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Review Of Certain Aspects
Of A Sewer Project In Adena,
Ohio, Financed By The Farmers
Home Administration B-173465

Department of Agriculture

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

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~~CONFIDENTIAL~~
FEB. 22, 1972



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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Dear Mr. Hays:

By letter dated June 18, 1971, you requested that we examine into certain complaints which had been made about the engineering and construction of a sewer system funded by the Farmers Home Administration (FHA) in Adena, Ohio.

Our examination included a review of applicable legislation, FHA policies and instructions, and loan and grant agreements. In addition, we interviewed responsible officials of FHA, the village of Adena, and the consulting engineer (Rackoff Associates, Inc.) and examined their project records. We also examined into complaints concerning the sewer system and interviewed the residents who had filed them.

The complaints which we examined into were basically those which were included in the project files of the village. The complaints were received by officials of the village after October 1, 1969, when the system was substantially complete and after the consulting engineer had advised the mayor to solicit claims for damages caused by the construction. The mayor sent letters to all property owners who were to be served by the sewer system and advised them to submit their complaints in writing by November 1, 1969. A second solicitation was made through a newspaper by a member of the village council in March 1970.

As of April 9, 1970, 51 written complaints had been received in response to the solicitations. Most of them concerned the need for the contractor to repair or restore such items as sidewalks, trees, lawns, and driveways which were damaged during construction of the sewer system.

All but a few of the complaints were resolved either by the consulting engineer in conjunction with the construction company or by the village. One complaint regarding damage to a house was being negotiated with the construction company's insurance agents by the complainant's attorney. The unresolved written complaints, which concerned a lack of basement drainage for laundry facilities or a lack of service

connections, and verbal complaints revealed during our discussions with officials and residents of the village are discussed below.

We did not obtain written comments on our findings from any of the parties involved in this review; however, this report was based on information available in their files or furnished by them and was discussed informally with them.

BACKGROUND INFORMATION

FHA is authorized under section 306 of the Consolidated Farmers Home Administration Act of 1961, as amended (7 U.S.C. 1926), to make grants and direct and insured loans to public and nonprofit associations to finance the improvement and/or construction of water and sewer systems which primarily serve farmers, ranchers, farm tenants and laborers, and other rural residents.

In November 1966 FHA approved financial assistance for the development of the Adena sewer system. Through October 1971 two loans totaling \$433,950 and two grants totaling \$349,720 had been made to the village. The village administered these funds according to procedures approved by FHA. In accordance with these procedures, estimates of construction costs were prepared by the consulting engineer, were checked and accepted by the construction company, and were approved by the village and FHA.

The planned system was to consist of lateral and collecting sewers, a treatment plant, and sewer connections for 393 properties. The system was constructed as planned and provides service to all residents and businesses of Adena, plus a small section adjacent to the corporate line.

Construction of the system began in July 1968 and was substantially completed in October 1969 at a cost of \$742,015. The system was inspected and approved, with a few minor exceptions, by the consulting engineer and FHA on January 7, 1970. The village approved final payment to the contractor on August 20, 1970.

ENGINEERING AND DESIGN COMPLAINTS

The residents' complaints about the engineering and design of the system concerned the selection of the treatment plant site, lack of access to the plant, freezing of valves, laying of sewer lines in a creek, and lack of basement drainage for laundry facilities in some residences.

Selection of treatment plant site

The treatment plant site was selected by the village and the consulting engineer and was approved by FHA. The land for the plant was purchased for \$4,417. A resident complained that the village could have acquired another site at no cost. The FHA engineer and the consulting engineer informed us that, in their opinions, it would not have been economically feasible to use that site because its high elevation would have required the construction of a costly lift station.

Lack of access to treatment plant

To reach the treatment plant, vehicles have to ford a creek. A resident complained that the plant would be inaccessible by vehicles during flood periods. The FHA engineer stated that the access provided was sufficient because the only need for access to the plant by vehicles was to empty the three sludge beds and that this need would occur infrequently. As of the time of our review, the sludge beds had never been filled and therefore had never been emptied.

Freezing of valves

The village has had a problem with freezing valves on the lines to the three sludge beds. Because these valves are located above ground, they are unprotected during cold weather. The village replaced one valve at a cost of \$150 plus labor. The FHA engineer advised us that this problem was the result of an engineering error but that the problem could be solved at a relatively minor cost by installing a valve at

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the bottom of the sludge holding tank. This corrective action is currently under consideration by the village.

Sewer lines in creek

The main sewer line was laid in a creek to minimize construction costs. We were advised by village residents that the line was subject to water infiltration and that the manholes were subject to damage from ice and debris.

The consulting engineer informed us that construction costs had been minimized because the old existing sewer lines draining to the creek were used, trenches for the line required minimal excavations, and costly excavation of roadways was limited. The FHA engineer advised us that placing the sewer line in the creek was an acceptable engineering practice and that it was the most economical method of construction for the Adena system. The lines were tested by the consulting engineer for infiltration and were found to be satisfactory before final acceptance by the village.

Lack of basement drainage

The residents' complaints concerning the lack of basement drainage for laundry facilities relate to one apartment and two houses. The consulting engineer said that basement drainage had not been provided to all properties because it was not economically feasible. An FHA official told us that FHA tried to minimize project costs so that the user rates would be reasonable.

During the later phases of the construction of the system, an attempt was made to provide basement drainage for these properties. The construction company quoted a cost estimate of \$10,000, and, in an effort to reduce the cost, the village decided to explore the possibility of having this work done by another contractor. Village officials told us that, as of September 1971, the village had not been able to obtain a quote of a lower price.

CONSTRUCTION COMPLAINTS

The residents' complaints relating to the construction phase of the Adena system dealt with the failure to provide service connections to certain residences and with inadequate repairs to the streets.

Service connections not to property line or not provided

Some of the residents on one street complained during construction that service connections were not being provided to their property lines. The consulting engineer's records showed that the village had instructed the contractor not to install the service connections to prevent damage to an existing sewer line which the village planned to use as a storm sewer. The service connections, however, were made by the village after the sewer system was completed.

Village officials told us that service connections to five other properties had not been installed by the construction company because it had been denied access by the property owners. At the time of our review, the village had installed four of these connections and was planning to install the other one.

One complaint concerning the failure to provide a service connection for one residence was questionable because the resident made the complaint before making a thorough search for the service connection. The consulting engineer's records showed that this service connection had been installed and was available for hookup. The property owner was informed that the engineer's records showed that the service connection had been installed.

Inadequate street repairs

Some of the residents complained that the repair work to the streets by the construction company was inadequate and that the streets had not been restored to their original condition.

The village spent \$855 on street repairs subsequent to the completion of the construction of the system.

We were unable to determine, however, whether the repairs were required because of normal deterioration or because of inadequate repairs by the construction company. We noted that the construction company had advised the village that any work done to correct inadequate repairs should be billed to the company. A village official told us that the village had not billed the construction company for any work resulting from inadequate street repairs.

We were informed by the FHA county supervisor that some village residents expected a complete repaving of the streets affected by the construction. He stated that, under the conditions of the contract that were explained to the village officials at the preconstruction conference, the contractor was required to repair the streets only where trenches were dug to lay the sewer line. The FHA county supervisor stated that the contractor had made all required repairs before receiving final payment.

FINANCIAL AND OPERATIONAL PROBLEMS

In 1970 the sewer system operations did not produce sufficient revenue to pay all operating and maintenance expenses and to meet debt repayment requirements. In addition, the initial operating budget prepared by the village for 1971 showed an estimated loss of \$2,000.

A village official attributed the estimated loss to inflation and to increased operating and maintenance costs. FHA advised the village that the loss would not be allowed to continue. To eliminate the estimated loss for 1971, the village began collecting an overage charge which had been authorized on December 5, 1968, by a village ordinance but which had not been collected previously.

User charges for the sewer system are based on residents' water-meter readings. Residents using 9,000 gallons of water

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or less are charged a flat rate of \$6 a month. Residents using over 9,000 gallons a month are charged the flat monthly rate plus an overage charge of \$1.30 for each additional 1,000 gallons used. During the first 6 months of 1971, overage charges amounted to about \$2,500.

On June 30, 1971, the village had 44 delinquent accounts totaling about \$2,800. A village official told us that this situation had been caused by labor strikes in the area and by absences due to vacations. In August 1971 the village gave a list of delinquent accounts to its water superintendent with instructions to terminate water service to those residents who had not paid for sewer services, but no action had been taken as of September 14, 1971.

The Ohio Department of Health rated the operation of the system for 1970 as a failure in terms of meeting the intended purpose of properly controlling all raw sewage. This rating was attributed mostly to a lack of reports on effluent quality and treatment plant capacity and to the failure to employ a certified operator and to control all sources of sewage pollution within the village.

As of September 1971 the occupants of about 70 residences had not connected to the system, although connection privileges had been granted as early as October 1969. This situation is a violation of Ohio health regulations and a village ordinance. At the time of our review, the village had taken no action to enforce its ordinance or to require the residents to connect to the system.

In early 1970 village officials advised FHA that a certified operator would be provided to supervise the treatment plant operation. As of September 1971, however, no certified operator had been employed.

CONCLUSIONS

We believe that many of the complaints concerning engineering and construction of the sewer system were based on misconceptions due to a lack of understanding about the

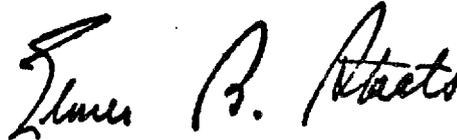
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responsibilities of the consulting engineer, the construction company, and the village.

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We plan to make no further distribution of this report unless copies are specifically requested, and then we shall make distribution only after your approval has been obtained or public announcement has been made by you concerning the contents.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James B. Axtell".

Comptroller General
of the United States

The Honorable Wayne L. Hays
House of Representatives