Street & Richard Drive	2		3			C-11
8	215 Judith Lane		Judith Lane & Bruce Street	2		3	yes	yes	C-27
9	LaSalle		LaSalle Drive & Range Lane	1		3	yes	yes	C-14
10	Miskell Blvd.		Miskell Blvd. & Price Street	2		3	yes		C-15
11	Shack		Jerome Lane & Falling Springs Road	1		5			C-19
12	Station 5A		Jerome Lane & Moussette Lane	1		3.4	yes		C-28
13	Bruce Street		Bruce Street & Judith Lane	2		3		yes	C-4
14	Carol Road		Carol Road & Delores Street	2		3	yes		C-5
15	Singer		Mississippi Avenue & Hissrich Blvd.	2		3			C-20
16	Hutchings Street		Hutchings Street & IL Route 157	2		3	yes		C-12
17	100 Block of Judith		Judith Lane & Falling Springs Road	2		3			C-1
18	St. Margaret Drive		St. Margaret Drive & St. Justin Drive	1		5	yes		C-22
19	Credit Union		Mississippi Avenue & School Street	1		3			C-7
20	Quickway		Mississippi Avenue & David Street	1		3			C-17
21	State Lottery		Mississippi Avenue & David Street	1		3			C-24
22	St Christopher		St. Christopher Lane & St. Andrews Drive	2		3			C-21
23	Williams & Ellen		Williams Street & Ellen Street	1		5			C-31
24	VFW		Upper Cahokia Road & Judith Lane	1		4			C-29
25	Paris		Paris Avenue & Harvest Avenue	1		3	yes		C-16
26	Rieber		Reiber Drive & Andrews Drive	1		3			C-18
27	Williams & Kay		Williams Street & Kay Street	1		3			C-32
28	Washington		Falling Springs Road & IL Route 157	1		10	yes		C-30
29	King Court		King Court & Andrews Drive	1		3			C-13
30	St. Monica		St. Monica Drive & St. Maud Drive						C-23
31	9 Violet		Violet Drive & Laurelee Drive	2	Gorman-Rupp	2.7			W-1
32	51st & Market		Market Avenue & Moussette Lane	2	Gorman-Rupp	7.5		yes	W-2
33	53rd & Market		53rd Street & Market Avenue	2	KSB	3.4	yes		W-3

34	63rd & Laura	63rd Street & Laura Avenue	2	Roots	5			W-4
35	71st & Ames	71st Street & Ames Drive	2	Roots	3			W-5
36	73rd & Oakland	73rd Street & Oakland Street	2	Roots	5			W-6
37	73rd Street	73rd Street & Dorris Street	2	Roots	5			W-7
38	75th & Clinton	75th Street & Pershing Street	2	Roots	2			W-8
39	75th & Pershing	75th Street & Pershing Street	2	Roots	1.5			W-9
40	82nd & Bellevue	82nd Street & Bellevue Avenue	2	Roots	7.5		yes	W-10
41	82nd & Bluff	82nd Street & Bluff Road	2	Roots	7.5			W-11
42	Beachland	Lake Drive & Beachland Place	2	Roots	3		yes	W-12
43	Bridgedale	Adams Drive & Baldwin Lane	2	Gorman-Rupp	3		yes	W-14
44	City Hall (Front)	57th Street & Bond Avenue	2	Flgnt	7.5	yes		W-15
45	City Hall (Rear)	57th Street & Bond Avenue	2	Barnes	4.5			W-16
46	Creston Drive	Creston Drive & Hazel Avenue	2	Flgnt	3	yes		W-17
47	Greystone Apartments	Greystone Drive & Old Missouri Avenue	2	KSB	3.4			W-18
48	I.C. Tracks	IL Route 157 & Church Road	2	Grundfos	5.5	yes		W-19
49	Lady of Snows	Old Missouri Avenue & IL Route 13	2	Gorman-Rupp	3			W-20
50	Lake Drive Pill Box	Park Place & Lake Drive	2	Gorman-Rupp	3	yes		W-21
51	Lauralee & Violet	Lauralee Drive & Violet Drive	2	Gorman-Rupp	5	yes		W-22
52	Mary Ryans	Old Missouri Avenue & 59th Street	2	Fairbanks Morse	5	yes		W-23
53	Mousette Lane	Mousette Lane & Tudor Avenue	2	Barnes	1.5	yes		W-24
54	Superior	Superior Drive & Circle Drive	2	Crown	7.5	yes		W-26
55	Willie Holmes Pill Box	Ames Drive & Elm Street	2	Gorman-Rupp	3			W-27
56	42nd & Walnut	42nd Street & Brady Avenue						A-5
57	4200 Missouri Avenue	Pocket Road & Missouri Avenue						A-4
58	42nd & Market	42nd Street & Market Avenue						A-6
59	37th & Market	37th Street & Market Avenue						A-7
60	43rd & Tudor	43rd Street & Tudor Avenue						A-8
61	Jackson Street	Pocket Road & Jackson Street						A-2
62	Johnson Lane	Pfeiffer Road & Johnson Lane						A-3
63	ABC Auction	46th Street & Central Avenue						---
64	Golden Street	Golden Street & Dorsey Street				yes		A-1
65	Racehorse Business Park	Racehorse Drive & Harness Lane				yes		A-10
66	56th & Central	56th Street & Central Avenue						A-9
67	Church Road	59th Street & Church Road						W-25
68	High School Station	Range lane & Doris Avenue				yes		C-25
69	Diversion	Jerome Lane & Wesley Avenue						C-26

Ex. 6 security

PUMP STATION INSPECTION CHECKLIST
CITY OF CAHOKIA HEIGHTS WATER AND SEWER DEPARTMENT

Pump Station Name: _____ Inspection Date: _____
Pump Station Location: _____ Inspected By: _____
Number of Pumps: _____
Pump Manufacturer: _____
Pump Horsepower: _____

WETWELL:

- ☐ Inspect interior and exterior surfaces
- ☐ Check for proper access hatch operation
- ☐ Verify float system operating condition
- ☐ Inspect pump guide rails

PUMPS:

- ☐ Pull and reset pump (if needed)
- ☐ Check for ease of removal and proper sealing at disconnect flange
- ☐ Check pump chords for obstructions
- ☐ Check pump for normal operation
- ☐ Check for unusual noises and/or vibration

VALVE VAULT:

- ☐ Check sump pump operation
- ☐ Verify pressure gauges are in place (if applicable)
- ☐ Check for proper access hatch operation

CONTROL PANEL:

- ☐ Verify that wiring schematic is on file in Sewer Department Office
- ☐ Inspect enclosure for damage
- ☐ Inspect wiring
- ☐ Perform operational test
- ☐ Verify that electrical conduits are sealed
- ☐ Verify high water warning light operation

COMMENTS: _____

**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

APPENDIX C

Sewer Ordinance and Budget

ORDINANCE NO. 21-1404

**AN ORDINANCE AMENDING AND ADOPTING ORDINANCE NO. 1158
AND AN ORDINANCE AMENDING ORDINANCE NO. 969, ENTITLED
AN ORDINANCE AMENDING ORDINANCE NO. 627, 721, 807, 843 AND
903 ENTITLED " AN ORDINANCE REGULATING THE USE OF PUBLIC
AND PRIVATE SEWERS AND DRAINS, PRIVATE SEWAGE DISPOSAL,
THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, THE
DISCHARGE OF WATER AND WASTE INTO THE PUBLIC SEWER
SYSTEM AND PROVIDING PENALTIES FOR VIOLATIONS HEREOF;
THE LEVYING OF CHARGES FOR WASTEWATER SERVICES (USER
CHARGES)", AND FIXING THE METER RATES AND WATER SERVICE
CHARGES AND THE SEWER SERVICE CHARGES OF THE CITY OF
CAHOKIA HEIGHTS, ILLINOIS**

WHEREAS, the City of Cahokia Heights, Illinois operates and maintains a Waterworks System for furnishing of water supplied to water users in the City of Cahokia Heights, Illinois;

WHEREAS, the City of Cahokia Heights, Illinois operates and maintains public and private sewers and drains and private sewage disposal, installation and connection of building sewers, discharge of waters and waste into public sewer systems in the City of Cahokia Heights; and

WHEREAS, the Village of Cahokia passed Ordinance No. 1158 on February 15, 2011; and

WHEREAS, the City of Cahokia Heights, Illinois wishes to amend and adopt Ordinance No. 1158 to include other fees; and

WHEREAS, it is in the best interest of the City of Cahokia Heights that Ordinance No. 1158 be amended and adopted.

NOW THEREFORE, BE IT ORDAINED BY THE MAYOR AND THE CITY COUNCIL OF THE CITY OF CAHOKIA HEIGHTS, ST. CLAIR COUNTY, ILLINOIS AS FOLLOWS:

Section 1. That Ordinance No. 1158 of the Village of Cahokia is adopted as an ordinance of the City of Cahokia Heights.

Section 2. That Ordinance No. 1158 of the City of Cahokia Heights is hereby amended to include the following service charges and fees as follows:

Deposit (Resident)	\$ 75.00
Processing fee (Water area)	\$ 40.00
Meter Tampering Charge	\$100.00
Recheck shut-offs – back on	\$100.00
Broken Lock Charge	\$ 75.00
Broken Shut-off Valve Charge	\$100.00
Fire Hydrant Rental Fee (plus water at metered rates)	\$ 50.00
Broken Riser Charge	\$100.00
Disconnect water @ main	\$400.00
Dig (disconnect) up sewer @ main	\$500.00
Initial Connection free; and 2 nd Trip (depending on circumstances)	\$ 40.00
Meter Testing Charge (Customer request/nothing wrong with meter)	\$ 75.00
Second Tampering Charge (in one instance)	\$200.00
All Business Deposit Fee	\$200.00
Illegal usage is calculated by average gallons used (add sewer if we service both)	
Returned Check Charge	\$ 50.00
Lien Release Charge	\$120.00
Jumper Removal Fee	\$100.00
Stolen Meter Charge	\$350.00
Crimp off @ main	\$400.00
Call-out after house customer problem	\$150.00
Water taps over 1" (Time and material) Varies	
Sewer Tap Fee	\$750.00

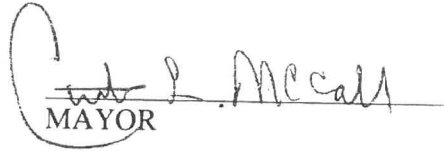
Section 2. That conflicting ordinances or pertinent portions thereof in effect at the time this ordinance takes effect are hereby repealed.

Section 3. This ordinance shall take effect from and after its passage, approval and publication by pamphlet all as provided by law.

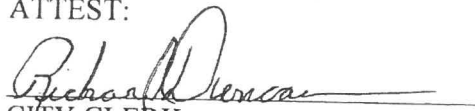
THIS ORDINANCE PRESENTED to the City Council this 13 day of
DECEMBER, A.D. 2021

	<u>AYE</u>	<u>NAY</u>
Pearce	<u>Y</u>	<u> </u>
VanMeter	<u>Y</u>	<u> </u>
Jethroe - Franklin	<u>R</u>	<u> </u>
Liddell - Ware	<u>Y</u>	<u> </u>
McCallum	<u>E</u>	<u> </u>
Weeden	<u>Y</u>	<u> </u>
Haywood	<u>Y</u>	<u> </u>
Townsend	<u>Y</u>	<u> </u>

APPROVED by the Mayor of the City of Cahokia Heights, Illinois this 13 day of
DECEMBER, A.D. 2021.


MAYOR

ATTEST:


CITY CLERK

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR)

CERTIFICATION

The undersigned City Clerk does herewith certify that the attached is a true and correct copy of the Ordinance duly adopted by the Mayor and City Council of the City of Cahokia Heights at a meeting of the City Council held on the 13 day of DECEMBER, 2021.


CITY CLERK

CAHOKIA HEIGHTS WATER AND SEWER DEPARTMENT - BUDGET

	Estimated 2022	2023	2024	2025	2026	2027
Ordinary Income/Expense						
Income		2022 + 3%	2023 + 3%	2024 + 3%	2025 + 3%	2026 + 3%
Water Fee Income	2,055,877.50	2,055,877.50	2,055,877.50	2,055,877.50	2,055,877.50	2,055,877.50
Sewer Fee Income	3,182,391.08	3,182,391.08	3,182,391.08	3,182,391.08	3,182,391.08	3,182,391.08
Bad Check Fees	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
Reconnect Fees	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Penalties-Water	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Penalties-Sewer	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Other Income	5,200.00	5,200.00	5,200.00	5,200.00	5,200.00	5,200.00
Total Income	5,255,468.58	5,413,132.64	5,575,526.62	5,742,792.42	5,915,076.19	6,092,528.47
Expense		2022 + 7% CPIU	2023 + 6%	2024 + 5%	2025 + 4%	2026 + 3%
Accounting-CIVIC SYSTEMS	11,435.00	12,235.45	12,969.58	13,618.06	14,162.78	14,587.66
MEMJAWA	600,000.00	642,000.00	680,520.00	714,546.00	743,127.84	765,421.68
Bank Charges	270.70	289.65	307.03	322.38	335.27	345.33
Central Laborers Pension Fund	20,000.00	21,400.00	22,684.00	23,818.20	24,770.93	25,514.06
Dues & Subscriptions	350.00	374.50	396.97	416.82	433.49	446.50
Equipment Expense	275,000.00	294,250.00	311,905.00	327,500.25	340,600.26	350,818.27
Laborers Local 100	0.00	0.00	0.00	0.00	0.00	0.00
Penalties	75.00	80.25	85.07	89.32	92.89	95.68
Fuel & Oil	90,000.00	96,300.00	102,078.00	107,181.90	111,469.18	114,813.25
Insurance-Vehicle & Building	25,000.00	26,750.00	28,355.00	29,772.75	30,963.66	31,892.57
Drug Testing Fees	1,000.00	1,070.00	1,134.20	1,190.91	1,238.55	1,275.70
Maintenance-Sewer Lines	48,000.00	51,360.00	54,441.60	57,163.68	59,450.23	61,233.73
Maintenance-Water Distribution	57,000.00	60,990.00	64,649.40	67,881.87	70,597.14	72,715.06
Maintenance-SW Canisters	600.00	642.00	680.52	714.55	743.13	765.42
Postage	50,000.00	53,500.00	56,710.00	59,545.50	61,927.32	63,785.14
Miscellaneous	10,000.00	10,700.00	11,342.00	11,909.10	12,385.46	12,757.03
Office Supplies	13,000.00	13,910.00	14,744.60	15,481.83	16,101.10	16,584.14
Payroll Wages	1,200,000.00	1,284,000.00	1,361,040.00	1,429,092.00	1,486,255.68	1,530,843.35
Payroll Taxes-FICA/MDCR	96,000.00	102,720.00	108,883.20	114,327.36	118,900.45	122,467.47
Payroll Taxes-Unemployment	42,000.00	44,940.00	47,636.40	50,018.22	52,018.95	53,579.52
Payroll Taxes-Work Comp	360,000.00	385,200.00	408,312.00	428,727.60	445,876.70	459,253.01
Payroll Taxes-Work Pension	57,000.00	60,990.00	64,649.40	67,881.87	70,597.14	72,715.06
Rental Equipment-Office	5,000.00	5,350.00	5,671.00	5,954.55	6,192.73	6,378.51
Repairs-Vehicles	26,000.00	27,820.00	29,489.20	30,963.66	32,202.21	33,168.27
Repairs-Equipment	7,000.00	7,490.00	7,939.40	8,336.37	8,669.82	8,929.92
Subcontractors	550,000.00	588,500.00	623,810.00	655,000.50	681,200.52	701,636.54
Equipment Rental	500.00	535.00	567.10	595.46	619.27	637.85
Telephone	4,000.00	4,280.00	4,536.80	4,763.64	4,954.19	5,102.81
Training Seminars	2,000.00	2,140.00	2,268.40	2,381.82	2,477.09	2,551.41
Regions Credit Card	6,000.00	6,420.00	6,805.20	7,145.46	7,431.28	7,654.22
Utilities	12,500.00	13,375.00	14,177.50	14,886.38	15,481.83	15,946.28
Utilities-Electrical	96,000.00	102,720.00	108,883.20	114,327.36	118,900.45	122,467.47
Waste Disposal Service	1,500.00	1,605.00	1,701.30	1,786.37	1,857.82	1,913.55
Water Testing	15,000.00	16,050.00	17,013.00	17,863.65	18,578.20	19,135.54
Total Expense	3,682,230.70	3,939,986.85	4,176,386.06	4,385,205.36	4,560,613.58	4,697,431.98
Reserves						
Legal Reserve Fund	471,971.36	441,943.74	419,742.17	407,276.12	406,338.78	418,528.95
Reserves-Water Improvement/Emergency Fund	471,971.36	441,943.74	419,742.17	407,276.12	406,338.78	418,528.95
Capital Improvement Reserve	629,295.15	589,258.32	559,656.22	543,034.82	541,785.04	558,038.60
Total Reserves	1,573,237.88	1,473,145.79	1,399,140.56	1,357,587.05	1,354,462.61	1,395,096.49

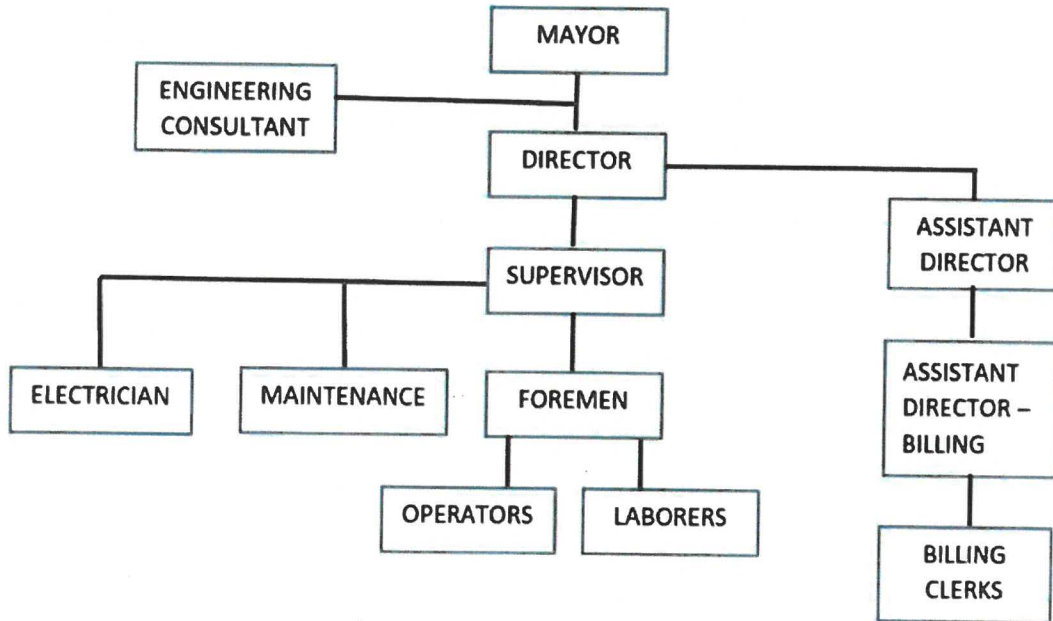
**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

APPENDIX D

Organizational Chart

**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

SEWER DEPARTMENT ORGANIZATION



CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM

APPENDIX E

Maintenance Program Information

City of Cahokia Heights

Water & Sewer Department

Heavy equipment maintenance checklist

This maintenance checklist has been broken down into checks that are required daily, versus checks that are required based on operating hours. Each piece of construction equipment will be used at different times and for different durations. That's why the schedule of preventive maintenance is based on hours in operation instead of by date.

Daily pre-operation checks:

Before firing up the equipment, operators are required to perform a visual inspection before signing off and the beginning of their shift. This includes a variety of hands-on and visual inspections before, during, and after operating the heavy equipment. Operators should note any issues as soon as they are noticed so they can be addressed in a timely manner.

Pre-start checks (walk around)

Before you start the heavy equipment, perform these checks:

- **Parking:** Is the piece of equipment parked in a safe space?
- **Hazards:** Are there any tripping hazards? Are there any overhead hazards?
- **Damaged/worn/loose parts:** Inspect the overall condition.
- **Leaks:** Look under the equipment for any wet spots.
- **Fluid analysis:** Check engine oil fluid levels, power steering fluid levels, windshield washer fluid.
- **Undercarriage:** Look for worn or missing bogies or rollers, track tension, and overall condition on excavators.
- **Check tires:** Look for low or sagging tires, cuts to cord depth, damage, and general wear.
- **Valve stems:** Are caps present and securely screwed?
- **Steering:** Check for excessive play.
- **Belts:** Check for cracks, fraying, or splits.
- **Hoses:** Check for pinched, cracked, or loose hoses.
- **Suspension system:** Does the equipment bounce or vibrate when it's in motion? Listen for any irregular noises when going over bumps or turning the wheel.
- **Battery:** If accessible, inspect cables, clamps, and connections. Are any loose? Is there any corrosion?
- **Cab condition:** Check glass, mirrors, wiper blades, horn, and seat belts.

Warm-up checks

Perform these checks after the equipment has been running for five to 10 minutes:

- **Air filter system:** Check for warnings. Replace or clean the filter if necessary.
- **Listen for unusual noises**
- **Dashboard gauges:** Do they appear to be working and at safe, operating levels?
- **Lights:** Test the lights. Headlights, high beams, signal lights, brake lights, and backup lights.
- **Hydraulic system:** Test all hydraulic lines and systems. For example, with a dump truck, raise the dump body, or with an excavator, move the bucket, stick, and boom. Listen and watch for issues. Are there any leaks? Is everything functioning properly? Are there any irregular noises?
- **Check fluid levels:** Engine, steering tank, hydraulic oil, power terrain, engine coolant, and swing drives.
- **Brakes:** Test that the brakes work properly.

Daily operating checks

During operation, watch and listen for irregularities:

- **Listen for unusual noises**
- **Monitor gauges**
- **Feel for excessive vibrations**
- **Watch for any equipment performance changes**

Shutdown check

After every shift, take the following actions:

- **Fill the fuel tank:** Fill the tank all the way to full.
- **Idle engine:** Allow the vehicle to idle for five minutes before shutting down completely.
- **Park the vehicle in a safe place:** Engage the parking brake.
- **Clean or wash vehicle:** As needed.

Every 250 to 500 hours:

Around 250 to 500 hours, it is best practice to schedule a basic engine service. This involves a number of checks and actions:

- **Perform oil changes**
- **Change oil filters**
- **Change engine air filters**
- **Change fuel filters**

Oil change intervals will rely on the quality of oil and filter being used in each piece of equipment.

Every 1,000 to 1,200 hours

- **Replace cabin air filters**
- **Replace coolant filter** (if applicable)
- **Inspect air dryer** (if applicable)

Every 4,800 to 5,000 hours

- **Change return filters:** Applicable for heavy equipment like hydraulic excavators.
- **Check hydraulic filters:** Replace at 80%.
- **Check hydraulic oils:** Fill or change if necessary.
- **Conduct transmission differentials service**
- **Check pins and bushing:** How much play is in the joints? Are they worn out?
- **Check radiator**
- **Change antifreeze,** except when coolant is Extended Life Coolant (ELC).
- **Check hydraulic tank**

Cross-reference the equipment manual

While the checklist above will help with preventative maintenance and be a great addition to any maintenance plan, we recommend cross-referencing these checklist items and frequencies with the ones listed in the manual for each piece of heavy equipment.

Each machine will have its own manufacturer's recommendations that operators and fleet managers should familiarize themselves with.

Schedule regular maintenance

Successful heavy equipment management requires a commitment to the maintenance schedule.

Know the equipment history & storing service records

Each piece of equipment should have a detailed record including maintenance history, repairs, and any major issues or incidents.

This type of information is useful when it comes to future maintenance or repairs and helps fleet managers be more effective. With an organized record of equipment history, they can schedule preventive maintenance more accurately, which helps minimize operating costs.

City of Cahokia Heights Water & Sewer Department Equipment Maintenance Checklist

Pre-start checks (walk around)

Before you start the heavy equipment, perform these checks:

- ☐ **Parking:** Is the piece of equipment parked in a safe space?
- ☐ **Hazards:** Are there any tripping hazards? Are there any overhead hazards?
- ☐ **Damaged/worn/loose parts:** Inspect the overall condition.
- ☐ **Leaks:** Look under the equipment for any wet spots.
- ☐ **Fluid analysis:** Check engine oil fluid levels, power steering fluid levels, windshield washer fluid.
- ☐ **Undercarriage:** Look for worn or missing bogies or rollers, track tension, and overall condition on excavators.
- ☐ **Check tires:** Look for low or sagging tires, cuts to cord depth, damage, and general wear.
- ☐ **Valve stems:** Are caps present and securely screwed?
- ☐ **Steering:** Check for excessive play.
- ☐ **Belts:** Check for cracks, fraying, or splits.
- ☐ **Hoses:** Check for pinched, cracked, or loose hoses.
- ☐ **Suspension system:** Does the equipment bounce or vibrate when it's in motion? Listen for any irregular noises when going over bumps or turning the wheel.
- ☐ **Battery:** If accessible, inspect cables, clamps, and connections. Are any loose? Is there any corrosion?
- ☐ **Cab condition:** Check glass, mirrors, wiper blades, horn, and seat belts.

City of Cahokia Heights

Water & Sewer Department

Equipment Maintenance Checklist

Warm-up checks

Perform these checks after the equipment has been running for five to 10 minutes:

- ☐ **Air filter system:** Check for warnings. Replace or clean the filter if necessary.
- ☐ **Listen for unusual noises**
- ☐ **Dashboard gauges:** Do they appear to be working and at safe, operating levels?
- ☐ **Lights:** Test the lights. Headlights, high beams, signal lights, brake lights, and backup lights.
- ☐ **Hydraulic system:** Test all hydraulic lines and systems. For example, with a dump truck, raise the dump body, or with an excavator, move the bucket, stick, and boom. Listen and watch for issues. Are there any leaks? Is everything functioning properly? Are there any irregular noises?
- ☐ **Check fluid levels:** Engine, steering tank, hydraulic oil, power terrain, engine coolant, and swing drives.
- ☐ **Brakes:** Test that the brakes work properly.

Daily operating checks

During operation, watch and listen for irregularities:

- ☐ **Listen for unusual noises**
- ☐ **Monitor gauges**
- ☐ **Feel for excessive vibrations**
- ☐ **Watch for any equipment performance changes**

Shutdown check

After every shift, take the following actions:

- ☐ **Fill the fuel tank:** Fill the tank all the way to full.
- ☐ **Idle engine:** Allow the vehicle to idle for five minutes before shutting down completely.
- ☐ **Park the vehicle in a safe place:** Engage the parking brake.
- ☐ **Clean or wash vehicle:** If a washing station is available.

City of Cahokia Heights
Water & Sewer Department
Equipment Maintenance Checklist

Every 250 to 500 hours:

Around 250 to 500 hours, it is best practice to schedule a basic engine service. This involves a number of checks and actions:

- ☐ Perform oil changes
- ☐ Change oil filters
- ☐ Change engine air filters
- ☐ Change fuel filters

*Oil change intervals will rely on the quality of oil and filter being used in each piece of equipment.

Every 1,000 to 1,200 hours

Around 1,000 to 1,200 hours, perform these checks:

- ☐ Replace cabin air filters
- ☐ Replace coolant filter (if applicable)
- ☐ Inspect air dryer (if applicable)

Every 4,800 to 5,000 hours

Around 4,800 to 5,000 hours, take the following actions:

- ☐ Change return filters: Applicable for heavy equipment like hydraulic excavators.
- ☐ Check hydraulic filters: Replace at 80%.
- ☐ Check hydraulic oils: Fill or change if necessary.
- ☐ Conduct transmission differentials service
- ☐ Check pins and bushing: How much play is in the joints? Are they worn out?
- ☐ Check radiator
- ☐ Change antifreeze, except when coolant is Extended Life Coolant (ELC).
- ☐ Check hydraulic tank

City of Cahokia Heights Water & Sewer Department Equipment Checklist

Date	Equipment	Inspection / Maintenance / Repair / Service Required	Service or Repair Date	Initials
	Backhoe			
	Vac Truck			
	Dump Truck			
	Pumps			



City of Cahokia Heights
Water & Sewer Department

VEHICLE MAINTENANCE PROGRAM

Vehicle Maintenance Program

The goals of the vehicle maintenance program of the Cahokia Heights Water & Sewer Department are to support safe, reliable, and high quality transit services while making maximum use of financial resources. The purpose of the maintenance plan is to provide consistent, systematic and integrated program guidance that will enable the City of Cahokia Heights to properly maintain and service its vehicles in support of revenue operations. An effective maintenance plan ensures safe, clean and comfortable transit vehicles on the road and maximizes transit vehicle life.

Preventive Maintenance (PM)

Regular maintenance is performed at pre-scheduled cycles (the first week of the month) to ensure optimal performance, efficiency, safety and reliability of assigned equipment. Preventive maintenance is based on the manufacturer's suggested recommendations.

During the PM scheduled service, the employee will document all defects found and will have all defects listed on the repair order and corrected prior to returning the transit vehicle to service.

Maintenance Records

Maintenance records will be kept for each vehicle. All maintenance performed on the vehicle will be recorded and maintained for as long as the Water & Sewer Department owns the vehicle.

Accident/Incident Reporting

City of Cahokia Heights Water & Sewer Department employees are required to report all accidents and incidents. Report forms are available for this purpose (See Attachment A). Notification procedures have been established so that drivers are aware of whom to contact in case of an accident or emergency. Transit employees are also aware of the drug testing requirements in certain accident situations.

Attachment A Accident/Incident Report Form

Vehicle Accident Report Form
Incident Injury Report Form



Motor Vehicle Accident Report

City Of Cahokia Heights

Department		Accident Date	Accident Time	Report Date	Report Time	Name of Immediate Supervisor
Occupation		Employment Status: ☐ Full Time ☐ Part Time ☐ Seasonal ☐ Other:				
EMPLOYEE	Name		Date of Birth	Age	Home Phone (931) -	Work Phone (931) -
	Home Address		City	State	Zip	
	Equipment Used at Time of Accident ☐ Seat Belt ☐ Other					
	I understand and agree the information contained on this form is true and correct to the best of my ability.					
SIGN	Employee Signature:		Date:			
FOLLOWING SECTIONS TO BE COMPLETED BY EMPLOYEE'S SUPERVISOR						
ACCIDENT INFORMATION	Accident Location (street address or nearest street)					City Property ☐ Yes ☐ No
	Describe What Happened			Collision Type	Contributing Factors By City Driver ☐ Unavoidable ☐ Preventable	
				Vehicle Make	Model	Year
	Sketch Accident Scene Below			Damage to City Vehicle ☐ Over \$1,000 ☐ Vehicle Towed from Scene		
				Name of Other Driver		
				Address of Other Driver		
				City	State	Zip Code
				Home Phone Number () -	Work Phone Number () -	
				Other Driver's Vehicle (Year, Make, Model)		
				Other Driver's License (Number and State)		
				Witness Name		
				Home Phone Number () -	Work Phone Number () -	
SUPERVISOR'S INFO	Was Employee Injured? ☐ Yes ☐ No		Was DOT Drug/Alcohol Screening Done? ☐ Yes ☐ No		Was Safety Coordinator or HR Notified? ☐ Yes ☐ No	
	What Steps Are Being Taken To Prevent A Similar Accident?					
	Did Accident Involve a Fatality or Hospitalization of 3 or More Employees? ☐ Yes ☐ No		Was Anyone in Accident Treated Medically Away from Accident Scene? ☐ Yes ☐ No			
	Weather at Time of Accident		Was Employee Trained to Operate Vehicle? ☐ Yes ☐ No		Was Accident Reported To Police? ☐ Yes (attach copy) ☐ No	
REVIEW	Report Prepared By		Signature			Date
	Supervisor Reviewing Report		Signature			Date
	Department Head		Signature			Date
	Date Received by Risk Management		Follow Up Required ☐ Yes ☐ No		Other Action	Send Report to HR ☐ Yes

City of Cahokia Heights Water & Sewer Dept.

Monthly Vehicle Inspection Form

DRIVER: USE THIS CHECK LIST AS A GUIDE FOR INSPECTING THE VEHICLE.

CHECK "OK" IF ITEM FUNCTIONS PROPERLY AND "REPAIR" IF REPAIR IS NEEDED.

Vehicle receiving inspection:

(VIN #) _____ Unit: # _____

Odometer Reading: _____ Driver Name: _____

OK/Yes	Repair	Engine Off Criteria
		Engine oil within acceptable limits
		Fan belts tight and show no obvious damage
		Coolant level acceptable
		Tire tread and sidewalls show no damage
		Tire inflation
		Windows clean inside and out
		Windshield wipers clean and not stuck to windshield
		Seat belt functions correctly
		Emergency/Incident reporting kits available
		Fire extinguisher available
		Engine On Criteria
		Headlights function on both HI and Lo Beam
		Turn signals function
		Brake lights function including third brake light
		Reverse lights/Backup alarm functions
		Fuel leaks discovered
		Horn sounds
		Mirrors function and are clean
		Brakes function correctly
		Any new damage noted prior to using this vehicle

Notes: _____

I have personally inspected the vehicle above and have found it to be in the condition listed above.

Signature: _____

Date: _____

Maintenance Schedule (Normal Conditions)

Follow the Normal Maintenance Schedule if the severe driving conditions specified in the Severe Conditions Maintenance Schedule do not apply.

NOTE: If you only *OCCASIONALLY* drive under a "severe" condition, you should follow the Normal Conditions Maintenance Schedule.

Service at the indicated distance or time – whichever comes first.	miles x 1,000	15	30	45	60	75	90	105	120
	km x 1,000	24	48	72	96	120	144	168	192
	months	12	24	36	48	60	72	84	96
Replace engine oil	Replace every 7,500 miles (12,000 km) or 12 months								
Replace engine oil filter	•	•	•	•	•	•	•	•	•
Check engine oil and coolant	Check oil and coolant at each fuel stop								
Replace air cleaner element		•		•		•		•	
Inspect valve clearance	At 30,000 miles (48,000 km) only								
Replace spark plugs		•		•		•		•	
Replace timing belt and inspect water pump							•		
Inspect and adjust drive belts		•		•		•		•	
Inspect idle speed							•		
Replace engine coolant			•		•		•		
Replace transmission fluid						•			
Inspect front and rear brakes	•	•	•	•	•	•	•	•	•
Replace brake fluid			•			•			
Check parking brake adjustment	•	•	•	•	•	•	•	•	•
Rotate tires (Check tire inflation and condition at least once per month)	Rotate tires every 7,500 miles (12,000 km)								
Visually inspect the following items:									
Tie rod ends, steering gear box, and boots									
Suspension components									
Driveshaft boots									
Brake hoses and lines (including ABS)	•	•	•	•	•	•	•	•	•
All fluid levels and condition of fluids									
Cooling system hoses and connections									
*Exhaust system									

**CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM**

APPENDIX F

Manhole Inspection Forms

MANHOLE INSPECTION SHEET

CLIENT: _____
FACILITY: _____
PROJECT NO. _____
STRUCTURE ID: _____

NOTE TAKER: _____
INSPECTOR: _____
WEATHER: _____
TIME: _____ DATE: _____

NORTH EAST ELV. T/R

MH LOCATION: _____

MH DEPTH: _____ MH STEPS: GOOD _____ FAIR _____ POOR _____

MH LID: SUBJ. TO INUNDATION: YES _____ NO _____ INFLOW _____
SOLID _____ VENTED _____ INFLOW _____
BROKEN _____ MISSING _____ INFLOW _____

MH RING: GOOD _____ BROKEN _____ MISSING _____

MH WALLS: BRICK _____ PRECAST _____ OTHER _____
DEBRIS ON MH WALLS: HEAVY _____ LIGHT _____

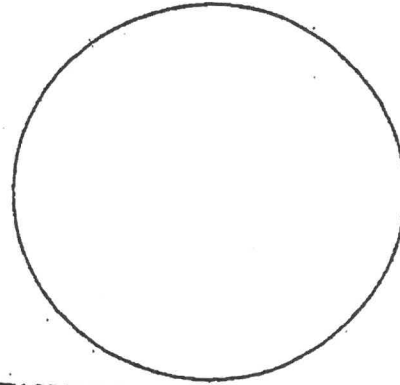
ROOTS IN WALLS _____ INFILTRATION _____
FAST SURCHARGING _____ HEIGHT ABOVE INVERT _____

DETERIORATED WALLS _____ INFILTRATION _____
HOLE IN MH WALLS _____ INFILTRATION _____ INFLOW _____
CRACK IN MH WALLS _____ INFILTRATION _____ INFLOW _____
HOLE IN MH CONE _____ INFILTRATION _____ INFLOW _____
CRACK IN MH CONE _____ INFILTRATION _____ INFLOW _____
OTHER DEFECTS _____ INFILTRATION _____ INFLOW _____

MH BENCH: DETERIORATED _____ INFILTRATION _____ INFLOW _____
SEDIMENT ON BENCH: HEAVY _____ MEDIUM _____ LIGHT _____ TYPE _____
OTHER: _____

MH INVERT: DETERIORATED _____ INFILTRATION _____ INFLOW _____
SEDIMENT IN INVERT: HEAVY _____ MEDIUM _____ LIGHT _____ TYPE _____

FLOW PATTERN



DEPTH OF FLOW: _____

LINE DESCRIPTION												
LINE NUMBER:	1			2			3			4		
LINE SIZE												
MATERIAL	PVC	HDPE	OTHER	PVC	HDPE	OTHER	PVC	HDPE	OTHER	PVC	HDPE	OTHER
DEPTH FROM MP TO FL												

GENERAL COMMENTS:

HURST-ROSCHKE ENGINEERS

CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM

APPENDIX G

SSO Procedures



CITY OF CAHOKIA HEIGHTS

January 27, 2022

RE: SANITARY SEWER OVERFLOW EMERGENCY RESPONSE PROCEDURES (Amended)

Mr. Adamiec,

Per your request, I have updated our SSO Procedure List.

The purpose of this document is to set procedures for the City of Cahokia Heights Water and Sewer staff responding to emergency situations and to accurately and consistently identify, investigate, and report sanitary sewer overflows (SSOs) in compliance with the Illinois Environmental Protection Agency's regulatory requirements.

It is the City's goal to protect public health and safety, and prevent adverse impacts to the environment. Primarily our staff is expected to achieve timely and expeditious response to reports of all potential SSOs, as well as ensuring all reasonable steps are taken to contain and prevent sewage from entering homes, yards, ditches and other sections of the City's service area. The City's sewer department staff will do their best to minimize or correct any adverse impact of overflows in case they occur.

I. Objectives

- A. Provide timely and proper notifications of responders, regulatory agencies, and other potentially affected entities (see list of persons and/or agency contacts on page two)
- B. Minimize adverse impacts of SSOs
- C. Ensure corrective action is taken in a timely manner
- D. Ensure compliance with current regulatory requirements
- E. Ensure accurate and consistent identification, investigation, and reporting of emergency response situations
- F. Ensure appropriate staff are aware of and follow the emergency response plan, and address emergency operations and other necessary response activities

II. Roles and Responsibilities – City of Cahokia Heights Staff

- A. Administrative: Responsible for processing forms and providing reports to management as required per procedure.
- B. Administrative: Responsible for these procedures and ensuring it satisfies requirements of the IEPA. Also responsible for providing a sewer department laborer when a SSO is identified and for flow monitoring services.
- C. Public Relations: The mayor will appoint someone responsible for interface between the City and the public, the media.
- D. Office Clerks: Responsible for utilizing call-handling procedures to determine callers' reported problems. Relay all call information to the Sewer Foreman in a timely manner
- E. Administrative: Responsible for site investigation, containment, recovery, service restoration, cleanup, data collection, reporting, and following customer contact procedures detailed in this procedure list.
- F. Laborers: Any water/sewer staff who witness an SSO will notify a supervisor in a timely manner. At any given time during an emergency event, any staff within this department can be assigned to various tasks or perform any given function relating or pertaining to event-driven requirements.

Cordially,

Sharlin K. Pfeffer, Assistant Director
City of Cahokia Heights Water & Sewer Department



CITY OF CAHOKIA HEIGHTS

Page Two

List of contacts for SSO events:

Adamiec, James <Adamiec.James@epa.gov>; Brown, Michael L. <Michael.L.Brown@Illinois.gov>; Carlson, Deborah <carlson.deboraha@epa.gov>; Cc: James Nold <jnold@hurst-rosche.com>; chris.decker@amwater.com; Gayle.renth@illinois.gov; Gillian <asque.gillian@epa.gov>; Joseph Stitely <Joe.Stitely@Illinois.gov>; joseph.ahlvin@amwater.com; Maraldo, Dean <Maraldo.Dean@epa.gov>; mscoggins@crowderscoggins.com; R5Weca@epa.gov; Rachel.bretz@amwater.com; Sam F Saucier <Sam.Saucier@amwater.com>; Terry Sudholt <tsudholt@hurst-rosche.com>; todd.bennett@illinois.gov; wayne.caughman@illinois.gov; Zach York <zyork@hurst-rosche.com>

Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Sanitary Sewer Overflow or Bypass Notification Summary Report

- Within 24 hours of the occurrence, notify the Illinois EPA regional wastewater staff by telephone, FAX, email or voice mail, if staff are unavailable.
- Within 5 days of the occurrence, provide a written report describing the overflow or bypass, including all information requested on this form. The permittee is required to submit this form or other equivalent written notification to the Illinois EPA at:

Bureau of Water/Compliance Assurance Section - MC #19
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

NOTE: You may complete this form online, save a copy locally, print, sign and submit it to the BOW/CAS MC #19, at the above address. You may also print the form before completing it by hand, signing and submitting it.
Failure to notify the Illinois EPA as specified may result in fines up to \$10,000 for each day of violation.

Instructions: Use this form to report all unscheduled sanitary sewer overflow or bypass occurrences. Attach additional information as necessary to explain or document the overflow or bypass. For the purpose of this report, an overflow or bypass is defined as the discharge of untreated sewage from the sanitary sewer collection system to a surface water and/or ground due to circumstances such as those identified by the check boxes in the overflow or bypass details section of this form.

Use one form per occurrence. A single occurrence may be more than one day if the circumstances causing the overflow or bypass results in a discharge duration of more than 24 hours. If there is a stop and restart of the overflow or bypass within 24 hours, but it is caused by the same circumstances, report it as one occurrence. If the discharges are separated by more than 24 hours, they should be reported as separate occurrences.

24 Hour Notification Information

Permittee (Municipality or Facility Name): _____ Permit Number: _____ Person Representing Permittee Who Contacted IEPA: _____

Date: _____ Time: ☐ AM ☐ PM IEPA Office Contacted: _____ Name of IEPA Employee Contacted: _____

Sanitary Sewer Overflow or Bypass Details

Date and Duration of Overflow or Bypass Occurrence (complete a separate form for each occurrence):

Start Date: _____ Time: ☐ AM ☐ PM Duration of the overflow or bypass (hours and minutes): _____

Estimated Volume of
Wastewater
Discharged
(gallons): _____

WWTP Flow During bypass (report in
MGD): Not applicable for a collection
system SSO.

Location of the Overflow or Bypass: _____

Circumstances Causing the Overflow or Bypass (check all that apply)

WPC 733
11/2011

☐ Rain ☐ Power Outage ☐ Equipment Failure ☐ Other (explain below)
☐ Snow Melt ☐ Broken Sewer ☐ Widespread Flooding

Provide a narrative description to further explain why the overflow or bypass occurred. For example, describe what equipment failed. What caused the power outage, or what plugged the sewer. Flooding should only be indicated, as a cause if there is significant flooding that is caused by high river, stream, or lake water levels, not just localized high water in the street.

Wet Weather (if applicable)

Date(s) and Duration of Rainfall:

Start Date: _____ Time: _____ AM PM _____ End Date: _____ Time: _____ AM PM _____ Amount of Rainfall (inches) _____ Amount of Snow Melt (inches) _____

Contributing Soil Conditions (saturated, frozen, soil type) _____

Where Did the Discharge from the Overflow or Bypass Go? (check all that apply)

Provide the name of the local receiving water that the wastewater enters, which could be a nearby stream, river, lake, or wetland. If discharge does not enter directly into surface water, but indirectly by way of a ditch or storm sewer, trace the path of the ditch or storm sewer to find the receiving water.

- ☐ Runs on ground and absorbs into the soil
- ☐ Ditch: Name of surface water it drains to: _____
- ☐ Storm Sewer: Name of surface water it drains to: _____
- ☐ Surface water direct discharge: _____
- ☐ Basement Back-ups, (Number & use (i.e. residential, commercial) of buildings affected): _____
- ☐ Other, describe: _____

Actions to Correct This Occurrence and Prevent Future Overflows or Bypasses

Describe what actions were taken to minimize the volume of wastewater discharged from the overflow or bypass reported on this form. Also describe what actions are planned to prevent or minimize future overflows or bypasses. Illinois law and NPDES permits prohibit overflows or bypasses, unless certain specified conditions are met. Sanitary sewer overflows and bypasses may be the subject of enforcement action.

Report Completed By

Contact Person: _____
Street Address: _____
PO Box: _____
City: _____ State: _____
Zip Code: _____ Phone: _____
County: _____

Authorized Representative Contact Information

Contact Person: _____
Title: _____
Street Address: _____
PO Box: _____
City: _____ State: _____
Zip Code: _____ Phone: _____
County: _____

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Authorized Representative Name (Print)

Title

Authorized Representative Signature

Date

CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM

APPENDIX H

Checklists, Log Sheets, and Other Documentation Tools

City of Cahokia Heights Water & Sewer Dept.

Sanitary Sewer Problem Reported

Report # _____

(circle)

Person receiving call: _____ Date _____ Time _____ AM
PM

Customers Name: _____

Address: _____

Ask the customer the following questions:

1. What is the location of the backup on the property or home? _____
2. Was the washing machine draining before backup started? _____
3. When did the sewer problem start? _____
4. Have you previously reported this same problem? _____ (if yes) Who did you report it to and when did you report it? _____
5. Is there backup in the basement? _____ (if yes) about how much water? _____
6. Is the water clear? _____

Weather Conditions:			
☐ Clear	☐ Cont. Rainfall	☐ Widespread Flooding	
☐ Groundwater Infiltration	☐ Snow Melt	☐ Storms	
Complaint Results:			
☐ Cust. Problem	☐ Broken Sewer	☐ Equipment Failure	
☐ Other (explain below)	☐ Power Outage	☐ Blocked Line	

Person Responding to work order: _____

Action Taken: _____

Date and Time Resolved

Date:

Time

If sewage overflow occurs, this problem must be reported to the IEPA within 24 hours of the occurrence!

Contact: **Wayne Caughman** Tel: (618) 346-5125 Fax: (618) 346-5155
Mail: Bureau of Water/Compliance Assurance Section - MC #19
1021 North Grand Ave. East P.O. Box 19276
Springfield, IL 62794-9276
Reported to Bureau: DATE: _____ TIME: _____

(If no contact is made, you must leave voice mail and fax report)

Type of Contact: Agents Name _____

Put a copy of work order in the customers file and in report binder. (Clerks Int.) _____

CITY OF CAHOKIA HEIGHTS
SANITARY SEWER SYSTEM
OPERATION AND MAINTENANCE PROGRAM

REPAIR CODES	
PS-1	pump repair
PS-2	pipe break
PS-3	electrical
BP	bypass line
S	sewer line failure
C	cleaning line blockage
O	other

CORRECTIVE ACTION LOG

[illegible]

Date _____

Daily Job Sheet

Sheet ____ of ____

ID #1455

<u>Sewer Department</u>	Comments
Address	
Jobs Completed	
Employees on Job	
Vehicles or Equip. Used	
<u>Sewer Department</u>	
Address	
Job Completed	
Employees on Job	
Vehicles or Equip. Used	
Meter Readers	
Employees on Job	
Areas - Read	
Vehicles Used	
General Foreman _____	

Daily Sheets

Name: _____ Week Start Date _____ Week End Date _____

Day	Address	Work Performed	ST	OT	DT
	Address	Work Performed			
	Address	Work Performed			
	Address	Work Performed			
	Address	Work Performed			

Total Hours _____

Straight Time _____

Overtime _____

Double Time _____

Comments:



Employee Training Log

Training Date: _____

Training Description: _____

Trainer: _____

Employee Name	Employee Signature