

REQUEST FOR QUALIFICATIONS NO. – 260161

Sealed Request for Qualifications will be received in the office of the City Purchasing Manager, 12th Floor, City Hall, 455 North Main, Wichita, Kansas, prior to **10:00 O'CLOCK A. M., FRIDAY, JULY 31, 2026.** **One (1) electronic copy of the qualification proposal is required. Qualification proposals are to be submitted electronically through the City's Procurement Portal (wichita.gov/procurementportal) using secure login/password for:**

PUBLIC WORKS & UTILITIES/ENGINEERING DIVISION

Concept & Design of Maple Street, West Street to McLean Boulevard

AS PER SPECIFICATIONS

F.O.B.: Wichita, KS

A **PRE-PROPOSAL CONFERENCE** will be held at the Central Maintenance Facility (1801 S McLean Blvd, Wichita, KS 67213) on July 7, 2026, at 2:30pm.

Specifications for the sealed proposals are on file in the office of the City Purchasing Manager, 12th Floor, City Hall, 455 North Main, Wichita, Kansas, (316) 268-4636. This information is also available on the City of Wichita Web Site at wichita.gov/procurementportal.

Sealed proposals shall be received (electronically as stated) in the office of the City Purchasing Manager prior to 10:00 o'clock a.m., Friday, JULY 31, 2026.

The review and evaluation of the submitted Proposals will take estimated 60 to 90 days before notification from the City of Wichita that a contract has been approved by City Council. If the Purchasing Division may be of further assistance, please contact us at (316) 268-4636.

Dated at Wichita, Kansas, on the 18th day of JUNE, 2026.

Josh L. Lauber, MBA, CPSM
Purchasing Manager



CITY OF WICHITA
 FINANCE DEPARTMENT/PURCHASING DIVISION
 455 N. MAIN ST, 12TH FLOOR, WICHITA, KS 67202
 PHONE: (316) 268-4636
 PURCHASING@WICHITA.GOV
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 WICHITA.GOV/PROCUREMENTPORTAL

REQUEST FOR QUALIFICATIONS #260161

Concept & Design of Maple Street, West Street to McLean Boulevard – Engineering Division
 City of Wichita – Public Works & Utilities Department

JUNE 18, 2026

PROJECT DEFINITION

The City of Wichita is seeking qualification proposals from firm(s) for technical consulting expertise to deliver a design concept for improvement along Maple Street from West Street to McLean Boulevard. The ability to provide data collection, robust public engagement, and meeting time-critical milestones will be essential to the success of this project.

The selection of the consulting firm by the City’s Staff Screening and Selection Committee will be based on several factors, including: (1) approach to project, (2) proposed project design schedule, (3) staff assignment for the project, (4) performance on previous projects of similar nature & comparable size, (5) knowledge and expertise, and 6) small & emerging business enterprise program participation.

Any questions regarding this document must be submitted via the procurement portal’s “Ask a Question” functionality or by email to VAL FALO (vfalo@wichita.gov) no later than 5:00 p.m. JULY 23, 2026. Questions must be submitted via email or procurement portal, and they will be answered through an addendum made available to all interested parties.

Tentative Schedule	
RFP Released	JUNE 18, 2026
Pre-Proposal Meeting	JULY 7, 2026 @ 2:30 P.m. CMF, 1801 S McLean Blvd
Questions Due Via Email	JULY 23, 2026 5:00 p.m.
Questions Answered Via Addendum	JULY 29, 2026
Proposals Due	JULY 31, 2026 10:00 a.m.
Evaluation	AUGUST 2026
Project Awarded (tentative)	AUGUST 2026

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1. OVERVIEW AND SUMMARY

The City of Wichita is the largest city in Kansas with a population of approximately 397,000 and is the seat of Sedgwick County. As of May 2024, the City’s total land area was approximately 167 square miles. Major highways, including the Kansas Turnpike (I-35), Interstate 135 and U.S. 54 (Kellogg Avenue) link the City with a large trade area that encompasses a population of more than 1.1 million people within a 100-mile radius. The City of Wichita employs approximately 3,100 employees providing a full range of municipal services, including police and fire protection, parks and recreation programs, libraries, public housing, municipal transportation, airports, water and sewer utilities, general administration, and other services. Information regarding the City of Wichita can be found at wichita.gov. The legislative body of the City consists of a six-member City Council, elected by district, and a full-time Mayor elected from the City-at-large. The Council members and the Mayor serve four-year terms overlapping. The Council and Mayor establish general policies, which are executed by the City Manager.

The Maple Street corridor is primarily a residential corridor with direct access to residences, and commercial uses in select areas. The corridor is currently a four-lane roadway with improved, signalized intersections with dedicated left turn lanes. The corridor has a narrow right-of-way typical of established neighborhoods and consists of mature trees within the public right-of-way. The area is also challenged by poor drainage.

2. PROJECT OBJECTIVES

The purpose of the proposal is to demonstrate the qualifications, competence and capacity of firms seeking to provide services specified herein for the City of Wichita, in conformity with the requirements of this Request for Qualifications. The proposal should demonstrate the qualifications of the firm and the staff to undertake this project. It should also specify the proposed approach that best meets the Request for Qualifications requirements. The proposer must address each of the service specifications under the Scope of Services.

3. SCOPE OF SERVICES

The City desires a consultant to develop concepts of improvements along Maple from West Street to McLean Boulevard. Concept development will require substantial data collection, evaluation, and significant public engagement with stake holders to present concepts that may not satisfy all stake holders’ special interests but reaches a recommended concept that best serves the corridor.

Public outreach and engagement will be a critical element of the project. The public engagement during the concept design process shall include, but is not limited to, the following:

- a) Creating and maintaining a website for the project
- b) Engaging with key stakeholders; e.g. Transit, Wichita Police Department (WPD), Bicycle and Pedestrian Advisory Board, Downtown Wichita, Wichita Sedgwick County Access Advisory Board (WSCAAB), Wichita Public Schools, universities, residents and businesses along the corridor, etc.
- c) Hosting open houses
- d) Presenting at District Advisory Board (DAB) meetings

The aim of the project is to improve safety and includes, but is not limited to, the following elements:

- a) Lane configurations, assessment of lane configuration options with public input to determine final concept configuration
- b) Geometric improvements
- c) Crosswalks, including mid-block crosswalks
- d) Public Right-of-Way Accessibility Guidelines (PROWAG) in accordance with Americans with Disabilities Act (ADA)

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- e) Traffic signals, signage and pavement markings
- f) Bicycle facilities, including evaluation of bike lanes along the corridor
- g) Path connections
- h) Intelligent Transportation System (ITS) and communications network (e.g. fiber, modems, etc.)
- i) Streetlights
- j) Drainage
- k) City utility enhancements, including large diameter water main installation west of McLean Boulevard
- l) Streetscape

Coordination is key and will involve incorporation of multiple plans including, but not limited to, the following:

- a) Transit Network Redesign (publicly available)
- b) Bicycle Master Plan (publicly available)
- c) Delano Neighborhood Plan (publicly available)
- d) Community Investments Plan (publicly available)
- e) Pedestrian Master Plan (publicly available)
- f) West Arkansas River Floodplain Drainage Study (attached)

The schedule for the project is critical to target construction in the 2030-2031 timeframe. The firm shall propose a schedule for public engagement and concept approval. The following completion timeframes for design milestones shall specifically be included in the proposed schedule:

- a) Design Concept & Estimate Due:
"X" Days Following Notice to Proceed

Once a final concept has been approved, the City and consultant may enter into a supplemental agreement to move the concept through field check, office check, and final design. The City is projecting construction of the project to begin as early as 2030.

4. **PROPOSAL TERMS**

A. Questions and Contact Information:

Any questions regarding this document must be submitted via the procurement portal's "Ask a Question" functionality or by email to VAL FALO, vfalo@wichita.gov in accordance with the dates and times stipulated for questions. Any questions of a substantive nature will be addressed in written form as a posted addendum on the City's Procurement Portal (wichita.gov/procurementportal) within the "Open Public Opportunities" tab under the associated solicitation number's "Supporting Documentation." Respondents are responsible for checking the City's Procurement Portal and acknowledging any addenda electronically as a part of the Procurement Portal submission's electronic acknowledgment for all stipulated response forms and addendum acknowledgments.

To ensure interested parties receive notification of any published addendum by the City, respondents need to verify the selection of "Semi-hourly" on their Procurement Portal - *Notification Center* settings:

- Accept *Invites from Agencies* (to receive invitations for new solicitation opportunities)
- Accept *Messages* (to receive notifications for any published addendum)

Failure to select "Semi-hourly" notification settings will impact your Procurement Portal profile's ability to receive notifications and messages by the City of Wichita Purchasing Division.

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To view your Procurement Portal's Notification Center settings, log into your account and select Settings, Global Vendor Record, Manage my Organization, and Notifications to view this settings screen. If further assistance is needed, please contact the Purchasing Office directly at purchasing@wichita.gov or by phone at 316-268-4636.

B. Proposal Submission:

Qualification proposals will be received (electronically as stated) in the office of the City Purchasing Manager, 12th Floor, City Hall, 455 North Main, Wichita, Kansas 67202, prior to 10:00 O'CLOCK A.M., Friday, JULY 31, 2026. Proposals are to be submitted electronically through the City's Procurement Portal (wichita.gov/procurementportal) using a secure login/password.

If a Bonfire registration for system access has not been completed, please visit wichita.gov/purchasing for assistance. On the Purchasing website page, a video tutorial (Bonfire Registration Video) walkthrough and registration resources are available to help in the completion of the registration process. If further assistance is needed, please contact the Purchasing Office directly at purchasing@wichita.gov or by phone at 316-268-4636.

All cost incurred in the preparation and presentation of a proposal shall be wholly absorbed by the respondent.

All proposals, including supporting documentation/manuals, shall become the property of the City.

C. Evaluation Criteria:

A Screening and Selection Committee composed of City staff from various departments, and in requested instances, community members will evaluate received proposals. At the discretion of the Selection Committee, respondents may be asked to make an oral presentation to clarify information in their submittal. The Selection Committee will make recommendations regarding the selection to the City Council and request authorization to enter into a contract with the approved firm.

The Staff Screening and Selection Committee will evaluate proposals submitted. Proposal responses will be evaluated on the following but not limited criteria*:

Approach to Project (30%)

Proposed Project Design Schedule (5%)

Staff Assignment for the Project (15%)

Performance on Previous Projects of Similar Nature & Comparable Size (20%)

Knowledge/Expertise (20%)

Small & Emerging Business Enterprise Program participation (10%)*

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Effective December 30, 2025, the City implemented the revised small business program titled, “Small & Emerging Business Enterprise Program” (S/EBE). Proposers interested in claiming program participation may see their requirements outlined in **Section 4. Proposal Terms; F. Mandatory Elements to claim the 10 points afforded towards S/EBE participation. Additional information may be found online at wichita.gov/purchasing.*

The Staff Screening and Selection Committee at their discretion may or may not conduct interviews. If interviews are conducted, the Committee may interview part or all of the respondents. The City reserves the right to make an award based on the greatest benefit to the City and not necessarily on the lowest fee proposal.

Following selection by the Staff Screening and Selection Committee, the highest ranked firm(s) will be recommended. The City Council reviews and approves or disapproves the selection and authorizes the necessary signatures.

The City reserves the right to accept or reject any or all proposals and reserves the right to modify the scope of services during negotiation of the contract. Submission of a proposal indicates acceptance of the conditions contained in the Request for Qualifications (RFQ) and an agreement to negotiate a contract for services. The City reserves the right to make an award on the basis of greatest benefit to the City and is not obligated to select the lowest cost option.

The City, through its Purchasing Manager, reserves the right to accept or reject any or all proposals and any part or parts of any proposal, and to waive formalities therein to determine which is the most beneficial proposal.

D. Tentative Schedule:

The tentative schedule will apply to this Request for Qualifications (RFQ) and may change according to with the City’s needs or unforeseen circumstances. All dates and times will be in Central Standard Time (CST; CDT) and can be confirmed through the Purchasing Office located at 455 N. Main 12th Floor Wichita, KS 67202, calling (316) 268-4636, or by contacting the buyer listed on the solicitation document. Questions of a substantive nature will be reviewed and answered in written form as an addendum and posted to the City’s Procurement Portal at wichita.gov/procurementportal.

Vendors are encouraged to complete vendor registration by visiting the City of Wichita’s Procurement Portal found at wichita.gov/procurementportal, then follow the link to the Bonfire vendor registration page to register your company. Please check our website, wichita.gov/purchasing for upcoming registration opportunities, training dates & locations, and information as it is updated in the near future.

The review and evaluation of the submitted proposals historically takes an estimated 60 to 90 days before notification from the City of Wichita that a contract has been approved by City Council.

Event	Date
Solicitation Advertised	JUNE 18, 2026
Pre-Proposal Meeting	JULY 7, 2026, at 2:30pm CMF, 1801 S McLean Blvd
Last Day for Written Question	JULY 23, 2026 @ 5:00 p.m.
Addendum Posting	JULY 29, 2026

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Proposal Due	JULY 31, 2026 @ 10:00 a.m.
Evaluation/Optional Oral Presentations	AUGUST 2026
City Council Approval (tentative)	AUGUST 2026

E. Minimum Respondent Qualifications:

This section lists the criteria to be considered in evaluating the ability of firms interested in providing the goods and/or service(s) specified in this Request for Qualifications. Firms should meet or exceed these qualifications to be considered for award. Any exceptions to the requirements listed should be clearly detailed in the proposer’s response. Proposers shall:

1. Have a minimum of 10 years’ experience in providing similar services specified in this RFP.
2. Understanding of industry standards and best practices.
3. Have experience in providing goods and/or services of comparable size and complexity to that being requested.
4. Have knowledge of and comply with all currently applicable, and as they become enacted during the contract term, federal, state and local laws, statutes, ordinances, rules and regulations. All laws of the State of Kansas, whether substantive or procedural, shall apply to the contract, and all statutory, charter, and ordinance provisions that are applicable to public contracts in the city shall be followed with respect to the contract.
5. Registration with the Kanas Secretary of State’s Office before contract execution.
6. Having Municipal government experience is preferable; however, the City will make the final determination based on responses received and the evaluation process.
7. Have the capacity to acquire all bonds, escrows or insurances as outlined in the terms of this RFP.
8. Provide project supervision (as required) and quality control procedures.
9. Have appropriate material, equipment and labor to perform specified services.
10. Ensure parking occurs only in designated areas and parking permits are displayed (if provided).
11. Wear company uniform or ID badge for identification purposes.
12. Meet local, state, and federal guidelines as applicable.

F. Mandatory Elements:

All proposals must adhere to the following guidelines:

1. All proposals must be submitted on 8 ½" X 11" page sizing (no legal size or odd size pages are permitted) and fully address the Scope of Services.
2. A profile of the firm including the official contact person, telephone number and mailing address. If the firm is a joint venture or consortium, the qualifications of each firm comprising the joint venture or consortium should be separately identified.
3. The proposal must include the signature of an official of the firm that is authorized to contract for the firm.
4. The firm’s experience, including length of time in business, and the experience of staff members and their role in this project.

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5. A minimum of three (3) professional references with the nature of the services provided and contact information for each reference.
 - a. Letters of Reference will be submitted as a part of response submission on company letterhead/signature block to identify a submitter and source of reference.
6. Disclose any civil litigation or alternative dispute resolution proceedings involving the Proposer (and any subcontractor proposed in a response submission) within the last year.
 - a. Continuing disclosure required for any new litigation, arbitration, or other proceeding commencing after proposal submission within 30 days of occurrence in a written statement to the contact person identified.
 - b. Details of settlements that are prevented from disclosure by law may be annotated as such.
7. Proposal for services and methodology for delivery of services.
8. Reasoning that explains why the proposed approach will achieve the City's objectives.
9. Timeline for completing the project.
10. Proposals may not be withdrawn for a period of 120 days following the opening of this Request for Proposal. Prices MUST also be free of duties and federal, state, and local taxes unless otherwise imposed by a governmental body, and applicable to the material on the proposal.
11. Description of any City responsibilities or assistance sought from City staff, including assistance required from the City to ensure expedient project completion and lessen project costs.
12. Completed Request for Qualifications Conditions Certification (Submittal Letter) electronic acknowledgment in City Procurement Portal (Yes/No).
13. Completed Request for Qualifications Addendum electronic acknowledgment in City Procurement Portal (Yes/No).
14. Small & Emerging Business Enterprise (S/EBE) participation demonstrated by a submitted S/EBE Certification by a federal or state-certified S/EBE; City certified EBE Certification; or having a provable, existing subcontractor relationship for the proposal submission in question demonstrated by the following:
 - a. S/EBE Utilization Form
 - b. S/EBE Participation Schedule
 - c. S/EBE Letter of Intent
 - d. All other S/EBE Participation attestation, short of actual, provable certification at the time of opening the proposals will warrant zero (0) points.
 - i. Provided S/EBE lists a respondent would utilize or provided "good faith efforts" will not qualify.
 - ii. Self-Attestation as an S/EBE at the time of proposal submission will not qualify.
15. Exceptions to any part of this document clearly delineated and detailed.
16. Responses that do not include all required forms/items may be deemed non-responsive.

G. City of Wichita Responsibilities:

1. Designate a Department contact person for any daily communication(s) required to ensure goods and/or services delivery.
2. Provide Contractor with appropriate facility access(es) for completion of awarded goods and/or services.
3. Provide Contractor with Contact Information for key City staff who will manage the contract.

H. Debriefing:

The City of Wichita encourages solicitation respondents to learn, grow, and improve their competitiveness for City procurement opportunities. In the event of an unsuccessful solicitation response,

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solicitation respondents may request a debriefing regarding the selection process from the project manager and the buyer/purchasing representative identified in the solicitation document. The City of Wichita Purchasing Office may be directly contacted at (316) 268-4636 for assistance regarding the debriefing process.

I. Challenges and Protests:

Challenges

A challenge is defined as a written objection by any party interested in responding to either a bid or proposal (collectively referred to as solicitations), when that party wishes to have the City consider an addition, substitution or modification to the specifications stated in the outstanding solicitation.

The written challenge of the solicitation specifications must be filed with the Purchasing Manager located on the 12th Floor, Finance Department at City Hall, 455 N Main, Wichita, KS 67202, telephone number (316) 268-4636, at least five (5) business days before the solicitation opening due date and time as listed on the solicitation documents. Any challenge to solicitation specifications received after the five (5) business days deadline will not be considered by the City. The Purchasing Manager will acknowledge receipt of the challenge. The written challenge is to include the name, address, email address and telephone number of the interested party, identification of the solicitation number and project title, a detailed statement of the reasons for the challenge, supporting evidence or documentation to substantiate any arguments, and the form of relief requested, e.g. the proposed addition, substitution or modification to the specifications. The Purchasing Manager will investigate the written challenge and any evidence or documentation submitted with the challenge.

In the event of a timely challenge of the solicitation specifications to the Purchasing Manager, the affected pending solicitation shall not proceed further until the challenge is resolved by Purchasing Manager decision. The Purchasing Manager will issue a written decision, which will be posted on the City's Procurement Portal, wichita.gov/procurementportal for viewing by all interested parties. The decision rendered by the Purchasing Manager will be final.

Protests

A protest is defined as a written objection to a proposed award, or the award of a contract, with the intention of receiving a remedial result. In order to be considered valid, a protest must 1) come from an actual bidder or proposer for the contract, 2) who claims to be the rightful award recipient, 3) whose economic interest may be affected substantially and directly by the award of a contract or by the failure to award a contract. Suppliers or subcontractors to a bidder or proposer cannot file a valid protest. A valid protest can only be filed by a bidder or proposer which can show that it would be awarded the contract if the protest were successful. Therefore, all conditions numbered 1 through 3 listed above in this paragraph must be met.

The written protest for bids must be filed with the Contract Compliance Officer located on the 12th Floor, Finance Department, City Hall, 455 N Main, Wichita, KS 67202 prior to 9:00 a.m. of the Tuesday immediately following the posting of the notice of intent to award on the City's Purchasing Bid Results site wichita.gov/purchasing. Failure of a protestor to file a written protest related to the award of a contract prior to the 9:00 a.m., Tuesday deadline will invalidate that protest and cause it not to be considered.

The written protest for proposals must be filed with the Contract Compliance Officer located on the 12th

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Floor, Finance Department, City Hall, 455 N Main, Wichita, KS 67202 prior to 5:00 p.m. on the third business day following the day of issuing an email or written notification of award. Failure of a protestor to file a written protest related to the award of a contract prior to 5:00 p.m. on the third business day deadline will invalidate that protest and cause it not to be considered.

The Contract Compliance Officer will acknowledge receipt of the written protest. The written protest is to include the name, address, email address and telephone number of the protestor, identification of the solicitation number or contract number and project title, a detailed statement of the reasons for the protest which justify the relief sought, supporting evidence or documentation to substantiate any arguments, and a concise statement of the form of relief requested (e.g. reconsideration of the offer). All the above required information must be included in the protest at its submission. Untimely protests will be returned unopened. Incomplete protests will be rejected without consideration.

In the event of a valid, timely protest, the City shall not proceed with the execution of the contract until all City administrative remedies have been exhausted or waived, or until a determination is made that a contract award is required to protect the interests of the City.

The decision of the Contract Compliance Officer, based on review of the written protest and information available from City sources, will be rendered within ten (10) business days after receipt of protest, will recite the reasons for the decision, and be provided to the protestor by email or written notification.

The protestor may seek reconsideration of the decision of the Contract Compliance Officer's decision in writing to the Internal Auditor on the 13th Floor, City Manager Office, City Hall, 455 N Main, Wichita, KS 67202 prior to 5:00 p.m. on the third business day following the day of issuing an email or written notification of decision. Failure of a protestor to file a written reconsideration request related to the Contract Compliance decision prior to 5:00 p.m. on the third business day deadline will invalidate that protest and cause it not to be considered. The Internal Auditor decision will be issued by email or written notification, within ten (10) business days after receiving the written reconsideration, unless this time for a response is extended in writing and agreeable by both parties.

The Internal Auditor's decision will be final, unless the protestor seeks a hearing before the City Council, by written request filed with the City Clerk, located on the 13th Floor, City Hall, 455 N Main, Wichita, KS 67202, prior to 5:00 p.m. on the third business days after issuance of the Internal Auditor written decision. Failure of a protestor to file a written reconsideration request related to the internal Auditor's decision prior to 5:00 p.m. on the third business day deadline will invalidate that protest and cause it not to be considered.

If there is a timely written reconsideration request, the protestor may seek reconsideration of the decision of the Internal Auditor by means of a hearing before the City Council. This hearing must be in aid of the City Council's legislative authority to approve contracts for goods, services, and public improvements on behalf of the City, and does not imply any due process right of the protestor in an unawarded, unexecuted contract. The hearing must be scheduled as soon as practicable according to the City Council's calendar. The hearing must be granted only upon such facts and issues as are presented in writing to the City Clerk for submission to City Council at or before noon on the Thursday preceding the scheduled hearing. No documents or other evidence must be accepted at the hearing. The protesting party must have available no more than 20 minutes for presentation of argument, followed by no more than 20 minutes of argument presented by City staff. The City Council may deliberate in executive session to seek the assistance of the City Attorney, but must deliver its decision from the bench during

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the City Council meeting.

If a written protest is made against any proposed award or the award of a contract that relies in part on federal funding, then the Contract Compliance Officer must notify the Granting Authority in writing with all information regarding the protest. A protestor must exhaust all administrative remedies with the City of Wichita before pursuing a protest with the Granting Authority. Protestors are put on notice that according to federal regulations, certain determinations made at the local level are not subject to appeal to the Granting Authority. If a review is granted by the Granting Authority, it will be limited to:

1. the City of Wichita's failure to have or follow its protest procedures, or its failure to review a complaint or protest; or
2. violations of Federal law or regulations.

The Contract Compliance Officer will provide notice to the Granting Authority Regional Office or Headquarters Office of any request for reconsideration before the City Council, and also provide notice of the decision rendered by the City Council, or any alternative resolution reached.

5. CONTRACT PERIOD AND PAYMENT TERMS

The term of this contract shall be as negotiated in the contract. Specific project details (Statement of Work, Milestones, etc) will be negotiated prior to execution of contract. Once goals as outlined are met and parties mutually agree that terms have been satisfied, the contract may be amended to progress the concept into the design phase per a revised scope of services.

Payment will be remitted following receipt of a detailed invoice that, depending upon the scope of services solicited, may require outlining of City-assigned work order number, labor hours, hourly labor cost, materials costs, miscellaneous costs (i.e. – shop supplies, travel time, vehicle charges, etc.). Any payments remitted for installation, maintenance, and/or repair will itemize costs of labor and materials including hourly rate, number of hours worked, and materials costs. Invoices received that are missing this information will be returned to the vendor for correction.

6. INSURANCE REQUIREMENTS

LIABILITY INSURANCE SPECIFICATIONS

The **Successful Bidder** will be required to furnish a Certificate of Insurance (prior to the Purchase Order, Agreement, or Contract being issued) with the following minimum coverage:

1. Commercial General Liability

Covering premises---operations, xcu hazards, Product/Completed Operations, errors and omissions, Broad Form Property Damage and Contractual Liability with minimum limits as follows:

Bodily Injury Liability	\$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate
Property Damage Liability	\$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate
Or	
Bodily Injury and Property Damage Liability (Combined Single Limit)	\$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate

2. Comprehensive Automobile Liability

All Owned, Non-Owned, and Hired vehicles with minimum limits as follows:

Bodily Injury Liability	\$1,000,000 Each Occurrence
Property Damage Liability	\$1,000,000 Each Occurrence
Or	
Bodily Injury and Property Damage Liability (Combined Single Limit)	\$1,000,000 Each Occurrence

3. Workers' Compensation to meet Statutory requirements.

4. Employers Liability

\$1,000,000 Each Accident
\$1,000,000 Occupational Disease
\$1,000,000 Annual Aggregate

The following additional coverages will apply when selected:

Required: YES NO

5. Professional Liability (Claims made basis)

\$1,000,000 Each Claim
\$1,000,000 Annual Aggregate

Required: YES NO

6. Pollution Liability

\$1,000,000 Each Claim
\$1,000,000 Annual Aggregate

Required: YES NO

7. Umbrella Liability

\$1,000,000 Each Claim
\$1,000,000 Annual Aggregate

The Insurance Certificate must contain the following:

The City of Wichita shall be added as primary and non-contributory additional insured. The policy shall also provide coverage for contractor's/vendor's contractual obligations created in the Agreement. Coverage shall be the greater of the requirements stated here or the contractor's existing policy.

The Certificate of Insurance must be submitted **within ten (10) days** after notification of award to the City of Wichita Purchasing Manager, City Hall, 12th Floor, 455 North Main, Wichita, Kansas, 67202-1694.

END OF SPECIFICATIONS

(2/2026)

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7. **GENERAL SPECIFICATIONS:**

GENERAL SPECIFICATIONS

KANSAS OPEN RECORDS ACT

Pursuant to the Kansas Open Records Act (K.S.A. 45-215 et seq.), all proposals received become a public record once award of the contract or agreement has been approved by the City Council. Consultants should not expect the City to seek confidentiality protection for any claimed privileged or proprietary information in the written qualification just because the material is marked "confidential" or "proprietary." For any essential information that the consultant reasonably believes can be defended as being exempt from disclosure under the Act, the information must be capable of being separated or redacted from the balance of the qualification and should be clearly and specifically marked as confidential or proprietary. For any material so designated, the City will seek to claim confidentiality if the justification for such confidentiality is readily apparent or if the bidder requests that the City to contact the bidders for guidance before making the material public. The City cannot guarantee the confidentiality of claimed material, however. Submission of proprietary or other alleged protected business information without prior notice to the City and proper marking may render a proposal or bid non-responsive resulting in disqualification from competition.

PROPOSAL FORMS

All proposals **MUST** be electronically submitted and acknowledged (Yes/No) by an officer or employee authorized to submit and bind the proposer to the terms of the solicitation and proposer. Any exceptions, to the specifications, terms and/or other conditions concerning the proposal, **must** be noted in the "proposal" submitted to be considered. The "proposal" is to be submitted electronically through the City's Procurement Portal (wichita.gov/procurementportal) using a secure login/password. Vendors are requested to submit current literature or brochures relating to their proposal.

CONFLICT OF INTEREST

The firm is required to disclose that it has no conflict of interest with regard to any officer or employee of the companies involved including the City of Wichita.

LICENSE

Vendors bidding on commodities or services for the City of Wichita must be currently licensed by the City of Wichita or the State of Kansas, where applicable, before a purchase order or contract will be issued.

CONTRACT

The successful vendor agrees to enter into a contract with the City, and when required, as per specifications, to furnish bond by a surety company authorized to do business in the State of Kansas.

SUBCONTRACTING/JOINT VENTURES

Respondents are encouraged to consider subcontracting portions of the contract to small & emerging businesses. A joint venture between two or more vendors is wholly acceptable if it serves the best interests of the City of Wichita. If this is done, the names of the proposed subcontracting vendors must be clearly identified in the qualification. Following an award of the contract, no additional subcontracting will be permitted without the express prior written consent of the City of Wichita. The firm receiving the contract award will be responsible for any work of such subcontractors and sign the contract with the City of Wichita.

SMALL & EMERGING BUSINESS ENTERPRISE PARTICIPATION ENCOURAGEMENT

The City of Wichita encourages all vendors to include small & emerging business participation in their proposals. Therefore, each consultant shall specifically identify the participation of small & emerging contractors and subcontractors in the work to be performed by the consultant and shall list such small & emerging contractors or subcontractors by name and show the dollar amount of work to be performed by each in the proposal.

ARBITRATION PROVISIONS

"Notwithstanding anything to the contrary contained in these proposal documents or the contract to be awarded herein, the City shall not be subject to arbitration and any clause relating to arbitration contained in these proposal documents or in the contract to be awarded herein shall be null and void."

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ANTITRUST LITIGATION CLAUSE

"For good cause, and as consideration for executing a purchase order/contract, the contractor, acting therein by and through its authorized agent, hereby conveys, sells, assigns, and transfers to the City of Wichita, all rights title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Kansas, relating to the particular product, products, or services purchased or acquired by the City of Wichita, Kansas, pursuant to a purchase order/contract.

CONSTRUCTION - PAVING PROJECTS

On construction or paving projects, contractors **MUST** contact the City Controller's Office, City Hall, 12th Floor, 455 North Main Street for a Kansas Sales Tax Exemption Certificate prior to starting work. Contractors will be responsible for paying Kansas Sales Tax on any purchase for these projects made before the certificate is issued.

MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES

The contractor and owner waive claims against each other for consequential damages arising out of or relating to this contract. This mutual waiver includes, but is not limited to:

- 1) Damages incurred by the owner for rental expenses, for loss of use, income, profit, financing, business and reputation and for loss of management or employee productivity or for the services of such persons; and
- 2) Damages incurred by the contractor for principal office expenses, including, but not limited to, the compensation of personnel stationed in such principal office, for losses of financing, business and reputation and for the loss of profit, except anticipated profit arising directly from the construction.

RESTORATION

"Contractor shall, as a condition of final payment, restore all right-of-way and adjacent private property which has been disturbed, damaged or otherwise affected by construction to a condition equal to or better than existed prior to the commencement of construction. Such restoration shall include but not be limited to regrading and seeding of areas where grass was planted and growing prior to construction; provided, however, such regrading and seeding of lawn areas, when completed, shall be considered to be restoration of an area to a condition equal to or better than previously existing grass growth and Contractor shall have no responsibility to ensure growth of such seeded area(s). This restoration shall be considered part of the contract work and Contractor shall be responsible for the performance of such restoration work in the same manner as it is responsible for the performance of the contract work."

FEDERAL EXCISE TAX

The articles specified in this proposal are for the exclusive use of the City of Wichita, Kansas. Therefore, Federal Excise Tax shall not be imposed. The City of Wichita, Kansas Federal Excise Tax Exemption Certificate Number is 48 77 0021K.

ESTIMATED QUANTITIES

If estimated quantities are shown, on the "Request For Formal Proposal" form, they are used to evaluate the proposal only. The figure(s) listed is the estimated usage only and is not intended to limit or guarantee in any way, the amount the City may purchase under the purchase order/contract.

CITY OF WICHITA CREDIT CARD

Presently, many City Agencies use a City of Wichita Procurement Card (Visa) in lieu of a City warrant to pay for some of its purchases. No additional charges will be allowed for using the card.

DELIVERY

Delays in delivery caused by bona fide strikes, government priority or requisitions, riots, fires, sabotage, acts of God or any other delays deemed by the Purchasing Manager to be clearly and unequivocally beyond the contractor's control, will be recognized by the City, and the contractor will be relieved of the responsibility of meeting the delivery time, as stipulated in the contract, upon contractor's filing with the Purchasing Manager a notarized just and true statement signed by a responsible official of the contractor's company, giving in detail all the essential circumstances which, upon verification by the City, justifies such action by the Purchasing Manager.

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AWARD

The City, through its Purchasing Manager reserves the right to accept or reject any or all proposals and any part of parts of any proposal and to waive formalities therein to determine which is the most beneficial proposal. Any proposal which is incomplete, conditional, obscure, or which contains additions not called for or irregularities of any kind, may be cause for rejection of the proposal. All proposals are awarded subject to a check of the computations shown on the "Request For Proposal" form. In the event of a discrepancy in the extension(s) or total for the item(s), the unit cost shall prevail.

Vendors must guarantee proposal prices for a period of one hundred twenty (120) days after the proposal submission.

8. REQUEST FOR QUALIFICATIONS CONDITIONS CERTIFICATION (SUBMITTAL LETTER)

Solicitation Conditions

1. Certification 1- No Unilateral Contact:

The Consultant hereby certifies they are aware that all communications between a Proposer and the City regarding a proposal or the proposal process should only be directed to Purchasing Division staff. That if any contact with any other City employee that is necessary to clarify technical aspects of the proposal or the RFQ that communication will be coordinated through the Purchasing Division and the listed designated project manager. The City Policy prohibits any City employee from having any interaction with any representatives of any entity that is considering or has responded to a RFQ; and that any employee can be subject to discipline included termination for violating City Policy.

2. Certification 2-No Improper Influence:

- A. The Consultant has not employed or retained for a commission, percentage, brokerage, contingent fee, override or other consideration, any firm or person at any time or for any purpose, (other than a bona fide employee working solely for the above Consultant) to **solicit** or secure this Agreement.
- B. The Consultant has not agreed, as an express or implied condition for obtaining this Agreement, to employ or retain the services of any firm or person in connection with carrying out the Agreement.
- C. The Consultant has not paid or agreed to pay to any firm, organization, or person (other than a bona fide employee working solely for the above consultant) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the Agreement, except as here expressly stated (if any).

3. Certification 3- No Publicly Funded Lobbying:

No Lobbying and Influencing Federal and/or City Employees or City Council Members:

- A. No Federal or locally appropriated funds shall be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, an officer or employee or City Council member of the City of Wichita, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any Federal grant and the amendment or modification of any Federal grant.
- B. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any Federal grant, the contractor shall complete and submit Standard Form-LLL, "Disclosure of Lobby Activities" in accordance with its instruction.

4. Certification 4-No Conflict of Interest:

Conflict of Interest

The Consultant certifies that no member, officer, employee, agent, or City Council member of the City of Wichita member exercising any functions or responsibilities with respect to the program outlined in this contract shall have any personal financial interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under this agreement. The Consultant shall incorporate, or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purposes of this section. The Consultant shall use due diligence to ensure employees, Board members, family members and officers do not participate in contracts receiving funds pursuant to this agreement.

On behalf of the Proposer, electronic acknowledgment via the City's Procurement Portal (wichita.gov/procurementportal) certifies the Proposer's current compliance with all of the above requirements and that it will continue to adhere to these requirements until this Project is awarded. Proposer understand that its failure to so adhere or to have made false representations on these certification(s) may cause its Proposal to be rejected from consideration for this and future solicitations.

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9. S/EBE PROGRAM PARTICIPIATION DOCUMENTATION



CITY OF WICHITA
FINANCE DEPARTMENT/PURCHASING DIVISION
455 N. MAIN ST, 12TH FLOOR, WICHITA, KS 67202
PHONE: (316) 268-4636
PURCHASING@WICHITA.GOV
WICHITA.GOV/PURCHASING
WICHITA.GOV/PROCUREMENTPORTAL

S/EBE UTILIZATION FORM

The undersigned Bidder/Offeror has satisfied the requirements of the solicitation in the following manner (please check the appropriate space):

_____ The Bidder/Offer is committed to a minimum of _____% S/EBE utilization on this contact award totaling \$_____.

_____ The Bidder/Offer has no S/EBE utilization

Signature _____ Title _____

Print Name _____ Date ____/____/____

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CITY OF WICHITA
 FINANCE DEPARTMENT/PURCHASING DIVISION
 455 N. MAIN ST, 12TH FLOOR, WICHITA, KS 67202
 PHONE: (316) 268-4636
 PURCHASING@WICHITA.GOV
 WICHITA.GOV/PURCHASING
 WICHITA.GOV/PROCUREMENTPORTAL

S/EBE PARTICIPATION SCHEDULE

The Bidder/Offeror shall complete the following information for all S/EBE's participating in the contract award that comprises the S/EBE Utilization percent stated in the S/EBE Utilization Form. The Bidder/Offeror shall also furnish the name and telephone number of the appropriate contact person should the Authority have any questions in relation to the information furnished herein.

S/EBE IDENTIFICATION AND INFORMATION FORM

Business Name	Address	Contact Name; Telephone Number	Participation (Percentage of Total Contract Value)	Total Contract Value	Description Of Work To Be Performed	S/EBE Status
---------------	---------	-----------------------------------	--	-------------------------	--	-----------------

Signature _____

Title _____

Print Name _____

Date ____/____/____

(Rev 3/2026)

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EXHIBIT A
CITY OF WICHITA MANDATORY CONTRACTUAL PROVISIONS ATTACHMENT

1. **Terms Herein Controlling Provisions.** The terms of this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the Agreement.
2. **Choice of Law.** This Agreement shall be interpreted under and governed by the laws of the State of Kansas. Any dispute or cause of action that arises in connection with this Agreement will be brought before a court of competent jurisdiction in Sedgwick County, Kansas.
3. **Termination Due to Lack of Funding Appropriation.** If, in the judgment of the City's Director of Finance, sufficient funds are not appropriated to continue the function performed in this Agreement and for the payment of the charges hereunder, City may terminate this Agreement at the end of its current fiscal year. City agrees to give written notice of termination to Contractor at least thirty (30) days prior to the end of its current fiscal year and shall give such notice for a greater period prior to the end of such fiscal year as may be provided for in the Agreement, except that such notice shall not be required prior to ninety (90) days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided to City under the Agreement. City will pay to Contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any related equipment. Upon the effective termination of the Agreement by City, title to any such equipment shall revert to Contractor. The termination of the Agreement pursuant to this paragraph shall not cause any penalty to be charged to the City or the Contractor.
4. **Disclaimer of Liability.** As a Kansas municipality, City shall not be obligated to protect, defend, hold harmless, or indemnify any Contractor beyond that liability incurred under the Kansas Tort Claims Act (K.S.A. 75-6101 *et seq.*). City specifically reserves and does not intend to waive any defenses, limitations of liability or damages, and/or immunities available to it under the Kansas Tort Claims Act or other state or federal law. It is understood that the duty to indemnify or hold harmless includes the duty to defend. This indemnification and hold harmless clause shall apply whether or not insurance policies shall have been determined to be applicable to any of such damages or claims for damages. In no event shall either party be obligated to indemnify the other on account of the negligence or willful misconduct of the party seeking indemnity or any agent or employee thereof.
5. **Acceptance of Agreement.** This Agreement shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
6. **Arbitration, Damages, Jury Trial and Warranties.** The City does not ever accept binding arbitration or the payment of damages or penalties upon the occurrence of a contingency and expressly denies such acceptance for this Agreement. The City never consents to a jury trial to resolve any disputes that may arise hereunder and expressly denies such consent for this Agreement. Contractor waives its right to a jury trial to resolve any disputes that may arise hereunder. No provision of any document within the Agreement between the Parties will be given effect which attempts to exclude, modify, disclaim or otherwise attempt to limit implied warranties of merchantability and fitness for a particular purpose.
7. **Representative's Authority to Contract.** By signing this Agreement, the representative of the Contractor thereby represents that such person is duly authorized by the Contractor to execute this Agreement on behalf of the Contractor and that the Contractor agrees to be bound by the provisions thereof.
8. **Federal, State and Local Taxes.** Unless otherwise specified, the proposal price shall include all applicable federal, state, and local taxes. Contractor shall pay all taxes lawfully imposed on it with respect to any product or service delivered in accordance with this Agreement. City is exempt from state sales or use taxes and federal excise taxes for direct purchases. These taxes shall not be included in the Agreement. Upon request, City shall provide the Contractor a certificate of tax exemption. City makes no representation as to the exemption from liability of any tax imposed by any governmental entity on the Contractor.
9. **Insurance.** As a Kansas municipality, the City is self-insured for the purpose of general liability insurance. City shall not be required to purchase any insurance against any liability loss or damage to which this Agreement relates, nor shall this Agreement require the City to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101 *et seq.*), Contractor shall bear the risk of any loss or damage to any personal property to which Contractor holds title.
10. **Conflict of Interest.** Contractor shall not knowingly employ, during the period of this Agreement or any extensions to it, any professional personnel who are also in the employ of the City and providing services involving this Agreement or services similar in nature to the scope of this Agreement to the City. Furthermore, Contractor shall not knowingly employ, during the period of this Agreement or any extensions to it, any City employee who has participated in the making of this Agreement until at least two years after his/her termination of employment with the City.
11. **Confidentiality.** Contractor may have access to private or confidential data maintained by City to the extent necessary to carry out its responsibilities under this Agreement. Contractor must comply with all the requirements of the Kansas Open Records Act (K.S.A. 42-215 *et seq.*) in providing services and/or goods under this Agreement. Contractor shall accept full responsibility for providing adequate supervision and training to its agents and employees to ensure compliance with the Act. No private or confidential data collected, maintained or used in the course of performance of this Agreement shall be disseminated by either party except as authorized by statute, either during the period of the Agreement or thereafter. Contractor must agree to return any or all data furnished by the City promptly at the request of City in whatever form it is maintained by Contractor. Upon the termination or expiration of this Agreement, Contractor shall not use any of such data or any material derived from the data for any purpose and, where so instructed by City, shall destroy or render such data or material unreadable. The parties accept that City must comply with the Kansas Open Records Act and will produce upon written request all documents pertaining to this Agreement other than those covered by express exceptions to disclosure listed in the Act.
12. **Cash Basis and Budget Laws.** The right of the City to enter into this Agreement is subject to the provisions of the Cash Basis Law (K.S.A. 10-1112 and 10-1113), the Budget Law (K.S.A. 79-2935), and all other laws of the State of Kansas. This Agreement shall be construed and interpreted to ensure that the City shall always stay in conformity with such laws, and as a condition of this Agreement the City reserves the right to unilaterally sever, modify, or terminate this Agreement at any time if, in the opinion of its legal counsel, the Agreement may be deemed to violate the terms of such laws.
13. **Anti-Discrimination Clause.** Contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 *et seq.*), the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 *et seq.*), the Discrimination Against Military Personnel Act, K.S.A. (44-1125, *et seq.*), and the applicable provisions of the Americans with Disabilities Act (ADA) (42 U.S.C. 12101 *et seq.*); (b) to not engage in illegal discrimination in employment against its contractors, subcontractors, or employees on

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the basis of their age, color, disability, familial status, genetic information, national origin or ancestry, race, religion, sex, veteran status or any other factor protected by law ("protected class"), subject to the qualifications found at 2.06.060 of the Municipal Code of the City of Wichita and to follow other applicable provisions of the City of Wichita Non-Discrimination Ordinance found at Chapter 2.06.010 *et seq.* of the Municipal Code of the City of Wichita; (c) to include in all solicitations or advertisements for employees the phrase "equal opportunity employer;" (d) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (e) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor. Contractor's failure to comply with the reporting requirements of (d) above, or if the Contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission or City of Wichita Hearing Officer, such violation shall constitute a breach of contract and the Agreement may be cancelled, terminated or suspended, in whole or in part by City without incurring contractual damages or penalty; and (g) if it is determined that the Contractor has violated applicable provisions of the ADA, such violation shall constitute a breach of the Agreement and the Agreement may be cancelled, terminated or suspended, in whole or in part by City without incurring contractual damages or penalty.

14. **Suspension/Debarment.** Contractor acknowledges that as part of the Code of Federal Regulations (2 C.F.R. Part 180) a person or entity that is debarred or suspended in the System for Award Management (SAM) shall be excluded from federal financial and nonfinancial assistance and benefits under federal programs and activities. All non-federal entities, including the City of Wichita, must determine whether the Contractor has been excluded from the system and any federal funding received, or to be received, by the City in relation to this Agreement prohibits the City from contracting with any Contractor that has been so listed. In the event the Contractor is debarred or suspended under the SAM, the Contractor shall notify the City in writing of such determination within five (5) business days as set forth in the Notice provision of this Agreement. City shall have the right, in its sole discretion, to declare the Agreement terminated for breach upon receipt of the written notice. Contractor shall be responsible for determining whether any sub-contractor performing any work for Contractor pursuant to this Agreement has been debarred or suspended under the SAM and to notify City within the same five (5) business days, with the City reserving the same right to terminate for breach as set forth herein.
15. **Compliance with Law.** Contractor shall comply with all applicable local, state, and federal laws and regulations in carrying out this Agreement, regardless of whether said local, state, and federal laws are specifically referenced in the Agreement to which this attached is incorporated.
16. **No Assignment.** The services to be provided by the Contractor under this Contract are personal and cannot be assigned, delegated, sublet, or transferred without the specific written consent of the City.
17. **Third Party Exclusion.** This Agreement is intended solely for the benefit of City and Contractor and is not intended to benefit, either directly or indirectly, any third party or member(s) of the public at large. No third party may sue for damages based on the terms or performance of this Agreement.
18. **No Arbitration.** The Contractor and the City shall not be obligated to resolve any claim or dispute related to the Contract by arbitration. Any reference to arbitration in bid or proposal documents is deemed void.
19. **Bankruptcy.** Contractor shall be considered to be in default of this Contract in the event Contractor: (i) applies for or consents to the appointment of a receiver, trustee, or liquidator of itself or any of its property, (ii) is unable to pay its debts as they mature or admits in writing its inability to pay its debts as they mature, (iii) makes a general assignment for the benefit of creditors, (iv) is adjudicated as bankrupt or insolvent, or (v) files a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors, or taking advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law or statute, or admits the material allegations of a petition filed against it in any proceedings under any such law, or if any action shall be taken by Contractor for the purpose of effecting any of the foregoing.
20. **Ownership of Data.** All data, forms, procedures, software, manuals, system descriptions, and workflows developed or accumulated by Contractor in relation to this Agreement shall be owned by City and shall be handed over and/or returned to City upon the expiration or termination of this Agreement. Contractor shall not release any such materials without written approval of the City.
21. **Tariffs.** If Contractor chooses to use foreign products or goods during the execution of this agreement, Contractor shall not directly invoice tariff costs to the City. The City will consider a reasonable price adjustment only after conclusion of the initial contract term but reserves the right to not pick up option years of the contract if, in its sole discretion, the City determines the price increase no longer provides the best value to the City.
22. **Contractor Use of Artificial Intelligence.**
 - a. **Meeting Recording, Transcription, and Confidential Information.** The City of Wichita does not consent to, and expressly rejects, the use by Contractor of Artificial Intelligence ("A.I.") note takers in, and recordings of, meetings with City officials and staff unless specifically approved by the City (project manager or higher) prior to the initiation of the meeting. This includes use by Contractor for training its A.I. programs, services, and platforms. Any transcripts, recordings, summaries, or AI-generated outputs approved by the City and created in connection with City meetings or City data shall be treated as City Confidential Information. Contractor shall not retain such materials longer than required to perform services necessary and incidental to the contract, and upon the City's request, Contractor shall promptly return or securely delete such materials and certify deletion in writing. Only the City's Chief Information Officer may approve a request for an exemption to these requirements.
 - b. **Public or Third-Party AI Services.** Contractor shall not use publicly available or third-party AI services that (i) retain inputs or outputs, (ii) use inputs or outputs for training or improving models, or (iii) lack contractual confidentiality and security commitments acceptable to the City, for any purpose involving City Confidential Information. Contractor shall ensure that any approved AI use occurs only within City-approved environments and under security controls required by the City, including encryption, access controls, and retention limitations.
 - c. **Subcontractors.** Contractor shall ensure that all subcontractors, agents, and personnel comply with this provision, and Contractor shall remain fully responsible for any noncompliance.
 - d. **Violation.** A violation of this provision constitutes a material breach of this Agreement and may result in termination or pursuit of other legal remedies available to the City.

(Rev. 1/09/2026)

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EXHIBIT B
CITY OF WICHITA MANDATORY INDEPENDENT CONTRACTOR ADDENDUM

1. The parties agree Contractor shall satisfy all tax and other governmentally imposed responsibilities including, but not limited to payment of state, federal, and social security taxes; unemployment taxes; workers' compensation and self-employment taxes. No federal, state, or local taxes of any kind shall be withheld or paid by City and Contractor shall indemnify City for its failure to comply with Contractor's responsibilities under this paragraph.
2. The parties agree that as an independent contractor, Contractor is not entitled to any benefits from City, including but not limited to: (a) unemployment insurance benefits; (b) workers' compensation coverage; or (c) health insurance coverage. Contractor may only receive such coverages if provided by Contractor or an entity other than City. Subject to the foregoing, Contractor hereby waives and discharges any claim, demand, or action against City's workers' compensation insurance and/or health insurance and further agrees to indemnify City for any such claims related to Contractor's operations or the performance of services by Contractor hereunder.
3. The parties hereby acknowledge and agree that City will not: (a) require Contractor to work exclusively for City; (b) establish means or methods of work for Contractor, except that City may provide plans and specifications regarding the work but will not oversee the actual work (City may also establish performance standards for the contracted outcomes); (c) pay the Contractor a salary or hourly rate but rather will pay to Contractor a fixed or contract rate; (d) provide training for Contractor on performance of the services to be done (City may provide informational briefing on known conditions); (e) provide tools or benefits to Contractor (materials and equipment may be supplied if negotiated); and (f) pay Contractor personally (instead, City will make all checks payable to the trade or business name under which Contractor does business).
4. Contractor does not have the authority to act for City, to bind City in any respect whatsoever, or to incur debts or liabilities in the name of or on behalf of City.
5. Unless given express written consent by City, Contractor agrees not to bring any other party (including but not limited to employees, agents, subcontractors, sub-subcontractors, and vendors) onto the project site.
6. If Contractor is given written permission to have other parties on the site, and Contractor engages any other party which may be deemed to be an employee of Contractor, Contractor will be required to provide the appropriate workers' compensation insurance coverage as required by this Agreement.
7. Contractor has and hereby retains control of and supervision over the performance of Contractor's obligations hereunder. Contractor agrees to retain control over any allowed parties employed or contracted by Contractor for performing the services hereunder and take full and complete responsibility for any liability created by or from any actions or individuals brought to the project by Contractor.
8. Contractor represents that it is engaged in providing similar services to the public and not required to work exclusively for City.
9. All services are to be performed solely at the risk of Contractor and Contractor shall take all precautions necessary for the safety of its and the City's employees, agents, subcontractors, sub-subcontractors, vendors, along with members of the public it encounters while performing the work.
10. Contractor will not combine its business operations in any way with City's business operations and each party shall maintain their operations as separate and distinct.

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10. ATTACHMENT A – CITY CONTRACT

Attachment A – City Contract

Agreement
for

Design Services for _____
between
The City of Wichita, Kansas
and

This Agreement for Design Services for _____ (“Agreement”), entered into this _____ day of month 2026, by The City of Wichita, Kansas, a municipal corporation, hereinafter called “City” and _____, a _____ corporation, whose principal office is at _____, hereinafter called “Consultant.”

WHEREAS, the City has solicited a proposal for the provision of Design Services for _____ (Request for Proposal RFQ260161; the “project” and “project site” hereafter) for its **Public Works & Utilities Department** and Consultant has submitted the proposal most beneficial to the City and is ready, willing and able to provide the services required by the City.

NOW, THEREFORE, the parties agree as follows:

1. Scope of Services. Consultant shall provide to the City and complete all services as specified in the following, which shall serve in their entirety as the Scope of Services for this Agreement:
 - A. Consultant shall fully perform the work in accordance with the specification attached Exhibit C to this agreement unless otherwise modified. The work shall generally include:
 - i. **Concept design phase services shall be complete within __ days of the date of this Agreement.**
 - ii. **Field Check phase services to be negotiated following Concept design phase.**
 - iii. **Office Check phase services to be negotiated following Concept design phase.**
 - iv. **Final phase services to be negotiated following Concept design phase.**
 - B. The City’s Request for Qualifications No. FQ260161 (“RFQ”), attached as Exhibit C hereto and incorporated herein;
 - C. Consultant’s Response to RFP, attached as Exhibit D hereto and incorporated herein.
2. The Consultant agrees:

Our Mission as an exceptionally well-run city, we will: Keep Wichita safe; Grow our economy; build dependable infrastructure; Provide conditions for living well.

- A. To provide the professional services, equipment, material and transportation to perform the tasks as outlined in Section 1, Scope of Services.
- B. To designate a project manager who will coordinate all work and be the point of contact for communications and to submit qualifications of the proposed project manager to the City in advance of the Notice to Proceed. The City reserves the right to withhold the Notice to Proceed until a qualified project manager is designated. The City must concur with any proposed changes to this assignment.
- C. To submit to the City in a timely manner, editable, electronic files of all studies, surveys, mapping and drawings in AutoCAD format and reports in Microsoft Word, as is applicable to this Agreement. Each submittal shall be in a single, organized file that mimics the report and any drawings and/or specifications.
- D. To save and hold City harmless against all suits, claims, damages, and losses for injuries to third parties or their property or to the City and its property arising from or caused by negligent acts, errors or omissions of Consultant, its agents, servants, employees, or subcontractors occurring in the performance of its services under this Agreement. The Consultant shall be liable for damages arising out of injury to persons, damage to real or personal property or other liability or loss before or after acceptance, delivery, installation and use of the equipment and/or software application, either at the Consultant's site or the City's place of business, provided that the injury or damage was caused by the fault or negligence of the Consultant's or defect in Consultant supplied equipment, software application, or installation. The Consultant shall not be liable for damages arising out of, or caused by, alterations to the equipment and/or software application (other than alterations performed or caused by the Consultant's officers, employees or agents) made by the City or for losses occasioned by the City's fault or negligence. Nothing in this Agreement shall limit the Consultant's liability, if any, to third parties and employees of the City, or any remedy that may exist under law or equity in the event a defect in the manufacture of, or the negligent acts or omissions of the Consultant, its officers, employees, or agents, is the cause of injury to such person.
- E. To accept compensation for the work herein described in such amounts and at such periods as hereinafter provided and that such compensation shall be satisfactory and sufficient payment for all work performed, equipment or materials used, and services rendered in connection with such work described in Exhibit C.
- F. To submit billings to the City for the services performed as required by this Section 4 of this Agreement. Billings shall not exceed progress of work as evidenced by deliverables submitted by the Consultant and approved by the City. During the progress of work covered by the Agreement, partial payment requests may be made at intervals of not less than four (4) weeks. The progress billings shall be supported by documentation acceptable to the City, which shall include a record of the percentage completion evidenced by approved deliverables, the number of days allocated for completion of the work, the number of days that have elapsed, and the number of days that remain to complete the work. Progress billings shall also include copies of

subcontractor invoices to the Consultant for the same billing period.

- G. All information provided by the City and/or developed for the scope of services to be performed shall be considered confidential and proprietary, and shall not be reproduced, transmitted, used or disclosed by the Consultant without the written consent of the City, except as may be necessary for the non-disclosing party to fulfill its obligations hereunder; provided, however, that the limitation shall not apply to any information or portion thereof, which is: (1) within the public domain at the time of its disclosure; (2) required to be disclosed by a court of competent jurisdiction or Government order; (3) approved by the City for publicity; and (4) required to be communicated in connection with filings with governmental bodies having jurisdiction over the design or construction of the Project.
- H. The project documents are exclusive property of the City. The use of the project documents, including the Drawings, Specifications, Shop Drawings, all material in electronic format and project record documents, for any other purpose or project is prohibited, without the expressed written consent of the City.
- I. Prompt Payment. Consultant agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than seven (7) days from the receipt of each payment the Consultant receives from the City and no retainage shall be withheld. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City.

3. Conflicting Terms. In the event of a conflict in terms, the following order of precedence shall apply: this Agreement, including Exhibits A and B; Exhibit C; and then Exhibit D.

4. Billing and Payment. The services rendered by the Consultant pursuant to this Agreement shall be compensated according to the unit price outlined in Exhibit D for Design Services for _____, the solicitation number FQ260161 for the **Public Works & Utilities Department, Engineering Division**. The services rendered by the Consultant pursuant to this Agreement shall be compensated with a specific cost for each task as directed and approved by the Department, as per the proposal, plans, specifications, any addenda, and the Consultant's proposal of _____, and as approved by the Wichita City Council on the date listed above.

A. Payments to the Consultant for providing all technical and professional services, materials, equipment, and transportation for Design Services for _____ shall be paid for each phase as follows:

- i. **Concept design services total fee not to exceed \$ _____**
- ii. **Design Development services to be negotiated following Concept design phase**
- iii. **Construction Documents services to be negotiated following Concept design phase**
- iv. **Construction services total fee to be negotiated following Concept design phase**

AGREEMENT NOT-TO-EXCEED AMOUNT: \$ _____

- B. The services rendered by the consultant pursuant to this Agreement shall be limited to a fixed project fee to be paid for satisfactory completion of work as described herein approved by the Department, as per the proposal, plans, specifications, any addenda, and the Consultant's proposal of _____ and as approved by the City Council on the date listed above.

5. The City and Consultant Mutually Agree:

- A. The deliverables shall become the property of the City upon delivery or termination of the Services in accordance with this Agreement. The City shall not hold the Consultant and subconsultants liable upon the City's reuse of any part of deliverables, and there shall be no restriction or limitation on their further use by the City.
- B. The services to be performed by the Consultant under the terms of this Agreement are personal and cannot be assigned sublet or transferred without specific consent of the City.
- C. In the event of unavoidable delays in the progress of the work, reasonable extensions in the time will be granted by the City, provided, however, that the Consultant shall request extensions in writing giving the reason therefore.
- D. Unless otherwise provided in this Agreement, the Consultant and agents, servants, employees, or sub-Consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials in any form at the project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic substances.
- E. It is further agreed that this Contract and all Agreements entered into under the provisions of this Agreement shall be binding upon the parties hereto and their successors and assigns.
- F. For good cause, and as consideration for executing this Agreement, the Consultant, acting herein by and through its authorized agent, hereby conveys, sells, assigns, and transfers to the City all right, title, and interest in and to all causes of action it may now or hereafter require under the anti-trust laws of the United States and the State of Kansas, relating to the particular product, products, or services purchased or acquired by the City pursuant to this Agreement.
- G. Neither the City's review, approval or acceptance of, nor payment for, any of the work or services required to be performed by the Consultant under this Agreement shall be construed to operate as a waiver of any right under this Agreement or any cause of action arising out of the performance of this Agreement.
- H. The parties do not intend to create for any person or entity the status of third-party beneficiary under this Agreement, or to authorize anyone not a party to the Agreement to maintain a suit for damages under its terms.

- I. The Consultant and the City shall not be obligated to resolve any claim or dispute related to this Agreement by arbitration. Any reference to arbitration in any proposal or contract documents is deemed void.
 - J. The failure of any party to enforce, at any time, the provisions of this Agreement or the failure to exercise any option which it provides shall not be construed as a waiver of such provisions or to affect the validity of this Agreement or any of its terms, or the right of any party to enforce each and every provision of this Agreement or the right to exercise any option provided within this Agreement terms. Neither waiver of any breach nor waiver of multiple breaches of this Agreement shall be held to be a waiver of any other or subsequent breach. All remedies available under this Agreement are cumulative and are in addition to every other remedy provided by operation of law.
 - K. City shall not be responsible for discovering deficiencies in the technical accuracy of the Consultant's services. Consultant shall correct deficiencies in technical accuracy without any increase in the existing authorized fees hereunder, unless such corrective action is directly attributable to deficiencies in City-furnished information where the Consultant was not able to independently verify information upon receipt of such information.
 - L. To the fullest extent permitted by law, and notwithstanding any provision to the contrary, City and Consultant waive against each other, and the other's employees, officers, directors, agents, insurers, partners, subconsultants, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to the services under this Agreement.
6. Termination by the City. If, for any cause, the Consultant shall fail to fulfill its obligations under this Agreement in a timely and proper manner as required by this Agreement, or if the Consultant shall violate any of the covenants, agreements, or stipulations of this Agreement, the City shall thereupon have the right to terminate this Agreement by giving written notice to the Consultant of such termination, effective fourteen (14) days following receipt of same, provided the Consultant shall be provided a reasonable time within which to remedy such deficiencies in a manner meaningful to City's application for the competitive award sought. The Consultant shall be entitled to receive just and equitable compensation for any satisfactory work completed prior to the effective date of such termination.
- 1. Termination by the Consultant. The Consultant may terminate this Agreement at any time for failure of the City to comply with any material terms or conditions of this Agreement by giving written notice to the City of such termination, effective thirty (30) days following receipt, provided, however, that the City shall be provided a reasonable time within which to remedy such deficiencies.
 - 2. Waivers. The failure of the parties to enforce, at any time, the provisions of this Agreement or to exercise any option which may be provided herein shall not be construed as a waiver of such provisions nor to affect the validity of this Agreement nor any part thereof, nor the right of the parties to enforce thereafter each and every provision and to exercise any such option. No waiver of any breach of this Agreement shall be held to be a waiver of any

other or subsequent breach. All remedies available under this Agreement shall be taken and construed as cumulative, that is, as being in addition to every other remedy provided by operation of law.

3. Representatives of Contracting Parties. The following designated parties shall represent the parties to this Agreement for notification and communication as may be required:

(a) Representing the Consultant:

NAME, TITLE
AWARDED VENDOR
ADDRESS LINE 1
ADDRESS LINE 2
316-XXX-XXXX
EMAIL

(b) Representing the City:

NAME, TITLE
City of Wichita
455 N Main St.
Wichita, Kansas, 67205
316-XXX-XXXX
EMAIL

4. Insurance. The Consultant will carry insurance coverage as described in this section. Coverage shall be the greater of the requirements stated here or the Consultant's existing policy. The Consultant shall carry a minimum of the following insurance coverage during the term of this Agreement and any extensions thereof in the amounts and manner as follows:

Commercial General Liability covering premises, operations, Product/Completed operations, errors and omissions, Broad Form Property Damage, Personal Injury and Contractual Liability with minimum limits as follows:

Bodily Injury Liability	\$1,000,000 each occurrence \$2,000,000 annual aggregate
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Property Damage Liability	\$1,000,000 each occurrence \$2,000,000 annual aggregate
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Or

Bodily Injury & Property Damage Liability (Combined Single Limit)	\$1,000,000 each occurrence \$2,000,000 each aggregate
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Automobile Liability – Comprehensive Form including all owned, hired and non-owned vehicles with minimum limits for:

Bodily Injury Liability	\$1,000,000 each occurrence
-------------------------	-----------------------------

Property Damage \$1,000,000 each occurrence

Or

Bodily Injury & Property Damage Liability (combined Single Limit) \$1,000,000 each occurrence

Workers Compensation: to meet Statutory requirements.

Employers Liability for minimum limits of: \$1,000,000 each occurrence
\$1,000,000 occupational disease
\$1,000,000 annual aggregate

Professional Liability:
\$1,000,000 each occurrence
\$1,000,000 annual aggregate

5. Certificate of Insurance. The City of Wichita shall be added as a primary and non-contributory additional insured for the liability policies. The policy shall also provide coverage for Provider's contractual obligations created in the Agreement. Vendor shall provide a Certificate of Insurance evidencing such coverages. The Certificate of Insurance must be submitted within ten (10) days after notification of award to the City of Wichita Purchasing Manager, City Hall, 12th Floor, 455 North Main, Wichita, Kansas, 67202-1694.
6. Prohibition against Assignment and Delegation. Notwithstanding any other provision of this Agreement, the Consultant warrants that it shall not transfer, pledge, or otherwise assign this Agreement, or any interest therein, or any claim arising thereunder, to any party or parties. None of the Consultant duties under this Agreement may be delegated to or sub-contracted to any persons without the express written permission of the City.
7. Third Party Rights. It is specifically agreed between the parties that they do not intend by any of the provisions of this Agreement to create in the public or any member thereof the status of a third-party beneficiary hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for damages pursuant to the terms or provisions of this Agreement.
1. Compliance with Laws. The Consultant shall comply with all laws, statutes and ordinances that may pertain to the providing of services under this Agreement.
2. Independent Contractor. The Consultant acknowledges and agrees that services rendered under this Agreement shall be performed as an independent contractor in accordance with the terms set forth in Exhibit B, attached hereto and incorporated herein. The Consultant is responsible for the payment of all federal, state, and local income taxes related to Consultant fees for services.
3. Confidentiality. Both parties agree to adhere to generally accepted confidentiality practices and to provide each other with their best efforts in fulfillment of this Agreement. The

Consultant acknowledges that the City is required to comply with the Kansas Open Records Act. The Consultant agrees not to disclose private information about the City. "Private information" does not include information available in the public domain.

4. Mutual Waiver of Consequential Damages. The Consultant and owner waive claims against each other for consequential damages arising out of or relating to this contract. This mutual waiver includes, but is not limited to:
- a. Damages incurred by the owner for rental expenses, for loss of use, income, profit, financing, business and reputation and for loss of management or employee productivity or for the services of such persons; and
 - b. Damages incurred by the Consultant for principal office expenses, including, but not limited to, the compensation of personnel stationed in such principal office, for losses of financing, business and reputation and for the loss of profit, except anticipated profit arising directly from the construction.

IN WITNESS WHEREOF, the parties have set their hands the day and year first above written.

THE CITY OF WICHITA

AWARDED VENDOR

Lily Wu
Mayor

Signature

Print Signature Name

ATTEST:

Shinita Rice
City Clerk

Title (*President or Corporate Officer*)

APPROVED AS TO FORM:

Jennifer Magaña
City Attorney and Director of Law

EXHIBIT A
CITY OF WICHITA MANDATORY CONTRACTUAL PROVISIONS ATTACHMENT

23. **Terms Herein Controlling Provisions.** The terms of this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the Agreement.
24. **Choice of Law.** This Agreement shall be interpreted under and governed by the laws of the State of Kansas. Any dispute or cause of action that arises in connection with this Agreement will be brought before a court of competent jurisdiction in Sedgwick County, Kansas.
25. **Termination Due to Lack of Funding Appropriation.** If, in the judgment of the City's Director of Finance, sufficient funds are not appropriated to continue the function performed in this Agreement and for the payment of the charges hereunder, City may terminate this Agreement at the end of its current fiscal year. City agrees to give written notice of termination to Contractor at least thirty (30) days prior to the end of its current fiscal year and shall give such notice for a greater period prior to the end of such fiscal year as may be provided for in the Agreement, except that such notice shall not be required prior to ninety (90) days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided to City under the Agreement. City will pay to Contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any related equipment. Upon the effective termination of the Agreement by City, title to any such equipment shall revert to Contractor. The termination of the Agreement pursuant to this paragraph shall not cause any penalty to be charged to the City or the Contractor.
26. **Disclaimer of Liability.** As a Kansas municipality, City shall not be obligated to protect, defend, hold harmless, or indemnify any Contractor beyond that liability incurred under the Kansas Tort Claims Act (K.S.A. 75-6101 *et seq.*). City specifically reserves and does not intend to waive any defenses, limitations of liability or damages, and/or immunities available to it under the Kansas Tort Claims Act or other state or federal law. It is understood that the duty to indemnify or hold harmless includes the duty to defend. This indemnification and hold harmless clause shall apply whether or not insurance policies shall have been determined to be applicable to any of such damages or claims for damages. In no event shall either party be obligated to indemnify the other on account of the negligence or willful misconduct of the party seeking indemnity or any agent or employee thereof.
27. **Acceptance of Agreement.** This Agreement shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
28. **Arbitration, Damages, Jury Trial and Warranties.** The City does not ever accept binding arbitration or the payment of damages or penalties upon the occurrence of a contingency and expressly denies such acceptance for this Agreement. The City never consents to a jury trial to resolve any disputes that may arise hereunder and expressly denies such consent for this Agreement. Contractor waives its right to a jury trial to resolve any disputes that may arise hereunder. No provision of any document within the Agreement between the Parties will be given effect which attempts to exclude, modify, disclaim or otherwise attempt to limit implied warranties of merchantability and fitness for a particular purpose.
29. **Representative's Authority to Contract.** By signing this Agreement, the representative of the Contractor thereby represents that such person is duly authorized by the Contractor to execute this Agreement on behalf of the Contractor and that the Contractor agrees to be bound by the provisions thereof.
30. **Federal, State and Local Taxes.** Unless otherwise specified, the proposal price shall include all applicable federal, state, and local taxes. Contractor shall pay all taxes lawfully imposed on it with respect to any product or service delivered in accordance with this Agreement. City is exempt from state sales or use taxes and federal excise taxes for direct purchases. These taxes shall not be included in the Agreement. Upon request, City shall provide the Contractor a certificate of tax exemption. City makes no representation as to the exemption from liability of any tax imposed by any governmental entity on the Contractor.
31. **Insurance.** As a Kansas municipality, the City is self-insured for the purpose of general liability insurance. City shall not be required to purchase any insurance against any liability loss or damage to which this Agreement relates, nor shall this Agreement require the City to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101 *et seq.*), Contractor shall bear the risk of any loss or damage to any personal property to which Contractor holds title.
32. **Conflict of Interest.** Contractor shall not knowingly employ, during the period of this Agreement or any extensions to it, any professional personnel who are also in the employ of the City and providing services involving this Agreement or services similar in nature to the scope of this Agreement to the City. Furthermore, Contractor shall not knowingly employ, during the period of this Agreement or any extensions to it, any City employee who has participated in the making of this Agreement until at least two years after his/her termination of employment with the City.
33. **Confidentiality.** Contractor may have access to private or confidential data maintained by City to the extent necessary to carry out its responsibilities under this Agreement. Contractor must comply with all the requirements of the Kansas Open Records Act (K.S.A. 42-215 *et seq.*) in providing services and/or goods under this Agreement. Contractor shall accept full responsibility for providing adequate supervision and training to its agents and employees to ensure compliance with the Act. No private or confidential data collected, maintained or used in the course of performance of this Agreement shall be disseminated by either party except as authorized by statute, either during the period of the Agreement or thereafter. Contractor must agree to return any or all data furnished by the City promptly at the request of City in whatever form it is maintained by Contractor. Upon the termination or expiration of this Agreement, Contractor shall not use any of such data or any material derived from the data for any purpose and, where so instructed by City, shall destroy or render such data or material unreadable. The parties accept that City must comply with the Kansas Open Records Act and will produce upon written request all documents pertaining to this Agreement other than those covered by express exceptions to disclosure listed in the Act.
34. **Cash Basis and Budget Laws.** The right of the City to enter into this Agreement is subject to the provisions of the Cash Basis Law (K.S.A. 10-1112 and 10-1113), the Budget Law (K.S.A. 79-2935), and all other laws of the State of Kansas. This Agreement shall be construed and interpreted to ensure that the City shall always stay in conformity with such laws, and as a condition of this Agreement the City reserves the right to unilaterally sever, modify, or terminate this Agreement at any time if, in the opinion of its legal counsel, the Agreement may be deemed to violate the terms of such laws.
35. **Anti-Discrimination Clause.** Contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 *et seq.*), the Kansas Age

Discrimination in Employment Act (K.S.A. 44-1111 *et seq.*), the Discrimination Against Military Personnel Act, K.S.A. (44-1125, *et seq.*), and the applicable provisions of the Americans with Disabilities Act (ADA) (42 U.S.C. 12101 *et seq.*); (b) to not engage in illegal discrimination in employment against its contractors, subcontractors, or employees on the basis of their age, color, disability, familial status, genetic information, national origin or ancestry, race, religion, sex, veteran status or any other factor protected by law (“protected class”), subject to the qualifications found at 2.06.060 of the Municipal Code of the City of Wichita and to follow other applicable provisions of the City of Wichita Non-Discrimination Ordinance found at Chapter 2.06.010 *et seq.* of the Municipal Code of the City of Wichita; (c) to include in all solicitations or advertisements for employees the phrase “equal opportunity employer;” (d) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (e) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor. Contractor’s failure to comply with the reporting requirements of (d) above, or if the Contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission or City of Wichita Hearing Officer, such violation shall constitute a breach of contract and the Agreement may be cancelled, terminated or suspended, in whole or in part by City without incurring contractual damages or penalty; and (g) if it is determined that the Contractor has violated applicable provisions of the ADA, such violation shall constitute a breach of the Agreement and the Agreement may be cancelled, terminated or suspended, in whole or in part by City without incurring contractual damages or penalty.

36. **Suspension/Debarment.** Contractor acknowledges that as part of the Code of Federal Regulations (2 C.F.R. Part 180) a person or entity that is debarred or suspended in the System for Award Management (SAM) shall be excluded from federal financial and nonfinancial assistance and benefits under federal programs and activities. All non-federal entities, including the City of Wichita, must determine whether the Contractor has been excluded from the system and any federal funding received, or to be received, by the City in relation to this Agreement prohibits the City from contracting with any Contractor that has been so listed. In the event the Contractor is debarred or suspended under the SAM, the Contractor shall notify the City in writing of such determination within five (5) business days as set forth in the Notice provision of this Agreement. City shall have the right, in its sole discretion, to declare the Agreement terminated for breach upon receipt of the written notice. Contractor shall be responsible for determining whether any sub-contractor performing any work for Contractor pursuant to this Agreement has been debarred or suspended under the SAM and to notify City within the same five (5) business days, with the City reserving the same right to terminate for breach as set forth herein.
37. **Compliance with Law.** Contractor shall comply with all applicable local, state, and federal laws and regulations in carrying out this Agreement, regardless of whether said local, state, and federal laws are specifically referenced in the Agreement to which this attached is incorporated.
38. **No Assignment.** The services to be provided by the Contractor under this Contract are personal and cannot be assigned, delegated, sublet, or transferred without the specific written consent of the City.
39. **Third Party Exclusion.** This Agreement is intended solely for the benefit of City and Contractor and is not intended to benefit, either directly or indirectly, any third party or member(s) of the public at large. No third party may sue for damages based on the terms or performance of this Agreement.
40. **No Arbitration.** The Contractor and the City shall not be obligated to resolve any claim or dispute related to the Contract by arbitration. Any reference to arbitration in bid or proposal documents is deemed void.
41. **Bankruptcy.** Contractor shall be considered to be in default of this Contract in the event Contractor: (i) applies for or consents to the appointment of a receiver, trustee, or liquidator of itself or any of its property, (ii) is unable to pay its debts as they mature or admits in writing its inability to pay its debts as they mature, (iii) makes a general assignment for the benefit of creditors, (iv) is adjudicated as bankrupt or insolvent, or (v) files a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors, or taking advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law or statute, or admits the material allegations of a petition filed against it in any proceedings under any such law, or if any action shall be taken by Contractor for the purpose of effecting any of the foregoing.
42. **City Ownership of Data.** All data, forms, procedures, software, manuals, system descriptions, and workflows developed or accumulated by Contractor in relation to this Agreement shall be owned by City and shall be handed over and/or returned to City upon the expiration or termination of this Agreement. Contractor shall not release any such materials without written approval of the City.
43. **Tariffs.** If Contractor chooses to use foreign products or goods during the execution of this agreement, Contractor shall not directly invoice tariff costs to the City. The City will consider a reasonable price adjustment only after conclusion of the initial contract term but reserves the right to not pick up option years of the contract if, in its sole discretion, the City determines the price increase no longer provides the best value to the City.
44. **Contractor Use of Artificial Intelligence.**
 - a. **Meeting Recording, Transcription, and Confidential Information.** The City of Wichita does not consent to, and expressly rejects, the use by Contractor of Artificial Intelligence (“A.I.”) note takers in, and recordings of, meetings with City officials and staff unless specifically approved by the City (project manager or higher) prior to the initiation of the meeting. This includes use by Contractor for training its A.I. programs, services, and platforms. Any transcripts, recordings, summaries, or AI-generated outputs approved by the City and created in connection with City meetings or City data shall be treated as City Confidential Information. Contractor shall not retain such materials longer than required to perform services necessary and incidental to the contract, and upon the City’s request, Contractor shall promptly return or securely delete such materials and certify deletion in writing. Only the City’s Chief Information Officer may approve a request for an exemption to these requirements.
 - b. **Public or Third-Party AI Services.** Contractor shall not use publicly available or third-party AI services that (i) retain inputs or outputs, (ii) use inputs or outputs for training or improving models, or (iii) lack contractual confidentiality and security commitments acceptable to the City, for any purpose involving City Confidential Information. Contractor shall ensure that any approved AI use occurs only within City-approved environments and under security controls required by the City, including encryption, access controls, and retention limitations.
 - c. **Subcontractors.** Contractor shall ensure that all subcontractors, agents, and personnel comply with this provision, and Contractor shall remain fully responsible for any noncompliance.
 - d. **Violation.** A violation of this provision constitutes a material breach of this Agreement and may result in termination or pursuit of other legal remedies available to the City.

(Rev. 1/09/2026)

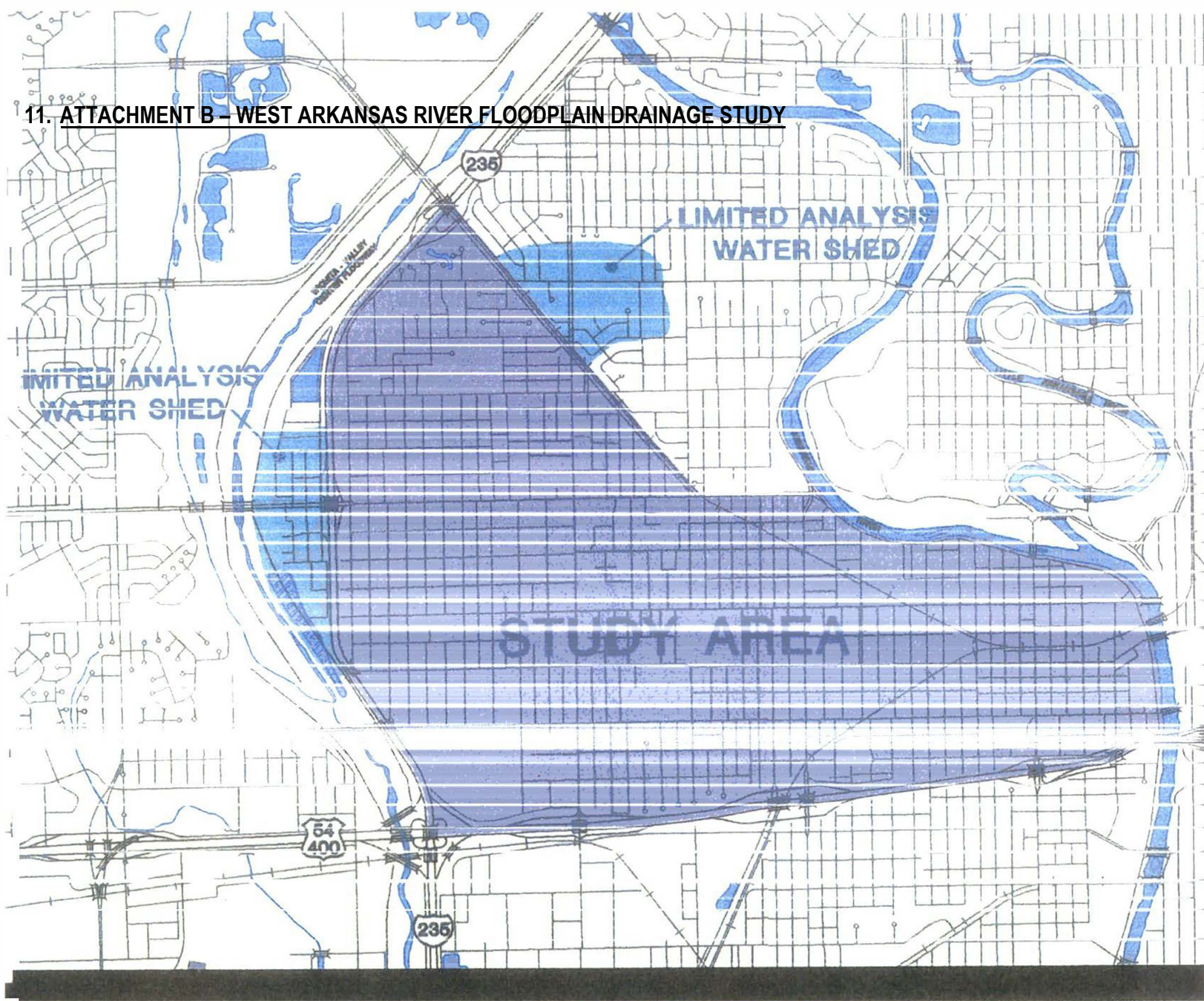
EXHIBIT B
CITY OF WICHITA MANDATORY INDEPENDENT CONTRACTOR ADDENDUM

1. The parties agree Contractor shall satisfy all tax and other governmentally imposed responsibilities including, but not limited to payment of state, federal, and social security taxes; unemployment taxes; workers' compensation and self-employment taxes. No federal, state, or local taxes of any kind shall be withheld or paid by City and Contractor shall indemnify City for its failure to comply with Contractor's responsibilities under this paragraph.
2. The parties agree that as an independent contractor, Contractor is not entitled to any benefits from City, including but not limited to: (a) unemployment insurance benefits; (b) workers' compensation coverage; or (c) health insurance coverage. Contractor may only receive such coverages if provided by Contractor or an entity other than City. Subject to the foregoing, Contractor hereby waives and discharges any claim, demand, or action against City's workers' compensation insurance and/or health insurance and further agrees to indemnify City for any such claims related to Contractor's operations or the performance of services by Contractor hereunder.
3. The parties hereby acknowledge and agree that City will not: (a) require Contractor to work exclusively for City; (b) establish means or methods of work for Contractor, except that City may provide plans and specifications regarding the work but will not oversee the actual work (City may also establish performance standards for the contracted outcomes); (c) pay the Contractor a salary or hourly rate but rather will pay to Contractor a fixed or contract rate; (d) provide training for Contractor on performance of the services to be done (City may provide informational briefing on known conditions); (e) provide tools or benefits to Contractor (materials and equipment may be supplied if negotiated); and (f) pay Contractor personally (instead, City will make all checks payable to the trade or business name under which Contractor does business).
4. Contractor does not have the authority to act for City, to bind City in any respect whatsoever, or to incur debts or liabilities in the name of or on behalf of City.
5. Unless given express written consent by City, Contractor agrees not to bring any other party (including but not limited to employees, agents, subcontractors, sub-subcontractors, and vendors) onto the project site.
6. If Contractor is given written permission to have other parties on the site, and Contractor engages any other party which may be deemed to be an employee of Contractor, Contractor will be required to provide the appropriate workers' compensation insurance coverage as required by this Agreement.
7. Contractor has and hereby retains control of and supervision over the performance of Contractor's obligations hereunder. Contractor agrees to retain control over any allowed parties employed or contracted by Contractor for performing the services hereunder and take full and complete responsibility for any liability created by or from any actions or individuals brought to the project by Contractor.
8. Contractor represents that it is engaged in providing similar services to the public and not required to work exclusively for City.
9. All services are to be performed solely at the risk of Contractor and Contractor shall take all precautions necessary for the safety of its and the City's employees, agents, subcontractors, sub-subcontractors, vendors, along with members of the public it encounters while performing the work.
10. Contractor will not combine its business operations in any way with City's business operations and each party shall maintain their operations as separate and distinct.

(Rev. 1/09/2026)

EXHIBIT C
CITY REQUEST FOR PROPOSAL NO. FP250334

EXHIBIT D
CONTRACTOR'S RESPONSE TO CITY REQUEST FOR PROPOSAL NO. FP250334



WEST ARKANSAS RIVER FLOODPLAIN

Drainage Study

September, 2000



WEST ARKANSAS RIVER FLOODPLAIN

**DRAINAGE STUDY
FINAL REPORT**

for

**City of Wichita
Index No. 468-82620**

September, 2000

**West Arkansas River Floodplain
Drainage Study
Final Report**

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Appendix	Title
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C.	Pump Station Construction Cost Estimates
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West Arkansas River Floodplain Drainage Study Final Report

City of Wichita Index No. 468 82620
MKEC Project No. 96100-113

I. Executive Summary

A. *Scope and Purpose*

The West Arkansas River Floodplain Drainage Study includes the area bounded by Kellogg, I-235, Zoo Blvd., Central, and the Arkansas River. The study area is shown on Figure I - 1. To provide a complete performance assessment of some system options, cursory hydrologic analyses of several watersheds outside the contract area were also completed.

The Study has developed a Drainage Master Plan for the area. The proposed storm sewer system will carry the 5-year event. The master plan identifies the preliminary layout, pipe sizes, and system hydraulic characteristics for detailed design.

Each Master Plan project is assigned a planning level budget appropriate for developing the City's Capital Improvements Program. A sequence for completing the plan is also provided.

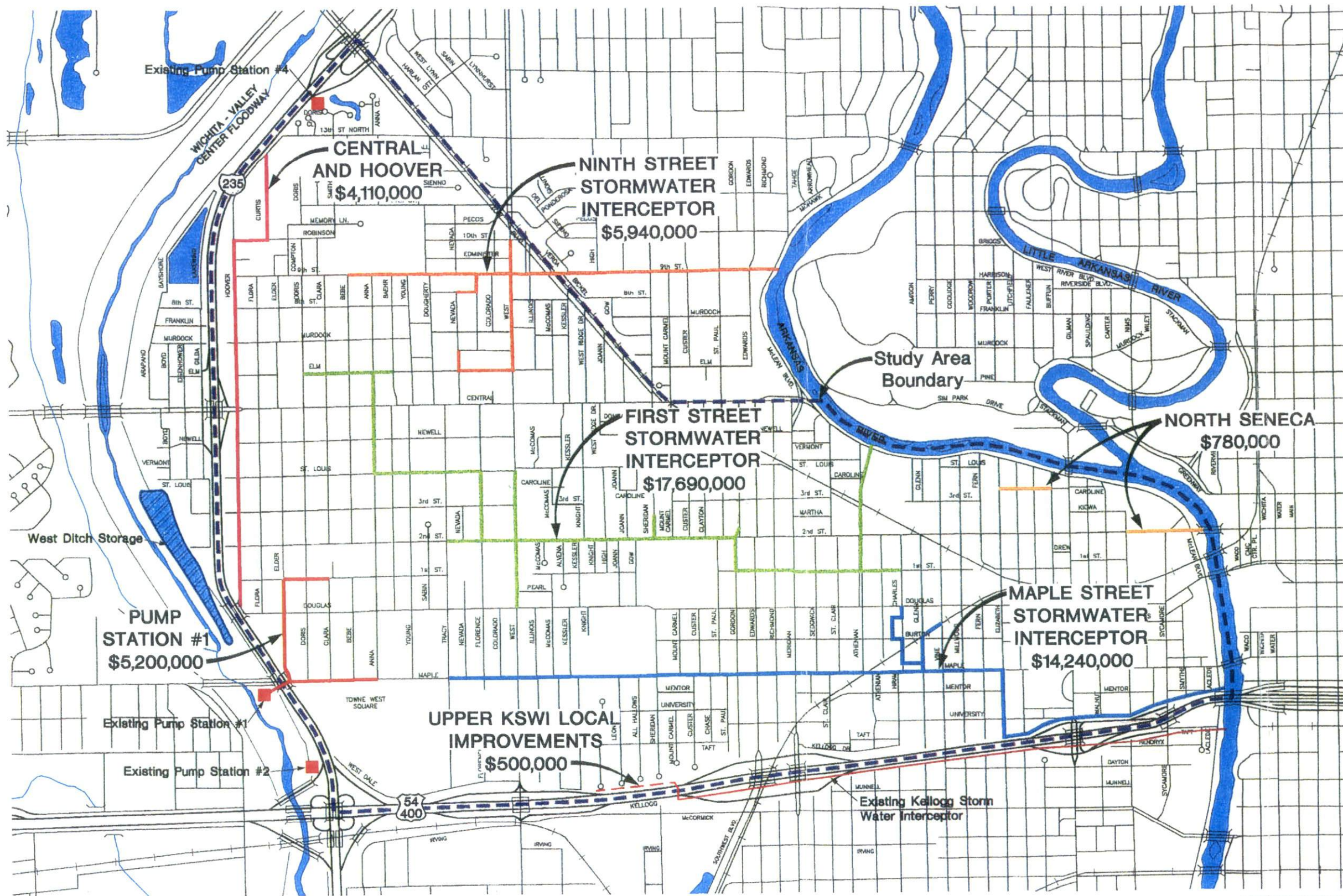
B. *Existing Conditions*

The Study Area lies along the Arkansas River's west over-bank, within the alluvial plain. Extremely flat slopes in the area, combined with street crowns and local elevation changes, cause widespread shallow ponding in streets throughout the Study Area. Portions of some major arterial streets become impassable following relatively frequent storms.

The most significant recent physical change to area drainage was elevating US 54 (Kellogg) from West St. to the Arkansas River. Runoff naturally flows essentially parallel to the Arkansas River. Kellogg/US 54 improvements effectively blocked this natural discharge route for runoff that exceeds the storm sewer capacity. The Kellogg Storm Water Interceptor (KSWI) will carry the 5-year event from a limited watershed bounded approximately by 2nd Street, West Street, Kellogg (US 54), and the Arkansas River.

Other significant Study Area characteristics include the following:

- There is regular flooding at numerous low areas, including several significant sumps in West St. between Zoo Blvd. and Douglas, near 2nd and Tracy, and at 3rd St. and Sheridan.
- Of the three stormwater pump stations serving the study area, only Stormwater Pump Station #1 appears to be significantly overloaded. Pump Stations #2 and #4 have relatively small, well-defined watersheds, and no modifications appear necessary.
- Many storm sewers in the area do not have adequate capacity for even the annual storm.
- Because the storm sewers are inadequate and the grades are flat, there is extensive above-ground flow between watershed areas. This causes sump areas to be flooded more frequently and at greater depth than would otherwise occur.



LEGEND

- CENTRAL AND HOOVER
- NINTH STREET STORMWATER INTERCEPTOR
- FIRST STREET STORMWATER INTERCEPTOR
- NORTH SENECA
- PUMP STATION #1
- MAPLE STREET STORMWATER INTERCEPTOR
- UPPER KSWI LOCAL IMPROVEMENTS
- STUDY AREA BOUNDARY

Master Plan Summary



WEST ARKANSAS RIVER FLOODPLAIN STUDY
 PROJECT NAME
FIGURE I-1
MASTER PLAN SUMMARY
 SHEET TITLE

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- Much of the Study Areas just east of I-235 is without storm sewers. Plans to change streets in these areas from rural sections to urban curb-and-gutter sections will require extending the existing storm sewers to the un-sewered areas and at the same time providing adequate system capacity.

C. *Proposed Master Plan Summary*

The West Arkansas River Floodplain Study recommends the following six major groups of improvement projects for the area. Improvement projects were also identified along the Kellogg Stormwater Interceptor but are not recommended as part of this plan. The total estimated cost for the recommended projects is \$48,460,000. A summary of Master Plan project locations is shown on Figure I-1.

Some of the lower priority projects are planned to provide discharge points for future local drainage systems. The cost of local drainage system modifications is not included in the Master Plan cost summary. An example is the First Street Stormwater Interceptor (FSSI) Edwards System Connection/Modifications project. This project provides the basis for future changes to the Edwards System as flow is redirected from the Central Avenue discharge to the FSSI. The Master Plan funding total only provides for the system connection conduit at 2nd and Gordon. Additional local system design will be needed.

1. First Street Stormwater Interceptor

Construct the First Street Stormwater Interceptor from the Arkansas River to Doris and Elm. The Estimated Project Cost is \$17,690,000 Benefits include:

- Reducing flows to PS# 1.
- Reducing frequency and depth of flooding in West St. between Central and Douglas.
- Providing a planned discharge point for future storm sewers in areas not currently served.

2. Ninth Street Stormwater Interceptor

Construct the Ninth Street Stormwater Interceptor from the Arkansas River west to 9th and Bebe. The Estimated Project Cost is \$5,940,000 Benefits include:

- Reducing the flows to Stormwater Pump Station No. 1 (PS# 1) at I-235 and Maple.
- Reducing the frequency and depth of flooding in West St. between Central and Zoo Blvd.
- Reducing the frequency of overflow to sump areas between Central and Douglas.
- Providing a planned discharge point for future storm sewers in areas not currently served.

3. Central and Hoover System

Construct the Central and Hoover collector system from Hoover and Douglas to Hoover and 13th, including levee earthwork west of I-235 to provide additional storage. The Estimated Project Cost is \$4,110,000 Benefits include:

- Reducing flows to PS# 1.
- Reducing frequency and depth of flooding at Central and Hoover.
- Providing a planned discharge point for future storm sewers in areas not currently served.

4. Stormwater Pump Station #1 Watershed

Increase Pump Station #1 Pumping Capacity and increase Lower PS#1 Watershed storm sewer capacity. The Estimated Project Cost is \$5,200,000 Benefits include:

- Providing collection system capacity for the 5-year event.
- Matching PS#1 pump station capacity to collection system capacity.
- Reducing frequency and depth of flooding at the northwest entrance to Towne West Square.

5. Maple Street Stormwater Interceptor

Construct the Maple Street Stormwater Interceptor from the Arkansas River to Maple and Tracy. The Estimated Project Cost is \$14,240,000 Benefits include:

- Reducing flows to the existing Kellogg Storm Water Interceptor (KSWI).
- Providing a planned discharge point for future storm sewers in areas not currently served.

6. North Seneca Watershed

Construct upgrades to the North Seneca storm sewer systems. Upgrades include enlarging inlets and pipes in the Exposition storm sewer system and enlarging the 2nd Street storm sewer discharge pipe. The total of Estimated Projects Cost for this watershed is \$780,000 Benefits include:

- Reducing flows to the Seneca St. system.
- Providing additional flood relief to the industrial area near the 2nd and Osage sump.

7. Kellogg Stormwater Interceptor

Kellogg Storm Water Interceptor Improvements are not recommended, as many of the upstream systems proposed in the Master Plan will intercept flow to this system. Two local projects were identified.

- Near The Lodge (served by a small system upstream of the KSWI), the cost for all alternatives exceeds the “no action” option. If action must be taken, the most effective alternative improves the upper system above the KSWI from Kessler to Custer (Estimated Project Cost = \$500,000).
- An additional small project near Richmond and University has already been completed under the “hot spot” funding program rather than through the Capital Improvements Program.

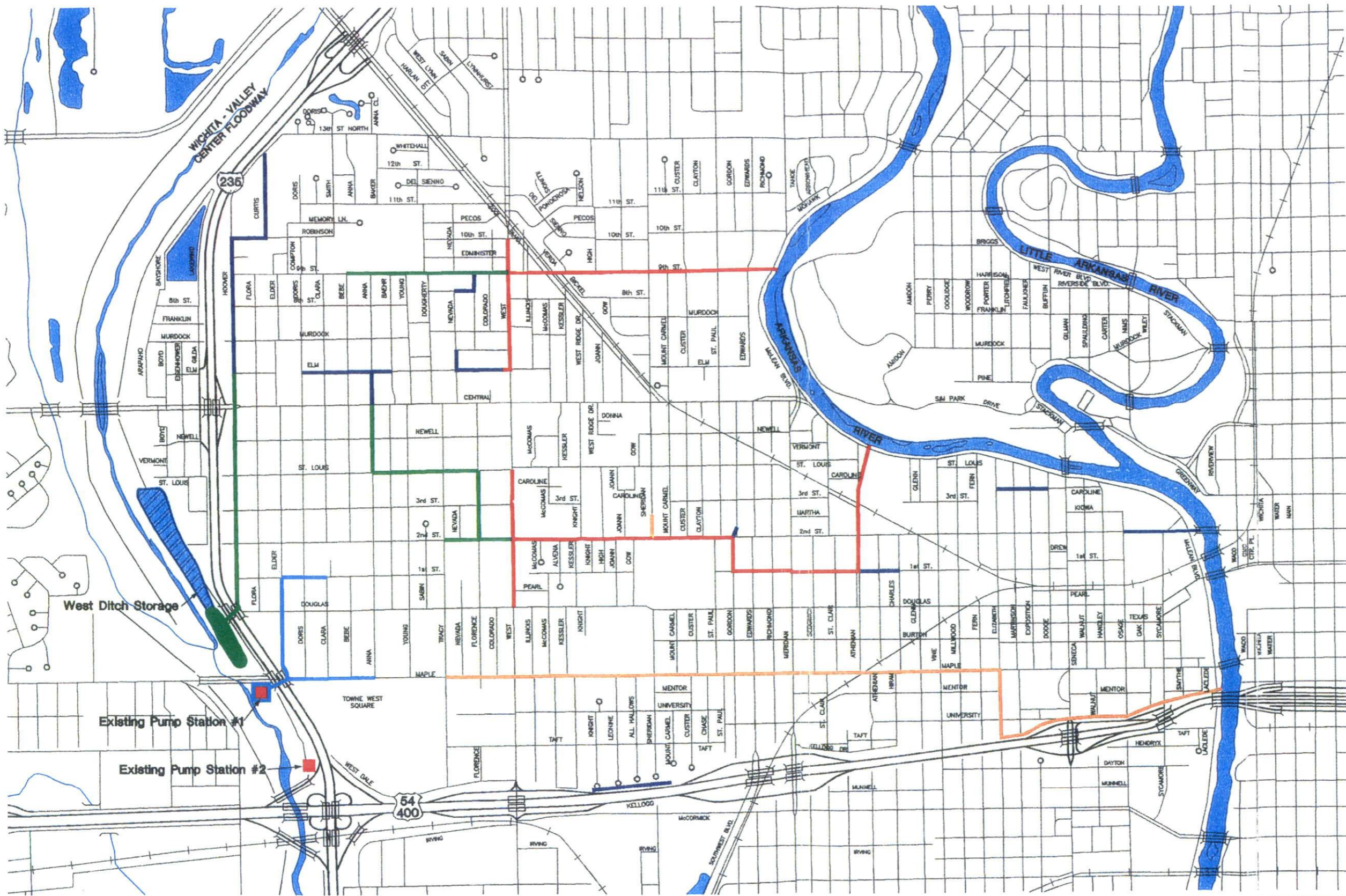
D. Recommended Project Sequence

The recommended sequence for Master Plan projects is shown in Table I-1 and on Figure I-2. The project sequence is somewhat flexible, but higher priority projects should generally be completed before low priority projects are constructed. In most cases lower priority projects will provide only marginal improvement until the higher priority projects have been completed.

Two key features of the plan are the First Street Stormwater Interceptor and the Ninth Street Stormwater Interceptor. These features should be constructed first, beginning at the discharge point and proceeding upstream.. Lower priority project sequences can usually be changed without materially affecting the results.

Table I-1: Recommended Project Sequence

Project Priority	Cost	Project Description
1	\$10,860,000	First Street Stormwater Interceptor from Ark River to West St.
1	\$480,000	FSSI West St. Collector from St. Louis to Douglas
1	\$3,540,000	Ninth Street Stormwater Interceptor from Ark River to West St.
1	\$1,160,000	NSSI West St. Collector from Zoo Blvd to Elm St.
2	\$5,360,000	FSSI Extension from West St to Central and Anna
2	\$1,010,000	NSSI Extension from West St. to Anna
2	\$2,150,000	Central and Hoover Collection System, Douglas to Central
3	\$310,000	FSSI Sheridan Ave. Collector Extension
3	\$14,230,000	Maple Street Stormwater Interceptor from Ark River to Tracy
4	\$5,200,000	PS#1 Collection System and Pump Station Improvements
5	\$690,000	FSSI Extension in Anna and Elm
5	\$40,000	FSSI Edwards System Connection/Modifications
5	\$160,000	FSSI Millwood System Connection
5	\$310,000	NSSI 8th and Nevada Sump Modifications
5	\$1,960,000	Central and Hoover System Extension to Curtis and Arapaho
5	\$780,000	N. Seneca Local Modifications on 3rd St and 2nd St.
5	\$500,000	Upper KSWI Parallel System
Total	\$48,740,000	



LEGEND

- PRIORITY 1 PROJECTS
- PRIORITY 2 PROJECTS
- PRIORITY 3 PROJECTS
- PRIORITY 4 PROJECTS
- PRIORITY 5 PROJECTS

Master Plan Project Priorities



**WEST ARKANSAS RIVER
FLOODPLAIN STUDY**
PROJECT NAME
**FIGURE I-2 MASTER PLAN
PROJECT PRIORITIES**
SHEET TITLE

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II. Introduction

A. *Authorization*

The West Arkansas River Floodplain Drainage Study is authorized by contract with the City of Wichita. The master plan contract scope includes the area bounded by Kellogg, I-235, Zoo Blvd., Central, and the Arkansas River. The study area is shown on Figure II - 1. To provide a complete performance assessment of some system options, cursory hydrologic analyses of small watersheds outside the contract area were also completed.

B. *Scope and Purpose*

The project is to develop a drainage master plan for the area. The storm sewer system is to carry the 5-year event. Ponding from the 100-year event is to remain in public right of way. The master plan identifies preliminary layout, pipe sizes, and hydraulic characteristics for subsequent system design.

III. Methods

A. *Technical Evaluation*

1. Hydrology

Watersheds. Watersheds are defined using topographic contour maps generated for previous studies, supplemented by limited field survey. The elevation data are roughly verified using available paving and storm sewer plans, and visual checks of flow patterns in the field during runoff events as possible. Additional information on watershed definition is in Section III.A.3.

The area lies in or near alluvial deposits in the Arkansas River historical floodplain. Virtually all of the area soils fall into HSG (SCS Hydrologic Soil Group) "B". A general runoff curve number (SCS CN Method) of 72 is used for most watersheds.

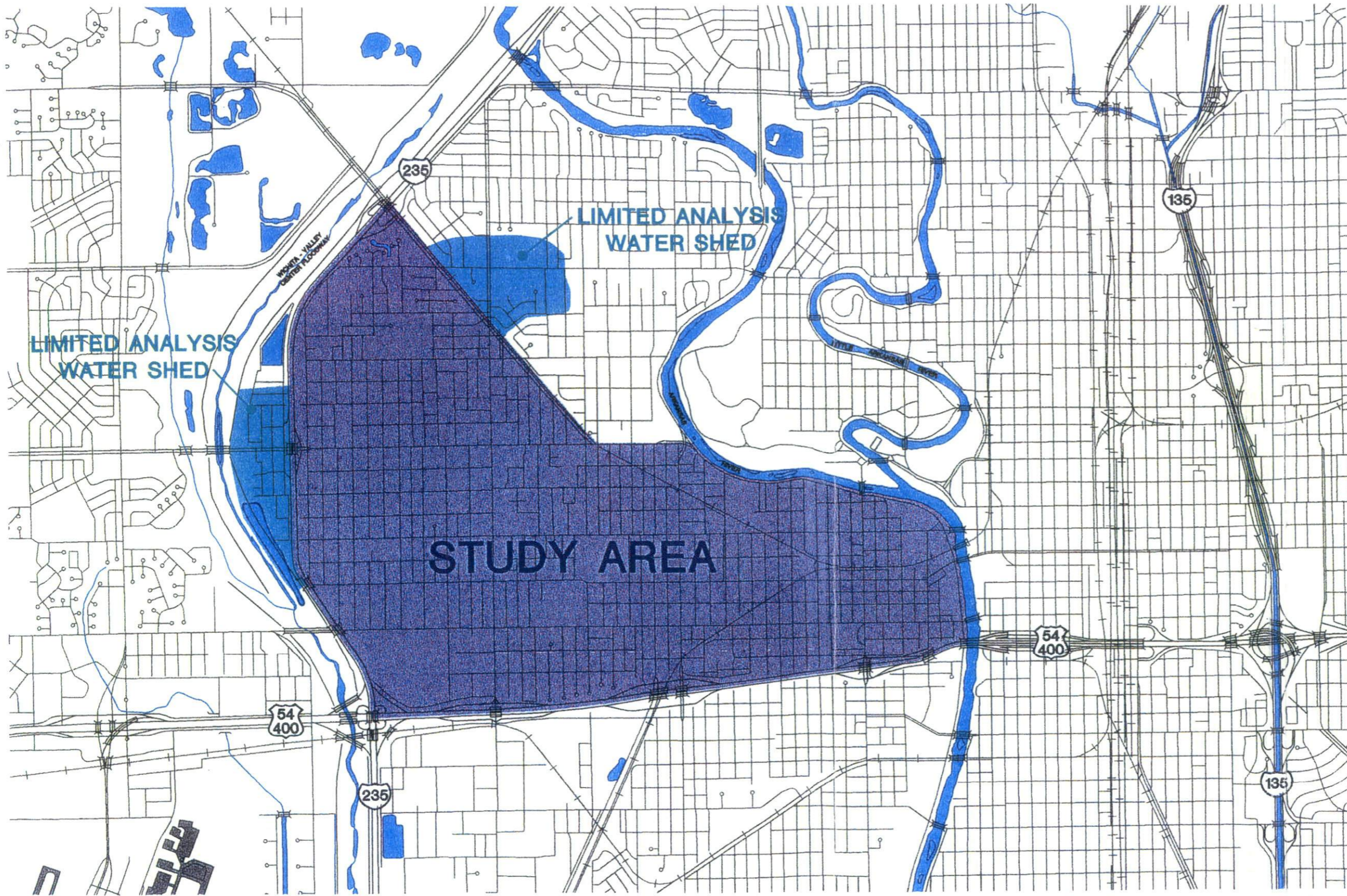
Storage. The only formal detention facility currently in the watershed lies in the extreme north portion near Zoo Blvd. and I-235, at the Storm Water Pump Station #4 intake pipe. The area served by the detention basin and pump station is separate from the rest of the watershed, so its potential for controlling runoff from this and other parts of the study area is limited.

Informal storage occurs throughout the watershed during runoff events from incidental ponding in streets. A well-known example is in West St. north of Douglas. This and similar storage throughout the watershed may reduce peak flow rates under existing conditions, though formal analysis is not practical.

The effect of surface storage on peak flow rates due to the extremely flat terrain is accounted for by using unit hydrographs with low peaking factors. The standard SCS Unit Hydrograph has a peaking factor of 484. The hydrologic methods considered for use as the benchmark in this study use unit hydrographs with peaking factors of 256 and 161. The resulting hydrographs have the same volume as the standard unit hydrograph, but the peak is lower and the time base is longer.

While the existing ditch and flat land "storage" may reduce the peak further, additional allowances for surface storage are not considered except where a formal basin is constructed. One of the purposes of developing this plan is to limit or remove this excess surface storage. The City's long-term plans include adding curb and gutter and storm sewers to many streets in the watershed. This will further reduce or remove the existing ditch storage, as the storage volume available in underground pipes is generally much less than the volume in the open channels they will replace.

Runoff Parameters. Due to the complexity of evaluating a large number of individual systems, several watersheds representing the range of conditions in the study area were modeled, and the results evaluated



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**WEST ARKANSAS RIVER
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PROJECT NAME
**FIGURE II-1
STUDY AREA**
SHEET TITLE

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to establish a standard method that provides reasonable results for entire the area. The methods considered include the Rational Method and NRCS TR-20. The TR-20 method was further broken down to evaluate the effects of using different methods to calculate the Time of Concentration (Tc) and dimensionless unit hydrographs with peaking factors ("K" factors) more appropriate for extremely flat areas.

Results of the analyses are shown on Figure III - 1. Peak flow rates calculated using the Rational Method are consistently nearly twice the average of values calculated by the TR-20 options. Analyses using the FAA Tc method and $K = 256$ are consistently highest of the peaks calculated using TR-20, but are not nearly as conservative as the Rational Method results. The flow rates shown in this report are based on TR-20 models using FAA Tc and $K = 256$.

2. Hydraulics

Storm sewer pipe systems constitute most of the improvement options evaluated for the Master Plan. They were analyzed using KYPIPES as implemented in Cybernet[®]. Culverts connecting open channels were analyzed using the Federal Highway Administration's HY8 program, and open channels are analyzed using standard step backwater or normal depth calculations.

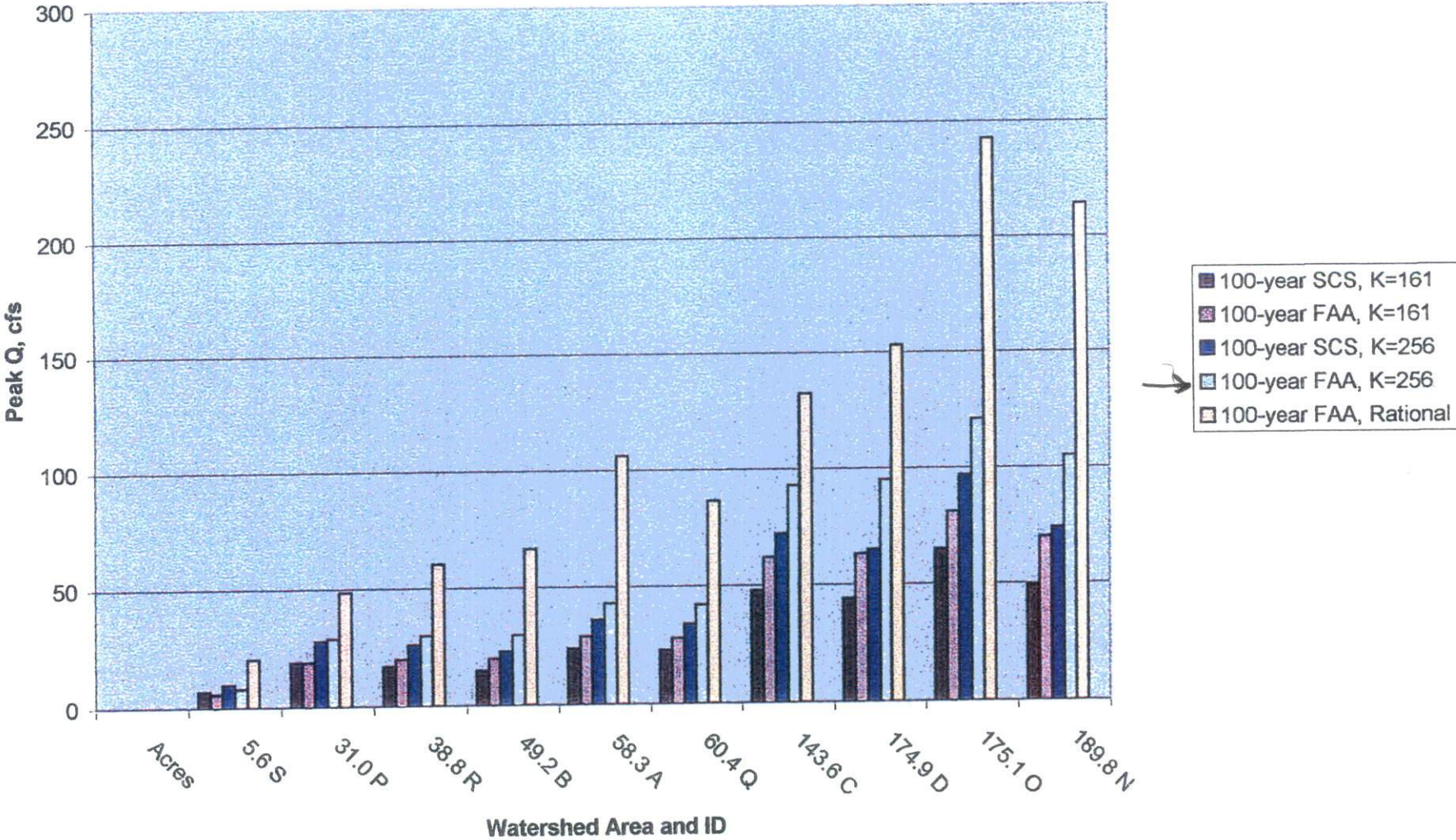
Cybernet[®] modeling uses the following approach:

- Minor losses at manholes and junctions are calculated as $1.5H_v$ (where $H_v = V^2/2g$ in the adjacent pipe).
- Box culverts are modeled using a hydraulically equivalent circular pipe.
- Groups of inlets are modeled as reservoirs, with reservoirs typically situated at changes in pipe diameter or at pipe junctions.
- Two analysis modes are used.
 - In the design mode, the 5-year peak flow rates are forced into the system at the manhole adjacent to an appropriate reservoir, and the pipe from the reservoir to the manhole is closed. This produces hydraulic grade line elevations at the manholes based on pipe friction and junction losses through the system.
 - An evaluation mode is used where physical limits on pipe sizes will not permit proper system design. The rate at which the "reservoirs" receive water is limited limited to about the 5-year peak by modifying the pipe diameter from the reservoir to the storm sewer system.
- The water elevation in each "reservoir" is assigned the adjacent street centerline elevation. Subsequent design should keep hydraulic grade lines at manholes and junctions one foot below the street centerline elevation.
- At the City's direction, the starting hydraulic grade line elevation in the Arkansas River is the 5-year water surface elevation at the discharge point. These elevations are based on statistical analysis of USGS flow data and the current HEC-2 model for the Arkansas River.
- The starting hydraulic grade line for pipe systems discharging to pump stations (where applicable) is assumed as the water surface elevation at which all pumps have started to operate.

The Cybernet[®] program evaluates pressure pipe systems. This is generally appropriate for storm sewers in the study area under expected design conditions. An exception is along Kellogg between Custer and Kessler, where the existing storm sewer system upstream of the Kellogg Storm Water Interceptor (Kellogg Storm Water Interceptor) approaches the ground surface. In the Kellogg Storm Water Interceptor total system analysis, some calculated hydraulic grade line elevations were lower than the top of the storm sewer pipes, indicating the potential for free surface flow. This portion of the system is evaluated separately assuming that the beginning HGL elevation (at Kellogg and Custer) is at the top of the pipe, thereby forcing pressure flow conditions.

Hydraulic Grade Lines should be re-calculated and reviewed during final design of all storm sewers. Proper loss coefficients should be applied to the final design configuration, the results should be reviewed, and the anticipated system performance checked before issuing construction plans.

**Figure III-1: Tc and K Factor Effects on Peak Q
(CN=72, Type B Soils) SCS and FAA Tc Methods**



B. Cost Effectiveness Evaluation

Capital Improvement Program projects are assigned planning-level cost estimates for comparison with other alternatives and for budgeting purposes. While drainage projects may be built in conjunction with street improvement projects, the estimated construction costs presented here are based on construction of each Drainage Master Plan component as a single purpose project.

Estimated Project Costs for the Capital Improvement Program have been developed for the Drainage Master Plan projects as follows:

Preliminary Estimated Construction Costs are determined by adding installed storm sewer costs, manhole/inlet costs, and the cost to remove and replace a portion of the pavement, curb, gutter, and sidewalks along the route. The following assumptions are used to develop the *Preliminary Estimated Construction Costs*:

- Installed Storm Sewer Costs (including excavation and backfill) are 2.0 times the base material cost provided by the manufacturer.
- Pavement Removal and Replacement – Pavement will be removed and replaced for the entire length of the conduit, at an estimated cost of \$42/sq yd. The pavement cut width varies depending on conduit size as follows:
 - Pipes 30 inches and smaller: Diameter + 8 ft.
 - Conduit with internal span 33 inches to 54 inches: Span + 15 ft.
 - Conduit with internal span 5 ft to 8 ft: Span + 20 ft.
 - Conduit with internal span greater than 8 ft: Span + 25 ft.
- Curb and Gutter and Concrete Flat Work Removal and Replacement: \$62/Lineal Foot (\$17/lineal ft. for Curb & Gutter + \$45/lineal ft for Sidewalks/drives). The estimated percentage of the project length for which these costs will be incurred varies as follows:
 - Pipes 30 inches and smaller: 50% of Conduit Length.
 - Pipes 33 inches to 72 inches and Concrete Boxes w/Span 8 ft or less: 75% of Conduit Length.
 - Concrete Boxes w/Span greater than 8 ft: 100% of Conduit Length.

Preliminary Estimated Construction Costs are increased by 20% for incidental costs to calculate the *Estimated Construction Cost*. The 20% incidental cost increase is based on the following assumptions:

- Right-of-way and Easements: 5% of *Preliminary Estimated Construction Costs*.
- Signs and Signals: 5% of *Preliminary Estimated Construction Costs*.
- Site Preparation and Restoration: 10% of *Preliminary Estimated Construction Costs*.

To calculate the Estimated Project Cost, the *Estimated Construction Cost* is further augmented by 20% for contingencies (utility relocation, railroad conflicts, etc.), and 15% for detailed design and resident engineering services.

Capital Improvement Program Estimated Project Costs do not include the following items:

- Local Drainage System Modifications (e.g., the Edwards St. Subsystem)
- Minor Drainage System Additions (pipes smaller than 24" diameter)
- New Drainage collection Systems in Un-sewered Areas (e.g., west of Sheridan and south of Central).

A summary of unit costs used to develop comparisons and *Preliminary Construction Costs* are shown in the following table.

Table III-1 - Basis for *Preliminary Estimated Construction Costs*

Pipe and RCB	2.0 x F.O.B. Price Provided by Local Supplier
Manholes and Junctions	\$5,000 each
Asphalt Concrete Pavement	\$42/sy (Removal: \$5/sy, Replacement: \$37/sy)
Concrete Flat Work	\$45/lin ft (Removal: \$5/lin ft Replacement: \$40/lin ft)
Curb and Gutter	\$17/lin ft (Removal: \$5/lin ft Replacement: \$12/lin ft)
Pump Stations	From Cost Curve in Appendix E
Pump Station Discharge Pipe	\$4.50 per diameter inch per foot

IV. Background

A. Physical Description

1. Area Morphology

The Study Area lies along the west bank of the Arkansas River, within the alluvial plain. The regional slope is very flat at approximately .001 ft/ft, or 5 ft per mile, with the slope direction nearly parallel to the river (rather than directly toward the river). For example, the approximate slope from West St. to the river along Douglas is only .0003 ft/ft, or 1.5 ft per mile. With these extremely flat slopes, street crowns and local variations in grade cause extensive shallow ponding throughout the study area.

Development in the area is mixed. Much of the area is residential, but some commercial areas lie along West, Central, 2nd St., Maple, Douglas, and Kellogg, and along McLean adjacent to the Arkansas River. The area also contains six schools, one college campus, and four parks/athletic fields.

The most significant physical change to area drainage was elevating US 54 (Kellogg) between West St. and the Arkansas River. As noted previously, the primary slope direction is parallel to the River. Kellogg/US 54 improvements effectively blocked this natural discharge route for heavier runoff events.

2. Discharge Route Options

Major storm sewers are usually built in conjunction with street improvement projects. Capital Improvement Program reviews and meetings with City staff during the study identified the most practical major discharge route options.

There are three potential discharge options in the area:

1. West toward the Wichita-Valley Center Floodway (WVCFW) via existing or future pump stations;
2. To the Kellogg Storm Water Interceptor (Kellogg Storm Water Interceptor) via gravity flow; or
3. Directly to the Arkansas River via gravity flow.

The 100-year water surface elevation in the Wichita - Valley Center Floodway is 3 to 7 feet higher than the adjacent ground surface east of the flood protection levee. Three stormwater pump stations currently lift runoff into the Wichita - Valley Center Floodway from east of the levee:

- Northwest of Towne West Square (southwest corner of Maple and I-235) at Pump Station #1.
- Southwest of Towne West Square (northwest corner of Kellogg and I-235) at Pump Station #2.
- South of I-235 near Zoo Blvd. at Pump Station #4.

The Arkansas River forms most of the study area's east boundary. Because the Wichita - Valley Center Floodway diverts high flows away from the main channel, Arkansas River flood elevations are relatively low. It is virtually always possible to discharge to the Arkansas River by gravity.

The KWSI's performance was evaluated briefly in 1989 during design for US 54 improvements. The river stage assumed in the hydraulic analysis is a major factor in assessing the interceptor's effectiveness. The effective Flood Insurance Study Report published only one flow rate in the Arkansas River for all frequencies. The 1989 *Hydraulic Report: West Kellogg Freeway* considered normal pool elevation and the FEMA river stage during system evaluation. According to the report, the Kellogg Storm Water Interceptor will

carry the 10-year event when the river stage is at normal pool (elevation 96.6), and the 2-year event when the river stage is high (elevation 103.6).

Instead of simply using the two river stages, MKEC analyzed the Arkansas River gauge record since the Wichita – Valley Center Floodway was constructed. The analysis provides probabilistic discharges through the protected reach of the Arkansas River. These discharges were incorporated into the river's hydraulic model, which calculated water surface elevations at potential discharge points.

The downstream water surface elevation for river discharge systems is taken from the hydraulic model results using 5-year flows. These new Arkansas River design elevations provide the basis for assessing the performance of all gravity discharge systems.

While recent or imminent improvements along Central preclude new construction in that corridor, modifications to adjacent systems have been evaluated and improvements recommended to maximize the Central Avenue System's effectiveness. The Master Plan construction sequence may change with street improvement priorities. Major construction sequence changes should be modeled to verify that conditions do not deteriorate in any part of the watershed.

3. Watershed Definition

Because of the flat terrain, sump areas are common and watershed boundaries are poorly defined. Maps from previous studies, City records, and street improvement plans were supplemented as needed with field surveys to provide the most accurate existing watershed boundaries practicable.

Elevation data for the area west of Edwards is provided by a set of maps produced in 1996 for the area bounded by I-235, Missouri-Pacific RR tracks (Zoo Blvd.), Edwards, and Kellogg. Accuracy is warranted by the mapping contractor to conform with National Map Accuracy Standards for 1" = 100' planimetric detail, with a nominal contour interval of 2 ft. The accuracy criteria are that 90 percent of the map spot elevations fall within 0.5 ft of field measurements. This is considered adequate for project purposes.

Maps with general elevation data were not available for the area east of Edwards, north of Zoo Blvd., or west of I-235. To help establish study area watershed limits, street center line elevations in the area east of Edwards were surveyed using GPS equipment. This data was supplemented as necessary with total station surveys. All watershed boundaries east of Edwards are based on these street elevations.

Where practical, elevations from the primary sources were compared with elevations in the secondary data sources listed below. These secondary sources generally confirmed the accuracy of the primary sources.

Secondary Data Sources

- Seneca Paving/Widening Plans.
- Lawrence-DuMont Stadium Area Development Plans.
- Ice Sport Center Development Plans.
- McLean Blvd. Construction Plans.
- Central Ave. Paving Plans I-235 to River.
- West St. Paving Plans Maple to North of Central.
- Douglas Bridge Plans.
- Meridian Ave. Paving Plans.
- Pump Station Construction Plans (#s 1, 2, and 4).

B. Previous Studies

Major drainage studies completed for the area within the past 10 years include the following:

1. "Maple-Kellogg Area" Study – Part of the Wichita Comprehensive Master Stormwater Drainage Plan, Black & Veatch/MKEC, 1989.
2. "Hydraulic Report: West Kellogg Freeway", Howard, Needles, Tammen & Bergendoff, August 1989.
3. "Drainage Study for St. Louis – Sheridan Drainage Basin", Baughman Company, P.A., July 1996.
4. "Storm Water Pump Stations: Repair/Design Report", MKEC, October 1996.
5. "Drainage Report for Central Avenue Improvements: West Street to I-235", Baughman Company, P.A., September 1997.

Reviews and summaries of these studies are included in Appendix A.

C. Problem Areas

Flooding problems were identified at the following locations by previous reports, City staff, or public input:

- West Street, Douglas to Central.
- Kellogg, McComas to Knight (The Lodge).
- University at Richmond.
- Maple St. Pump Station (PS #1).
- Towne West Center.
- Sheridan from 2nd St. to St. Louis.
- Central Ave. from Westridge to Sheridan.
- West St. at St. Louis
- West St. at 8th.
- Central at Meridian.

All of these locations are addressed, either specifically or as part of the watershed Master Plan modification.

V. Existing System/Alternatives

The existing watersheds are shown on Figure V-1.

A. Pump Station #4 Watershed (PS#4)

1. Area Description

The PS#4 watershed comprises 169 acres, generally bounded by 13th St. on the south, I-235 on the northwest, and High St. on the east. Only 58 acres are within the contract study area. Runoff from approximately 111 acres east of Zoo Blvd enter the study area via a 10x7 RCB that crosses Zoo Blvd. just north of 13th St. Development is primarily residential, with some commercial areas along West St.

2. Existing Conditions

A detention basin is adjacent to Pump Station #4 near the intersection of Zoo Blvd. and I-235. The collection systems are comparatively well developed in these watersheds. Facilities along 13th St. carry runoff to the detention basin from the Study Area watershed. The south watershed boundary is well-defined, so there is little opportunity for flow from adjacent basins to affect the PS#4 watershed drainage system's performance.

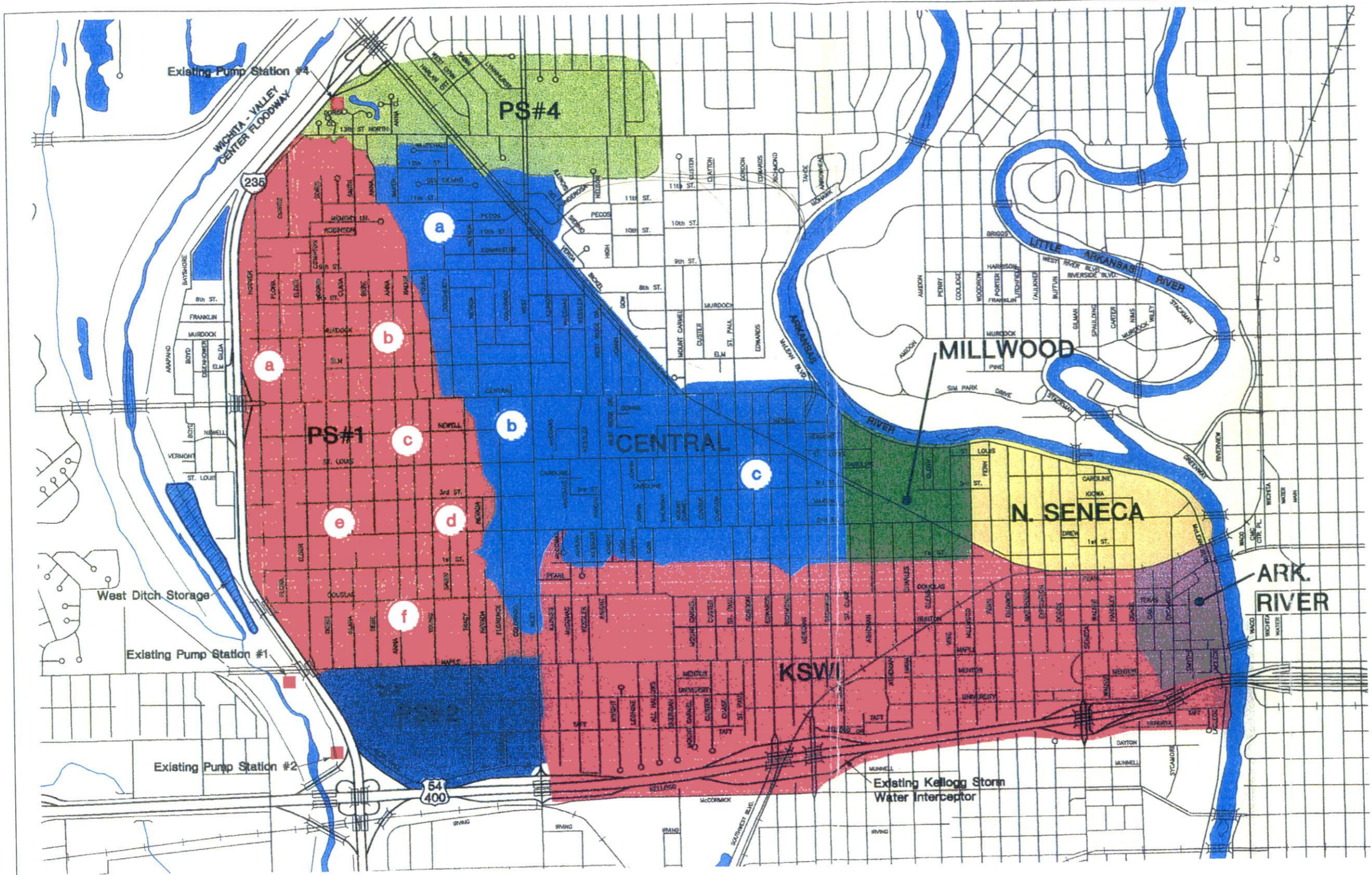
The detention basin volume is large compared with watershed size, and Stormwater Maintenance Division personnel report that Pump Station #4 operates only rarely. Detention basin operation was checked during several rainfall events over the course of the study. The pump station did not operate, and the detention basin water level did not rise by more than two feet. The only problem noted was slope failure where incidental runoff from I-235 enters the detention basin. This has since been repaired.

3. System Alternatives

As the system appears to function well under existing conditions, no alternative systems to improve drainage for this area are contemplated.

During alternative evaluations, the PS#4 detention basin was considered as a potential discharge point for the PS#1 Area watersheds north of 9th St., as well as for the 9th and West St. sump watersheds. These measures were dismissed for the following reasons:

- In addition to the PS#4 study area watershed, the pump station and accompanying detention basin serve a watershed east of Zoo Blvd. and north of 13th St. via a 10x7 ft RCB. This supplemental watershed has a long history of flooding. Adding flow from other watersheds to the PS#4 watershed would either reduce the level of flood protection, or require modifications to increase PS#4's pumping capacity.
- The street elevations at the 9th St. and West St. sump are close to the peak water surface elevation in the detention basin during heavy runoff events. Consequently, a large culvert would be required to carry peak design flows to the PS#4 detention area. There is also the potential for extreme events to exceed the 5-year PS#4 detention volume and for water to temporarily flow south toward 9th and West St.
- The design water surface elevation in the Arkansas River is much lower than the peak water surface elevation in the PS#4 detention area. Consequently, the hydraulic grade line slope toward the

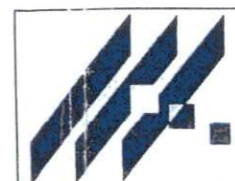


LEGEND

- Approximate PS#4 Watershed Boundary
- Central Avenue Subwatershed Boundary
- PS#1 Subwatershed Boundary
- Existing Storm Sewer Pipe
- Sump Area

- EXISTING SYSTEM WATERSHEDS**
- ARK. RIVER - Arkansas River Local System
 - CENTRAL - Central Avenue Systems
 - KSWI - Kellogg Stormwater Interceptor
 - MILLWOOD - Millwood Local System
 - N. SENECA - North Seneca Local System
 - PS#1 - S.W. Pump Station No. 1
 - PS#2 - S.W. Pump Station No. 2
 - PS#4 - S.W. Pump Station No. 4

- PS#1 SUBWATERSHEDS**
- a - CENTRAL AND HOOVER
 - b - UPPER PS#1
 - c - MIDDLE PS#1
 - d - PS#1 SUMPS
 - e - LOWER PS#1
 - f - PS#1 MAPLE
- CENTRAL SUBWATERSHEDS**
- a - ZOO BLVD. WATERSHED
 - b - WEST ST. WATERSHED
 - c - EDWARDS WATERSHED



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**WEST ARKANSAS RIVER
FLOODPLAIN STUDY**

PROJECT NAME
**FIGURE V-1 EXISTING SYSTEM
WATERSHED BOUNDARIES**

SHEET TITLE

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MAY, 2000 DATE	SWSMAP5 JOB NO.	1 / 1 SHEET/01

Arkansas River is greater than the slope toward the detention area. A smaller culvert may be used to carry the design discharge from the sump area to the river than to the PS#4 detention area, and the risk of reversed flow in the system is lowered.

- The distance from a reasonable collection point in the PS#1 upper watersheds to the PS#4 detention area is approximately the same as the distance to the 9th and West St. sump. The design HGL elevation in the storm sewer at 9th and West can be made low. This allows a smaller pipe to drain the upper PS#1 watersheds toward the Arkansas River than would be required to flow north to PS#4.

B. Pump Station #2 Watershed (PS#2)

1. Area Description

The PS#2 Watershed comprises just over 200 acres including the Towne West Square shopping center (in the northeast quadrant of I-235 and US 54) and a narrow area straddling West Street between Maple St. and US 54. Development is densely commercial, with almost no permeable surfaces.

2. Existing Conditions

The area drains to a 7 ft RCP near the southwest corner of Towne West Square. This pipe carries flow west under I-235 to Stormwater Pump Station #2. The Towne West Square Watershed frequently receives overflow at several locations along the PS#1 Watershed's Maple St. subsystem. West Street may receive overflow from a sump at Maple and Tracy as well as from Towne West Square overflow at West and Taft.

Towne West Square is drained by parking lot inlets constructed with the shopping center. A series of grated drains in sumps are connected to the trunk sewer in the south parking lot. The drainage system design report states that parking lot storage was planned in conjunction with underground pipe storage and the stormwater pump station. The site serves as a large sump, with the break-over near Taft and West St. at an elevation of about 116 ft. This storage plan appears to work well except in the area just south of Bebe St. at Maple, where PS#1 Watershed overflow enters the PS#2 watershed near the north mall entrance. Water has reportedly been at or near the north mall entrance doors. Runoff has few, limited escape routes from the north mall entrance area, so the overflow received from the PS#1 watershed exacerbates the problem.

West St. between Maple and US 54 is drained by a 42" RCP extending east from the 7 ft RCP in Towne West Square's south parking lot to a shallow sump at West St. and Taft. Small lateral pipes extend north and south to additional inlets along West Street's west curb. The 5-year peak flow to the inlets is 25 cfs, well within the 42" RCP's capacity unless lack of capacity downstream in the 7 ft RCP would raise the Hydraulic Grade Line. City personnel report that the West and Taft inlets appear to have adequate capacity during most runoff events. The West St. sump also breaks out of watershed limits near West and Taft, flowing east toward Illinois.

3. System Alternatives

As other measures from the Master Plan are implemented and inflow from the north (overflow from the PS#1 watershed) is reduced, problems in this watershed should also be reduced. If problems near the north mall entrance persist, the parking lot east of the entrance may be re-graded to allow excess water to flow east and south into lower parking lot surface storage.

The shopping center continues to place new buildings in former parking areas. New development in the parking areas either will reduce the available storage if elevated above the flooding level, or will be flooded if not elevated properly. Consequently, development in the Towne West Square area should be monitored carefully, and a specific drainage plan prepared to guide site development.

C. Pump Station #1 Watershed (PS#1)

1. Area Description

The Pump Station #1 Area comprises just over 1052 acres. The watershed area lies generally north of Maple St., east of I-235, south of Pump Station #4 area, and west of West Street. Development in the watershed is primarily residential. Narrow strips of commercial or institutional development are along Central Avenue and Maple St.

2. Existing Conditions

For planning purposes, the 1052 acres in the PS#1 area are divided into the six smaller areas shown on Figure V-1.

1. The Central and Hoover sub-area comprises approximately 174 acres draining to St. Louis and Hoover. There are no storm sewers in the area, and runoff currently flows across Central or through a 36" RCP culvert between the I-235 ditches. At least a portion of the flow continues south in the east I-235 ditch to a 2-6x4 RCB under I-235 at Douglas and out of the study area.
2. The Upper PS#1 sub-area comprises about 267 acres north of Central draining to the Central and Anna intersection. There is a sparse network of storm sewers in the area that feeds a 42" RCP in Anna. The 42" pipe passes under Central to the south. At St. Louis St., the 42" RCP changes to a 6x3 RCB, which is roughly equivalent to a 54" pipe.
3. The Middle PS#1 sub-area comprises about 89 acres between Central Avenue and 2nd Street, generally flowing to the PS#1 storm sewer in Anna.
4. The PS#1 Sumps sub-area comprises five watersheds just west of West St. totalling about 152 acres. These watersheds are served by small diameter storm sewers in sump condition. Significant rainfall causes these watersheds to overflow east and south toward the sump in West Street near Douglas.
5. The Lower PS#1 sub-area comprises about 218 acres nearest the PS#1 intake structure. It is generally north of Douglas, west of Anna, and south of St. Louis.
6. The PS#1 Maple sub-area comprises about 153 acres north of Maple between West Street and Elder.

A TR-20 hydrologic model of existing conditions is included in Appendix D. A Cybemet[®] model schematic drawing and hydraulic analysis output is also included in Appendix D.

In summary:

- The pump station design discharge is approximately 130 cfs. The existing storm sewer delivers approximately 70 cfs, under assumptions used in the hydraulic model. The peak 5-year runoff calculated for the existing PS#1 watershed is 460 cfs.
- During peak portions of intense storms, water flows away from the pump station at the following locations:
 1. Maple near Tracy, Nevada and Young.
 2. 1st and Elder
 3. 2nd and Anna
 4. 2nd and Tracy

5. St. Louis, Anna to Young
6. Elm and Anna
7. 8th and Bebe
8. 9th and Bebe

Water leaving the system north of St. Louis might flow along streets and be intercepted by groups of inlets to the south at, for example, St. Louis and Anna or 2nd and Anna. Water leaving the system east of Anna and south of St. Louis, however, is likely to continue south or south east toward Maple or to the West and Douglas sump.

Water flowing south toward Maple may be diverted at Douglas, which is slightly elevated. These flows would likely be directed east in the area north of Douglas toward West St., where they would join flows from other areas in the West & Douglas sump area.

Flow arriving at Maple encounters a storm drainage system with limited capacity near Young St., and which is likely to discharge much of the intercepted flow above ground (either east toward West St. or south into the Towne West Square watershed) away from the pump station.

3. System Alternatives

The 5-year peak flow from the entire 1052 acre basin is approximately 460 cfs. This is nearly 4 times the current pump station discharge capacity, and about 6 times the existing collection system's flow capacity. Consequently, the general approach to PS#1 area improvements will be to direct flow away from PS#1 to the extent practicable. The area Master Plan proposes to divert the flow from four of the six sub-areas, representing about 2/3 of the area, to other discharge points.

a) *Central and Hoover*

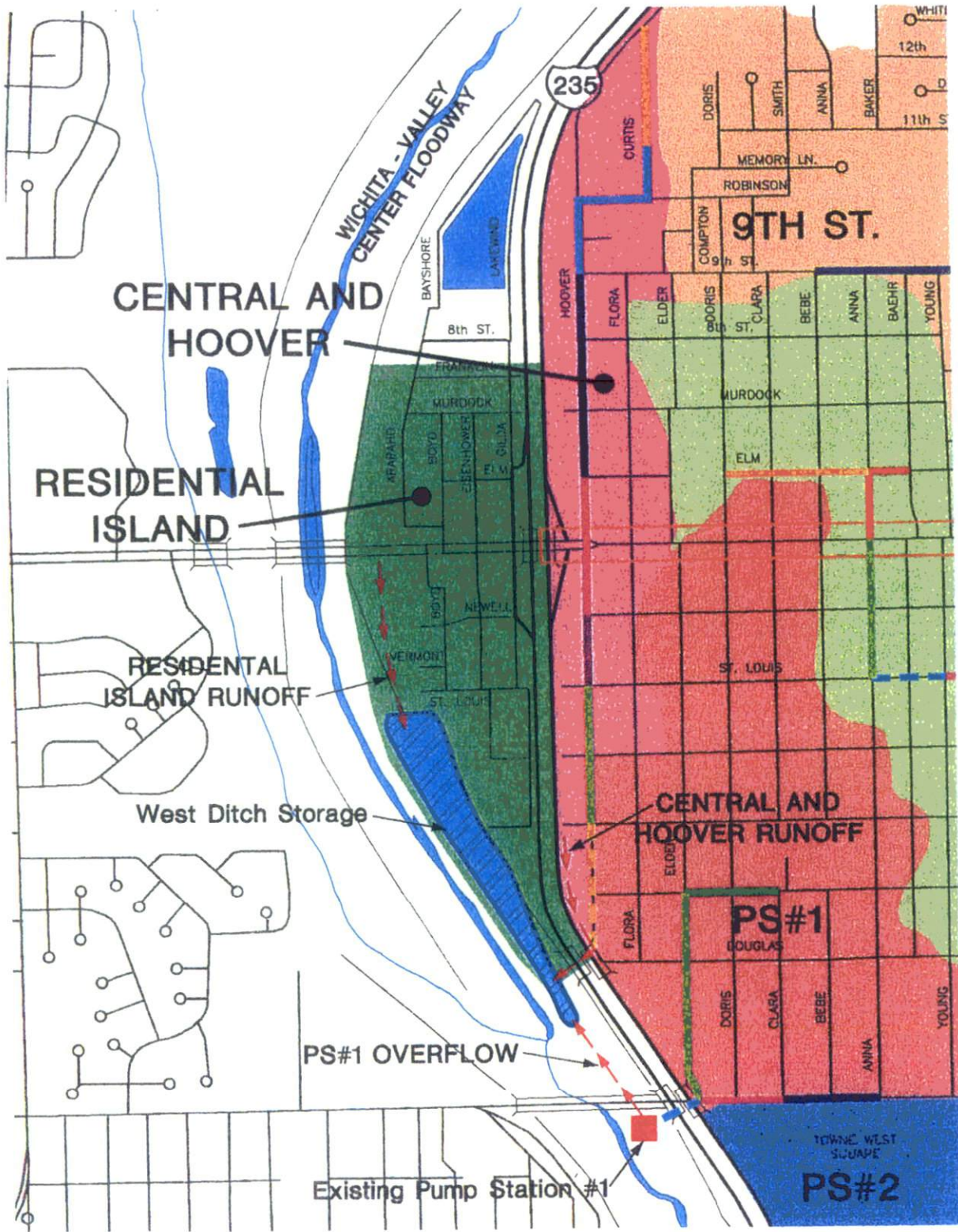
The alternatives investigated for this sub-area include two discharge options. The first is a pumped detention scheme and a simple bypass, both discharging to the east I-235 ditch at St. Louis. A storm sewer system designed for the 5-year event would be constructed upstream of St. Louis into the watershed north of Central. Discharges would be collected at St. Louis and Hoover and would flow into the east I-235 ditch toward the 2-6x4 RCB under I-235 near Douglas. A second discharge option is to continue south in Hoover and connect to the PS#1 storm sewer at 1st Street.


The 2-6x4 RCB discharges to a sump east of the levee system along the Wichita - Valley Center Floodway, in a ditch west of I-235 and north of Maple. The area is labeled "West Ditch Storage" on Figure V-1. The West Ditch Storage area currently receives water from three sources as shown on Figure V.C-1:

- East of I-235 via the 2-6x4 RCB (the Central and Hoover Area and part of the Lower PS#1 watershed).
- An unknown portion of the ~250-acre "residential island" between the Wichita - Valley Center Floodway levee and I-235.
- Bypass from Stormwater Pump Station #1 via a 30" RCP with flap gate.

The 6x4 RCB culvert soffit is at the same elevation or slightly higher than the Douglas and Hoover intersection. Consequently, the box can not flow full without inundating the intersection. Depending on tailwater conditions, the box capacity at soffit elevation may be 225 cfs, or slightly under the 100-year peak flow calculated for the Central and Hoover Watershed. This flow rate also appears feasible in the east ditch, though some grading and shaping is needed.

Although, as the *Central Avenue Drainage Study* notes, "... the west right-of-way ditch can store an enormous amount of runoff", the total tributary area from the three sources, and consequently the potential runoff volume, is also large.





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**WEST ARKANSAS RIVER
FLOODPLAIN STUDY**

PROJECT NAME

**FIGURE V.C-1
FLOWS TO WEST DITCH STORAGE**

SHEET TITLE

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MAY, 2000	SWSMAP5	1 / 1
DATE	JOB NO.	SHEET/OF

In the second discharge alternative, the 5-year storm sewer system would become an upstream extension of the lower PS#1 storm sewer, connecting at Hoover and 1st Street. Because the peak flow would nearly double, extensive improvements would be required for both the collection system and Pump Station #1. This alternative was consequently abandoned.

- The transition basin alternative will not provide detention *per se*, though it will provide a collection point for the overland component reaching Hoover and St. Louis from events greater than the 5-year design storm. The east I-235 ditch has capacity greater than the 5-year peak from the area with the upstream flow elevation less than 120. Consequently, discharge to the channel can be by gravity under design conditions.
- Local groundwater elevations appear relatively high, so the transition basin location may offer an opportunity for a small park with a lake. Much of the collection system would be lower than the average groundwater elevation, with the storm sewer discharge at St. Louis and Hoover between 1 and 4 ft below the expected water table elevation.

The first alternative would require a transition basin from the Central and Hoover sub-area storm sewer to open channel flow in the I-235 east ditch. Important features include the following:

Regional grades are such that the 100-year event appears to flow to St. Louis and Hoover without spilling into adjacent watersheds. Watershed definition near Douglas and Hoover is poor, so there is a risk of flow to the Central and Hoover watershed from the Lower PS#1 Area watershed. Future street construction should modify grades as practicable to better establish the watershed boundaries. The analysis presumes that runoff from only a small area near the Douglas/I-235 culvert is added to flows from Central and Hoover.

During more severe events and when the Wichita – Valley Center Floodway is carrying significant flows, the additional storage would improve flood protection. When the floodway is down, the double 48" RCP should discharge over 200 cfs, providing conditional protection for more extreme events.

From culvert analysis, the Hoover and Douglas intersection will be flooded when the tailwater elevation (in West Ditch Storage) is greater than about 116.0. A limited survey of the West Ditch Storage south of the "island" area shows that the total storage currently available below elevation 116 ft is near 12 acre-feet. This storage volume may be adequate for the 2- and 5-year events when the Wichita – Valley Center Floodway is not flowing. There is, however, significant additional storage volume that appears unused between the two levees just north of Maple. Levee modifications would require coordination with the Tulsa District of the Corps of Engineers, but the total storage that could be made available by removing or modifying the "land side" levee should be between the total runoff volumes for the 2- and 5-year events.

Return Interval, years	Runoff Depth, in	Runoff Volume, ac ft
2	1.11	32.0
5	1.86	53.6
10	2.39	68.8
100	4.52	130.2

Table V-1: Estimated Runoff Volumes to West Ditch Storage

The following table shows total runoff volumes to the West Ditch Storage, assuming that the "residential island" has a watershed area of 158 ac (from USGS map and field reconnaissance), and that the Pump Station #1 bypass flows are insignificant.

b) Upper PS#1 Watershed

Runoff from the Upper PS#1 area should also be diverted away from Pump Station #1. Two diversion alternatives were investigated. The first presumes that all of the upper PS#1 area drains via a conduit in Anna south through the Middle PS#1 area to St. Louis, where flow would be carried by the proposed First Street Stormwater to the Arkansas River.

The second alternative would divert runoff from that part of the Upper PS#1 watershed north of 9th St. Flow would be toward the proposed Ninth Street Stormwater Interceptor, which will begin at the 9th and West St sumps. Lower portions of the Upper PS#1 Area would continue to flow south across Central at Anna to be intercepted at St. Louis by the FSSI.

While both options require a larger pipe under Central at Anna, the second option allows a smaller increase over the existing pipe size (42 " to 60"). With the first option's larger pipe size (72") and flat terrain, pipes are likely to conflict with recent construction in Central Avenue. The smaller pipe size increase should provide better opportunities for resolving elevation conflicts. In addition, a storm water collector along 9th St. east of Anna will provide storm sewer discharge points for future street improvements in that area. Consequently, the second option appears to better meet project objectives.

c) Middle PS#1 Watershed

This small area between 2nd and Central contributes a relatively small amount of runoff to the study area. Improvement alternatives investigated were limited to those that would effectively divert flow away from PS#1 and toward the Arkansas River.

d) PS#1 Sump Watersheds

The PS#1 Sump Watersheds are between the 6x3 RCB in Anna and West St., and are lower than the adjacent areas served by the PS#1 storm sewer system. Hydraulic analysis shows that the overloaded storm sewer system probably delivers water from other parts of the PS#1 system to the sumps during significant rainfall. Overflow from the PS#1 Sump Watersheds is to the sump at West and Douglas.

Alternatives investigated include diverting flow east by gravity via the First Street Stormwater Interceptor (FSSI) to the Arkansas River by gravity, or constructing a new stormwater pump station that would discharge west to the Wichita - Valley Center Floodway.

A hydraulic model was prepared for each alternative, along with planning level project costs. Diverting flow from upstream of West and Douglas to a stormwater pump station would reduce the total cost for FSSI improvements by about \$2.24 million. This savings, however, is more than offset by the pump station and discharge pipe costs, which total about \$4.29 million. In addition, the costs calculated for the pump station alternative do not include annual operation and maintenance. Consequently, the gravity flow option is recommended.

e) Lower PS#1 Watershed

Even after the tributary area is reduced by upstream diversions, the capacity of the existing collection system between 2nd and Clara and the pump station intake is less than the two-year peak flow. Consequently, some modifications are appropriate. Alternatives investigated are limited to enlarging collection system components near the PS#1 intake structure and increasing pump station capacity.

f) PS#1 – Maple Area

As noted previously, peak flows from the 5-year rainfall exceed the PS#1 collection system's capacity. Options investigated for this area include diverting flow from far east portions of the watershed near Maple and Florence east to the proposed Maple Street Stormwater Interceptor (MSSI), and enlarging the PS#1 collection system as needed to properly remove 5-year peak flows to Pump Station #1.

D. Central Avenue Watersheds

1. Description

The Central Avenue Watersheds are roughly defined by the triangle formed by West St., Central Avenue, and Zoo Blvd. Discharge is via three existing 36" storm sewers in Central Avenue. The Zoo Blvd., West St., and Edwards St. subsystems are the smaller watersheds served by these three separate storm sewers. Development in the area is primarily residential; a narrow strip of commercial land use exists along West Street and Central Avenue.

2. Existing Conditions

The three subsystems each contain remote and/or deep sumps that allow water to flow backward in the storm sewer system during the design storm peak.

The Zoo Blvd. system watershed drains to a large sump area along West St. near 9th Street. Watersheds draining to the Zoo Blvd. system have a combined area of about 240 acres. A 36" RCP extends from the river west along Central to Zoo Blvd., then northwest along Zoo to 9th. A 30" RCP continues west along 9th to the West St. sump.

The West St. System watershed comprises about 230 acres. Within the area are two large sumps along West St.

The north sump is at West and Elm, very near the Zoo Blvd. sump. The boundary separating them is poorly defined. (The "break-over" elevation separating the Zoo and north West St. sumps is 121.7. The minimum sump elevations are 120.7 and 120.9 respectively.) The south sump lies between Pearl (just north of Douglas) and St. Louis, with the minimum elevation 117.3.

Approximately 5,800 ft of 36" RCP extends west from the Arkansas River to West St. Smaller (24" RCP) lateral systems extend north and south to the West St. System sump areas. During significant events, an additional 75 acres from the Pump Station #1 watershed (just west of West St.) appears to drain toward the south sump (the PS#1 area drainage system is also inadequate). The north sump area requires more hydraulic capacity than is available in the 36" RCP east of West Street. Since it is higher, any available capacity is first used to drain the north sump. The south sump, then, has additional flow from adjacent watersheds, and can discharge virtually no flow until the north sump has drained. This causes the sumps in West Street north of Douglas to be filled for long periods after storms of any consequence.

The Edwards System watershed includes about 320 acres. The watershed's west half (168 ac south of Central, between McComas and Sheridan) has no storm sewers, and drains to the low sump at Sheridan and 3rd St. Most of the remaining area is served by an extensive network of storm sewers. The watershed break-over elevation is 116.8; overflow is to the south from 1st St. and Gow.

For planning purposes, the "existing condition" presumes that Central Avenue Improvements from West St. to the Arkansas River (for which construction is imminent) are in place. Central Avenue Improvements construction plans include replacing the Edwards System's 36" RCP with a 7x4 RCB along the south side of Central Avenue from the Arkansas River to Sheridan. At Sheridan, the construction plans show a 6x4 ft RCB stub to the south. This stub is for a system called for in a previously prepared drainage plan ("*Drainage Study for the St. Louis – Sheridan Drainage Area*", *Baughman Co. July 12, 1996*) for the Edwards System area. In that plan, the 6x4 RCB would eventually extend south toward the Sheridan and 3rd Street sump. The drainage study scope was limited to the St. Louis – Sheridan area, and did not consider drainage in the Zoo System or the West St. System areas.

The street elevation at the Sheridan and 3rd St. sump is approximately 7 ft lower than the Central Avenue centerline 1,950 ft downstream at Sheridan and Central. Hydraulic analysis indicates that the proposed storm sewer system will not quite carry the 5-year flow, provided there is no hydraulic connection between the three systems at Sheridan, and that under higher flows the system may flow toward the sump. If a hydraulic connection is established with either the West St. or Zoo Systems, the 5-year flow is not carried in any of the systems.

3. System Alternatives

Two of this drainage area's biggest challenges lie south of Central Avenue: West at Pearl and Sheridan at 3rd Street. These sump areas are both significantly lower than downstream portions of the Central Avenue storm sewer systems, and the hydraulic configurations cause the sumps to actually receive flow from other areas during heavy rains.

Two approaches are available to drain the sump areas. Either the conduits now draining the area can be enlarged, or new conduits can be constructed.

As discussed in Section 4.A.2 – *Discharge Route Options*, enlarging the existing system through the Central Avenue corridor is not an available alternative. Consequently, the primary alternatives evaluated are new conduit configurations that allow the Hydraulic Grade Line (HGL) to more closely follow street grades, limit the opportunity for reverse flow in the storm sewer system, and minimize flood depths during events greater than the 5-year design frequency.

Zoo Blvd. System alternatives evaluated include the following:

- Diversion north from the 9th and West St. sump along Zoo Blvd. to the PS#4 detention area.
- Enlarging the existing system along Zoo Blvd upstream of the Central Avenue Corridor.
- Diversion east from the 9th and West St. sump along 9th St. to the Arkansas River

West St. System alternatives evaluated include the following:

- Diversion north from the Elm and West St. sump to join the Zoo Blvd. system, then to the Central Avenue corridor system.
- Diversion north from the Elm and West St. sump to 8th St. (separated from Zoo Blvd. system: Zoo system to PS#4), then to the Central Avenue Enlarging the existing system along Zoo Blvd upstream of the Central Avenue Corridor system.
- Diversion north from the small sump at 8th and Nevada to a 9th St. system also draining the Zoo Blvd. sump.
- Separation south of Central on West St.; diversion east from the West & Douglas sump to the Arkansas River.
- Storm Water Pump Station near West and 2nd St. discharging to the Wichita – Valley Center Floodway.

Edwards St. System alternatives evaluated include the following:

- Construct a looped drainage system to include Central Avenue connections at Meridian, Edwards, and Sheridan.
- Divert Sheridan & 3rd sump south then east to the Arkansas River.
- Divert all of Edwards St. area south of the railroad tracks south to 2nd St., then east to the Arkansas River.

E. Kellogg Storm Water Interceptor

1. Area Description

The Kellogg Storm Water Interceptor (Kellogg Storm Water Interceptor) watershed comprises 998 acres, generally bounded by Kellogg on the south, West St. on the west, 1st St. on the north, and the Arkansas River on the east. Development is primarily residential with some commercial and light industrial use areas along West St., Maple, Douglas, and McLean Blvd. Surface grades are extremely flat.

2. Existing Conditions

As noted previously, this watershed frequently receives bypass from the Central Avenue system, and may also receive flow from the PS#1 watershed during less frequent events. The local drainage facilities include numerous small collection systems that flow south toward the Kellogg Storm Water Interceptor. Storm sewers are generally undersized even for the design watershed. Bypass from watersheds north and west worsens any problems.

The Kellogg Storm Water Interceptor's capacity has been estimated at the 2- to 5-year level, depending on whether the Arkansas River elevation is high. This estimate presumes no overflow from adjacent watersheds, and that the peak flows are delivered to the Kellogg Storm Water Interceptor by local systems.

Two local problems within the KSWI Watershed were identified for specific investigation. These are sump areas just north of Kellogg at The Lodge (Kellogg Drive from McComas to Knight), and near University and Richmond.

3. System Alternatives

As its location and age will not allow modifying the Kellogg Storm Water Interceptor, major changes to the primary conduit were not investigated. Kellogg Storm Water Interceptor system performance will be improved by limiting overflow from adjacent watersheds to the north and west. Following are descriptions of the alternatives investigated for local drainage problems.

a) Kellogg Drive, McComas to Knight.

This area lies near an inlet to a 34x53 RCPE just north of the intersection of Kessler and Kellogg Drive. Most of the watershed's runoff reaches the inlet via McComas St., which lies one block west of Kessler. The inlet is in a deep sump, and is bounded on the south by US 54, on the west by a motel, and on the east by The Lodge apartments.

From the inlet at Kessler, the pipe flows one block east to Knight, where it picks up local flow from the south ends of Knight and Leonine Streets. The pipe then discharges to the 42-inch RCP in the US 54 median directly south of Knight. This storm water system is separated from the US 54 drainage system upstream of the Kellogg Storm Water Interceptor, which ends several blocks east near Custer.

The Lodge apartment complex is east of the Kessler and Kellogg Drive intersection. Water is known to flow to the Kessler/Kellogg sump area, across the west parking lot, and into the four below-ground units of the complex's southwest building. Low walls have been constructed around parts of the complex in an attempt to keep stormwater out of the apartment building.

Results from a detailed evaluation are included in Appendix D. In addition to the recommended "no action" option, the following alternatives were evaluated for the area:

1. Extend the existing Taft gravity system east across West St. to McComas and Taft.

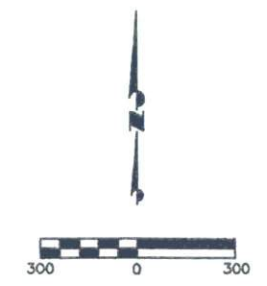
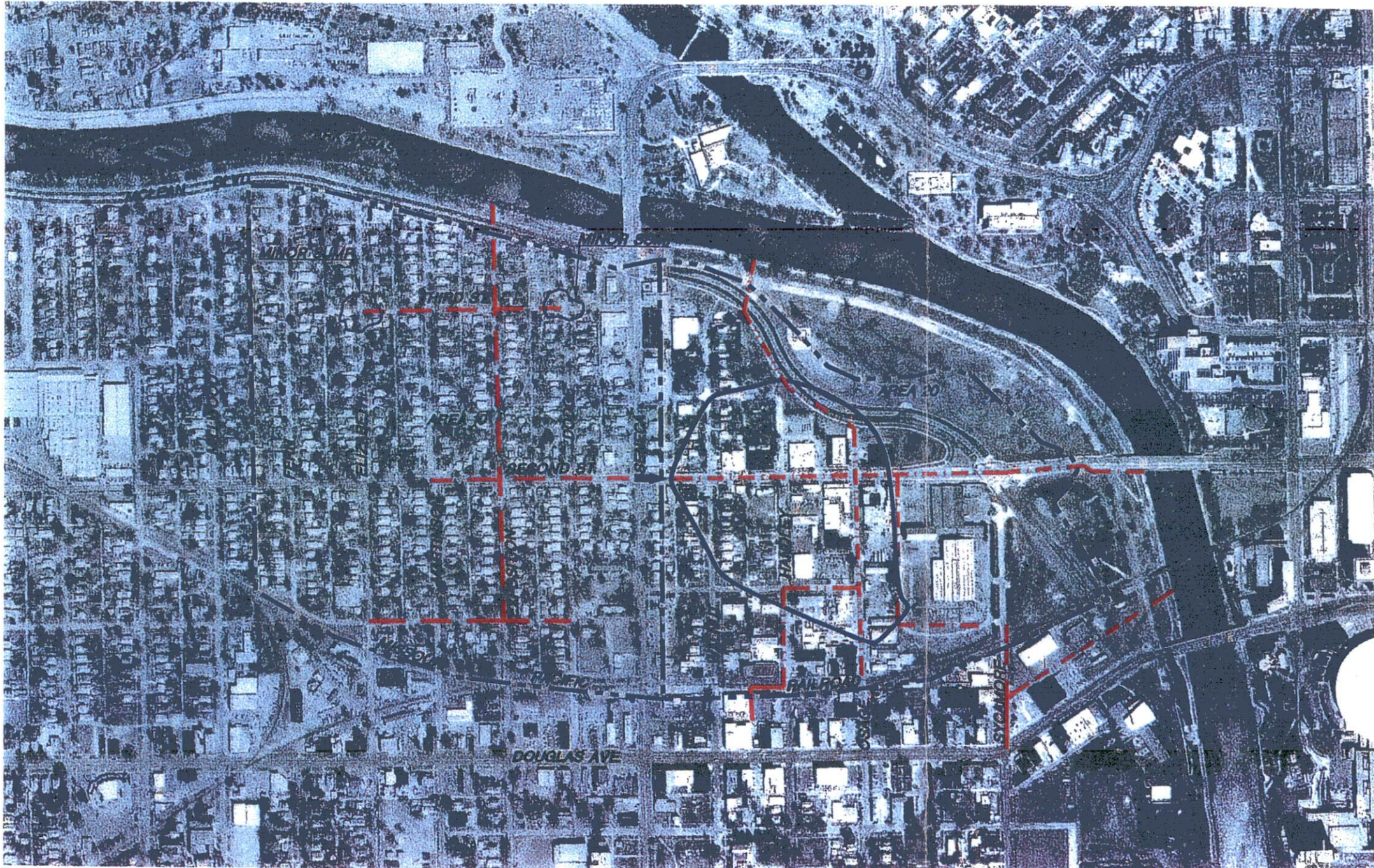
2. Install a pump station at Kessler and Kellogg Drive, with discharge to the Taft system, and subsequent gravity flow to the Town West Pump Station.
3. Divert flow away from the problem area in the upper watershed at University.
4. Purchase houses north of Kellogg Dr. and construct additional detention just west of The Lodge.
5. Construct a higher (~ 1 ft) berm around The Lodge, install a stormwater pump system serving the apartment complex to discharge to Kessler.
6. Provide a dedicated gravity storm sewer between McComas and Pump Station #2.
7. Install a pump station at The Lodge to pump runoff into the proposed Maple Storm Sewer Interceptor, with subsequent gravity flow to the Arkansas River.
8. Install a second system parallel to the upper KSWI, north of the highway between Kessler and Custer. This would improve system capacity upstream of the primary KSWI culvert system, which will have additional capacity after the proposed FSSI and MSSI are built.

b) University and Richmond

According to complaints from area residents, much of the area near this intersection has been regularly flooded. The area is in a major sump, fed from the north and west, and formed by the railroad embankment on the east and US-54 on the south. The low point in this major sump is in Edwards just north of Kellogg. The University and Richmond sump is a slightly elevated portion of the major sump, and receives flow from a fairly large part of the Edwards' sump tributary area.


US-54 construction plans show one area inlet 204 ft east of Edwards serving the south end of Richmond on the north side of US 54. A supplemental area inlet was apparently placed in the bottom of the railroad ditch about 30 ft north of the inlet shown on plans to drain the sump formed by access road construction.

As major Master Plan facilities are constructed, much of the flow from the north should be intercepted, and flooding at University and Richmond should become less frequent. In addition the City has constructed a new parallel 42" storm sewer from near Richmond and the railroad to the 60" pipe at Edwards and US 54. These measures were constructed using "hot spot" funding.



- EXPOSITION SYSTEM
- ... OSAGE SYSTEM
- . - . 2ND STREET SYSTEM
- SYCAMORE SYSTEM
- - - - WATERSHED BOUNDARY
- _____ ESTIMATED 2ND AND OSAGE SUMP BOUNDARY

AREA 10 = 100 AC
 AREA 20 = 77 AC

 MKEC ENGINEERING CONSULTANTS, INC. 411 N. WEBB ROAD WICHITA, KS. 67206 316-684-9600	WEST ARKANSAS RIVER FLOODPLAIN STUDY <small>PROJECT NAME</small>		
	SENECA & 2ND ST. FIGURE V.F-1 EXISTING CONDITIONS <small>SHEET TITLE</small>		
	<small>DESIGN BY.</small> TM	<small>DRAWN BY.</small> DAC/MLW	<small>CHECKED BY.</small> TM
	<small>DATE</small> MAY, 2000	<small>JOB NO.</small> 96100	<small>SHEET/OF</small> 1 / 1

F. *Stand-Alone Systems*

1. Seneca St. North

a) *Area Description*

The watershed is bounded on the north and east by McLean Blvd., on the south by the MOPAC RR track embankment, and on the west by the alley between Fern and Millwood. Runoff generally flows south from McLean and north from the RR tracks to 2nd St, then east to a sump area near 2nd St. and Osage. The sump area at 2nd and Osage is quite large, and the break-over depth is approximately 1.8 ft. Other sump areas appear to exist at the Dodge and 3rd St. and Elizabeth and 3rd St. intersections. See Figure V.F.-1.

A critical location is the intersection at 2nd and Seneca. Street centerline elevations indicate that runoff from the watershed west of Seneca that is not intercepted by the Exposition system will currently flow to that intersection and continue east along 2nd to the sump at Osage.

b) *Existing Conditions*

The City's storm sewer atlases and construction plans for recent projects indicate major storm sewers at the locations shown on Figure V.F-1. A 42" stub was constructed in Seneca south from the McLean system to just south of 3rd St. This provides an opportunity for additional runoff to be collected upstream of the 2nd and Osage sump at 2nd and Seneca.

The Exposition system consists of large diameter pipes (30" and 33") north of 2nd St, and small diameter pipes (12" and 15") south of 2nd St and along 3rd St. The inlets used in the system are either 2x2 ft brick (6x15 inch opening) or 2x5 ft concrete inlets (5x42 inch openings). These typically are connected to the system with 12 or 15 inch concrete pipe. Field observation shows many of the inlet openings choked with debris, and the box configuration with small connecting pipe diameter tends to become clogged with small branches and leaves.

The 2nd St. system begins just east of Seneca and 2nd St. After passing through the Osage St. sump area, it discharges to the Arkansas River just south of the 2nd St. bridge.

The Osage St. system begins near Osage and the MOPAC RR tracks. After passing through the Osage St. sump area, it is connected to recently constructed storm sewers in McLean, and discharges to the Arkansas River just west of the Handley St. alignment.

The 2nd St. and Osage storm sewers cross at the intersection of 2nd and Osage. There is, however, no record of a connection between the two system.

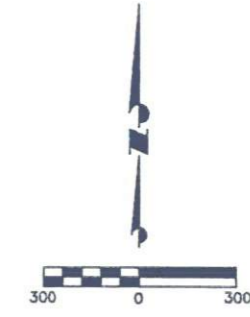
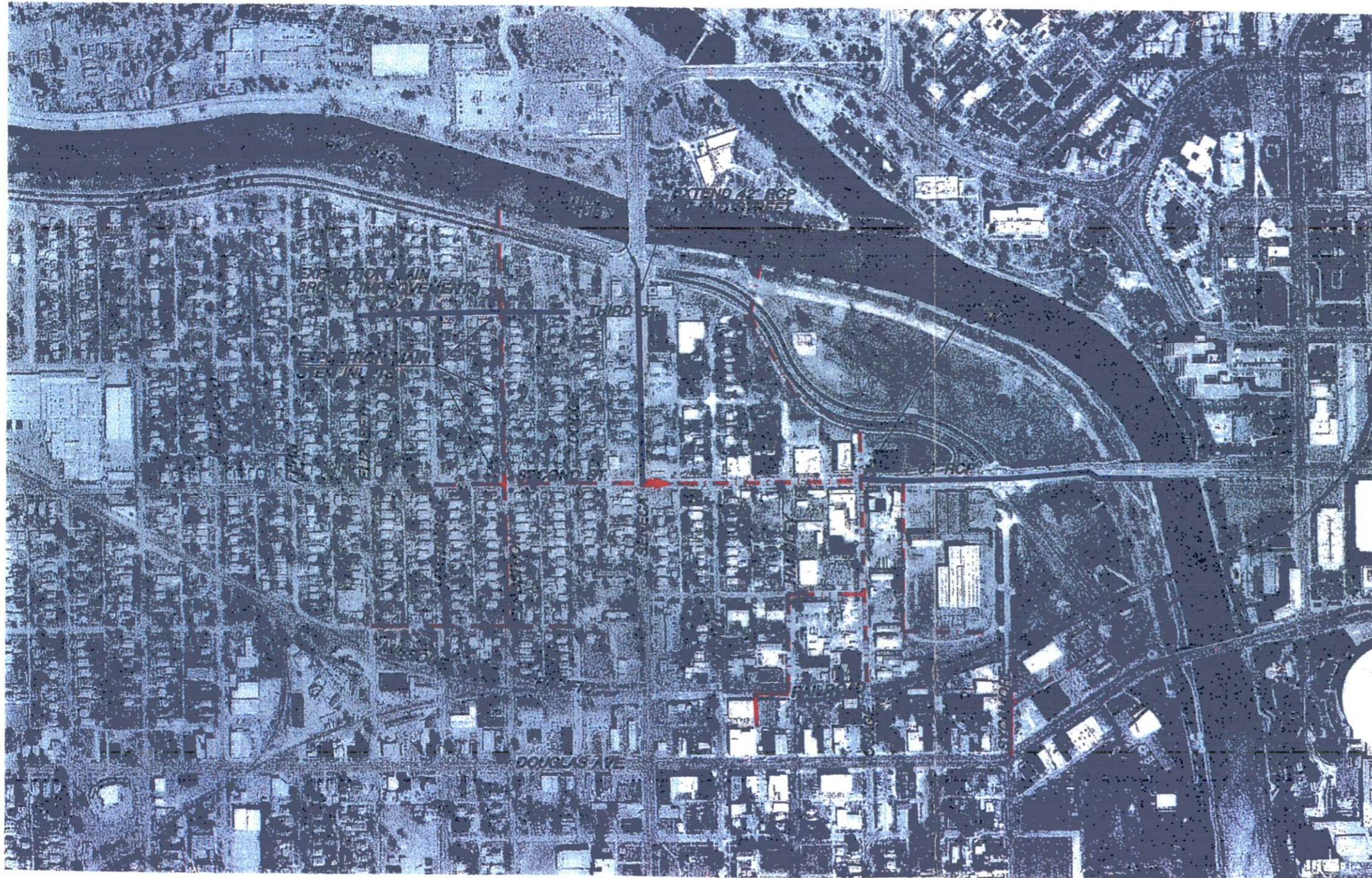
A minor component of the Sycamore system that serves the watershed south of the MOPAC RR tracks extends just north of the railroad tracks along Sycamore. Minor flows that may be intercepted by the 15 inch RCP are not considered further.

c) *Hydrologic Analysis*


Hydrologic analyses were completed for the watershed's two major sub-areas using the TR-20 program as described in the Technical Methods section. Results are shown in the table below.

Table V.F-1: Summary of North Seneca TR-20 Model Results

Location	Flows in Cubic Feet per Second			
	2-year	5-year	10-year	100-year
West of Seneca (Watershed 10)	18	31	39	74
East of Seneca (Watershed 20)	53	77	93	149



- IMPROVEMENTS
- EXPOSITION SYSTEM
- OSAGE SYSTEM
- 2ND STREET SYSTEM
- SYCAMORE SYSTEM

	WEST ARKANSAS RIVER		
	FLOODPLAIN STUDY		
	PROJECT NAME		
	SENECA & 2ND ST.		
FIGURE VF-2 - RECOMMENDED IMPROVEMENTS			
SHEET TITLE			
MKEC ENGINEERING CONSULTANTS, INC. 411 N. WEBB ROAD WICHITA, KS. 67206 316-684-9600	TM DESIGN BY.	DAC/MLW DRAWN BY.	TM CHECKED BY.
	MAY, 2000 DATE	96100 JOB NO.	1 / 1 SHEET/OF

d) Hydraulic Analysis

Hydraulic evaluations of the existing storm sewer systems were completed using the Cybemet[®] software as described in the Technical Methods section. The assumed tailwater elevation is the higher of the Arkansas River 5-year flood elevation or the top of the pipe at the outfall. Results are shown in Appendix D.

The capacity of the Exposition system is approximately 37 cfs with no clogging factor applied to inlets in sump. This is slightly greater than the 5-year peak runoff rate (31 cfs) from Area 10. The 100-year peak discharge from Area 10 is 74 cfs. As noted previously, water not intercepted by the Exposition system currently flows east along 2nd St. to a sump at Osage.

The 2nd St. and Osage storm sewer systems are modeled as a single system with two outlets. The two systems are assumed to be connected at the intersection. Sewer atlas data showing the pipe connections and conditions at the intersection are not clear. Field check of the inlets and manhole near the intersection indicates that the connection may not exist.

Inlets within the 2nd and Osage sump area include those at 2nd and Osage as well as in McLean just east of the Osage alignment. Both inlets have adjacent centerline elevations of approximately 108.2. The combined discharge capacity of the Osage and 2nd St. systems is approximately 110 cfs, with ponding in the sump area to 1 ft above the inlets. The 100-year flow from Area 20 to the Osage and 2nd sump area is 149 cfs.

New pipe has been recently installed near the downstream end of both systems in conjunction with the McLean Blvd. realignment. Construction includes new pipe near Handley (36") for the Osage system, and at 2nd St. (42") in for the 2nd St. system. To minimize disturbance to recent construction around McLean, the 2nd St. system east of the sump area should be enlarged to provide additional flow capacity.

e) Recommendations

While the existing storm sewers throughout the watershed appear adequate for the minor storm, the lack of an overflow path for the 100-year event results in some risk of flooding in the area east of Seneca. Consequently, any new storm sewer to be constructed in Seneca should intercept the 100-year peak flow if possible to relieve the existing systems east of Seneca.

Additionally, the existing systems in the area east of Seneca should be connected and the system to the east of the critical sump location should be enlarged.

The recommended improvements are shown on Figure V.F-2, and include the following. The first item was incorporated into Seneca St. Improvement Plans recently completed by MKEC.

- Extend a 42-inch RCP south from the 42-inch stub at McLean to the sump in Seneca at 2nd St (~575 ft). The Seneca St. system's approximate capacity would be 50 cfs. Assuming that the small inlets in the Exposition system receive about half of their potential inflow of 37 cfs due to clogging, the combined capacity of the Exposition and Seneca systems would be slightly under the 100-year peak runoff from the west portion of the watershed (74 cfs). *Final plans call for a 36" RCP instead of the 42" initially recommended. The approximate Seneca System capacity will be 40 cfs, and the combined capacity $40 + 37/2 = 58$ cfs.*
- Construct the largest inlets practicable (2) along 2nd St. west of Seneca to keep the intersection clear during most events. Add inlets in Seneca both north and south of the intersection (4) to provide total inlet capacity that matches pipe capacity, assuming that little additional flow is collected away from the 2nd and Seneca intersection.
- Monitor the Exposition St. system's performance. Replace the existing 9 inlets along the main stem of the system north of 2nd St with new Type I inlets.
- In conjunction with future improvements, replace the existing 3rd St. storm sewer from Elizabeth to Dodge with 24" RCP pipe (~900 ft) and Type 1 inlets (12).

- In conjunction with future street improvements, replace the existing 2nd St. storm sewer system (42") from Osage to the Arkansas River (1400 ft) with 60" RCP pipe, and establish a connection with the existing 33 inch pipe in the Osage storm sewer system.

2. Millwood Local Area

a) Area Description

The Millwood Watershed's approximate boundaries are the Arkansas River, Elizabeth St, 1st St, and Meridian. The area comprises residential and light industrial development, as well as the West Side Athletic Field. Kansas Southwestern Railway tracks cross the watershed diagonally from northwest to southeast. Watershed definition is largely determined by the storm sewer system. The upper system is in 1st St between Meridian and Millwood. The lower system is in Millwood from 1st to the Arkansas River. The reaches are defined by the KSWRR tracks, which cross near the intersection of Millwood and 1st St.

b) Existing Conditions

The upper Millwood drainage system serves a slight sump along 1st St. Overflow from the upper watershed sump is to the south. The lower Millwood drainage system serves a sump along Millwood between the KSWRR tracks and 3rd St. Overflow from the lower Millwood drainage system is to the east along 2nd St. toward Seneca. Drainage problems exist along Athenian both north and south of 1st St, where extremely flat grades and small local storm sewers often result in street flooding.

c) System Alternatives

Alternatives investigated for this area include "no action" and separating the upper and lower reaches to improve the lower system's efficiency and lower the risk of overflow to the Seneca St. area. The separation works well with plans to drain areas further west. The First Street Stormwater Interceptor route enters the watershed at 1st and Meridian, continues east to Athenian, then north to the River. This route provides both the best route option for the FSSI and capacity for the upper Millwood system. Pipes between Athenian and Charles St. that currently flow east should be replaced with slightly larger pipes flowing to the FSSI.

3. Arkansas River Local Watershed

a) Area Description

The Arkansas River Local Watershed's approximate boundaries are the Arkansas River, Mentor St., Osage St., and the KSWRR. The west 1/3 of the area is primarily residential development, and the east 2/3 is primarily commercial development. The commercial area includes the Metro Baptist Church, Lawrence-DuMont Stadium, and Wichita Ice Sports facilities, and several smaller retail developments.

b) Existing Conditions

The area is served by three separate storm sewers, each discharging to the Arkansas River. The south system flows from Oak and Maple to the river. The north system flows from near Oak and Douglas to Douglas and McLean Blvd, then northwest toward the KSWRR tracks, then to the River. The center system is very short. It receives flow from a sump near the Metro Baptist Church just west of McLean and discharges quickly to the River.

c) System Alternatives

A cursory evaluation of the watersheds served by these systems indicates shows that capacities are much greater than the 5-year peak flow rates. Consequently, no improvements in this watershed are contemplated.

VI. Master Plan

A. Overview

During initial analysis, the “Existing Conditions” watersheds shown on Figure V.1 were found to be inter-related in such a way that simply expanding the existing drainage system would not properly drain the Study Area. Sub-parts of each of the major “Existing Conditions” watersheds were recombined and additional systems conceived to drain the area.

Figure VI-1 shows the proposed Master Plan Watersheds along with new facility alignments.

B. Planning Approach

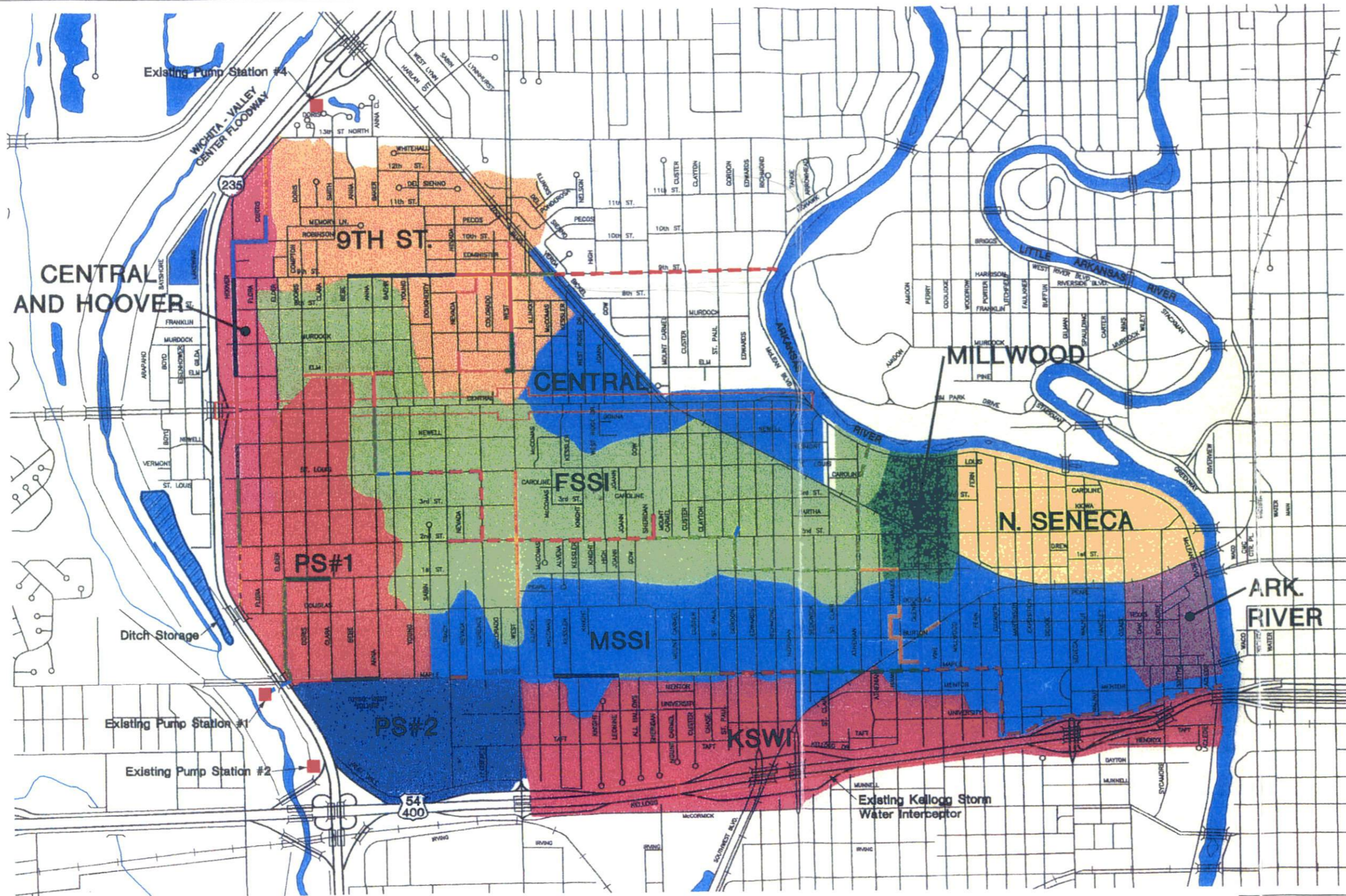
The proper Master Plan layout for the area east of West St. is apparent. Ground slopes in the area are relatively constant, with no deep sump areas along the proposed major discharge routes. The First Street and Maple Street Interceptor sewers are sized to collect the 5-year peak flows from adjacent areas. The Kellogg Storm Water Interceptor (Kellogg Storm Water Interceptor) will have a smaller watershed for the 5-year event, so the existing culvert can carry the reduced 5-year peak flows.

West of West Street, however, several sump areas, adverse slopes to stormwater pump stations, and sheer distance from the Arkansas River render the proper system layout less apparent. Much of the area’s drainage system must connect a series of adjacent sumps. In this situation, a new stormwater pump station at the lowest sump appeared feasible.

In a separate analysis, the study analyzed constructing a new stormwater pump station near West and Douglas to receive flow from a portion of the Upper PS#1 watershed, the PS#1 Sumps Watershed, and the South West St. Watershed. The discharge from the hypothetical pump station would be west to the Wichita-Valley Center Floodway. This location is the most practical, as the West and Douglas intersection is near the lowest sump in the area.

Results of the analysis show that the stormwater pump station would be significantly more expensive than the gravity option. Savings due to the smaller conduits downstream in the gravity portion of the system were more than offset by the capital costs of the pump station and the discharge pressure pipe. Annual operation and maintenance were not calculated, as they would only reinforce the gravity system’s economic advantage.

Since the pump station option was significantly more expensive than the gravity option, the general planning approach uses gravity systems to the extent practical. The plan also seeks to avoid any new connections that might redirect flow toward sumps or low areas from higher ground when the 5-year design storm is exceeded. Particularly low areas west of West St. are found at Maple and Tracy, at 2nd and Tracy, and at Hoover and Douglas.



LEGEND

PIPE	RCB
24"	6x6
30"	7x6
36"	8x6
42"	8x7
48"	8x8
54"	9x8
60"	10x8
66"	10x9
72"	10x10

STORM SEWER SIZES FOR 5-YEAR SYSTEM

PROPOSED MASTER PLAN WATERSHEDS

- Central & Hoover - Central & Hoover Local System
- PS#1 - S.W. Pump Station No. 1
- PS#2 - S.W. Pump Station No. 2
- FSSI - First Street Stormwater Interceptor
- MSSI - Maple Street Stormwater Interceptor
- KSWI - Kellogg Stormwater Interceptor
- 9TH ST. - 9th Street Stormwater Interceptor
- CENTRAL - Central Avenue Systems
- MILLWOOD - Millwood Local System
- N. SENECA - North Seneca Local System
- ARK. RIVER - Arkansas River Local System



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**WEST ARKANSAS RIVER
FLOODPLAIN STUDY**
PROJECT NAME
**FIGURE VI-1 PROPOSED MASTER PLAN
WATERSHEDS (GRAVITY OPTION)**
SHEET TITLE

KHB/TM DESIGN BY:	RDH DRAWN BY:	KHB/TM CHECKED BY:
MAY, 2000 DATE	SWSMAP5 JOB NO.	1 / 1 SHEET / OF

C. *Watersheds/System Improvements*

Following are brief descriptions of proposed Master Plan projects, with a summary of inter-relationships and follow-on work anticipated.

1. First Street Stormwater Interceptor

Construct the First Street Stormwater Interceptor (FSSI) from the Arkansas River to Anna and Elm. The Estimated Project Cost is \$17,690,000. Benefits include:

- Reducing flows to PS#1.
- Reducing frequency and depth of flooding in West St. between Central and Douglas.
- Providing a planned discharge point for future storm sewers in areas not currently served.

This is the primary feature of the Master Plan's system. In combination with the Ninth St. Stormwater Interceptor, it provides the Master Plan's major benefits.

a) *Interceptor Arkansas River to West St.*

This set of projects will reduce the frequency and depth of flooding in West St. between Central and Douglas. The main conduit is sized to also carry flows diverted from the south half of the Upper PS#1 watershed.

(1) West St. Collector System

The south lateral of the existing Central Avenue West St. Subsystem will be disconnected at Central Avenue, so that only runoff from north of Central will enter the existing 36" RCP in Central between West St. and the River. (Flow to the Central Avenue System's 36" RCP will be further reduced by Ninth Street Stormwater Interceptor improvements.) Runoff flowing to the south West St. sumps between St. Louis and Douglas will be diverted to the FSSI at 2nd and West Street.

The storm sewer pipe slopes in the West St. Collector System must be reversed from the current slope, so that flow is toward the FSSI at 2nd St. rather than north toward Central.

(2) Millwood System Modifications

The FSSI route includes a reach now occupied by a small-diameter storm sewer in that discharges east along 1st St to Millwood, then north to the River. Approximately three blocks of the small diameter pipe west of Athenian will be replaced with the FSSI box culvert. The Master Plan also includes replacing the existing storm sewer two blocks east from Athenian with larger pipes that would flow west to the FSSI. The existing Millwood system would be plugged between Charles and Glen. The balance of the Millwood storm sewer system will remain in place.

(3) Sheridan System Modifications

Previous local plans called for connecting the the sump at Sheridan and 3rd St with an enlarged system in Central Avenue. Under this Master Plan, the sump will not be connected to the Central Avenue conduit, but will discharge south to the FSSI at 2nd and Sheridan.

After the FSSI is constructed, the Sheridan Lateral storm sewer should be constructed north from 2nd St. and Sheridan to the Sheridan and 3rd St. sump. This lateral sewer will serve two functions. First, it will provide a connection point for a new collection system in the area west of Sheridan between 2nd Street and Central. The entire area (~160 acres) is currently without storm sewers. A local drainage system development plan should be prepared to coordinate the street paving sequence and interim storm sewer hydraulic grade lines to ensure optimum service to the area.

Second, the lateral sewer will slightly relieve current flooding in the Edwards system until modifications for that area can be planned and constructed.

(4) Edwards System Modifications

Edwards St. Subsystem runoff is divided by the KSWRR rail embankment. The Master Plan recommends separating the storm sewer that serves the area south of the KSWRR embankment from the Central Avenue portion. Once the FSSI connection is complete, the 27" RCP in Edwards north of St. Louis (under the railroad) would be plugged. Runoff from areas south of the railroad tracks would be diverted to the FSSI Gordon St. Lateral at 2nd and Gordon.

These modifications will require reconstructing the storm sewers in St. Louis from Edwards to Gordon St., then south from St. Louis to 2nd St. so they flow in the proper direction. A detailed storm sewer improvement plan should be developed for the watershed flowing to the Gordon St. Lateral. The Master Plan funding total only provides for the system connection conduit at 2nd and Gordon. All other work should be funded separately.

b) *Interceptor Extension to Central and Anna*

This set of projects will divert flows from the Upper and Middle PS#1 watersheds away from Pump Station #1 toward the Arkansas River. This will reduce the frequency and depth of flooding in Maple north of Towne West Square, and in the sump at West and Douglas.

(1) PS#1 Sumps Connection

The upper extension of the FSSI is closest to the PS#1 Sumps at 2nd and Florence. The lowest "sump watershed" elevation is approximately 116.5 ft at 2nd and Tracy, approximately 660 ft west of the FSSI.

The sump area elevation will control final design in this portion of the FSSI. The Master Plan hydraulic model shows the hydraulic grade line at 2nd and Florence just 0.2 ft below the street centerline elevation at 2nd and Tracy under 5-year flow conditions. The Master Plan preliminary hydraulic analysis uses conservatively high values for losses at junctions, so the final design HGL at 2nd and Florence should be somewhat lower than calculated for the Master Plan. For budgeting purposes, the 660 ft of 54" pipe will connect the PS#1 Sumps with the FSSI.

(2) Middle PS#1 System Modifications

The existing PS#1 storm sewer system will be separated at St. Louis and Anna. South of Anna, the main stem of the existing PS#1 storm sewer will not be modified except as noted in PS#1 Collection System and Pump Station Improvements. Flow from north of St. Louis will be diverted east into the FSSI.

(3) Central Avenue Crossing

The FSSI is sized to carry the calculated 5-year peak flow from all watershed areas. According to the hydraulic model results, the current 42" pipe under Central at Anna will not carry the flow. The model indicates that a 60" RCP or a hydraulically equivalent box culvert is needed.

c) *Interceptor Extension along Anna and Elm*

This set of projects will extend the system to upper areas, allowing local storm sewer construction that is currently not possible.

2. Ninth Street Stormwater Interceptor

Construct the Ninth Street Stormwater Interceptor from the Arkansas River west to 9th and Anna. The Estimated Project Cost is \$5,940,000 Benefits include:

- Reducing the flows to Stormwater Pump Station No. 1 (PS#1) at I-235 and Maple.
- Reducing the frequency and depth of flooding in West St. between Central and Zoo Blvd.
- Reducing the frequency of overflow to sump areas between Central and Douglas.
- Providing a planned discharge point for future storm sewers in areas not currently served.

a) *Interceptor from Ark River to West St.*

This set of projects will reduce the frequency and depth of flooding in West St. between Central and Zoo Blvd. Indirectly, it will also reduce the frequency and depth of flooding in West St. between St. Louis and Douglas. The main conduit is sized to also carry flows diverted from the north half of the Upper PS#1 watershed.

(1) West St. Collector System

The north lateral of the existing Central Avenue West St. Subsystem will remain in place just north of Central Avenue to Elm, forming a looped system with the NSSI West St. Collector between West St. and the Arkansas River. Current overflows to the south West St. sumps between St. Louis and Douglas will be diverted east along 9th St.

(2) Zoo Blvd. System Connection

The NSSI will connect with the existing Central Avenue Zoo Blvd. Subsystem, providing a looped system between 9th and Zoo Blvd. and the Arkansas River. Most flow will be through the new NSSI pipe.

b) *Interceptor Extension to 9th and Anna*

The existing storm sewer north of 9th St. in the Upper PS#1 Watershed is undersized, and a large area between West St. and Anna north of 9th St. has no storm drain system. Extending the NSSI to 9th and Anna will provide a discharge point for future local systems as well as the pipe capacity at 9th and Anna needed for this portion of the Upper PS#1 system.

c) *8th and Nevada Sump Modifications*

The 8th and Nevada area is a shallow sump that is slightly higher yet distant from the West St. sumps. The best hydraulic solution to draining this area is to abandon the existing pipe between 8th and Murdock and connect the sump directly to the NSSI at 9th and Florence.

3. Central and Hoover System

Construct the Central and Hoover collector system from Hoover and Douglas to Hoover and 10th, including levee earthwork west of I-235 to provide additional storage. The Estimated Project Cost is \$4,110,000. Benefits include:

- Reducing flows to PS# 1.
- Reducing frequency and depth of flooding at Central and Hoover.
- Providing a planned discharge point for future storm sewers in areas not currently served.

a) *Collection System Douglas to Central*

This project will provide the outlet for planned improvements to Central Avenue between I-235 and West St.

(1) West Ditch Storage

Increase available storage volume to accommodate flows from this watershed and the residential island between I-235 and the Wichita – Valley Center Floodway. The expected total storage volume in the West Ditch Storage area below elevation 116.0 is 30 ac ft. This will probably require removing the original (“land side”) levee for the Wichita – Valley Center Floodway between Maple and 1st St.

(2) St. Louis and Hoover Transition Basin Option

The Master Plan provides funding for design and construction of an enclosed conduit between St. Louis and Douglas in Hoover St. Preliminary design should also evaluate a second option, i.e., constructing a transition basin that would transfer storm sewer flows to surface flow in the east I-235 ditch. Flow would continue south along I-235 to Douglas, then through the existing 2-6x4 RCB under I-235 to the West Ditch Storage area. The East Ditch option would involve additional land acquisition, coordination with KDOT for increasing flow in the interstate highway right-of-way, but the savings in construction costs should be substantial.

The design Transition Basin volume should include at least 200 cu yd for sediment storage. Relatively high sediment production in upper Central/Hoover Watershed will probably continue until streets are improved and additional development stabilizes the soil. The Transition Basin will serve as a sediment trap for the area, and will require periodic dredging.

b) *Extension to Curtis and Arapaho*

This project extends the Central and Hoover system into un-sewered areas so local systems can be constructed. There are no storm sewers in the watershed north of Central.

4. Stormwater Pump Station #1 Watershed

Increase Pump Station #1 Pumping Capacity and increase Lower PS#1 Watershed storm sewer capacity. The Estimated Project Cost is \$5,200,000. This project's benefits include:

- Providing collection system capacity for the 5-year event.
- Matching PS#1 pump station capacity to collection system capacity.
- Reducing frequency and depth of flooding at the northwest entrance to Towne West Square.

a) Watershed Storm Sewer Modifications

Due to the extensive diversions in the upper watershed, much of the remaining storm sewer system will have adequate capacity for the 5-year peak flows. Pipe size increases are required in 1st St. east of Elder, south along Elder to Maple, and in Maple St. from Anna to the pump station.

Increasing the watershed storm sewer capacity requires enlarging the conduit between Maple and Elder and the pump station intake from 6x3 ft to the hydraulic equivalent of a 96" RCP. Box culvert options include 8x7, 9x6, and 11x5. Original construction plans show adequate horizontal clearance for any of these sizes. Vertical clearances and upper system slopes will determine which culvert is appropriate.

b) Pump Station Intake Area

Plans for the original pump station show a 6x3 RCB between Maple and Elder and the pump station wet well. The larger conduit required to deliver flows will require modifications to the pump station intake area. The intake area currently has a 3.5 ft drop from the end of the 6x3 RCB to the bottom of the wet well. Final design should consider wet well hydraulics as well as the high sand delivery rates experienced by the current facility.

c) Pump Station Modifications

This project will increase pump station capacity to 160 cfs from the existing nominal capacity of 130 cfs, matching the calculated 5-year discharge from the limited watershed. The Master Plan budget is based on constructing a new 160 cfs stormwater pump station. Detailed design may show that the capacity can be reached by simply changing pumps and motors, rather than implementing major structural changes to the existing pump station. There are currently four discharge pipes: two 24" and two 30". To maintain acceptable velocities in the pipes at the higher discharge rates, the two 24" pipes should be replaced with 30" pipes.

5. Maple Street Stormwater Interceptor

Construct the Maple Street Stormwater Interceptor from the Arkansas River to Maple and Tracy. The Estimated Project Cost is \$14,240,000. Benefits include:

- Reducing flows to the existing Kellogg Storm Water Interceptor (KSWI).
- Providing a planned discharge point for future storm sewers in areas not currently served.

a) Interceptor from River to Leonine

This project will reduce the 5-year peak flow arriving at the KSWI to less than its capacity. This will also improve the upper KSWI system hydraulics.

b) Extension to Tracy

This project will divert runoff from the east part of the PS#1 Maple Street area east to the Arkansas River. The existing pipe between Tracy and Young will be plugged, and new pipe installed between Tracy and the MSSSI at Leonine. Peak 5-year flow diverted from the PS#1 area is 26 cfs.

6. North Seneca Watershed

Construct upgrades to the North Seneca storm sewer systems. Upgrades include enlarging inlets and pipes in the Exposition storm sewer system and enlarging the 2nd Street storm sewer discharge pipe. The total of Estimated Projects Cost for this watershed is \$780,000. Benefits include:

- Reducing flows to the Seneca St. system.
- Providing additional flood protection to the industrial area near 2nd and Osage.

7. Kellogg Stormwater Interceptor

Kellogg Storm Water Interceptor Improvements are not recommended, as many of the upstream systems proposed in the Master Plan will intercept flow to this system. Two local projects were identified.

- Near The Lodge (served by a small system upstream of the KSWI), the cost for all alternatives exceeds the "no action" option. If action must be taken, the most effective alternative improves the upper system above the KSWI from Kessler to Custer (Estimated Project Cost = \$500,000).
- An additional small project near Richmond and University is recommended for completion under the "hot spot" funding program (Estimated Project Cost = \$40,000).

a) The Lodge

Install a 42" pipe system parallel to form a loop with the upper KSWI, north of the highway between Kessler and Custer. This would improve system capacity upstream of the primary KSWI culvert system, which will have additional capacity after the proposed FSSI and MSSSI are built.

b) University and Richmond

Measures have already been taken by City's Storm Water Management Division under their "hot spot" program.

D. Central Avenue Project Considerations

The *Central Avenue Improvements, West St. to Arkansas River* construction plans require only the following modifications to conform to the proposed Master Plan:

- Construct a junction box at the upstream end of the 7x4 RCB, interconnecting all three Central Avenue systems at Sheridan.
- Stub a 7x4 RCB north of Central (instead of the 6x4 RCB stub to the south) to allow for future system improvements along the southwest side of Zoo Blvd.

The following sections provide implementation details for each subsystem.

This Master Plan abandons the new connection at Central and Sheridan and diverts Sheridan and 3rd St. sump flows south to the FSSI at 2nd and Sheridan. Additionally, the Master Plan recommends splitting the remaining Edwards Subsystem near the railroad embankment (in Edwards north of St. Louis) and diverting flow to the FSSI at Gordon and 2nd Street. This will reduce the area contributing to Central Avenue systems,

provide additional hydraulic capacity to better serve sump areas north of Central along West Street, and reduce the likelihood of reverse flows in storm sewers.

E. Recommended Project Sequence

The recommended sequence for projects was established using the following objectives, ranked by priority:

1. Relieve flooding in West St sump areas.
2. Divert flow from Stormwater Pump Station #1.
3. Divert flow from the Kellogg Storm Water Interceptor and remaining sump areas.
4. Balance PS#1 storm water pumping capacity and collection system delivery capacity.
5. Extend systems into un-sewered areas, modify existing systems to optimize performance.

This priority scheme establishes the project sequence in the following table and previously on Figure 1 - 2. Major projects described above in the general plan are broken into phases with different priorities to meet major plan objectives as quickly as possible. The sequence is somewhat flexible, but higher priority projects should generally be completed before low priority projects are constructed. In most cases lower priority projects will provide only marginal improvement until the higher priority projects have been completed.

Two key features of the plan are the First Street Stormwater Interceptor and the Ninth Street Stormwater Interceptor. These features should be constructed first, beginning at the discharge point and proceeding upstream. Some of the project sequences can be changed without materially affecting the results. Several projects, however, are inter-related and should be completed in a specific order to avoid temporarily increasing the risk of flooding until the final configuration is constructed.

Some of the lower priority projects are planned to provide discharge points for future local drainage systems. The cost of local drainage system construction or modification is not included in the Master Plan cost summary. An example is the FSSI Edwards System Connection/Modifications project. This project provides the basis for future changes to the Edwards System as flow is redirected from the Central Avenue discharge to the FSSI. Additional local system planning, design, and funding will be needed.

Table VI-1: Recommended Project Sequence

Project Priority	Cost	Project Description
1	\$10,860,000	First Street Stormwater Interceptor from Ark River to West St.
1	\$480,000	FSSI West St. Collector from St. Louis to Douglas
1	\$3,540,000	Ninth Street Stormwater Interceptor from Ark River to West St.
1	\$1,160,000	NSSI West St. Collector from Zoo Blvd to Elm St.
2	\$5,360,000	FSSI Extension from West St to Central and Anna
2	\$1,010,000	NSSI Extension from West St. to Anna
2	\$2,150,000	Central and Hoover Collection System, Douglas to Central
3	\$310,000	FSSI Sheridan Ave. Collector Extension
3	\$14,230,000	Maple Street Stormwater Interceptor from Ark River to Tracy
4	\$5,200,000	PS#1 Collection System and Pump Station Improvements
5	\$690,000	FSSI Extension in Anna and Elm
5	\$40,000	FSSI Edwards System Connection/Modifications
5	\$160,000	FSSI Millwood System Connection
5	\$310,000	NSSI 8th and Nevada Sump Modifications
5	\$1,960,000	Central and Hoover System Extension to Curtis and Arapaho
5	\$780,000	N. Seneca Local Modifications on 3rd St and 2nd St.
5	\$500,000	Upper KSWI Parallel System
Total	\$48,740,000	