

DR 82-2 - Four Mile Creek Sewer
Treatment Plan - Progress During
1981

ACTION

DATE

COMMITTEE _____

M.A.P.C. *Review and file
no action needed*

2-11-82

B.C.C./B. CO. C. _____

SEDGWICK COUNTY, KANSAS
BOARD OF COUNTY COMMISSIONERS

DATE January 4, 1982



TO Andy Harkness, Department of Public Works
FROM Don Gragg, Chairman

SUBJECT Four Mile Creek Sewer Treatment Plant--Progress During 1981

DR 82-2

Would you prepare a detailed typewritten report entitled--
"Progress during 1981 on the Four Mile Creek Sewer Treatment Plant".

Would you please be prepared to present it at the Regular Meeting of the Board of Sedgwick County Commissioners on Wednesday, January 27, 1982. It will be necessary for you to have the prepared material to Castina Towle in the Department of Administration by noon on Thursday, January 21, 1982 so it may be an agenda attachment.

Please contact Robert Lakin, Director of the Wichita/Sedgwick County Metropolitan Area Planning Department and ask when he can schedule you on the agenda of the Planning Commission so you may provide the members of the Planning Commission an update and answer any questions they might have.

DG/jm

cc: Tom Scott - 2nd District Sedgwick County Commissioner
Jack Spratt - 3rd District Sedgwick County Commissioner
Castina Towle, Department of Administration
Robert Lakin, Director - M.A.P.D.
Claud Shelor, Director - Department of Public Works
John D. Philbrick, C.P.A. - Department of Administration
William Rustin - County Counselor

RECEIVED

JAN 5 1982

METROPOLITAN PLANNING

ROUTE _____



SEDGWICK COUNTY COURTHOUSE

COUNTY OF SEDGWICK
DEPARTMENT OF PUBLIC WORKS

1250 S. SENECA
WICHITA, KANSAS 67213-4498

PHONE 268-7801

Claud S. Shelor, P.E.
Director of Public Works / County Engineer

TO: Don Gragg, Chairman

FROM: A. J. Harkness *AJ*

DATE: January 18, 1982

SUBJ: Four Mile Creek Wastewater Treatment Design Progress

Enclosed is a copy of "Report of Design Progress during 1981, Four Mile Creek Wastewater Collection and Treatment System."

Arrangements are being made to review the report with the Board of County Commissioners January 27, 1982 and with the Planning Commission February 11, 1982.

yls

cc: Tom Scott, Commissioner
Jack Spratt, Commissioner
Robert Lakin, Planning Commission ✓
John Philbrick, Administration
William Rustin, County Counselor
Claud Shelor, County Engineer
Castina Towle, Administration

FOUR MILE CREEK
WASTEWATER COLLECTION AND TREATMENT SYSTEM
Report of Design Progress During 1981

1. BACKGROUND

Recognizing the need for regional wastewater collection and treatment facilities in the urbanizing area of Sedgwick County east of Wichita, the Board of County Commissioners of Sedgwick County applied for a grant from the U.S. Environmental Protection Agency (EPA) to assist in funding the design of the Four Mile Creek facilities. EPA awarded the design grant to Sedgwick County in January 1981. The Sedgwick County Department of Public Works (SCDPW) represents the county in administration of the grant. The design consultant for the Four Mile Creek facilities is Professional Engineering Consultants, P. A. (PEC) of Wichita, Kansas.

The Four Mile Creek Facilities Plan, published in 1979, documents the urbanizing trend in eastern Sedgwick County and the need for a regional wastewater collection and treatment system to protect water quality in the area, protect public health, and consolidate services and operations into one cost-effective system to serve the growing communities. The facilities plan also defines the purpose and general design guidelines of the proposed system.

2. PRELIMINARY WORK

The Four Mile Creek wastewater collection and treatment system consists of fourteen projects. The largest single project and the heart of the system is the wastewater treatment plant. The remaining thirteen projects include five interceptor

sewers and eight lateral sewer systems which together make up the wastewater collection system. The Consultant has one design team working on the wastewater treatment plant and one team designing the wastewater collection system. Key personnel at PEC work with both design teams to coordinate design of the total system. The Consultant regularly meets with the Sedgwick County Department of Public Works (SCDPW) to discuss design decisions, progress of the work, and administrative needs.

3. ADMINISTRATION AND DESIGN PROCEDURES

General administrative procedures and design guidelines were established during meetings between SCDPW and PEC staff in February. The major items which were agreed upon in February are summarized below.

The Sedgwick County Department of Public Works provides primary control data for surveys, rights-of-entry for field crews, will obtain permits as needed from other agencies, and will acquire easements as necessary for the completed designs. The Department of Public Works also checks and approves plans and specifications before they are transmitted to KDHE for review.

Professional Engineering Consultants designs the projects in accordance with the "Four Mile Creek Facilities Plan, 1979" as approved by the Kansas Department of Health and Environment (KDHE) and by EPA. In some cases, field data indicate that adjustments of the planned sewer routes may be desirable. Such adjustments are made with the concurrence of the Department of Public Works. Design of the

wastewater collection system projects includes topographic surveys, plan drawings, detail drawings, profile surveys, profile drawings, writing specifications, easement descriptions, and geologic investigations. The general design process for each project consists of each of these items which in turn consist of several tasks. Aerial photographs of the project area are used extensively in the planning and design of the entire system.

The Department of Public Works and PEC work together to inform interested Project Area residents and land owners about the continuing work. Residents are informed about field crews working in the area and, when necessary, SCDPW and PEC staff meet with area residents to discuss project design and sewer routes.

4. DESIGN PROGRESS

A. Wastewater Collection System

The Consultant meets with the SCDPW each month to report on design progress and to discuss design decisions or administrative needs that arise from month to month. A Schedule of Tasks bar graph is used to chart project completion of the collection system projects on a monthly basis. A copy of the most recent graph, dated January 1, 1982, is included in this report.

By study of the Schedule of Tasks it can be seen that the wastewater collection system design was 60 percent complete by January 1, 1982. The monthly progress line graph (the red line) on the chart shows that production is close to the planned schedule. It is anticipated that

design production will continue at approximately the same rate as it did in 1981 and that all projects will be substantially complete by the end of October 1982.

As of January 1, 1982, designs for the following projects were complete. Dates indicate when preliminary plans and specifications were transmitted to SCDPW. (Refer to the Project Area map included in this report for project locations.)

1. Brookhaven Lateral Sewers, April 1981
(Northwest of Central and 159th St. East)
2. Sloan's Lateral Sewers, April 1981
(Southeast of Harry and Greenwich Road)
3. Park East Lateral Sewers, August 1981
(East of 143rd St. East and 1/4 mile north of Kellogg)
4. Greenwich Heights Lateral Sewers, October 1981
(In the vicinity of Pawnee and Greenwich Road)

Design of the East Lynne Lateral Sewers was substantially complete in October. Soils investigation work for this project will be finished by March 1982.

The following projects are in various stages of production. Projected completion dates are given.

1. Windsor Park Lateral Sewers, January 1982
(East of Greenwich Road and 1/2 mile north of Harry)

2. Spring Creek Interceptor, February 1982
This is the largest of the interceptor sewer systems. The Spring Creek Interceptor design includes five mains to serve seven existing communities.

3. Crestview Interceptor, May 1982

4. Gilders Gardens Lateral Sewers, August 1982
(South of Central Avenue between Greenwich Road & 127th St. East)

5. McEvoy Lateral Sewers, May 1982
(Southwest of Harry and 127th St. East)

6. Minneha Interceptor, August 1982

7. Brookhaven Interceptor, July 1982

8. Four Mile Creek Interceptor, October 1982

B. Wastewater Treatment Plant

The first two major tasks for design of the Four Mile Creek wastewater treatment plant were the preparation of a design memorandum and the

selection of a site for the plant. The design memorandum, which was completed in August, is an overview of the plant facilities and processes which will be constructed including allowances for possible expansion of the facilities. The plant site was selected from among four alternate sites in June. The treatment plant facilities will include a multi-purpose administration building with offices, a laboratory, and classrooms for Department of Public Works staff. The treatment plant design is scheduled for completion in January 1983.

Presently the administration and service buildings are approximately 50 percent complete, the plant hydraulics are finalized, and the preliminary treatment, pump station and clarifiers are in final design. A decision will be reached shortly relative to aeration equipment at which time plan preparation will begin on the treatment basin.

5. FUNDING

The estimated total construction cost of the Four Mile Creek wastewater collection system is approximately \$7.7 million. The estimated constructed cost for the wastewater treatment plant is approximately \$5.5 million. The projects are on the Kansas priority list for the Construction Grants Program. At the request of KDHE, the system has been segmented into project packages for review and funding. This packaging is intended to allow projects to be funded and built as funds become available rather than to risk delay of the more urgent projects while waiting for funds to construct the entire system. A copy of the project package schedule is included in this report.

When the Spring Creek Interceptor design has been completed and approved by the SCDPW, two of the project packages will be ready for review by KDHE. These packages are listed as items 3 and 6 on the packaging schedule.

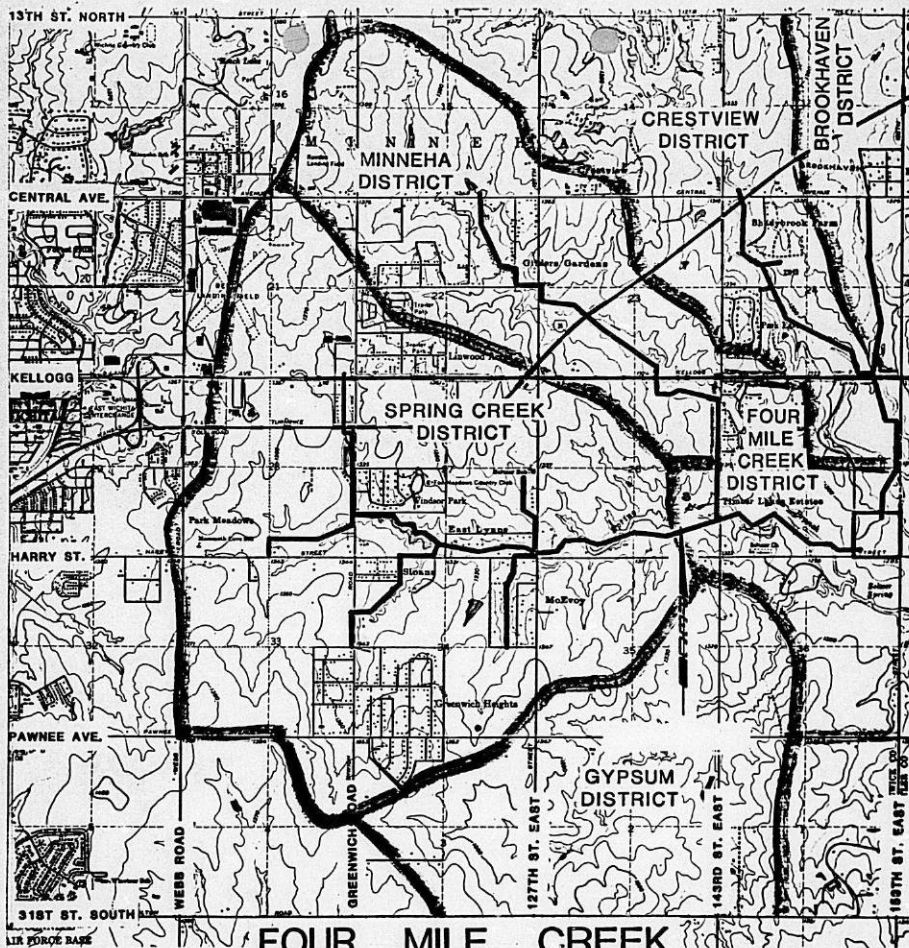
FOUR MILE CREEK WASTEWATER COLLECTION & TREATMENT
PROJECT "PACKAGING"

PEC File 34-81051-1-024

Alternative for segmenting or packaging FMC.
Costs are from the Facilities Plan (except STP).

1. Four Mile Creek STP	\$5,500,000
2. Four Mile Creek Interceptor	\$1,128,900
3. Spring Creek Interceptor, Main No. 1	\$1,182,580
4. Minneha Interceptor	\$ 751,380
Gilder's Gardens Lateral Sewers	<u>\$ 728,100</u>
	\$1,479,480
5. Crestview Interceptor	\$ 946,040
Park East Lateral Sewers	\$ 241,420
Brookhaven Interceptor	\$ 275,600
Brookhaven Lateral Sewers	<u>\$ 140,020</u>
	\$1,603,080
6. Spring Creek Interceptor, Main No. 6	\$ 165,400
Sloan's Lateral Sewers	\$ 81,280
Greenwich Heights Lateral Sewers	<u>\$1,125,090</u>
	\$1,371,770
7. Spring Creek Interceptor, Main No. 4	\$ 103,040
Spring Creek Interceptor, Main No. 5	\$ 73,800
East Lynne Lateral Sewers	\$ 75,900
McEvoy Lateral Sewers	\$ 207,220
Spring Creek Interceptor, Main No. 7	\$ 276,760
Windsor Park Lateral Sewers	<u>\$ 210,420</u>
	\$ 947,140

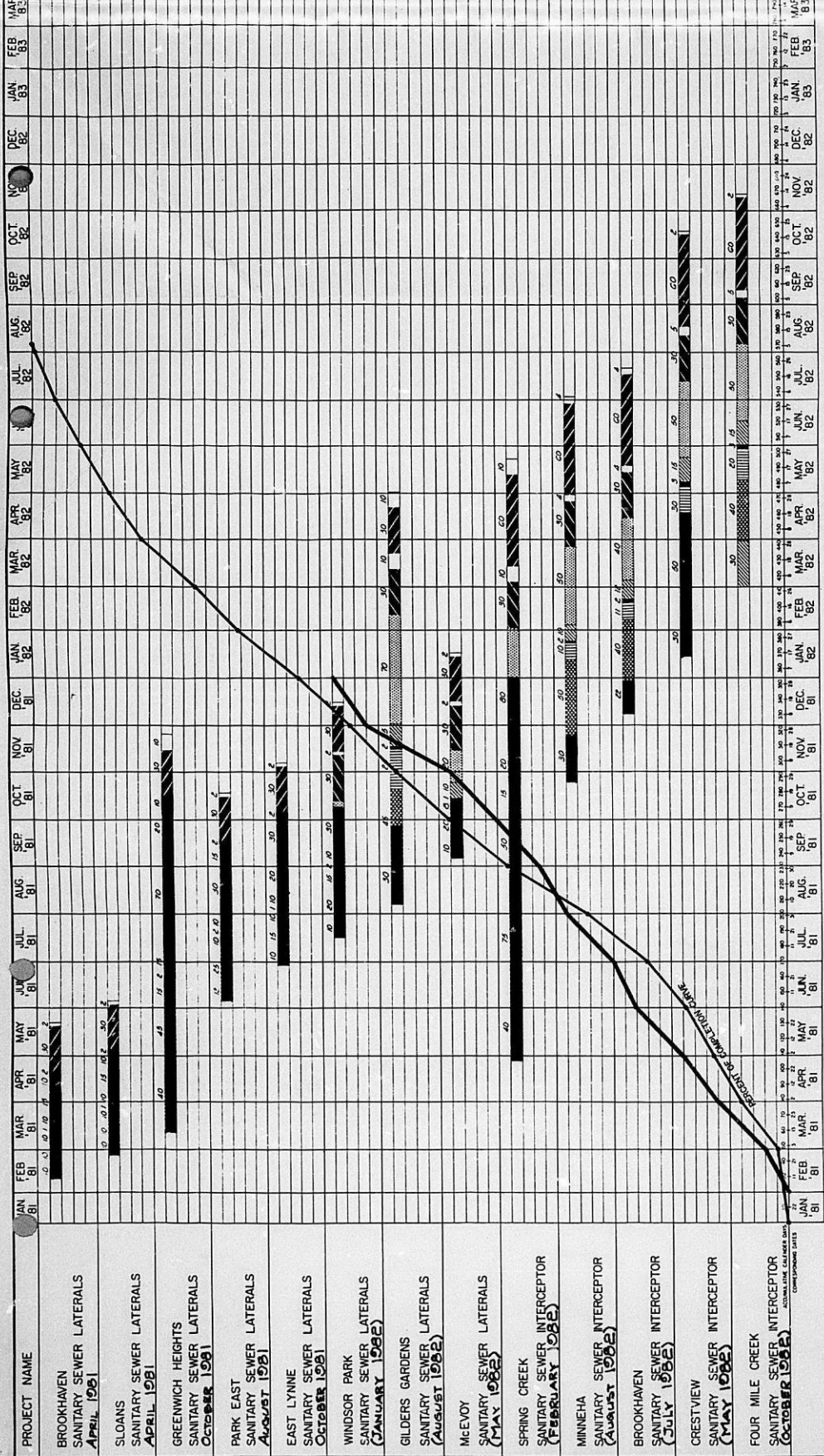
Since this breaks up Spring Creek Interceptor, repackaging of that project would be necessary as each segment is funded.



**FOUR MILE CREEK
WASTEWATER COLLECTION AND TREATMENT FACILITIES**

LOCATION MAP

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
JANUARY 1982



FOUR MILE CREEK
SCHEDULE OF T
PROFESSIONAL ENGINEERING Co.
WICHITA, KANSAS
SHEET NO. 18



- NUMBER ABOVE BLOCK DIAGRAM
INDICATES PLANNING DAYS TO
COMPLETE TASK
- LEGEND
- SURVEY
 - BASE SHEET
 - SEWER ALIGNMENT
 - FINAL PLAN
 - SEDGWICK COUNTY REVIEW
 - FIELD/OFFICE CHECK
 - REVISION
 - HOME-EPA REVIEW

