

STATE OF IOWA
1922

REPORT OF THE
State Highway Commission

FOR THE
Year Ending December 1, 1922

ISSUED BY THE
STATE HIGHWAY COMMISSION
AMES, IOWA

WM. COLLINSON, Chairman
J. W. HOLDEN,
ANSON MARSTON,
State Highway Commissioners

F. R. WHITE, Chief Engineer

Published by
THE STATE OF IOWA
Des Moines



Twin Span Open Spandrel Concrete Ribbed Arch Over Shell Rock River, Rockford, Floyd County.

LETTER OF TRANSMITTAL

HON. N. E. KENDALL, GOVERNOR:

Pursuant to the provisions of Section 1527-s2, Supplemental Supplement to the Code 1915, the State Highway Commission presents herewith Part One of its Ninth Annual Report. This part of the report covers the principal operations of the commission for the year December 1, 1921, to November 30, 1922.

Part Two of this report will contain a summary of the annual reports of the county engineers for the year January 1, 1922, to December 31, 1922. It will be presented later as the law provides.

WILLIAM COLLINSON, Chairman.

J. W. HOLDEN,

ANSON MARSTON,

Commissioners.

Ames, Iowa, December 30, 1922.

PART I CHAPTER I Summary

The Ninth Annual Report.

The ninth annual report of the State Highway Commission is divided into two parts.

Part One is a report of the work of the commission and of the construction work accomplished on the primary road system and expenditures therefor, for the year ending November 30, 1922, and a report of the expenditures of the commission for the fiscal year ending June 30, 1922.

Part Two is a summary of the annual reports of the county engineers for the year ending December 31, 1922.

The Year 1922.

The year 1922 brought more than its share of difficulties to the road builder. The difficult financial conditions through which we have been passing, and from which we are just beginning to recover, had a very great influence in delaying the letting of contracts for road and bridge work. Work which should have been contracted in December or January was in many cases not brought to a letting until April, May, or even June. This gave the contractor no time in which to properly plan his work or organize his forces prior to the beginning of actual construction operations. During the early part of the year the weather conditions were quite unfavorable for active construction operations. During the months of April and May, when many construction outfits should have been getting under way in good shape, the work was constantly delayed on account of frequent rains. It was not until June that construction operations were begun in earnest.

The railroad shopmen's strike and the coal miners' strike each had their effect in delaying those classes of work dependent upon rail transportation or upon considerable quantities of fuel. On some of the railroads it became practically impossible to secure any cars for the transportation of road building materials. Paving gangs which were dependent upon such roads were forced to entirely suspend operations. This very materially reduced the number of miles of pavement completed during the year and resulted in a very great financial loss to the contractors on such work. In spite of

these difficulties, the paving and graveling work completed slightly exceeded our expectations of a year ago. The grading work completed is about 430 miles less than our estimate made a year ago.

Construction Work Accomplished.

The following amounts of the various classes of road and bridge work were completed during 1922:

Paving	101.4 Miles
Graveling	432.0 Miles
Grading	1,069.7 Miles
Tile Drains.....	3,059,952 Lin. ft.
Bridges and Culverts.....	2,106

A comparison of the construction work accomplished each year since the primary road law was passed follows:

Kind of Work	1919	1920	1921	1922
Paving	4.3 mi.	46.6 mi.	165.4 mi.	101.4 mi.
Graveling	3.0 mi.	102.5 mi.	367.7 mi.	432.0 mi.
Grading	140.0 mi.	409.8 mi.	1,050.9 mi.	1,069.7 mi.
Tile Drains	126,901 lin. ft.	1,168,700 lin. ft.	5,416,328 lin. ft.	3,059,952 lin. ft.
Bridges and Culverts.....				2,106

On November 30, 1922, construction work was under way on one hundred fifty-two road projects located in seventy-seven counties, and on seventy-eight bridge projects located in fifty-two counties. The uncompleted work on these projects was as follows:

Paving	50.7 Miles
Graveling	197.6 "
Grading	455.3 "
Tiling	1,173,960 Lin. ft.
Bridges and Culverts.....	766

This work will be carried over into the 1922 construction season.

Expenditures for Construction.

The expenditure for construction work during 1922 was \$13,324,555.14, as follows:

Grading	\$ 5,528,918.08
Graveling	1,236,914.21
Paving	3,197,922.01
Drainage	610,109.31
Bridges and Culverts.....	1,979,872.53
Guard Rail.....	247,398.40
Machinery and Equipment.....	
Engineering	528,790.91
	<u>\$13,329,925.45</u>
Refund on Machinery and Equipment.....	5,370.31
Total	\$13,324,555.14

Tests of Materials.

In connection with the above construction work, tests and inspections have been made on 17,796 carloads of material, as follows:

Cement	2,714 Cars
Sand, Gravel and Stone.....	14,183 "
Brick	79 "
Reinforcing Steel	102 "
Drain Tile	714 "
Asphalt	3 "

These cars, if coupled together, would form a train one hundred seventy miles long.

Due to the payment for bridges and culverts on the primary road system out of the primary road fund, a more rigid inspection and testing of the materials entering into such work has been required, resulting in a much better quality of construction than had heretofore been secured on such structures.

Payments Made by Government.

Prior to December 1, 1921, the government had paid \$4,624,036.99 to the state in aid of road work. During 1922, the government paid to the state \$2,833,511.50. The total payments by the government to December 1, 1922, amount to \$7,457,548.49. Of the total amount of federal aid (\$10,042,215.88) allotted to the state prior to December 1, 1922, \$2,584,667.39 is still in the hands of the federal treasurer at Washington. In addition to this sum, Iowa's share of the \$190,000,000.00 of federal aid authorized by congress in a bill passed in June, 1922, will be approximately \$5,400,000.00, making a total of approximately \$8,000,000.00 coming to this state under existing federal laws. The only way the state can get this money is by proceeding with the construction of the road projects to which the funds have been allotted.

Bridge Surveys and Plans.

Field surveys have been made for 3,625 bridges and culverts. Plans have been prepared for 3,577 bridges and culverts estimated to cost \$3,823,323.00. Plans have been approved for 194 bridges and culverts estimated to cost \$409,000.00. A comparison of this work during the past five years follows:

Year	Field Surveys Made	Plans Prepared		Plans Approved		Shop Drawings Approved
		No.	Estimated Cost	No.	Estimated Cost	
1922	3,625	3,577	\$3,823,323.00	194	\$ 409,000.00	136
1921	1,624	2,925	4,699,940.00	432	723,264.00	154
1920	1,792	1,074	3,025,006.00	496	1,672,417.00	108
1919	1,232	536	1,481,300.00	307	852,900.00	86
1918		236	1,398,000.00	163	634,000.00	79

It will be noted that in 1922 plans were prepared for six hundred fifty-two more bridges and culverts than in 1921, but that the estimated cost of the structures for which plans were prepared in 1922 was \$876,617.00 less than the estimated cost of the structures for which designs were prepared in 1921.

Road Surveys and Plans.

During 1922 detailed surveys were made for the improvement of nine hundred ninety-nine miles of the primary road system. Plans were prepared for 1,794 miles of the primary road system, and plans prepared by the county engineers for improving 251 miles of secondary roads, were checked and approved. Surveys have now been completed for a total of 4,588 miles, or approximately seventy per cent of the primary road system. Plans have been completed for a total of 5,017 miles, or approximately seventy-six per cent of the primary road system. These plans constitute a permanent record of the roads to which they apply, and once the plans are completed for the entire mileage of the primary road system, the cost of the surveys, road plans, and bridge and culvert designs, which now amounts to approximately three hundred thousand dollars annually, will be almost entirely eliminated.

A comparison of the mileage of the surveys and plans for the past six years follows:

Year	Primary Roads		Secondary Road Plans Checked and Approved
	Surveys	Plans	
1922	999 mi.	1,794 mi.	251 mi.
1921	1,005 mi.	1,455 mi.	264 mi.
1920	1,089 mi.	1,164 mi.	413 mi.
1919	1,093 mi.	387 mi.	381 mi.
1918	340 mi.	213 mi.	221 mi.
1917	138 mi.	4 mi.	800 mi.

Bridge and Road Contracts.

Eight hundred ninety-nine bridge, road, and material contracts were checked for approval. These contracts were classified as follows:

	No. of Contracts	Amount of Contracts
Bridge and culvert work	301	\$3,799,193.00
Bridge and culvert materials	44	
Primary road work	465	\$9,227,810.00
Primary road work in cities	15	963,176.00
County road work	47	303,654.00
Secondary road districts	27	196,053.00
Total	899	\$14,109,886.00

Eleven of the above bridge and road contracts, amounting to \$263,876.00, and one material contract were disapproved. The remaining eight hundred eighty-seven contracts, amounting to \$13,846,010.00 exclusive of material contracts, were approved. A comparison of the contracts checked for approval for the past six years follows:

Year	Bridge and Culvert Contracts		No. of Mat. Confs.	Primary Road Contracts		Secondary Road Contracts	
	No.	Amount		No.	Amount	No.	Amount
1922	301	\$3,799,193	44	465	\$9,227,810	74	\$459,707
1921	267	4,092,103	40	433	7,969,488	94	727,608
1920	228	4,307,100	53	207	12,212,020	62	876,081
1919	273	3,215,900	35	29	1,139,222	37	525,459
1918	173	1,790,800	56	6	186,071	28	290,794
1917	197	2,179,000	50	1	90,492	35	634,993

Cost of the Commission.

During the past fiscal year, the total salaries and expenses for all three members of the commission were \$4,637.15, as follows:

	Salary	Expense	Total
J. W. Holden	\$1,400.00	\$ 739.47	\$2,139.47
Wm. Collinson	1,490.00	841.34	2,331.34
Anson Marston		166.34	166.34
Total	\$2,890.00	\$1,747.15	\$4,637.15

Cost of Engineering and Administration.

Since the first law was enacted (in 1917) accepting federal aid, \$41,180,336.69 has been expended on the primary road system under the commission's supervision. This expenditure is classified as follows:

Construction	\$33,237,750.80
Maintenance	5,323,653.76
Engineering and Administration	2,618,932.13
Total	\$41,180,336.69

The expenditure for engineering and administration amounts to six and thirty-five one-hundredths (6.35) per cent of the total expenditure. This expenditure includes every item of engineering and overhead expense of every nature incurred by the commission because of this work. The overhead and administration cost of commercial concerns runs far in excess of the above percentage. Even in the best and most economically run concerns, the overhead and administration costs rarely are below fifteen per cent, and often such costs amount to twenty per cent or more of the business handled.

The percentage cost of engineering and administration on highway work varies greatly on different projects, depending upon topographical conditions and the nature of the improvements. On paving projects, this percentage is about two and one-half (2½) per cent, while on light grading projects it sometimes goes as high as ten or eleven (10 or 11) per cent. In order that the foundation of our future highway development may be properly executed, the surveys and plans for a light grading project, costing only three thousand dollars per mile, must be as carefully prepared as though the road were to be paved at an expense of thirty thousand dollars per mile.

The road surveys and plans are costing about \$172.64 per mile. Four thousand five hundred eighty-eight miles of surveys have cost \$431,134.83, or \$93.97 per mile. Five thousand and seventeen miles of plans have cost \$394,708.11, or \$78.67 per mile. These plans constitute a permanent record of the roads to which they apply. Once a road has been built to finished grade, it will not be necessary to make complete new surveys and plans for any future surfacing work thereon if the road has been properly located and planned in the first instance. The commission is now spending about three hundred thousand dollars per year for surveys and plans. About seventy-two per cent of the mileage of the primary road system has been surveyed. In thirty-one counties the surveys and plans have been completed, and in many other counties the work is well along towards completion. Once the entire system has been surveyed, the annual expenditure for this work will be reduced to only a small portion of the present amount.

The testing of materials, and inspection and supervision of construction work, costs about four and twenty-seven one-hundredths (4.27) per cent of the total cost of such construction work. On construction work involving a total expenditure of \$34,722,029.20, the testing of materials and inspection and supervision of construction, cost \$1,484,278.40.

Road Plans, Specifications, and Estimates Submitted.

Plans, specifications, and estimates for one hundred sixty projects, involving the improvement of 1,292.5 miles of primary road at an estimated cost of \$8,962,317.35, were submitted to the federal government and the boards of supervisors for approval. Fifty-five of these projects were federal aid projects; the remainder were primary road projects.

Federal Aid Funds Obligated.

If project agreements are not executed, obligating federal aid funds, within two years after the close of the fiscal year during which such funds become available, such funds revert to the federal government. Under these conditions, Iowa must have obligated \$10,042,215.88 of federal funds by July 1, 1924. Up to December 1, 1922, one hundred forty-one project agreements had been signed with the secretary of agriculture, obligating \$9,819,206.84 of federal aid, leaving \$223,808.99 which must be obligated by July 1, 1924. These remaining funds will be obligated in ample time to prevent their reverting to the federal government.

Projects Approved.

During 1922 the commission approved one hundred forty-six projects, involving the improvement of 1,659.0 miles of the primary road system, at an estimated cost of \$8,852,270.42, and approved thirteen projects for paving 14.7 miles of primary road extensions within cities.

Primary Road Condition.

Since the primary road law was passed in the spring of 1919, the following work on said system has been accomplished:

Paved	317.7 Miles
Graveled	905.2 "
Built to finished grade.....	2,668.4 "

The condition of the primary road system on December 1, 1922, was as follows:

Paved	334.4 Miles
Graveled	1,558.0 "
Built to finished grade, but not surfaced.....	1,761.1 "
Not built to grade.....	3,961.8 "
Total.....	6,615.3 "

One can now travel from Des Moines to the county seats of thirty-four counties by direct route and be on gravel or pavement all of the way.

Primary Road Maintenance.

The expenditures for maintaining the primary road system from December 1, 1921, to December 1, 1922, amounts to \$2,444,664.54, or an average of \$369.50 per mile. The average cost for maintaining the different type roads for the eleven-month period of January 1, 1921, to December 1, 1922, was as follows:

Pavement	\$118.00	per mile
Gravel	377.00	" "
Earth	270.00	" "

Changes in Primary and County Roads.

Modifications in the primary road system in twenty-eight counties have resulted in decreasing the primary road system seven-tenths of one mile. The total mileage of the primary road system is now 6,615.3 miles.

Fifty-seven modifications in the county road system were approved, resulting in an increase of 288.5 miles in said system.

Counties Voting on Hard Surfacing or Primary Road Bonds.

None of the counties voted on hard surfacing. Linn county voted on a one million dollar bond issue. The proposition was defeated.

Government Equipment Received.

During 1922 government equipment valued at \$2,221,113.00 was received. The total value of all government equipment received to December 1, 1922, is \$4,041,201.00.

During the past year, trucks, tractors, wagons, small tools, and miscellaneous supplies were issued to the counties, the Executive Council, the Board of Control and the State Board of Conservation, valued as follows:

Counties	\$702,575.00
Executive Council	7,800.00
Board of Control	224,517.00
Board of Conservation	500.00

The government equipment has cost the state in freight, storage buildings, receipt and handling, a total of approximately \$247,420.00, or 6.1 per cent of its value. Of this amount, approximately \$75,000 has been invested in storage buildings. Some of these structures would have been required for the storage and repair of the commission's mechanical and motor equipment even if there had been no government equipment distributed.

Railroad Crossing Work.

Surveys were made for the improvement of three railroad crossings. Plans were prepared for fifty-six railroad crossing projects.

Twenty-seven projects have been satisfactorily adjusted and agreements reached between the railroad companies and the public regarding the division of cost. The plans for these twenty-seven projects contemplate the separation of grades at eighteen crossings and the improvement of nine crossings at grade.

Primary Road Bonds Issued.

During 1922 the primary road bonds issued amounted to \$3,225,000.00. The total amount of primary road bonds issued to December 1, 1922, is \$7,789,000.00. Of the bonds issued, \$50,000.00 have not been sold, and \$1,190,000.00 have been retired. The primary road bonds outstanding December 1, 1922, amounted to \$6,599,000.00. The following is a list of the counties that have authorized the issuance of bonds and the amount issued by each:

County	Bonds Authorized	Bonds Issued	Bonds Outstanding Dec. 1, 1922
Black Hawk	\$ 1,500,000.00	\$ 400,000	\$ 400,000.00
Cerro Gordo	750,000.00	750,000	750,000.00
Clay	800,000.00
Clinch	1,800,000.00	825,000	700,000.00
Floyd	1,000,000.00	565,000	565,000.00
Greene	1,000,000.00
Hancock	1,000,000.00	500,000	500,000.00
Kossuth	1,500,000.00
Lyon	1,125,000.00
O'Brien	1,500,000.00	750,000	650,000.00
Polk	2,000,000.00	1,049,000	899,000.00
Scott	2,000,000.00	2,000,000	1,455,000.00
Woodbury	2,500,000.00	950,000	670,000.00
Total	\$18,475,000.00	\$7,789,000	\$6,599,000.00

The Year 1923.

It is anticipated that the paving and graveling completed during 1923 will be about the same as for 1922. The grading work will show no decrease. On the contrary, it should show an increase.

CHAPTER II

Recommended Legislation

Right-of-Way for Primary Roads.

(a) *Payment.*

Under the present law, right-of-way for primary roads is secured by the county and paid for from the county road cash fund. It is recommended that the law be changed so that right-of-way for the improvement of the primary roads will be secured by the state and paid for from the primary road fund.

(b) *Right-of-Way in Towns.*

Frequently, in improving primary roads through towns, it is necessary to secure right-of-way which the towns cannot or will not secure. It is recommended that the authority to procure right-of-way outside of towns be extended to include the necessary right-of-way for primary roads within towns.

(c) *Right-of-Way Through Orchards, Sections 2799 and 2831, Compiled Code.*

Under existing law, road officials cannot condemn land for road purposes through an orchard or through ornamental grounds contiguous to a dwelling. It frequently happens that an orchard or ornamental ground is located directly in the line of a meritorious relocation of the highway. It is recommended that these statutes be amended by removing the above limitations.

Special Assessments for Paving.

Chapter 237 of the Laws of the Thirty-eighth General Assembly requires that twenty-five per cent of the cost of paving constructed on primary roads shall be assessed against the property located within a zone from one to one and one-half miles wide on each side of the road. It is recommended that this provision of the law be repealed and that no special assessments be levied for paving primary roads.

Railway Crossings on Extensions of Primary Roads Within Cities.

In many cases in the cities there are bad railroad crossings on extensions of the primary roads. The improvement or elimination of such crossings is an important matter in the development of the pri-

mary road system. Frequently the city is entirely unable to bear the public's portion of the cost of the work. It is recommended that the primary road law be so amended that a part of the public's portion of the cost of improving or eliminating such crossings may, subject to the commission's approval, be paid from the primary road fund.

Gasoline Tax.

It is recommended that a tax be levied on gasoline and that the revenue derived therefrom (after defraying the cost of administering such law) be extended to the construction and maintenance of highways. Eighteen states now levy a gasoline tax. In ten states the revenue goes to the general state road fund. In five states the revenue is divided between the state and the county roads.

Purchase of Land for Truck Sheds.

When the government began the distribution of surplus war equipment in 1919 it became necessary for the commission to have some place for the storage of such equipment, making the necessary repairs, etc. A tract of ground in the city of Ames, favorably located with respect to the railroads and highways, was leased, and an option to purchase this land was secured. Eight hollow tile sheds, each 52 feet by 142 feet, have been constructed on this leased land. The investment in these buildings amounts to approximately \$75,000.00. The tract of ground covered by the lease covers eighteen acres. The option price is \$12,000.00. The lease costs \$600.00 per year and will expire in 1926.

It is recommended that the commission be authorized to purchase this ground.

County Funding Bonds.

Under the provisions of chapter 403, Supplement to the Code 1913, county funding bonds may be issued without a vote of the people. Many counties have used this law for the financing of a deliberate program of county road and bridge building. On January 1, 1922, there were \$21,342,106.82 of county funding bonds outstanding for road and bridge work. There has been no vote of the people on any of these bonds. It is recommended that the law be repealed or so amended as to require that such bond issues must be approved by some state authority before they are sold.

Assessment Districts for Secondary Roads.

Sections 46 to 53 of chapter 237, Laws of the Thirty-eighth General Assembly, provide for the establishment of districts for the

surfacing of the secondary roads. It is recommended that this law be broadened so that the grading and draining as well as the surfacing may be included in secondary road projects, and that the law be made more elastic so that a local community can finance the improvement of any necessary local road.

Motor Freight and Passenger Vehicles as Common Carriers.

The improvement of the highways is being immediately followed by the establishment of motor truck and motor bus lines as common carriers of freight and passenger vehicles. Rail lines have begun the establishment of bus lines as feeders to the railroads. Such bus and truck lines pay no property tax on their vehicles, and no license fees other than the ordinary license fees paid on other trucks not used as common carriers, yet they capitalize the highways which were built and paid for by the general public, and appropriate such highways to their own uses.

It is recommended that motor bus and motor truck lines used as common carriers be placed under the regulation of the state railroad commission, and that such lines be required to pay an occupational tax which will, at least in a measure, pay for the damage which such vehicles do to the highways. The proceeds of such tax should be used only in the improvement and maintenance of the highways.

Co-ordination of Primary Road Law With Federal Aid.

Since the primary road law was enacted, congress has passed a new federal aid law (approved November 9, 1921). The primary road law was based and co-ordinated with the federal law in effect at that time. Now that the federal law has been modified, our state law is in conflict therewith in two important particulars, as follows:

(a) *Maintenance.* The federal aid law requires that the maintenance of federal roads shall be under the direct control of the state highway department. The state primary road law places such maintenance work under the direct control of the county boards of supervisors. If any county should fail to maintain any federal aid road, the state highway commission has no power to assume charge of such work and place such road in proper condition unless the road has been paved. Since only five per cent of the primary roads have been paved, the state highway commission is entirely powerless to cause ninety-five per cent of the primary roads to be maintained, yet under the federal law the government requires that, as a condition precedent to the giving of federal aid to the state, the maintenance must be under the direct control of the state highway commission.

(b) *Initiating Surfacing Projects.* The federal aid law contemplates and requires that federal aid highways shall be surfaced in a manner suited to the traffic on such highways, and that the state highway commission shall have power to determine and select the type of surfacing of such highways.

Under the state primary road law, the state highway commission has no power to initiate any project. Such power is in the hands of the county boards, and even the county board has no power to initiate paving projects unless the work is authorized by a vote of the people. As a condition precedent to the granting of federal aid in the grading and draining of any road, the government requires the highway commission to agree that within a reasonable time after the road is graded, it will provide a surfacing on said road suited to the traffic requirements, and that at any rate such surfacing will be provided before any additions are made to the federal aid system. Under the state law, the commission has no power to fulfill such agreement, yet the state law makes it the specific duty of the commission to do whatever is necessary to secure the federal aid funds allotted to the state.

The federal aid law provides that the state shall have five years, or until November 9, 1926, in which to amend its laws so as to conform with the federal aid act. After that date, the state of Iowa will get no further federal aid if the primary road law has not been properly co-ordinated with the federal aid law.

It is recommended that the primary road law be amended to conform with the federal aid law, thus insuring that this state will not lose any of its federal aid allotments.

Marking of Primary Roads.

In order to secure continuous, uniform, and adequate marking of the primary roads, the state should take over this work. The markers so placed should be protected by law, and suitable penalties specified for removing, defacing, or tampering with any official road markers. Authority should be given the commission for removing any advertising signs within the right-of-way.

CHAPTER III

Executive Department

Appointments of Commissioners.

During the year fifty-two formal meetings of the commission were held, of which forty-six were attended by Commissioner Holden, thirty-four by Commissioner Collinson, and thirty-two by Commissioner Marston.

The commissioners spent a total of sixty-one days on inspection trips in the several counties and in conferring with county boards of supervisors, township trustees, and other local road officials. Twenty-six of the ninety-nine counties were visited.

Employees of the executive department spent a total of seventy-four days on assignments outside the general office.

Ninth Annual Road Conference.

The ninth annual conference of road officers was held in Ames, March 22, 23, and 24, 1922. This meeting was attended by seventy-four county engineers, sixteen assistant county engineers, two hundred eighteen county supervisors, forty-four county auditors, five township trustees, one township clerk, one road superintendent, and three road patrolmen. There was a total enrollment of four hundred forty-eight. Ninety-three of the ninety-nine counties were represented.

Litigation.

The commission has been made a party to no new lawsuits. The case of Story County versus The Highway Commission, which was mentioned in our report a year ago, has not been brought to trial.

Publications.

During the year seven issues of the regular Service Bulletin were published. Fifty-two weekly reports of road and bridge letting were issued. The following additional publications were issued:

Revised Specifications for Grading Work.

Revised Specifications for Gravel Road Construction.

Field Manual for Federal and State Aid Road and Bridge Work.

Use of Sand and Pit-Run Gravel in Concrete Pavement.

Revised Edition of Primary Road Guide.

In co-operation with the engineering department of Iowa State College, the commission has issued the following bulletins:

Strength Tests of Culvert Pipe and Service Condition of Pipe Culverts.

Method of Proportioning Concrete Materials—Screened and Unscreened Gravel.

Modifications of Primary Road System.

The law provides that the primary road system may be changed,

(a) For more efficient service,

(b) For more economical construction.

During the past year forty changes or modifications have been made in the primary road system of twenty-eight counties. The greater number of these modifications have consisted of correcting the maps where relocations of primary roads have been made to avoid bad turns, railroad crossings, or steep grades. The modifications made have resulted in a net decrease in the primary road system of seven-tenths of one mile. The total mileage of the system now is six thousand six hundred fifteen and three-tenths miles.

Modification of County Road System.

Seventy-four requests from forty counties were received for modifications in the county road system. After investigation, the commission approved fifty-seven of these requests, adding three hundred forty-four and one-fourth miles to the county road system, and removing forty-five and three-fourths miles, making a net increase of two hundred eighty-eight and one-half miles.

State Fair Exhibit.

The usual highway exhibit was maintained at the state fair.

Registration of Highway Routes.

During 1922 two highway routes were registered with the commission, under the provisions of section 3021 of the Compiled Code, as follows:

Rainbow Trail,

Old Military Trail.

Organization of the Commission.

On December first, 1922, there were two hundred seven people on the commission's force, exclusive of the commissioners and temporary and part time help. One year ago the force consisted of two hundred fifty-three people, exclusive of the commissioners and tem-

porary and part time help. An outline of the organization of the commission, showing department heads and district engineers, follows:

Commissioners:

William Collinson Chairman Chariton
 J. W. Holden Scranton
 Anson Marston Ames

Executive Department:

F. R. White Chief Engineer Ames

Department of Road Administration:

C. Coykendall Assistant Chief Engineer Ames

Construction Department:

F. H. Mann Construction Engineer Ames

Department of Road Design:

W. E. Jones Engineer of Road Design Ames

Maintenance Department:

W. H. Root Maintenance Engineer Ames

Bridge Department:

J. H. Ames Bridge Engineer Ames

Department of Materials and Tests:

R. W. Crum Engineer of Materials and Tests Ames

Department of Purchases and Accounts:

C. R. Jones Auditor Ames

District Number One:

W. F. Beard District Engineer Ames

District Number Two:

Raymond Zack District Engineer Mason City

District Number Three:

E. W. Dunn District Engineer Sioux City

District Number Four:

L. M. Martin District Engineer Atlantic

District Number Five:

J. S. Morrison District Engineer Ottumwa

District Number Six:

Will M. Lee District Engineer Cedar Rapids

District Number Seven:

J. A. Paulsen District Engineer Waterloo

District Number Eight:

J. F. Reynolds District Engineer Storm Lake

District Number Nine:

W. O. Price District Engineer Chariton

CHAPTER IV

Bridge Department

Bridge Designs for Specific Locations.

(Refer to Schedule No. 1.)

During the past year the bridge department has prepared 3,577 designs for individual locations from field notes secured by the engineers of the commission and from notes sent in by county engineers. The total estimated cost of the bridges and culverts designed during 1922 by the commission is \$3,823,323.00.

Since the present road law went into effect in April, 1913, the bridge department has prepared 10,451 designs for specific locations which are estimated to cost \$20,199,600.00.

The bridge department has completed the design of several bridges of importance during the past year. Among these are the following:

Design 1, Floyd county, is an earth filled spandrel arch bridge consisting of a 90' center and two 85' end spans over the Cedar River at Floyd. The roadway provided is 20' plus a 5' sidewalk and contract was awarded for \$33,888.00.

Design 2, Floyd county, is an open spandrel concrete ribbed arch consisting of two 84' spans over the Rock River at Rockford. This bridge provides a 26' roadway and two 5' sidewalks. Contract was awarded for \$27,840.00.

Design 3, Boone county, provides for a steel bridge with concrete floor over the Des Moines River about three miles northwest of Boone. It consists of two channel spans each 200'x18' with a 70'x18' pony truss approach on the west and a 50'x18' pony truss on the east. The contract price was \$43,700.00.

Design 44, Scott county, consists of three 110'x20' high truss spans over the main channel of the Wapsipinicon River on the Scott-Clinton county line south of Dewitt. A design was also prepared to span the old channel in the same vicinity. This consists of three 90'x20' pony truss spans.

Design 74, Jasper county, combines steel and concrete in a permanent structure over the Skunk River drainage ditch north of Colfax. Two 80'x20' steel plate girders span the main stream while six 20' beam spans on pre-cast concrete piles form the approaches and furnish additional waterway. A single 80'x20' plate girder bridge was also designed over the old river channel at this location. The main channel bridge and approaches were awarded for \$22,621.50, and the old channel span for \$11,328.50.

Design 115, Clayton county, consists of two 90' pony truss spans with a 30' beam approach. It crosses the Volga River at Volga and provides a 20' roadway and a 6' sidewalk. Contract price was \$29,163.00.

Design 37, Cherokee county, is a three span high truss bridge over the Little Sioux River at Quimby. Each span is 120' long and provides a 20' roadway. Contract was awarded at \$35,073.90.

Design 2, Hardin county, was prepared at the request of the Executive Council in connection with the improvements being made on the new state park near Eldora. This structure bridges Pins Creek with a 40'x24' concrete deck girder combined with a semicircular concrete dam and spillway creating a 60 acre lake with depth of about 15'. Contract was awarded for \$21,360.00.

Design 74, Carroll county, bridges Coon River with a 100' channel span and two 70' approach spans. The superstructure is of the deck truss type throughout and provides 20' roadway and a 5' walk. The contract price is \$30,946.00.

Design 43, Washington county, consists of a 100'x20' steel deck truss with two 70'x20' steel deck trusses with two 40' beam approaches. It crosses the South English River south at Kalona. Contract was awarded for \$29,995.00.

Design 1, Dubuque county, is a steel plate girder viaduct 555' long with 20' roadway, just outside of Dubuque in the town of Rockdale. It carries an important highway over Catfish Creek and over the Illinois Central Railroad. It also makes it possible to enter Dubuque from the southwest on a maximum grade of 5% where formerly grades over 12% were encountered. Contract was awarded at \$56,000.00.

Design 1, Webster county, is a concrete deck girder viaduct carrying Fifteenth street on the east side of Fort Dodge over the M. & St. L. Railroad and over Soldier Creek. It has an over-all length of 305' and provides 24' roadway and a 6' sidewalk.

Bridge Work on Primary Road System.

Chapter 20, Acts of the Thirty-ninth General Assembly, makes it possible for bridge and culvert work on the primary road system to be paid for from primary road funds. Since March 8, 1921, the date when this change in the law became effective, there have been one hundred seventy-four projects approved with an estimated cost of \$5,760,000.00. Detailed plans for one hundred seventy-four bridges and 3,011 culverts on one hundred eighteen projects have been approved during the period mentioned above. A total of two hundred sixty-seven contracts on one hundred fifty-five projects totaling \$4,204,258.98 for the construction of two hundred sixty-two bridges and 4,072 culverts have been approved up to December 1, 1922.

Approval and Analysis of Designs Submitted.

During the past year the bridge department has checked the individual plans for one hundred ninety-four structures as submitted by county engineer or private engineers and in addition has approved the detailed shop drawings for one hundred thirty-six structures estimated to cost \$556,648.00. A detailed record of the approval of individual plans and shop drawings is kept in the commission's office, but is not included in this report. Since April, 1913, the department has checked 2,787 designs, the cost of which was estimated at \$6,324,000.00. During the same period of time and in addition to the above a total of 1,020 shop drawings was checked on work estimated to cost \$3,417,000.00.

Standard Plans.

Slight revisions have been made in some of the standard bridge and culvert plans which have previously been issued. In addition some work of a preliminary nature has been done towards a more complete revision of the standards for steel superstructures and concrete bridges and culverts. The standards given in detail in the 1921 annual report of the commission are still in force and effect.

Standard Specifications.

During the past year a complete revision has been made of the specifications pertaining to bridge and culvert work and the materials used in their construction. The several issues of material specifications have been consolidated with the bridge and culvert specifications and the new series effective January 1, 1923, will be known as the Standard Specifications for Bridges, Culverts, and Incidental Structures, Series 1923.

Field Work of Bridge Department.

This work consists of assistance given at the request of the counties in determining the type and character of drainage structures, inspecting work under construction, preliminary work on large bridge projects; adjustments of differences arising between the counties and contractors over interpretation of the specifications and contracts, and giving general advice pertaining to bridge and culvert work and the materials of construction.

Inspection of work under construction as well as examination of existing structures, shop inspection of fabricated material, and preliminary examination of bridge sites necessitate a number of trips each year by members of the bridge department. Most of the special bridge problems of the counties are handled through the district

engineers' offices, but occasionally problems are presented which require special attention by an engineer from the bridge department and when such requests are received an engineer of this department is assigned to such work.

Bridge Complaints.

The commission each year receives many complaints concerning the condition of certain bridges or culverts. In general each complaint is referred to the district engineer and in so far as practical a personal examination of the conditions is made by him. It is usually possible to adjust the complaint in this manner satisfactory to all parties concerned. Where it appears desirable after a field examination to make surveys and prepare plans for the improvement this is done and the complaint is later adjusted in this manner. Since the work of adjusting these complaints is largely handled through the district offices the detailed report concerning these adjustments is given under the chapter relating to the work of the district engineer. Some of the complaints are adjusted by correspondence without the necessity of referring the matter to the district engineer for further investigation.

Approval of Contracts on Bridge Work.

(Refer to Schedule No. II)

The commission is required by statute to approve all contracts for bridges and culverts costing over \$2,000.00 and all private contracts in amounts of \$1,000.00 or more. These contracts as awarded by the boards of supervisors are submitted to the commission and must be approved before they are valid as contracts. The work of the approval of contracts for bridge work is one of the important duties of the commission. During 1922 a total of three hundred four contracts for bridge work was submitted for approval. Two hundred ninety-three contracts for work costing \$3,588,912.31 were approved. Eight contracts for work costing \$170,281.00 were rejected. The tabulation below gives the summary and comparative statement of the bridge contracts approved from April, 1913, to December 1, 1922.

Date of Report	Approved	Average Contract Amount	Total Amount Approved
Apr. 1, 1913, to Dec. 1, 1913	53		\$ 944,102.24
Dec. 1, 1913, to Nov. 1, 1914	121	\$7,774.00	731,205.88
Nov. 1, 1914, to Dec. 1, 1915	172	7,890.00	1,337,069.15
Dec. 1, 1915, to Dec. 1, 1916	208	9,980.00	2,043,393.47
Dec. 1, 1916, to Dec. 1, 1917	197	10,803.00	2,125,238.33
Dec. 1, 1917, to Dec. 1, 1918	159	10,735.00	1,790,797.85
Dec. 1, 1918, to Dec. 1, 1919	228	12,028.00	2,879,205.68
Dec. 1, 1919, to Dec. 1, 1920	198	17,947.00	3,533,588.64
Dec. 1, 1920, to Dec. 1, 1921	259	14,885.00	3,854,792.14
Dec. 1, 1921, to Dec. 1, 1922	203	12,245.00	3,588,912.31
	1,888		\$22,221,333.99

Approval of Material Contracts.

(Refer to Schedule III)

Although the approval by the commission of material contracts awarded on the basis of bids received at a public letting is not required by law, yet many of the counties voluntarily submit such contracts for review. When such contracts are properly made out on the standard forms supplied for this purpose the time required for approval is very short. During the period covered by this report a total of forty-four material contracts were submitted for approval. Forty-three of these contracts were approved. The one remaining contract was rejected.

Bridge and Material Lettings.

During 1922 the total estimated cost of bridge and culvert work included in lettings attended was \$3,916,089.00, which is a decrease of \$479,220.00 over 1921. The records kept by the commission on lettings attended cover in detail the letting data on the 4,102 structures included in lettings attended during the past year.

Current Prices of Materials and Construction.

One of the important duties of the bridge department is to advise the counties, upon request, concerning the cost of materials and construction. During the past year the number of such requests received from the counties greatly exceeds that of any previous year. The bridge department endeavors to keep advised as to the current prices of materials and construction so that requests of this character received from the counties may be answered promptly.

There has been a gradual reduction in prices on bridge and culvert construction work during the past year. This reduction is due to lower labor and material prices and to some reductions in freight charges which have been made effective during the year. The vol-

ume of bridge work during the year will compare favorably with that of any previous year and, in general, good competition on the work has prevailed.

AVERAGE PRICE PAID FOR CORRUGATED CULVERTS IN* 1919, 1920 AND 1921.

Diameter	Class	Price per Lin. Ft. Less Carlots F. O. B. County					
		1920		1921		1922	
		Range in price	Avg.	Range in price	Avg.	Range in price	Avg.
12 inches.....	A	\$.90 to \$1.08	\$.99	\$.85 to \$.98	\$.79	\$.60 to \$.82	\$.71
15 inches.....	A	1.21 to 1.65	1.51	.90 to 1.60	1.23	.84 to 1.24	1.02
18 inches.....	A	1.45 to 1.90	1.71	1.10 to 1.98	1.48	1.00 to 1.44	1.23
24 inches.....	A	2.05 to 2.43	2.25	1.33 to 2.50	1.99	1.20 to 1.98	1.54
30 inches.....	A	2.43 to 4.35	4.48	1.88 to 3.85	3.15	1.60 to 3.71	3.55
36 inches.....	A	4.14 to 5.40	4.92	2.31 to 4.65	3.92	3.12 to 3.87	3.48
12 inches.....	B	.83 to .98	.93	.58 to .95	.72	.53 to .74	.63
15 inches.....	B	1.25 to 1.56	1.43	.81 to 1.52	1.12	.70 to 1.11	.88
18 inches.....	B	1.50 to 1.90	1.68	.98 to 1.77	1.33	.80 to 1.33	1.08
24 inches.....	B	2.00 to 2.80	2.37	1.20 to 2.30	1.80	1.03 to 1.73	1.44
30 inches.....	B	3.25 to 4.20	3.80	1.39 to 3.65	2.81	1.60 to 2.98	2.45
36 inches.....	B	3.75 to 5.02	4.69	2.86 to 4.28	3.65	2.60 to 3.60	3.07

AVERAGE PRICE PAID FOR REINFORCING STEEL IN 1920, 1921 AND 1922

Description	Price per cwt. stock lengths C. L. L. o. b. County					
	1920		1921		1922	
	Range in price	Avg.	Range in price	Avg.	Range in price	Avg.
14 in. O. H. New Billet stock.....	\$4.10 to \$4.35	\$4.90	\$2.87 to \$2.98	\$2.93	\$1.86 to \$3.10	\$2.16
14 in. O. H. New Billet stock.....	4.12 to 4.82	4.63	2.82 to 2.93	2.87	1.71 to 2.15	1.93

AVERAGE PRICE PAID FOR STRUCTURAL STEEL IN 1920, 1921 AND 1922

Description	Price per cwt. erected and f. o. b. County					
	1920		1921		1922	
	Range in price	Avg.	Range in price	Avg.	Range in price	Avg.
I-beams erected.....	\$7.00 to \$9.00	\$7.35	\$3.50 to \$7.50	\$5.51	\$3.00 to \$7.70	\$4.02
F. O. B. County.....	5.65 to 6.90	6.13	3.00 to 4.70	3.89	2.39 to 3.25	2.93
T-beams erected.....	9.00 to 12.30	10.80	5.90 to 10.00	7.51	4.00 to 9.11	5.73
F. O. B. County.....	7.00 to 9.00	7.83	5.45 to 7.97	6.80		

AVERAGE PRICE PAID FOR LUMBER IN 1920, 1921 AND 1922

Size	Description	Price per M. B. M. C. L. f. o. b. County					
		1920		1921		1922	
		Range in price	Avg.	Range in price	Avg.	Range in price	Avg.
2x12	Stand. Sawed Doug. Fir.....	\$45 to \$55	\$51.40	\$33.50 to \$33.50	\$41.94	\$31.00 to 45.00	\$35.43
2x14	Stand. Sawed Doug. Fir.....	50 to 60	54.00	40.40 to 54.50	45.19	31.90 to 42.95	36.78
2x16	Stand. Sawed Doug. Fir.....	51 to 60	54.20	37.00 to 56.00	44.22	32.90 to 46.00	37.87
2x12	Full Sawed Doug. Fir.....	46 to 50	50.25	25.90 to 45.00	41.53	35.00 to 45.50	38.21
2x14	Full Sawed Doug. Fir.....	50 to 62	53.40	34.90 to 43.90	40.40	35.00 to 43.45	39.63
2x16	Full Sawed Doug. Fir.....	51 to 64	55.00	37.00 to 45.95	43.12	35.00 to 45.00	39.86
2x12	Stand. Sawed White Oak.....		72.00		49.31		45.00

AVERAGE PRICE PAID FOR PILING IN 1920, 1921 AND 1922

Length	Kind	Price per lineal foot carlots f. o. b. County					
		1920		1921		1922	
		Range in price	Avg.	Range in price	Avg.	Range in price	Avg.
16 ft.....	Red cedar.....	\$0.30 to \$0.45	\$0.346	\$0.27 to \$0.37	\$0.322	\$0.135 to \$0.26	\$0.245
20 ft.....	Red cedar.....	.32 to .48	.371	.26 to .39	.347	.135 to .22	.273
24 ft.....	Red cedar.....	.33 to .55	.402	.33 to .46	.372	.135 to .29	.30
16 ft.....	Cypress.....	.18 to .40	.283	.20 to .325	.25	.21 to .295	.273
20 ft.....	Cypress.....	.28 to .40	.297	.19 to .32	.257	.20 to .35	.282
24 ft.....	Cypress.....	.31 to .45	.328	.22 to .375	.295	.255 to .40	.319

AVERAGE PRICE PAID FOR CEMENT IN 1920, 1921 AND 1922.

1920 dealer's net price per bbl. fob Cedar Rapids,
Car lots range in price, \$2.18 to \$2.71—average, \$2.39.
1921 dealer's net price per bbl. fob Cedar Rapids,
Car lots range in price \$2.25 to \$2.71—average \$2.50.
1922 dealer's net price per bbl. fob Cedar Rapids,
Car lots range in price, \$2.11 to \$2.48—average, \$2.33

Bids received from local dealers are from ten cents to twenty-five cents per bbl. above dealer's price on account of storage and handling charges made.

SCHEDULE NO. ONE

BRIDGE DESIGNS FOR SPECIFIC LOCATIONS

County	Number of designs	Estimated value	County	Number designs	Estimated value
Adair	44	\$ 33,209.00	Jones	22	30,650.00
Adams	3	35,039.00	Keokuk	45	41,280.00
Albion	109	69,453.00	Kossuth	2	419.00
Appanoose	35	71,879.00	Lee	60	34,488.00
Ashtabula	3	20,992.00	Linn	9	15,860.00
Benton	10	32,081.00	Louisia	20	10,444.00
Black Hawk	30	24,576.00	Lucas	1	474.00
Bloom	1	35,318.00	Lyon	27	23,948.00
Bremar	11	46,713.00	Madison	40	34,694.00
Buchanan	12	25,122.00	Malaka	51	75,620.00
Butler	41	39,991.00	Marshall	67	49,714.00
Carroll	76	84,012.00	Mitchell	23	33,128.00
Cass	57	79,227.00	Monona	57	88,178.00
Cedar	31	19,622.00	Montgomery	5	5,593.00
Cerro Gordo	1	7,256.00	Muscatine	1	360.00
Chariton	70	72,492.00	O'Brien	45	24,968.00
Chickasaw	20	20,081.00	Osceola	22	7,715.00
Clark	17	17,049.00	Papa	68	144,214.00
Clay	3	1,022.00	Palo Alto	3	2,324.00
Clayton	122	171,291.00	Plymouth	48	36,042.00
Clinton	30	21,096.00	Pocahontas	1	12,020.00
Crawford	14	28,064.00	Polk	3	14,190.00
Dallas	26	11,210.00	Pottawatomie	22	56,795.00
Davis	36	35,048.00	Prewitt	78	39,021.00
DeWitt	6	2,211.00	Ringgold	59	64,955.00
Delaware	20	30,004.00	Sar	1	8,561.00
Dickinson	12	13,100.00	Scott	83	111,840.00
Dubuque	67	85,001.00	Shall	7	3,200.00
Fayette	96	64,820.00	Shoer	92	43,158.00
Floyd	4	86,172.00	Story	13	14,212.00
Franklin	20	14,523.00	Tama	95	109,126.00
Greene	2	6,197.00	Taylor	148	138,796.00
Grundy	51	37,234.00	Union	44	51,374.00
Guthrie	92	97,034.00	Van Buren	76	47,361.00
Hamilton	23	21,975.00	Wapello	25	24,988.00
Hancock	33	49,225.00	Warren	23	15,025.00
Harlan	2	40,551.00	Washington	95	104,401.00
Harrison	70	99,570.00	Wayne	75	61,058.00
Henry	21	9,238.00	Webster	11	19,216.00
Howard	28	44,695.00	Winneshook	1	192.00
Humboldt	4	4,110.00	Winneshook	112	99,572.00
Ia	3	2,091.00	Woodbury	78	46,245.00
Iowa	1	263.00	Worth	82	62,282.00
Jackson	71	74,630.00	Wright	23	6,417.00
Jasper	107	147,593.00			
Jefferson	79	64,951.00		3,577	\$3,822,323.06
Johnson	11	6,568.00			

SCHEDULE NO. TWO

BRIDGE CONTRACTS SUBMITTED FOR APPROVAL DECEMBER 1, 1921 TO DECEMBER 1, 1922

County	Contractor	Date approved	Amount approved
Adair	Husman Bros.	April 24, 1922	\$ 7,450.00
	F. Kemp	Nov. 22, 1921	16,750.00
	Des Moines Eng. & Const. Co.	Nov. 22, 1921	12,090.00
	Geo. W. Condon	June 28, 1922	31,450.00
Allamakee	Pittsburg-Des Moines Steel Co.	July 18, 1922	20,480.00
	J. B. Elliott	July 15, 1922	11,000.00
	W. C. Bender	July 18, 1922	6,153.91
	J. J. Thomas	July 15, 1922	2,720.00
	J. C. Boole	July 18, 1922	14,532.03
	J. C. Boole	Sept. 18, 1922	6,000.00
	W. C. Bender	Sept. 18, 1922	8,400.00
	A. Olson Const. Co.	Sept. 20, 1922	40,635.00
	E. C. Ellis	Oct. 17, 1922	3,080.00
	Alexander A. Huber	Oct. 17, 1922	45,838.00
Appanoose	Jensen Const. Co.	Jan. 24, 1922	12,200.00
	Jensen Const. Co.	Jan. 31, 1922	8,150.00
	Jensen Const. Co.	May 4, 1922	8,483.00
	Lundgren-Reis Co.	June 18, 1922	7,780.00
	Jensen Const. Co.	Sept. 10, 1922	8,588.00
	Vinton Eng. & Const. Co.	April 17, 1922	19,479.32
	Vinton Eng. & Const. Co.	July 24, 1922	5,100.00
	Parsons & Meyer	July 24, 1922	7,348.00
	Walter Const. Co.	June 5, 1922	6,530.00
	A. Olson Const. Co.	Aug. 22, 1922	11,900.00
	Walter Const. Co.	Aug. 22, 1922	6,303.00
	W. D. Scott	Aug. 22, 1922	9,557.64
	Walter Const. Co.	Oct. 20, 1922	2,040.00
	C. W. Pedersen	Nov. 22, 1922	25,000.00
	Des Moines Steel Co.	Jan. 15, 1922	43,700.00
	F. E. Marsh & Co.	June 23, 1922	11,435.00
	T. J. O'Connell	July 11, 1922	2,950.00
	Parsons & Meyer	April 14, 1922	6,830.00
	Steinman & Wagner	April 14, 1922	23,143.00
	A. Olson Const. Co.	April 14, 1922	9,160.00
	Waugh & Tackman	April 17, 1922	2,390.00
	Russell Bros.	Oct. 10, 1922	9,968.00
	A. Olson Const. Co.	Dec. 1, 1922	18,920.00
	J. B. Elliott	April 11, 1922	11,984.00
	F. H. Reinhold	April 17, 1922	11,226.00
	J. B. Elliott	Nov. 29, 1922	3,540.00
	C. H. & J. H. Russell	May 19, 1922	18,552.00
	Parsons & Meyer	May 19, 1922	9,785.00
	Walter Const. Co.	Aug. 12, 1922	9,200.00
	Waugh & Tackman	Aug. 12, 1922	4,405.00
	Shanklin Const. Co.	May 18, 1922	8,280.00
	Jensen Const. Co.	May 18, 1922	12,159.00
	Lundgren-Reis Co.	Aug. 3, 1922	2,840.00
	Finley & Co.	Sept. 20, 1922	4,600.00
	Lundgren-Reis Co.	Nov. 16, 1922	39,250.00
	Henningsen Const. Co.	April 5, 1922	84,730.00
	Wickham Bridge & Pipe Co.		
	Wickham Bridge & Pipe Co.		
	Henningsen Const. Co.	Sept. 23, 1922	17,945.00
	Henningsen Const. Co.	Sept. 25, 1922	8,214.00
	Pittsburg-Des Moines Steel Co.	Sept. 25, 1922	9,479.00
	V. I. Hansen	Aug. 20, 1922	21,485.00
	A. P. Munson	Aug. 30, 1922	4,220.00
	C. A. Holvick	June 17, 1922	23,340.00
	Geo. Gardner	April 20, 1922	8,966.00
	Humphrey & Son	April 20, 1922	10,600.00
	Esque Grant	June 26, 1922	3,381.00
	Geo. Gardner	June 26, 1922	4,830.00
	H. A. Holmes	Sept. 5, 1922	2,075.00
	Humphrey & Son	Sept. 5, 1922	12,691.00
	Deloit Bridge Co.	Sept. 5, 1922	6,178.00
	Grinnell & Knief	Sept. 30, 1922	1,416.00
	Geo. Gardner	Oct. 17, 1922	40,000.00
	Deloit Bridge Co.	July 18, 1922	10,821.00
	Miller-Field Const. Co.	July 18, 1922	26,000.00
	Schaaf & Jakobsen	July 19, 1922	

SCHEDULE NO. TWO—Continued

County	Contractor	Date approved	Amount approved	
Clayton	Rodas & Bales	May 19, 1922	18,495.00	
	A. Olson Const. Co.	May 19, 1922	27,792.00	
	C. H. Williamson	July 3, 1922	5,340.00	
	Josef Vort	July 3, 1922	4,654.00	
	A. C. Boyle	Sept. 22, 1922	2,754.45	
	A. Olson Const. Co.	Sept. 4, 1922	4,300.00	
	C. H. Williamson	Sept. 18, 1922	10,997.00	
	A. C. Boyle	Sept. 29, 1922	20,507.25	
	A. Olson Const. Co.	Oct. 19, 1922	7,974.00	
	Rodas & Bales	Oct. 19, 1922	5,854.00	
Clinton	A. C. Boyle	Nov. 22, 1922	589.00	
	A. Olson Const. Co.	Nov. 29, 1922	86,000.00	
	Plummer & Wells	Jan. 24, 1923	14,328.10	
	Leo Plumb	Feb. 16, 1923	7,900.00	
	J. R. Kane	June 5, 1922	1,354.00	
	J. R. Kane	June 5, 1922	15,720.00	
	J. R. Kane	Sept. 20, 1922	18,250.00	
	J. R. Kane	Oct. 18, 1922	3,376.00	
	Deloit Bridge Co.	July 25, 1922	4,800.00	
	Lundgren-Reis Co.	July 18, 1922	5,179.00	
Crawford	Shackleton Const. Co.	Mar. 25, 1922	18,190.00	
	Shackleton Const. Co.	July 18, 1922	7,000.00	
	Shackleton Const. Co.	Aug. 22, 1922	12,600.00	
	Ottumwa Supply & Const. Co.	June 15, 1922	20,400.00	
	P. A. Beeler	May 25, 1922	3,800.00	
	S. T. Holdren	May 25, 1922	8,125.00	
	R. O. Bullock	May 25, 1922	5,306.00	
	Winn Const. Co.	Sept. 18, 1922	23,300.00	
	Parsons & Meyer	Sept. 18, 1922	7,100.00	
	Miller Tile & Const. Co.	Mar. 21, 1922	12,897.00	
Dallas	A. Olson Const. Co.	April 17, 1922	18,350.00	
	Parsons & Meyer	April 17, 1922	7,713.00	
	Parsons & Meyer	June 22, 1922	2,850.00	
	J. J. Leonard	Aug. 7, 1922	6,745.00	
	P. A. Beeler	Aug. 7, 1922	1,428.00	
	Edward G. Bell	Aug. 7, 1922	1,713.33	
	Minnesota Bridge Co.	Aug. 19, 1922	96,000.00	
	Evan-Ubrich-Stamer Co.	Sept. 4, 1922	2,024.00	
	Miller-Fifield Const. Co.	July 19, 1922	21,800.00	
	Waterloo Const. Co.	Jan. 9, 1922	38,888.00	
Delaware	Miller-Fifield Const. Co.	Jan. 9, 1922	27,540.00	
	C. W. Pedersen	June 15, 1922	7,700.00	
	C. W. Pedersen	Sept. 25, 1922	5,800.00	
	Vinton Eng. & Const. Co.	May 25, 1922	10,800.00	
	Olson Const. Co.	May 25, 1922	2,690.66	
	Grundy Const. Co.	July 3, 1922	797.00	
	Mammings Const. Co.	July 3, 1922	7,750.00	
	Mammings Const. Co.	July 3, 1922	9,800.00	
	Vinton Eng. & Const. Co.	July 3, 1922	5,338.00	
	Edw. N. Ove	July 19, 1922	3,034.00	
Dickinson	Miller-Fifield Const. Co.	July 20, 1922	9,428.00	
	Edw. N. Ove	Aug. 10, 1922	6,670.00	
	Miller-Fifield Const. Co.	Aug. 10, 1922	800.00	
	Flammer & Wells	June 15, 1922	15,860.00	
	Lytton Const. Co.	June 5, 1922	18,964.40	
	Lundgren-Reis Co.	June 5, 1922	8,800.00	
	Des Moines Eng. & Const. Co.	June 5, 1922	17,700.00	
	Federal Bridge Co.	June 5, 1922	7,053.00	
	F. W. Kempe	July 18, 1922	8,468.00	
	A. Olson Const. Co.	April 21, 1922	15,396.00	
Dubuque	R. B. Orr	April 28, 1922	6,808.00	
	A. H. Austin	June 17, 1922	3,700.00	
	O. Vaegness	June 17, 1922	2,182.00	
	A. Swanson Co.	June 17, 1922	8,835.00	
	A. Swanson Co.	Aug. 11, 1922	9,500.00	
	J. A. Dunkel	Nov. 29, 1922	657.30	
	Ernest Lammiman	April 19, 1922	20,192.00	
	Wm. Knoll	April 14, 1922	5,753.00	
	Welden Bros.	Aug. 22, 1922	17,165.00	
	Welden Bros.	Sept. 4, 1922	21,360.00	
Fayette	Wickham Bros & Pipe	Jan. 7, 1922	3,563.00	
	Deloit Bridge Co.	Nov. 9, 1922	7,069.00	
	H. F. Garbisch	Oct. 17, 1922	17,300.00	
	A. Fisk	Aug. 10, 1922	3,197.90	
	Floyd	Miller-Fifield Const. Co.	Jan. 9, 1922	38,888.00
		Miller-Fifield Const. Co.	Jan. 9, 1922	27,540.00
		C. W. Pedersen	June 15, 1922	7,700.00
		C. W. Pedersen	Sept. 25, 1922	5,800.00
		Vinton Eng. & Const. Co.	May 25, 1922	10,800.00
		Olson Const. Co.	May 25, 1922	2,690.66
Grundy Const. Co.		July 3, 1922	797.00	
Mammings Const. Co.		July 3, 1922	7,750.00	
Mammings Const. Co.		July 3, 1922	9,800.00	
Vinton Eng. & Const. Co.		July 3, 1922	5,338.00	
Franklin	Edw. N. Ove	July 19, 1922	3,034.00	
	Miller-Fifield Const. Co.	July 20, 1922	9,428.00	
	Edw. N. Ove	Aug. 10, 1922	6,670.00	
	Miller-Fifield Const. Co.	Aug. 10, 1922	800.00	
	Flammer & Wells	June 15, 1922	15,860.00	
	Lytton Const. Co.	June 5, 1922	18,964.40	
	Lundgren-Reis Co.	June 5, 1922	8,800.00	
	Des Moines Eng. & Const. Co.	June 5, 1922	17,700.00	
	Federal Bridge Co.	June 5, 1922	7,053.00	
	F. W. Kempe	July 18, 1922	8,468.00	
Grundy	A. Olson Const. Co.	April 21, 1922	15,396.00	
	R. B. Orr	April 28, 1922	6,808.00	
	A. H. Austin	June 17, 1922	3,700.00	
	O. Vaegness	June 17, 1922	2,182.00	
	A. Swanson Co.	June 17, 1922	8,835.00	
	A. Swanson Co.	Aug. 11, 1922	9,500.00	
	J. A. Dunkel	Nov. 29, 1922	657.30	
	Ernest Lammiman	April 19, 1922	20,192.00	
	Wm. Knoll	April 14, 1922	5,753.00	
	Welden Bros.	Aug. 22, 1922	17,165.00	
Hamilton	Welden Bros.	Sept. 4, 1922	21,360.00	
	Wickham Bros & Pipe	Jan. 7, 1922	3,563.00	
	Deloit Bridge Co.	Nov. 9, 1922	7,069.00	
	H. F. Garbisch	Oct. 17, 1922	17,300.00	
	A. Fisk	Aug. 10, 1922	3,197.90	
	Hancock	Miller-Fifield Const. Co.	Jan. 9, 1922	38,888.00
		Miller-Fifield Const. Co.	Jan. 9, 1922	27,540.00
		C. W. Pedersen	June 15, 1922	7,700.00
		C. W. Pedersen	Sept. 25, 1922	5,800.00
		Vinton Eng. & Const. Co.	May 25, 1922	10,800.00
Olson Const. Co.		May 25, 1922	2,690.66	
Grundy Const. Co.		July 3, 1922	797.00	
Mammings Const. Co.		July 3, 1922	7,750.00	
Mammings Const. Co.		July 3, 1922	9,800.00	
Vinton Eng. & Const. Co.		July 3, 1922	5,338.00	
Harrison	Edw. N. Ove	July 19, 1922	3,034.00	
	Miller-Fifield Const. Co.	July 20, 1922	9,428.00	
	Edw. N. Ove	Aug. 10, 1922	6,670.00	
	Miller-Fifield Const. Co.	Aug. 10, 1922	800.00	
	Flammer & Wells	June 15, 1922	15,860.00	
	Lytton Const. Co.	June 5, 1922	18,964.40	
	Lundgren-Reis Co.	June 5, 1922	8,800.00	
	Des Moines Eng. & Const. Co.	June 5, 1922	17,700.00	
	Federal Bridge Co.	June 5, 1922	7,053.00	
	F. W. Kempe	July 18, 1922	8,468.00	
Humboldt	A. Olson Const. Co.	April 21, 1922	15,396.00	
	R. B. Orr	April 28, 1922	6,808.00	
	A. H. Austin	June 17, 1922	3,700.00	
	O. Vaegness	June 17, 1922	2,182.00	
	A. Swanson Co.	June 17, 1922	8,835.00	
	A. Swanson Co.	Aug. 11, 1922	9,500.00	
	J. A. Dunkel	Nov. 29, 1922	657.30	
	Ernest Lammiman	April 19, 1922	20,192.00	
	Wm. Knoll	April 14, 1922	5,753.00	
	Welden Bros.	Aug. 22, 1922	17,165.00	

SCHEDULE NO. TWO—Continued

County	Contractor	Date approved	Amount approved	
Iowa	A. J. Sturmy	July 24, 1922	2,870.00	
	A. J. Sturmy	July 29, 1922	2,352.15	
	M. O. Burnett	Mar. 27, 1922	13,000.00	
	John Anderson & Son	Nov. 9, 1922	39,748.00	
	Wickles Eng. & Const. Co.	April 20, 1922	36,268.00	
	Wickles Eng. & Const. Co.	July 8, 1922	83,950.00	
	Vinton Eng. & Const. Co.	July 22, 1922	38,932.00	
	Geo. F. Lambert Co.	Aug. 22, 1922	6,464.00	
	C. H. Kearns	Dec. 10, 1922	10,500.00	
	Pittsburgh-Des Moines Steel Co.	May 25, 1922	4,665.00	
Jefferson	Otis Jorstad	Oct. 17, 1922	14,005.00	
	Ove Holm	Oct. 17, 1922	11,200.00	
	C. H. Kearns	Oct. 17, 1922	10,816.00	
	Ottumwa Supply & Const. Co.	Apr. 17, 1922	19,638.00	
	V. L. Hanssen	Sept. 4, 1922	4,925.00	
	R. O. Bullock	Sept. 4, 1922	4,905.00	
	V. L. Hanssen	Sept. 4, 1922	683.00	
	Wm. Flaherty	Sept. 4, 1922	6,300.00	
	R. O. Bullock	Nov. 20, 1922	790.00	
	John Ritzinger	Mar. 25, 1922	29,888.88	
Keokuk	John Ritzinger	July 29, 1922	14,600.00	
	Emrie Const. Co.	Sept. 20, 1922	7,950.00	
	C. W. Pedersen	Mar. 6, 1922	3,175.00	
	Camerson-Joyce Co.	Oct. 19, 1922	12,425.70	
	Albert J. Miller	Nov. 22, 1922	15,000.00	
	Vinton Eng. & Const. Co.	July 18, 1922	6,452.00	
	D. T. Wallace	Sept. 20, 1922	9,483.70	
	C. M. Cox	July 20, 1922	492.00	
	Otis Jorstad	June 26, 1922	3,133.00	
	Graves Bros.	June 26, 1922	12,925.00	
Kossuth	Homer Esterline	Nov. 9, 1922	9,776.00	
	Alexander & Higbee	June 26, 1922	12,447.00	
	Clinton Bridge Works	Feb. 16, 1922	3,015.00	
	H. E. Whitlatch	May 25, 1922	16,399.99	
	A. Emmert	July 7, 1922	12,560.00	
	Pittsburgh-Des Moines Steel Co.	July 18, 1922	5,890.00	
	C. A. Diekey	Sept. 4, 1922	9,300.00	
	L. R. Gabriel Co.	Sept. 4, 1922	32,288.00	
	H. E. Whitlatch	Sept. 4, 1922	11,225.00	
	Pittsburgh-Des Moines Steel Co.	Sept. 4, 1922	5,245.00	
Lee	Ben J. Cole	Jan. 27, 1922	2,500.00	
	Ingersoll-Stofter Eng. Co.	Aug. 23, 1922	25,000.00	
	H. F. Garbisch	July 29, 1922	13,750.00	
	Lafayette Const. Co.	Aug. 7, 1922	1,000.00	
	Fred M. Crane Co.	Mar. 4, 1922	4,961.00	
	Pittsburgh-Des Moines Steel Co.	Mar. 4, 1922	13,648.00	
	Standard Bridge Co.	Mar. 16, 1922	6,170.00	
	Standard Bridge Co.	Mar. 16, 1922	3,705.00	
	Frank J. Moran & Co.	Mar. 16, 1922	4,305.00	
	Christensen Const. Co.	Mar. 16, 1922	17,565.00	
Vales Const. Co.	July 18, 1922	11,537.00		
Lincoln	The Moran-Pallen Const. Co.	July 18, 1922	3,290.00	
	J. A. Laferriere	May 29, 1922	6,354.00	
	Wilson Concrete Co.	July 11, 1922	8,660.00	
	Wilson Concrete Co.	July 11, 1922	7,760.00	
	T. F. Mahler	Sept. 4, 1922	7,118.00	
	Pyron Eng. Co.	Mar. 25, 1922	12,429.00	
	Standard Bridge Co.	May 9, 1922	6,645.00	
	Pyron Eng. Co.	May 20, 1922	415.00	
	C. W. Pedersen	Aug. 3, 1922	5,207.00	
	Huzarney & Son	Sept. 6, 1922	9,375.00	
Madison	C. W. Pedersen	Sept. 30, 1922	4,100.00	
	John Brandama	June 26, 1922	776.96	
	Graves Bros.	Sept. 20, 1922	1,500.00	
	Homer Esterline	Oct. 25, 1922	3,492.00	
	A. Olson Const. Co.	Dec. 23, 1922	14,660.00	
	Chas. DeGroot	May 19, 1922	5,700.00	
	Pickens Eng. & Const. Co.	June 5, 1922	2,700.00	
	Standard Bridge Co.	Aug. 3, 1922	8,557.00	
	Wm. F. Herbers	Sept. 22, 1922	14,668.00	
	C. L. Schouboe	Sept. 22, 1922	16,660.00	
Mahaska	F. E. Marsh & Co.	April 14, 1922	10,800.00	
	F. E. Marsh & Co.	May 25, 1922	6,600.00	
	Geo. F. Lambert Co.	June 8, 1922	9,475.00	
	Monroe	Miller-Fifield Const. Co.	Jan. 9, 1922	38,888.00
		Miller-Fifield Const. Co.	Jan. 9, 1922	27,540.00
		C. W. Pedersen	June 15, 1922	7,700.00
		C. W. Pedersen	Sept. 25, 1922	5,800.00
		Vinton Eng. & Const. Co.	May 25, 1922	10,800.00
		Olson Const. Co.	May 25, 1922	2,690.66
		Grundy Const. Co.	July 3, 1922	797.00
Mammings Const. Co.		July 3, 1922	7,750.00	
Mammings Const. Co.		July 3, 1922	9,800.00	
Vinton Eng. & Const. Co.		July 3, 1922	5,338.00	
Montgomery	Edw. N. Ove	July 19, 1922	3,034.00	
	Miller-Fifield Const. Co.	July 20, 1922	9,428.00	
	Edw. N. Ove	Aug. 10, 1922	6,670.00	
	Miller-Fifield Const. Co.	Aug. 10, 1922	800.00	
	Flammer & Wells	June 15, 1922	15,860.00	
	Lytton Const. Co.	June 5, 1922	18,964.40	
	Lundgren-Reis Co.	June 5, 1922	8,800.00	
	Des Moines Eng. & Const. Co.	June 5, 1922	17,700.00	
	Federal Bridge Co.	June 5, 1922	7,053.00	
	F. W. Kempe	July 18, 1922	8,468.00	
Muscatine	A. Olson Const. Co.	April 21, 1922	15,396.00	
	R. B. Orr	April 28, 1922	6,808.00	
	A. H. Austin	June 17, 1922	3,700.00	
	O. Vaegness	June 17, 1922	2,182.00	
	A. Swanson Co.	June 17, 1922	8,835.00	
	A. Swanson Co.	Aug. 11, 1922	9,500.00	
	J. A. Dunkel	Nov. 29, 1922	657.30	
	Ernest Lammiman	April 19, 1922	20,192.00	
	Wm. Knoll	April 14, 1922	5,753.00	
	Welden Bros.	Aug. 22, 1922	17,165.00	
O'Brien	Welden Bros.	Sept. 4, 1922	21,360.00	
	Wickham Bros & Pipe	Jan. 7, 1922	3,563.00	
	Deloit Bridge Co.	Nov. 9, 1922	7,069.00	
	H. F. Garbisch	Oct. 17, 1922	17,300.00	
	A. Fisk	Aug. 10, 1922	3,197.90	
	Oceola	Miller-Fifield Const. Co.	Jan. 9, 1922	38,888.00
		Miller-Fifield Const. Co.	Jan. 9, 1922	27,540.00
		C. W. Pedersen	June 15, 1922	7,700.00
		C. W. Pedersen	Sept. 25, 1922	5,800.00
		Vinton Eng. & Const. Co.	May 25, 1922	10,800.00
Olson Const. Co.		May 25, 1922	2,690.66	
Grundy Const. Co.		July 3, 1922	797.00	
Mammings Const. Co.		July 3, 1922	7,750.00	
Mammings Const. Co.		July 3, 1922	9,800.00	
Vinton Eng. & Const. Co.		July 3, 1922	5,338.00	
Palo Alto	Edw. N. Ove	July 19, 1922	3,034.00	
	Miller-Fifield Const. Co.	July 20, 1922	9,428.00	
	Edw. N. Ove	Aug. 10, 1922	6,670.00	
	Miller-Fifield Const. Co.	Aug. 10, 1922	800.00	
	Flammer & Wells	June 15, 1922	15,860.00	
	Lytton Const. Co.	June 5, 1922	18,964.40	
	Lundgren-Reis Co.	June 5, 1922	8,800.00	
	Des Moines Eng. & Const. Co.	June 5, 1922	17,700.00	
	Federal Bridge Co.	June 5, 1922	7,053.	

SCHEDULE NO. TWO—Continued

County	Contractor	Date approved	Amount approved
Pottawattamie	Wilson Concrete Co. Wickham Bridge & Pipe Co. Wickham Bridge & Pipe Co.	May 19, 1922 Aug. 1, 1922 May 16, 1922	10,274.00 27,725.00 35,996.00
Poweshiek	Iowa Bridge Co. Iowa Bridge Co. Ingersoll-Stouffer Eng. Co. Iowa Bridge Co.	June 5, 1922 June 4, 1922 Sept. 19, 1922 Feb. 27, 1922	17,030.00 6,520.00 13,800.00 3,285.00
Ringgold	Ottumwa Supply & Const. Co. Ottumwa Supply & Const. Co. Ottumwa Supply & Const. Co. Lundgren-Ries Co.	Feb. 27, 1922 Feb. 27, 1922 June 16, 1922 Feb. 23, 1922	40,435.00 5,987.00 14,329.00 14,060.00
Sac	N. H. Tunnicliff Leo Plumb	Feb. 20, 1922 May 9, 1922	11,867.00 26,576.00
Scott	Donald Const. Co. Plummer & Wells Federal Bridge Co. S. R. Johnston S. R. Johnston Federal Bridge Co. Leo Plumb Plummer & Wells Leo Plumb	May 9, 1922 May 9, 1922 May 9, 1922 May 9, 1922 Aug. 21, 1922 Aug. 31, 1922 Aug. 31, 1922 Sept. 22, 1922 Sept. 20, 1922	11,640.00 7,435.00 10,395.00 6,280.00 16,287.00 11,765.00 6,576.00 2,975.00
Shelby	J. H. Kane Wickes Eng. & Const. Co. Pickens Eng. & Const. Co. Pickens Eng. & Const. Co.	May 25, 1922 May 25, 1922 May 25, 1922 May 25, 1922	11,955.00 11,688.00 3,075.00 1,853.33
Sioux	Hessell Roorda A. W. Gardner Chas. DeGroot E. W. Baumgartner A. W. Gardner Ernest Landman E. W. Baumgartner	Mar. 8, 1922 June 5, 1922 June 5, 1922 July 7, 1922 Oct. 19, 1922 Oct. 19, 1922 Oct. 19, 1922	3,055.00 5,310.00 3,334.00 5,830.00 3,860.00 10,080.00 4,000.00
Story	Ben J. Cole Ben J. Cole P. E. Shugart H. T. Stillman Brown & Shelness Earl Wolfe E. Wolfe A. Emmert Earl Wolfe Ben J. Cole A. P. Mumson Ben J. Cole	Mar. 20, 1922 July 18, 1922 July 18, 1922 Sept. 18, 1922 Mar. 31, 1922 Mar. 31, 1922 July 7, 1922 July 18, 1922 Sept. 18, 1922 Sept. 18, 1922 Sept. 29, 1922 Nov. 26, 1922 Nov. 20, 1922	28,296.40 9,796.57 11,209.00 4,648.70 1,423.00 1,423.00 830.00 13,100.00 4,760.00 14,182.35 47,000.00 41,700.00
Tama	Grinnell & Knud Grinnell & Knud Des Moines Steel Co. Federal Bridge Co. Lundgren-Ries Co. Des Moines Steel Co. Des Moines Steel Co. Federal Bridge Co. C. L. Schouboe Co.	Oct. 19, 1922 Mar. 20, 1922 July 18, 1922 Aug. 29, 1922 Aug. 29, 1922 Oct. 13, 1922 Oct. 13, 1922 May 19, 1922 July 29, 1922	4,000.00 9,828.95 28,296.40 9,796.57 11,209.00 4,648.70 1,423.00 1,423.00 830.00 13,100.00
Taylor	Ben J. Cole Ben J. Cole A. P. Mumson Ben J. Cole Grinnell & Knud Grinnell & Knud Des Moines Steel Co. Federal Bridge Co. Lundgren-Ries Co. Des Moines Steel Co. Des Moines Steel Co. Federal Bridge Co. C. L. Schouboe Co.	Mar. 20, 1922 July 18, 1922 July 18, 1922 Sept. 18, 1922 Sept. 29, 1922 Nov. 26, 1922 Nov. 20, 1922 Jan. 24, 1922 Aug. 7, 1922 Aug. 29, 1922 Oct. 13, 1922 Oct. 13, 1922 May 19, 1922 July 29, 1922	4,000.00 9,828.95 28,296.40 9,796.57 11,209.00 4,648.70 1,423.00 1,423.00 830.00 13,100.00 4,760.00 14,182.35 47,000.00 41,700.00
Van Buren	Illinois Steel Bridge Co. Ottumwa Supply & Const. Co. C. A. Dieker Ottumwa Supply & Const. Co. Pittsburgh-Des Moines Steel Co. Iowa Bridge Co. Geo. J. Chesick Iowa Bridge Co. Alexander & Hight C. J. Krumme & Co. Lundgren-Ries Co. Powers & Devereaux Emerson & Johnson Ward & Teslow Obama Const. Co.	Nov. 20, 1922 Jan. 24, 1922 Aug. 12, 1922 Sept. 15, 1922 Mar. 3, 1922 Apr. 14, 1922 Apr. 14, 1922 Oct. 20, 1922 Apr. 24, 1922 Mar. 23, 1922 Mar. 23, 1922 Aug. 7, 1922 Apr. 15, 1922 May 25, 1922 May 25, 1922	41,700.00 44,728.00 1,773.00 15,282.00 20,593.00 25,796.00 9,100.00 15,282.00 7,392.00 2,456.00 40,319.00 27,686.60 21,077.76 15,700.00 2,360.00 13,850.00 23,669.00
Wapello	C. A. Dieker Ottumwa Supply & Const. Co. Pittsburgh-Des Moines Steel Co. Iowa Bridge Co. Geo. J. Chesick Iowa Bridge Co. Alexander & Hight C. J. Krumme & Co. Lundgren-Ries Co. Powers & Devereaux Emerson & Johnson Ward & Teslow Obama Const. Co. Emerson & Johnson John J. Grue Emerson & Johnson Emerson & Johnson	Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922 Apr. 14, 1922	27,686.60 21,077.76 15,700.00 2,360.00 13,850.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00 23,669.00
Wayne	Emerson & Johnson Ward & Teslow Obama Const. Co. Emerson & Johnson John J. Grue Emerson & Johnson Emerson & Johnson	Sept. 12, 1922 Sept. 22, 1922 Oct. 17, 1922 Nov. 4, 1922	1,299.00 2,209.00 20,800.00 6,256.00

SCHEDULE NO. TWO—Continued

County	Contractor	Date approved	Amount approved
Woodbury	Pickens Eng. & Const. Co.	May 19, 1922	13,684.00
Worth	Curtis-Holmes-Rafal Co.	Sept. 18, 1922	11,982.45
Wright	C. W. Pedersen Grandy Const. Co. Chas. W. Stuel A. Swanson & Co.	Oct. 17, 1922 July 8, 1922 July 29, 1922 July 31, 1922	1,160.00 6,200.00 8,455.00 15,903.00
Total			\$3,568,912.31

SCHEDULE NO. THREE

MATERIAL CONTRACTS SUBMITTED FOR APPROVAL
DECEMBER 1, 1921, TO DECEMBER 1, 1922

County	Contractor	Material	Date approved
Allamakee	W. W. Saylor Clinton Bridge Works	Lumber Reinforcing steel	Feb. 20, 1922 Feb. 20, 1922
Ansonia	Washon Coal Co.	Cement	Feb. 20, 1922
Appanoose	Midland Metal Mfg. Co.	Corrugated culverts	Mar. 8, 1922
Audubon	E. A. Law & Co.	Corrugated culverts	May 6, 1922
Benton	Klausner Mfg. Co. W. W. Saylor	Corrugated culverts Lumber	Mar. 20, 1922 May 9, 1922
Black Hawk	Goss Piling Co. W. W. Saylor	Piling Lumber	Feb. 23, 1922 Feb. 23, 1922
Bremser	Independence Culy. Co. W. W. Saylor	Corrugated culverts Lumber	Feb. 23, 1922 Dec. 16, 1921
Buchanan	Independence Culy. Co. Whesler Br. Sup. & Lbr. Co.	Corrugated culverts Lumber	May 8, 1922 Mar. 3, 1922
Cedar	Independence Culy. Co.	Corrugated culverts	Mar. 22, 1922
Delaware	Union Iron Products Co. Whesler Lumber Br. & Sup.	Corrugated culverts Lumber	Nov. 9, 1922 Jan. 30, 1922
Dubuque	Klausner Mfg. Co.	Corrugated culverts	Feb. 8, 1922
Fayette	Whesler Lbr. Br. & Sup. Co.	Lumber	May 20, 1922
Grundy	Union Iron Products Co. Fullerton Lumber Co. H. Landman & Sons	Corrugated culverts Lumber and piling Lumber	Feb. 20, 1922 Feb. 20, 1922 Feb. 23, 1922
Guthrie	Klausner Mfg. Co.	Corrugated culverts	July 11, 1922
Hardin	Union Iron Prod. Co. Concrete Steel Co. Klausner Mfg. Co.	Corrugated Culverts Reinforcing steel Corrugated culverts	July 7, 1922 June 22, 1922 June 22, 1922
Henry	Palton Pileam Div. Clinton Bridge Works	Paint I-beam and reinforcing struct. and Rein. steel	May 9, 1922 Aug. 21, 1922 May 12, 1922
Lee	Clinton Bridge Works	Lumber and piling	Mar. 17, 1922
Marion	Standard Bridge Co.	Lumber and piling	June 5, 1922
Sioux	Nebraska Br. Sup. & Lbr. Co. Union Iron Works Mfg. Co.	Lumber and posts Corrugated culverts	May 29, 1922 May 29, 1922
Tama	Klausner Mfg. Co.	Corrugated culverts	Sept. 18, 1922
Taylor	Central Culvert Co.	Lumber and piling	Mar. 3, 1922
Van Buren	Whesler Lbr. Br. & Sup. Co.	Lumber and piling	Mar. 3, 1922
Wapello	W. Dodge Culy. & Steel Co. Klausner Mfg. Co.	Corrugated culverts Lumber	Sept. 4, 1922 Jan. 30, 1922
Washington	Union Iron Prod. Co. Berger Mfg. Co.	Corrugated culverts Lumber	Jan. 31, 1922 Jan. 31, 1922
Wayne	Nebraska Br. Sup. & Lbr. Co.	Corrugated culverts	Oct. 21, 1922
Webster	Nebraska Br. Sup. & Lbr. Co. Selsbach Br. Sup. & Lbr. Co. Fazzens Co-Op. Society Standard Bridge Co.	Piling Lumber Piling I-beam steel	Mar. 17, 1922 Mar. 21, 1922 Mar. 21, 1922 April 29, 1922

CHAPTER V

Railroad Crossing Improvement

During the past year the commission has concentrated its efforts in connection with crossing improvements almost entirely to those crossings located upon the primary road system. Efforts are being made to undertake the improvement of crossings at the same time that the road is under construction for grading work. Lack of adequate legislation to permit the handling of the preliminary negotiations expeditiously has interfered with the work to a great extent. Before any extensive crossing improvements can be accomplished it will be necessary to completely revise the present statutes relating to crossing improvements.

Below is given a comparative statement of the work accomplished on railroad crossing improvements from December 1, 1921, to December 1, 1922:

	During 1921	During 1922	Grand total to Dec. 1, 1922
Crossing projects listed.....	41	62	472
Number of railroad crossings involved on projects listed.....	46	73	569
Projects surveyed.....	8	3	181
Projects for which plans and estimates were prepared.....	24	55	266
Number of conferences held.....	28	38	216
Number of projects satisfactorily adjusted.....	15	27	105
Number of projects listed which have been appealed to Railroad Commission.....	4	12	38
Projects adjusted by Railroad Commission.....	8	9	29
Grade crossings eliminated by grade separation.....	5	18	53
Crossings improved.....	10	52	183
Estimated cost of crossing improvements satisfactorily adjusted.....	\$170,000	\$320,000	\$690,110
Total estimated amount appropriated by railroad companies for crossing improvements.....	72,000	181,000	471,848
Total estimated amount appropriated from public funds for crossing improvements.....	98,000	179,000	478,262
Average percentage of cost paid by railroad companies for crossing improvement.....	42	46	30
Average percentage of cost paid from public funds for crossing improvements.....	58	54	50

The crossing projects listed include all of the crossings which have been referred to the commission since 1914. Many of these projects have been satisfactorily adjusted and completed.

From the foregoing tabulation it will be noted that the crossing work accomplished and the expenditures made for crossing improvements since 1914 are very small in view of the large number of crossings in this state.

During the past year the serious railroad strike situation made it necessary to postpone action on many crossing projects which had been scheduled for settlement during the 1922 construction season.

It will be necessary to greatly increase the number of crossings improved each year or thousands of people will have lost their lives before there is any appreciable decrease in the number of grade crossings on our highways.

Distribution of Dangerous Crossings.

By far the greater majority of the crossings listed for improvement during the past few years have been grade crossings. However, there are many complaints received and investigated by the commission referring to dangerous conditions existing at under-grade and overhead crossings. The crossings listed for improvement are classified as to type as follows:

DISTRIBUTION AND PERCENTAGE OF CROSSINGS LISTED FOR IMPROVEMENT OR IMPROVED TO DECEMBER 1, 1922

Type of Crossing	Number Listed 1922	Distribution of original crossings as listed by Commission	
		Number	Percentage
Grade.....	56	433	77
Overhead.....	5	49	9
Undergrade.....	6	69	12
New crossings.....	3	9	2
Total.....	73	560	100

DISTRIBUTION OF CROSSING IMPROVEMENTS ACCORDING TO THE PLANS AND RECOMMENDATIONS OF THE COMMISSION, DECEMBER 1, 1922.

Type of Crossing	Eliminated		Improved		Grade Separation		Total
	No.	%	No.	%	No.	%	No.
Grade.....	90	24	151	40	138	36	367
Overhead.....	3	7	41	93			44
Undergrade.....	5	9	57	82			62
New crossings.....			1	100			1
Total number.....	98		250		138		486
Percentage of total.....		20		52		28	

DISTRIBUTION OF CROSSING IMPROVEMENTS SATISFACTORILY ADJUSTED TO
DECEMBER 1, 1922

Type of Crossing	Eliminated		Improved		Grade Separation		Total No.
	No.	%	No.	%	No.	%	
Grade.....	28	21	94	83	45	26	177
Overhead.....	5	14	30	86			35
Undergrade.....			33	100			33
New crossings.....		100	2				2
Total number.....	43		159		45		247
Percentage of total.....		18		64		18	

Minimum Standard Requirements for Crossing Improvements.

The minimum requirements as adopted by the commission for grade, undergrade and overhead crossings are as given in detail in the 1921 annual report.

Plans for Future Crossing Work.

Surveys have been completed and plans are in the course of preparation on a number of important crossing improvements. It is the policy of the commission to secure if possible the improvement of the crossings located on important highways and main line railroads as rapidly as practicable. Other improvements requiring a nominal expenditure will be given attention by the commission, but the more important crossings will be given first consideration.

CHAPTER VI

Department of Road Administration

Projects Approved.

(a) *Primary Road Improvement Projects*—Refer to Schedules Nos. 4 and 5. One hundred forty-six projects, contemplating the improvement of 1,659.05 miles of road at an estimated cost of \$8,851,270.42, have been approved by the commission. Fifty of these projects have been designated as federal aid projects and have been approved by the secretary of agriculture. Of the one hundred forty-six projects, sixteen contemplate the hard-surfacing of 76.52 miles of road, forty-four contemplate the gravel surfacing of 488.68 miles of road, two contemplate the improvement by tile drainage only of 17.50 miles of road, while the remaining eighty-four projects contemplate improving by constructing to finished grade and providing the necessary drainage, with no surfacing involved, on 1,104.85 miles.

(b) *City Primary Projects*—Refer to Schedule No. 6. Thirteen city primary projects involving the paving of 14.72 miles of primary road extensions within the incorporated limits of cities, were approved by the commission. The total estimated cost of these thirteen projects for which plans, specifications and estimates had been primary road fund is \$225,214.77.

Plans, Specifications and Estimates Submitted.

(a) *Federal Aid Projects*—Refer to Schedule No. 7. Plans, specifications and estimates have been submitted to the Bureau of Public Roads for fifty-five projects, and for twelve modifications of projects for which plans, specifications and estimates had been previously submitted, involving the improvement of 512.23 miles of road at an estimated cost of \$5,637,309.99. Fourteen of these projects contemplate the hard-surfacing of 96.07 miles, eleven projects contemplate the gravel surfacing of 179.39 miles, while the improvement contemplated on the remaining 236.77 miles consists of constructing to finished grades and providing the necessary drainage with no surfacing involved.

(b) *Primary Road Projects*—Refer to Schedule No. 8. Plans, specifications and estimates have been submitted to the boards of supervisors for one hundred and five projects involving the improvement of 780.30 miles of road, at an estimated cost of \$3,325,-

007.36. Three of these projects contemplate the hard-surfacing of 2.99 miles of road, forty-four of the projects contemplate the gravel surfacing of 314.47 miles of road, two of the projects contemplate the improvement by tile drainage only of 18.17 miles, one project involves river regulation work as a protection to a primary road location, while the improvement contemplated on the remaining 444.67 miles consists of constructing to finished grades and providing the necessary drainage with no surfacing involved. Two projects previously reported as primary road projects, involving the improvement of 16.34 miles at an estimated cost of \$276,766.27, have been transferred to federal aid projects.

Project Agreements Executed.

(Refer to Schedule No. 9)

Project agreements were executed by the secretary of agriculture and the State Highway Commission whereby \$2,210,997.98 of federal funds were set aside as the federal government's share of the cost of construction involved in forty-eight projects. The work contemplated in these projects involves the improvement of 395.20 miles; 57.70 miles by hard-surfacing, 145.52 miles by gravel surfacing, and the remaining 191.98 miles by constructing to finished grades and providing the necessary drainage with no surfacing involved. Included in the foregoing are ten projects modified since the previous report.

Lettings Held, Contracts Awarded, Contracts Approved.

(Refer to Schedules Nos. 10, 11, and 12)

Lettings held on two hundred and one projects in eighty-seven counties have resulted in the awarding of four hundred and eighty contracts. Four hundred and sixty-five of these contracts covered work on the primary road system, and fifteen covered work on extensions to primary roads within cities. Of the four hundred and sixty-five contracts covering work on the primary road systems, four hundred and sixty-three totaling \$9,194,112.27 have been approved, and two totaling \$33,697.55 have been disapproved. Of the fifteen contracts covering work on extensions to primary roads within cities, fourteen totaling \$603,278.54 have been approved, and one, amounting to \$59,897.50, has been disapproved. The four hundred and sixty-three approved contracts for work on the primary road system includes constructing to finished grade and providing the necessary drainage on 884 miles of road, gravel surfacing 500.91 miles of road, and hard-surfacing with grading and draining incidental thereto, 147.15 miles of road. The fourteen approved con-

tracts for work on extensions to primary roads within cities includes the work on eleven city primary road projects, and involve the hard-surfacing of 13.02 miles. Schedule No. 10 gives the date of letting, the project numbers, the length and location of project, and the type of improvement. Schedule No. 11 gives detailed information as to the name of contractor, quantities involved, unit prices, total amount of contract, and action on same by the commission, on all projects for work on the primary road system. Schedule No. 12 gives the same information with reference to work on projects that are located on extensions to primary roads within cities.

A statement as to average unit prices in connection with the above described work on the primary road system is of interest. The contracts for building roads to established grade, with no surfacing included, involves moving 11,803,768 cubic yards of earthworks at an average price of \$0.2487 per cubic yard. The contracts for grading in connection with paving projects involve moving 441,532 cubic yards of earthwork at an average price of \$0.5718 per cubic yard. The gravel surfacing work involved loading, hauling one mile, and spreading 706,274 cubic yards of gravel at an average price of \$0.3935 per cubic yard, while the average price for each half-mile haul on gravel additional to the first mile was \$0.0958 per cubic yard. The average price on 2,329,266 lineal feet of six-inch drain tile complete, labor and material, was \$0.111 per lineal foot. The average price on 1,586,303 square yards of concrete pavement was \$2.528 per square yard.

Secondary Road Contracts Approved.

(a) *County work aside from secondary districts*—Refer to Schedule No. 13.

Forty-seven contracts, amounting to \$303,654.13, have been approved for secondary road work aside from contracts in connection with secondary road districts.

(b) *Secondary Road District Contracts*—Refer to Schedule No. 14.

Twenty-seven contracts, totaling \$156,053.39, have been approved for work in connection with secondary gravel-surfacing districts.

Secondary Road Districts Established.

(Refer to Schedule No. 15)

Seventy-eight secondary road districts, proposing the gravel surfacing of 318.42 miles of road in fifteen counties, have been established. Lands included in the proposed special assessment districts total 328,991 acres.

SCHEDULE NO. 4

FEDERAL AID PROJECT STATEMENTS APPROVED BY BUREAU OF PUBLIC ROADS
DECEMBER 1, 1921—DECEMBER 1, 1922

County	Project No.	Length in Miles				Estimated Cost	Federal Aid Requested
		Grading	Gravel	Paving	Total		
Adams	182	13.76			13.76	\$ 65,197.95	\$ 32,500.00
Adair	173	17.60			17.60	84,975.00	42,490.00
Allamakee	170	13.37			13.37	92,349.40	46,000.00
Allamakee	161	12.60			12.60	90,230.90	45,100.00
Carroll	154	23.90			23.90	82,115.00	41,000.00
Cass	155	16.94			16.94	*67,265.00	33,600.00
Chickasaw	160	5.02	5.02		5.02	17,360.64	8,600.00
Chickasaw	177	11.99	11.99		11.99	41,132.20	20,500.00
Clayton	184	14.29			14.29	147,382.00	73,500.00
Clinton	186	4.14	4.14		4.14	146,071.75	87,000.00
Clinton	147	16.44	16.44		16.44	548,482.86	274,200.00
Davis	153	13.18			13.18	36,300.00	18,150.00
Davis	186	14.20			14.20	39,572.50	19,700.00
Fayette	164	8.60			8.60	28,578.00	14,250.00
Fayette	168	13.15			13.15	57,090.00	28,500.00
Fayette	172	13.59			13.59	51,480.00	25,700.00
Floyd	177	2.58	2.58		2.58	92,716.02	46,000.00
Franklin	171	12.00	12.00		12.00	81,370.95	40,000.00
Gehrrie	145	18.25			18.25	86,825.00	43,300.00
Gehrrie	179	6.75			6.75	45,378.00	22,600.00
Hannock	189	23.94			23.94	79,565.20	39,500.00
Harrison	138	14.25	14.25		14.25	48,290.00	24,000.00
Henry	151	9.40			9.40	30,635.00	15,000.00
Jackson	143	13.40			13.40	51,543.00	25,000.00
Jackson	144	12.20			12.20	123,942.50	61,900.00
Jones	163	22.75			22.75	80,371.50	40,000.00
Keokuk	182	7.90			7.90	25,079.00	12,500.00
Kossuth	140	11.26	11.26		11.26	389,540.02	190,000.00
Madison	169	13.00			13.00	55,910.00	27,900.00
Madaska	146	14.20			14.20	44,893.20	22,400.00
Monona	184	24.27			24.27	79,965.20	39,700.00
Page	178	15.85			15.85	91,437.50	45,700.00
Page	187	12.70			12.70	90,117.50	45,000.00
Plymouth	181	15.20			15.20	55,372.00	26,600.00
Polk	132	12.84	12.84		12.84	465,325.40	232,600.00
Polk	180	7.70	7.70		7.70	258,258.00	125,000.00
Poweshank	174	16.18			16.18	51,975.00	25,900.00
Ringgold	141	6.00			6.00	29,496.00	11,700.00
Ringgold	142	5.90			5.90	29,216.00	11,600.00
Scott	135	3.20			3.20	127,429.50	60,000.00
Scott	185	5.00	5.00		5.00	184,322.10	81,250.00
Taylor	149	14.00			14.00	84,128.00	42,000.00
Tama	176	6.30			6.30	21,714.00	10,800.00
Van Buren	183	18.85			18.85	87,510.50	43,750.00
Wapello	159	17.20			17.20	92,598.00	46,300.00
Washington	167	17.25			17.25	54,292.50	27,000.00
Washington	182	5.08			5.08	22,968.00	11,700.00
Wayne	156	15.75			15.75	58,473.00	29,700.00
Woodbury	136	7.02	7.02		7.02	278,037.89	139,000.00
Woodbury	162	7.65			7.65	23,727.00	11,800.00
Totals	50	627.18	29.01	69.97	627.18	\$5,046,688.01	\$2,514,900.00

SCHEDULE NO. 5

PRIMARY ROAD PROJECTS APPROVED BY HIGHWAY COMMISSION
DECEMBER 1, 1921—DECEMBER 1, 1922

County	Project No.	Length in Miles					Estimated cost
		Grading	Gravel	Paving	Tiling	Total	
Allamakee	158	4.50			4.50	4.50	\$ 16,918.00
Allamakee	237	1.00			1.00	1.00	3,372.50
Allamakee	285	8.00			8.00	8.00	34,815.00
Allamakee	305	2.80			2.80	2.80	30,712.00
Appanoose	227	9.20			9.20	9.20	31,414.00
Appanoose	227	9.20			9.20	9.20	50,215.00
Black Hawk	173	13.18			13.18	13.18	45,639.00
Black Hawk	235		7.91		7.91	7.91	12,832.60
Bremser	228		10.70		10.70	10.70	21,561.54
Bremser	277	14.35			14.35	14.35	44,862.00
Buchanan	239	8.00			8.00	8.00	24,123.00
Buchanan	300	1.91		1.91	1.91	1.91	84,647.53
Butler	167	14.89	14.89		14.89	14.89	77,213.62
Butler	260	11.91	11.00		11.00	11.00	72,506.60
Butler	267	14.50	14.50		14.50	14.50	82,896.88
Carroll	226	3.10			3.10	3.10	8,509.60
Cerro Gordo	273	12.43	12.43		12.43	12.43	67,320.43
Cherokee	214	17.37	17.37		17.37	17.37	39,496.70
Cherokee	249		5.50		5.50	5.50	14,156.43
Cherokee	114	1.96	1.96		1.96	1.96	8,286.29
Chickasaw	131	1.96			1.96	1.96	12,069.73
Clarke	225	3.68			3.68	3.68	26,290.00
Clarke	259	26.00	7.00		29.00	29.00	58,538.52
Clay	256		1.80		1.80	1.80	15,494.65
Clay	238	0.20		0.20	0.20	0.20	6,941.00
Clinton	271	2.12			2.12	2.12	19,391.13
Crawford	250	0.81			0.81	0.81	4,329.00
Dallas	196	10.00	10.00		10.00	10.00	61,591.60
Dallas	235	8.00	8.00		8.00	8.00	40,800.00
Delaware	236	16.75	16.75		16.75	16.75	45,826.00
Des Moines	273	1.43		1.43	1.43	1.43	43,222.30
Dubuque	148	18.24			18.24	18.24	97,064.00
Fayette	144	13.40			13.40	13.40	53,515.30
Fayette	145	1.75			1.75	1.75	8,286.29
Fayette	241	1.29	1.29		1.29	1.29	4,534.20
Floyd	269	6.00	6.00		6.00	6.00	20,916.60
Floyd	269	5.00	5.00		5.00	5.00	25,727.00
Franklin	261					19.00	11,584.08
Franklin	253	8.22			8.22	8.22	28,578.73
Greene	182		3.76		3.76	3.76	14,698.20
Greene	279	1.98	1.98		1.98	1.98	5,194.20
Grundy	153	23.83			23.83	23.83	66,500.00
Grundy	242		17.74		17.74	17.74	70,994.51
Hamilton	218	7.00	7.00		7.00	7.00	45,252.80
Hamilton	254	1.45			1.45	1.45	11,799.39
Hamilton	217	6.00	6.00		6.00	6.00	33,096.00
Hancock	303	11.00			11.00	11.00	43,000.00
Hancock	212		3.65		3.65	3.65	8,273.20
Howard	103	31.00	31.00		31.00	31.00	91,137.97
Ia	213	17.75			17.75	17.75	48,944.50
Ia	274		9.29		9.29	9.29	36,623.84
Jasper	77	20.50	10.34		30.50	30.50	119,968.50
Jasper	99	25.50			25.50	25.50	85,151.00
Jasper	180		10.13		10.13	10.13	35,323.69
Johnson	207	11.00			11.00	11.00	37,322.10
Johnson	286	0.15			0.15	0.15	6,298.77
Jones	281		4.91		4.91	4.91	10,078.97
Keokuk	128	5.00			5.00	5.00	27,800.39
Keokuk	245	17.40			17.40	17.40	63,899.00
Kossuth	6		8.50		8.50	8.50	20,711.90
Kossuth	270		1.80		1.80	1.80	54,000.00
Kossuth	283	0.07		0.07	0.07	0.07	2,048.03
Lee	149	42.70			42.70	42.70	88,134.20
Linn	357	0.47			0.47	0.47	1,482.36
Linn	75	10.20			10.20	10.20	20,207.25
Linn	179	7.40			7.40	7.40	19,294.00
Lyon	229	16.50			16.50	16.50	42,196.00
Lyon	292		17.14		17.14	17.14	19,994.00
Madaska	287	5.80			5.80	5.80	59,714.60
Madaska	248					13.40	13,750.00
Marshall	340	13.50	9.00		22.50	22.50	57,617.04

Schedule No. 5—Continued

County	Project No.	Length in Miles				Total	Estimated cost	
		Grading	Gravel	Paving	Tiling			
Monroe	R-325					11,481.89		
Maquoket	265	10.80				42,585.50		
O'Brien	89	28.30				28.30	43,210.00	
Quinn	266		5.31			5.31	8,630.80	
Oswego	219	12.80	2.00			14.80	21,502.56	
Pala Alto	244	6.95				6.95	25,476.91	
Polk	258	0.99		0.99		0.99	35,190.74	
Polk	280	0.78				0.75	2,260.50	
Pottawattamie	247	8.99				8.49	25,311.90	
Shelby	304		13.44			13.44	50,725.31	
Sioux	204	5.09				5.09	22,109.31	
Scott	124	13.24				13.24	40,261.32	
Scott	154	23.00				23.00	131,780.00	
Shelby	198		20.51			20.51	69,197.59	
Sioux	299		5.88			5.88	12,612.27	
Sioux	299					2.74	14,117.66	
Story	231	2.74				25.15	56,732.50	
Story	232		25.15			20.00	74,910.00	
Tama	278	20.00				2.56	13,815.00	
Warren	176	2.56				1.77	5,600.00	
Warren	222	1.77				8.30	54,628.20	
Washington	203	9.30				51.58	94,740.88	
Washington	306		51.58			10.50	91,962.75	
Washington	154	10.50				3.25	18,975.00	
Webster	185	3.25				32.00	127,429.50	
Woodbury	185	3.25						
Worth	216	32.00						
Totals		96	788.76	459.67	6.55	-11.00	1,031.87	\$3,304,582.41

*Modified Project.

SCHEDULE NO. 6

CITY PRIMARY PROJECTS APPROVED BY HIGHWAY COMMISSION
DECEMBER 1, 1921—DECEMBER 1, 1922

City	City Project No.	Length of paving	Distribution of Cost			Estimated Cost
			Special Assessment	City Funds	Primary Road Funds	
Ditumwa	2	0.81	\$15,434.99	\$25,483.41	\$60,908.40	
Iowa City	4	0.84	14,000.00	18,000.00	32,000.00	
Harlan	5	0.95	20,000.00	16,069.00	36,069.00	
Algon	7	1.37	43,354.98	\$5,964.20	22,418.10	71,537.25
Manchester	8	1.21	47,614.44	18,854.52	64,469.28	
Ames	9	0.73	21,482.35	12,790.00	24,162.35	
Waukon	10	1.54	32,856.41	25,217.02	58,112.43	
Iowa City	11	0.88	12,000.00	13,507.12	25,507.12	
Sioux City	12	1.75	40,380.40	20,200.20	60,570.60	
Burlington	13	1.73	51,045.00	18,000.00	69,045.00	
Des Moines	15	0.72	14,137.80	\$,612.08	11,675.00	31,424.28
Des Moines	16	0.58	28,050.00		8,000.00	36,050.00
Burlington	18	1.44	41,000.00		17,000.00	58,000.00
Totals	13	14.72	\$461,794.79	\$11,176.28	\$225,214.77	\$638,185.84

SCHEDULE NO. 7

PLANS, SPECIFICATIONS AND ESTIMATES ON FEDERAL AID PROJECTS SUBMITTED TO BUREAU OF PUBLIC ROADS, DECEMBER 1, 1921—DECEMBER 1, 1922

County	Project No.	Length in Miles			Estimated Cost	Federal Aid Requested
		Grading	Gravel	Paving		
Adair	172	5.40			5.40	\$ 28,725.42
Adair	173	4.24			4.24	22,815.55
Adair	182	13.75			13.75	27,700.00
Alamogordo	161	12.00			12.00	115,417.98
Alamogordo	170	13.49			13.49	143,833.38
Black Hawk	62					-249,979.89
Buchanan*	5					-295,114.42
Carell	154	9.48		9.48	9.48	32,832.29
Carell	154	2.02			2.02	17,450.87
Carell	155	16.94			16.94	88,826.63
Cedar	57	14.39			14.39	40,814.96
Chickasaw	160	5.02			5.02	24,419.81
Chickasaw	177	11.99			11.99	40,480.00
Clayton	74			27.26		95,401.00
Clayton	74	4.60		4.60	4.60	114,910.54
Clayton	126	14.29			14.29	149,101.59
Clinton	147	16.44		16.44	16.44	328,791.02
Clinton	186	5.79		2.70	2.70	102,248.00
Davis	153	12.18			12.18	49,201.63
Dubuque	47	1.38			1.38	23,242.12
Emmet*	19	-3.84		-3.84		-184,636.41
Fayette	30					60,360.42
Fayette	164	8.60			8.60	60,993.72
Fayette	172	13.59			13.59	79,771.41
Floyd	147	2.58			2.58	58,409.75
Franklin	171	12.02		12.02	12.02	107,230.00
Guthrie	185	9.77			9.77	85,838.84
Guthrie	179	6.92			6.92	57,892.12
Hancock	94	0.62		0.62	0.62	-340,254.22
Hancock	139	23.86		17.49	23.86	114,523.55
Jackson	144	11.86			11.86	114,564.61
Jackson	64	8.63			8.63	43,463.47
Jones	163	7.61			7.61	28,730.58
Kossuth*	66			33.75		84,491.88
Kossuth	140			11.26	11.26	369,180.66
Linn*	22	-10.26		-10.26		-50,916.12
Madison	169	7.25			7.25	101,255.82
Madison	70	8.82			8.82	41,323.23
Malaska	146	15.35			15.35	86,234.38
Malaska	181	15.20			15.20	60,510.92
Polk	132	12.54		12.54	12.54	412,278.00
Polk	180	7.71		7.71	7.71	264,170.26
Pottawattamie	174	15.18			15.18	55,174.16
Ringgold	141	5.97			5.97	29,281.98
Ringgold	142	5.90			5.90	29,728.70
Scott	54	5.45			5.45	172,969.08
Scott*	25	1.58			1.58	166,997.60
Scott*	25	0.71		14.10	0.71	815,822.12
Scott	55	3.94			3.94	29,810.67
Scott	135	2.95			2.95	12,683.38
Scott	185	5.00		5.00	5.00	184,222.10
Tama	47	-0.08		21.82	-0.08	131,278.01
Tama	176	6.29			6.29	28,761.47
Taylor	148	12.95			12.95	84,839.47
Taylor	81	8.25			8.25	47,294.30
Van Buren	165	18.02			18.02	77,774.98
Wapello	159	8.47			8.47	67,739.40
Wapello	159	8.58			8.58	35,881.89
Washington	71	-0.91			-0.91	-23,260.98
Washington	167	16.35			16.35	80,969.11
Washington	182	5.08			5.08	35,411.92
Wayne	181	4.00			4.00	41,940.20
Wayne	182	15.29			15.29	66,775.60
Winneshiek	98	10.94			10.94	80,768.97
Woodbury*	9	-0.30		5.94	-0.30	185,636.81
Woodbury	136	7.02		7.02	7.02	282,378.51
Woodbury	162	7.65			7.65	47,939.52
Totals	167	497.33	179.39	96.07	512.23	\$5,637,309.99

*Including projects or portions of projects; also, 12 projects modified since previous report.
*Modified projects showing decreased or additional quantities from those previously reported.

SCHEDULE NO. 8

PLANS, SPECIFICATIONS AND ESTIMATES FOR PRIMARY ROAD PROJECTS SUBMITTED
BOARD OF SUPERVISORS, DECEMBER 1, 1921-DECEMBER 1, 1922.

County	Project No.	Length in Miles				Estimated Cost	
		Grading	Gravel	Paving	Tiling		
Adair	52	0.58				0.58	\$ 3,721.21
Adair	227	6.75				6.75	42,352.73
Black Hawk	164	6.16				6.16	11,906.07
Black Hawk	233	13.18				13.18	55,373.91
Black Hawk	235		7.91			7.91	12,822.60
Bonne	54	1.06	1.06			1.06	No estimate
Bremser	191	9.00				9.00	45,605.36
Bremser	228		7.02			7.02	13,921.76
Bremser	228		3.68			3.68	7,503.10
Buena Vista	37	0.98	0.98			0.98	3,429.00
Buena Vista	93	0.84	0.84			0.84	2,487.00
Butler	167	14.89	14.89			14.89	110,556.13
Carroll	226	3.16				3.16	16,583.87
Cerro Gordo	273	12.43				12.43	67,229.49
Cherokee	181	13.47				13.47	30,415.23
Cherokee	214	17.37				17.37	43,106.85
Cherokee	249		5.30			5.30	14,136.45
Clinton	114	9.58				9.58	49,782.37
Clinton	78	0.28	0.28			0.28	12,058.73
Clinton	131	1.96	1.96			1.96	23,917.55
Clinton	225	3.68				3.68	8,076.37
Clay	56	0.58				0.58	122,908.17
Clayton	70	9.70				9.70	6,941.00
Clinton	238			0.20		0.20	10,391.13
Clinton	271	2.12				2.12	5,547.02
Crawford	181	1.01				1.01	4,229.05
Crawford	255	0.82				0.82	3,733.84
Dallas	198	4.38				4.38	56,312.97
Delaware	236	12.54				12.54	120,973.00
Dubuque	148	18.24				18.24	18,757.31
Fayette	144	5.36				5.36	8,386.28
Fayette	145	1.75				1.75	3,441.79
Fayette	241	1.29				1.29	3,441.79
Franklin	261				13.00	13.00	14,670.78
Greene	153	8.22				8.22	28,588.73
Greene	232		3.76			3.76	4,866.40
Greene	279		1.98			1.98	10,215.48
Grundy	123	23.83				23.83	77,339.64
Grundy	242		17.74			17.74	70,994.31
Guthrie	173	0.24				0.24	354.74
Hamilton	79	9.06				9.06	64,087.49
Hamilton	254	1.45	1.45			1.45	8,708.09
Hardin	88	3.50	17.78		5.17	22.95	76,777.94
Hardin	912		3.66			3.66	8,275.30
Howard	102		0.44			0.44	1,623.17
Howard	102		1.01			1.01	1,891.03
Howard	103	12.96	12.96			12.96	66,368.62
Humboldt	117	0.73	0.73			0.73	3,045.02
Ia	274		9.29			9.29	36,623.84
Jasper	77	10.64	10.64			10.64	33,022.07
Jasper	77	11.33				11.33	34,567.77
Jasper	77	5.79				5.79	17,911.94
Jasper	99	0.97				0.97	14,714.43
Jasper	180		10.12			10.12	35,233.89
Jasper	180		8.53			8.53	35,168.46
Jasper	180		3.79			3.79	21,848.20
Jefferson	220	21.51				21.51	112,949.29
Jones	261		4.91			4.91	10,078.97
Kearok	128	5.00				5.00	27,850.29
Kossuth	6		8.50			8.50	20,711.90
Kossuth	111	0.87				0.87	2,967.80
Kossuth	270	1.80			1.80	1.80	57,801.15
Lee	149	23.55				23.55	82,891.35
Linn	237	0.47				0.47	1,483.35
Linn	73	10.26				10.26	30,972.89
Linn	85		1.62			1.62	3,100.00
Linn	146	12.53				12.53	29,559.14
Linn	292		12.34			12.34	16,382.00
Lyons	240	5.98				5.98	19,413.03
Mitchell	138	13.18	13.18			13.18	76,189.79
Mitchell	45	0.50	0.50			0.50	2,500.00

Schedule No. 3-Continued

County	Project No.	Length in Miles					Estimated Cost
		Grading	Gravel	Paving	Tiling	Total	
Monroe	38	8.79				8.79	28,011.66
Monroe	R-225						13,481.89
O'Brien	69	20.34				20.34	53,095.81
Oceola	197	5.31				5.31	12,638.40
Oceola	197	10.88				10.88	32,186.77
Oceola	296		5.31			5.31	8,650.50
Polk	244	0.96				0.96	23,379.36
Polk	280	0.75	0.75	0.99		0.96	25,190.76
Poweshank	247	0.99				0.73	2,620.50
Poweshank	247	0.99				0.99	29,258.08
Poweshank	174	1.00				1.00	3,332.10
Scott	124	12.24				12.24	26,067.30
Sioux	204	5.00				5.00	22,406.01
Sioux	83	24.94				24.94	59,229.83
Sioux	198		20.51			20.51	69,197.59
Sioux	223		8.30			8.50	46,709.25
Sioux	299		5.88			3.88	12,612.27
Story	232		13.00			13.00	30,643.15
Story	232		12.15			12.15	14,187.20
Story	232		2.74			2.74	16,117.69
Tama	276	15.95				15.95	95,166.77
Tama	F.A.170	0.50				0.50	2,607.39
Warren	176	3.56				3.56	13,773.89
Warren	222	1.77				1.77	5,223.81
Washington	253		1.77			1.77	3,617.73
Webster	64	0.90				0.90	62,630.34
Webster	184	0.48				0.90	2,053.71
Winneshook	130	1.75	1.75			1.75	17,435.00
Winneshook	121	18.25				18.25	7,227.89
Worth	194	0.50				0.50	88,889.28
Worth	216	14.60	14.60			14.60	3,389.64
Wright	216	17.41	17.41			17.41	96,304.17
Wright	290	9.47	9.47			9.47	86,257.87
Totals	*105	579.46	314.47	2.99	18.17	780.30	\$3,325,007.36

*Includes projects or portions of projects.

SCHEDULE NO. 8-Continued

The following projects were previously reported as Primary Road Projects submitted to the Board of Supervisors, which are now transferred to Federal Aid Projects.

County	Primary Project No.	Federal Aid No.	Length in Miles					Estimated Cost
			Grading	Gravel	Paving	Tile	Total	
Adams	60	152	13.76				13.76	65,197.95
Floyd	63	157	2.58		2.58		2.58	111,668.32
Totals	2	2	16.34		2.58		16.34	\$276,766.27

Schedule No. 10—Continued

County	Date	Project No.		Location of Road	Type of Improvement
		Federal	Primary		
Calhoun	7-26-22		96	In Mason and Pomeroy	Graveling 1.52 miles
Calhoun	1-13-22		107	Lake City west	Graveling 0.24 miles
Carroll	5-1-22	154		Carroll north	Grading and draining 9.46 miles
Carroll	5-29-22	154		From south of Tupperston to Audubon county line	Grading and draining 3.02 miles
Carroll	5-29-22	154		Carroll north	Grading and draining 0.96 miles
Carroll	7-26-22	184	256	Carroll north	Graveling 3.16 miles
Case	3-26-22	155		Atlantic south	Grading and draining 16.94 miles
Case	6-26-22	155		Atlantic south	Gravel rail and boulders
Case	8-23-22	37		On Lincoln highway	Grading and draining 14.304 miles
Case	8-23-22	37		East and west of West Union	Grading and draining 9.38 miles
Case	5-16-22	115		East and west of West Union	Grading and draining 1.46 miles
Case	10-17-22	115	273	Clear Lake-Thurston road	Grading and draining 11.09 miles
Case	6-7-22	98		West of Cherokee	Gravel rail
Case	6-7-22	98		Merue-Apulia road	Grading and draining 13.47 miles
Case	6-11-22	131		North and south of Cherokee	Grading and draining 1.01 miles
Case	6-11-22	131		North and south of Cherokee	Grading and draining 17.37 miles
Cherokee	8-11-22	214		Cherokee southwest	Graveling 8.21 miles
Cherokee	10-3-22	249		Cherokee southwest	Graveling 5.21 miles
Cherokee	11-14-22	76		Thru Aurelia south and east	Gravel mending
Chickawau	4-26-22		181	West and north of New Hampton	Grading and draining 1.46 miles
Chickawau	5-1-22	177		East and west thru Frederickburg	Grading and draining 11.09 miles
Chickawau	8-26-22		31	Northwest of Osceola	Gravel rail and boulders
Chickawau	5-11-22	56		Channel change at Peterson	Excavation
Chickawau	10-6-22	70		Linu Grove, Peterson road	Gravel rail and boulders
Chickawau	5-4-22	130		East and west of Cherokee	Grading and draining 7.48 miles
Chickawau	5-4-22	130		East and west of Cherokee	Grading and draining 4.4 miles
Chickawau	8-1-22	74		Etader-McGregor road	Grading 4.69 miles
Chickawau	8-1-22	74		Etader-McGregor road	Graveling 31.893 miles
Clinton	5-3-22	139		West of Clinton	Gravel rail
Clinton	5-3-22	139		West of Clinton	Grading and draining 15.44 miles
Clinton	6-23-22	186		D'Witt south line east	Grading and draining 2.787 miles
Clinton	1-16-22		238	Clinton west	Paving, etc., 0.293 miles
Crawford	4-6-22	12		Thru town of Vall	Grading and draining 1.01 miles
Dallas	6-3-22		164	In town of Minburn	Graveling 0.74 miles
Dallas	6-12-22		165	East and west of Dallas Center	Graveling 10.87 miles
Dallas	10-16-22		196	East and south of Redfield	Grading and draining 4.985 miles
Davis	5-25-22	133		Bloomfield west	Grading and draining 12.177 miles

Decatur	3-28-22	122		West and south of Leon	Gravel rail and boulders
Delaware	6-1-22	103		South of West	Gravel rail
Delaware	9-1-22	236		Relocating north and east of Manchester	Graveling 12.44 miles
Delaware	9-1-22	236		In city of Burlington	Grading and draining 2.84 miles
Des Moines	5-8-22	47	C-13	From Burlington southwest	Paving, etc., 1.75 miles
Des Moines	5-8-22	47		From Burlington southwest	Grading and draining 1.38 miles
Des Moines	4-8-22	59		Osceola to west of Union and Osburn west	Grading 0.20 miles, graveling 3.94 miles
Des Moines	4-8-22	59		Osburn west	Grading 12.04 miles
Des Moines	9-14-22	59	144	Osburn to West Union and Osburn east	Grading 2.479 miles
Des Moines	9-14-22	59	144	Grumet north-south	Grading and draining 5.95 miles
Des Moines	5-18-22	172		Hamery north line east	Grading and draining 1.75 miles
Des Moines	4-11-22	157		West Union west	Grading and draining 9.04 miles
Des Moines	8-21-22	157		North of Hampton	Grading and draining 1.86 miles
Des Moines	8-21-22	165	46	West of Hampton	Tile draining 2.84 miles
Des Moines	8-21-22	165		West thru Coidler to county line	Paving, etc., 2.884 miles
Des Moines	6-21-22	171		West thru Coidler to county line	Gravel rail
Des Moines	12-30-21	190		Haddon-Chapin road	Grading and draining 12.02 miles
Des Moines	12-30-21	190		Haddon-Chapin road	Graveling 4.10 miles
Des Moines	5-26-22	223		Ona north to County line	Tiling
Des Moines	10-25-22	279		Thru Stratton	Grading and draining 8.22 miles
Des Moines	8-31-22	123		North and northwest of Grundy Center	Graveling 3.79 miles
Des Moines	8-7-22	242		Grundy Center west and east and west of Rembeck	Grading and draining 1.975 miles
Des Moines	5-17-22	11		West of Grundy Center	Grading and draining 33.893 miles
Des Moines	5-17-22	11		Grundy Center	Graveling 17.18 miles
Des Moines	5-20-22	149		Grundy Center	Gravel rail materials
Des Moines	11-27-22	179		Grundy Center	Grading, draining 0.774 miles
Des Moines	10-24-22	145		East of Grundy Center	Grading, draining 4.073 miles
Des Moines	10-24-22	170		East of Grundy Center	Grading, draining guard rail on 2.846 miles
Des Moines	7-31-22	67		East of Grundy Center	Gravel rail and boulders
Des Moines	7-31-22	67		West of Grundy Center	Grading and draining 2.98 miles
Des Moines	7-31-22	67		Jewell Junction and south	Grading 6.077 miles
Des Moines	6-11-22	79		West of Jewell Junction	Graveling 1 mile
Des Moines	6-11-22	79		West of Jewell Junction	Grading and draining 14.03 miles
Des Moines	9-18-22	234		In Stambaugh	Grading and draining 1.451 miles
Des Moines	9-18-22	234		West of Jewell Junction	Paving, etc., 1.11 miles
Des Moines	7-31-22	94		Stambaugh south and Jewell south	Grading and draining 1.464 miles
Des Moines	5-2-22	139		Stambaugh south and Jewell south	Grading and draining 1.451 miles
Des Moines	5-2-22	139		Stambaugh south and Jewell south	Grading and draining 1.451 miles
Des Moines	8-8-22	139		North and south of Garner	Grading 16.21 miles, graveling 22.59 miles
Des Moines	8-8-22	139		North and south of Garner	Grading 16.22 miles
Des Moines	8-8-22	139		Between Garner and Klumme	Grading 6.37 miles
Des Moines	6-7-22	8		East and west of Eldora	Gravel rail and boulders
Des Moines	6-7-22	8		East of Eldora	Grading 3.59 miles, tiling 22.95 miles
Des Moines	6-7-22	8		East of Eldora	Graveling 8.00 miles
Des Moines	9-19-22	88		East of Iowa Falls	Graveling 9.789 miles

Schedule No. 10—Continued

County	Date	Project No.		Location of Road	Type of Improvement
		Federal	Primary		
Harrison	8-9-22		212	Elmer-Jones Falls road	Graveling 8.67 miles
Harrison	8-9-22		4	Elmer-Jones Falls road	Graveling 3.09 miles
Harrison	10-25-21		C-3	Paving in Missouri Valley	Paving 1.05 miles
Harrison	1-13-22		34	Missouri Valley south	Graveling and draining 3.07 miles
Howard	8-9-22		102	Seven miles	Graveling 1 mile
Howard	7-29-22		103	Elmer east and Chickawau county line north	Tiling 13 miles
Howard	5-16-22	117		Humboldt north	Grading 10.614 miles
Humboldt	8-20-22	117		East and south of Dakota City	Graveling 1.97 miles
Humboldt	8-20-22	117		Humboldt City and south and east	Grading 1.97 miles
Ia	10-11-22		203	Ia Grove southeast	Grading and draining 0.73 miles
Ia	8-4-22		274	Holstein-Ia Grove	Resurfacing
Ia*	10-13-22		274	Holstein-Ia Grove	Graveling 3.29 miles
Ia*	6-14-22	90		South of Victor and Victor thru Marango to Johnson	Graveling 3.29 miles
Jackson	10-17-22	144		Polk county northwest	Guard rail
Jasper	8-20-22	64		East of Colfax	Grading and draining 2.87 miles
Jasper	8-9-22	64		East from Colfax	Grading and draining 2.87 miles
Jasper	8-4-22	64		Colfax west	Grading and draining 5.655 miles
Jasper	10-31-22	64		Berenson Prairie City and Monroe	Guard rail
Jasper	4-20-22	77		Colfax north	Graveling 6.788 miles
Jasper	8-18-22	77		Polk county line to Marion county line	Grading and draining 10.048 miles
Jasper	8-18-22	77		East of Prairie City	Grading and draining 11.35 miles
Jasper	7-11-22	77		Colfax	Grading 3.07 miles
Jasper	7-11-22	77		North of Monroe	Graveling 10.642 miles
Jasper	10-31-22	99		North of Monroe	Guard rail
Jasper	10-31-22	99		Prairie City west and northwest and southeast of Monroe	Grading and draining 0.974 miles
Jasper*	8-18-22	180		Prairie City west and northwest and southeast of Monroe	Graveling 10.764 miles
Jasper	10-17-22	180		East and west of Colfax	Graveling 10.774 miles
Jasper	11-14-22	230		Prairie City west and northwest and southeast of Monroe	Graveling 6.788 miles
Jefferson	8-25-22		C-1	Paving in Iowa City	Grading, draining 21.51 miles
Johnson	6-17-22			Paving in Iowa City	Paving, etc. 0.329 miles
Johnson	8-20-22			Paving in Iowa City	Paving, etc. 0.33 miles
Jones	8-1-22	103		S. W. of Ansonia and Ansonia to Curwale	Guard rail and baffles
Jones	11-28-22	103		Ansonia east	Grading 4.91 miles
Jones	9-19-22	128		Ansonia southwest	Grading, draining 5 miles
Kossuth	7-13-22	C-7		East of Seymour	Grading, draining 5 miles
Kossuth	6-7-22	6		Paving in Algona	Paving, etc. 1.57 miles
Kossuth	4-26-22	66		Algona, Highway and Daniel Boone Trail north	Grading, etc. 4.3 miles
Kossuth	8-25-22			Interchange in State line	
Kossuth	12-27-21	111		Flint north	Graveling 33.75 miles
Kossuth	7-28-22	111		In Bazaar	Grading 12.47 miles
Kossuth	12-27-21	140		Algona to Wesley	Grading 0.87 miles
Kossuth	7-14-22	270		Wesley east	Paving 11.25 miles
Lee	5-22-22	149		Berenson Ft. Madison and Monroe	Paving 1.90 miles
Lee	5-22-22	149		Kossuth northwest	Guard rail 2.55 miles
Lee	10-31-22	237		In Labor	Grading 23.58 miles
Linn	8-8-22	63		Radiating out of Chariton	Grading 0.47 miles
Linn	6-16-22	149		Lower west and northwest to South Dakota State line	Grading and draining 10.997 miles
Linn	11-15-22	202		Rock Rapids south	Graveling 12.379 miles
Lyon	6-20-22	109		Paterson west	Grading 3.40 miles
Lyon	6-20-22	109		Paterson Wintertail and Paterson	Grading 4.18 miles
Mahaska	5-16-22	70		East of Wintertail	Guard rail and baffles
Mahaska	6-8-22	70		Radiating out of Okoboken	Grading and draining 6.811 miles
Mahaska	8-23-22	146		South east west of Okoboken	Grading and draining 13.345 miles
Mills	3-20-22	15		Charwood-Bastings road	Guard rail
Mills	4-3-22			West and northwest of Osage	Tiling 13.173 miles
Mitchell	7-23-22	138		West and northwest of Osage	Grading 12.777 miles
Monona	3-8-22	38		Madison-Ue and Oaava Soldier road	Grading and draining 10.09 miles
Monona	8-23-22	38		Madison-Ue and Oaava Soldier road	Grading and draining 2.12 miles
Monona	8-23-22	38		Madison-Ue road and Turn Soldier road-Duaring road	Guard rail and baffles
Monroe	9-18-22	C-16		Paving in Albia	Paving, etc. 0.558 miles
Monroe	10-10-22	B-325		River Regulation, Edgelyville	Back protection
Monroe	11-3-22	40		East and west of Wilton Junction	Guard rail and baffles
Monroe	3-10-22	87		East and west of Wilton and northeast of Massachusetts	Grading and draining 21.83 miles
Monroe	1-1-22	87		Southeast of Massachusetts	Grading 4.18 miles
Monroe	1-1-22	87		Polk county and west of Massachusetts	Grading 4.18 miles
O'Brien	5-16-22	69		Polk county line east to Painesville	Grading and draining 11.291 miles
O'Brien	6-18-22	87		Lyon county line east to Sibley	Grading and draining 5.314 miles
O'Brien	10-17-22	116		South of Alford	Guard rail
O'Brien	10-17-22	197		Sibley west	Guard rail
O'Brien	10-17-22	197		Ocheyedan north and east	Grading, draining 10.583 miles
O'Brien*	11-13-22	206		Oreola to Lyon county line	Grading 5.314 miles
O'Brien	11-23-22	206		Oreola to Lyon county line	Grading 5.314 miles
O'Brien	8-13-22	38		Berenson Marrett and Charitau county line	Guard rail and baffles
O'Brien	8-13-22	181		Franklin county road	Guard rail and baffles
Pocahontas	1-31-21	90		Anthony north	Grading 1.1 miles
Pocahontas	8-22-22	115		Anthony north	Grading and draining 4.096 miles

Schedule No. 11—Continued

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comn.	Date		
	Federal	Primary									
Carroll	134		L. H. Marvill	Graveling	14,788 cu. yds.	.38	13,819.44	Approved	9-14-22		
				1/2 mi. haul	102,000 units	.10					
Carroll	154-C		Geo. W. Condon	Earth excav	57,459 cu. yds.	.29	13,732.70	Approved	6-5-22		
				Loose rock	70	1.40					
Carroll	154-C		Lake View Concrete Tile Co.	6" drain tile	2,400 ft.	.112	308.30	Approved	6-8-22		
				12" drain tile	75 ft.	.26					
Carroll		226	Aldredge Bros.	Type A intakes	1	20.00	13,206.80	Approved	7-29-22		
Cass	165		Wickham Bridge and Pipe Co.	Earth excav	60,305 cu. yds.	.219					
				Loose rock	294,154 cu. yds.	.249	2.30	Cost-15% Cost-15 1/2%	72,244.35	Approved	3-31-22
				Solid rock	175 ft.	3					
Cass	155		Geo. W. Condon	Type A intakes	3	7.35	11,700.00	Approved	6-27-22		
Cass	155		Henningsen Const. Co.	Guard rail	1,120 ft.	.2575					
Cedar	57		O'Hanlon and Reilly	Guard rail	33,880 ft.	.187	25,715.87	Approved	9-4-22		
				Earth excav	22,768 cu. yds.	.208					
Cedar	57		Thompson and McDaniels	Earth excav	100,660 cu. yds.	.125	32,583.98	Approved	9-15-22		
				6" tile drain	22,845 ft.	.15					
				12" tile drain	1,209 ft.	.20	32,268.75	Approved	9-4-22		
				Intakes	16	17.00					
Cedar	114		Litig Const. Co.	Earth excav	129,067 cu. yds.	.25	6,681.00	Approved	9-15-22		
Cedar	114		Thompson and McDaniels	6" tile drain	31,860 ft.	.125					
				12" tile drain	170 ft.	.20	2,680.00	Approved	6-14-22		
				Intakes	11	17.00					
Cerro Gordo	115		Bert Vander Schaaf	Guard rail	9,500 ft.	.28	32,677.88	Approved	10-30-22		
Cerro Gordo	275		A. F. Cook	Earth excav	187,591 cu. yds.	.237					
Cerro Gordo	275		A. Peterson	6" tile drain	45,825 ft.	.114	5,963.05	Approved	11-1-22		
				8" tile drain	2,366 ft.	20.00					
Cherokee	98		B. A. Siglin	Graveling	850 cu. yds.	.425	371.25	Approved	12-19-21		
				1/2 mi. haul	10 units	.10					
Cherokee	98		Gillies and Co.	Gravel	850 cu. yds.	.425	369.78	Approved	12-19-21		
Cherokee	98		W. E. Schoppe	Guard rail	112 ft.	.35					
				Guard rail	2,408 ft.	.395	998.78	Approved	6-12-22		
				Guard rail	168 ft.	.425					
Cherokee	116		W. E. Schoppe	Guard rail	6,132 ft.	.395	2,403.34	Approved	6-12-22		
Cherokee	161		Lake View Concrete Tile Co.	6" tile drain	5,506 ft.	.107	1,469.82	Approved	6-13-22		
				8" tile drain	2,784 ft.	.150					
Cherokee	151		England and England	10" tile drain	1,960 ft.	.226	31,635.61	Approved	6-27-22		
Cherokee	151		O'Hanlon and Reilly	Type A intakes	2	10.00					
Cherokee	214		W. R. Grinnell	Type B intakes	2	18.00	1,119.38	Approved	8-26-22		
Cherokee	214		Bone and Son	Earth excav	30,890 cu. yds.	.249					
				Earth excav	36,588 cu. yds.	.193	19,530.70	Approved	8-26-22		
				Graveling	11,545 cu. yds.	.314					
				1/2 mi. haul	18,810 units	.10	7,076.25	Approved	10-16-22		
				Screening	11,545 cu. yds.	.05					
Cherokee	214		W. E. Haight	Gravel at pit	2,800 cu. yds.	.10	280.00	Approved	10-23-22		
Cherokee	214		E. F. Purcell Estate	Gravel at pit	6,000 cu. yds.	.125					
Cherokee	214		A. D. Bushlow	Gravel at pit	2,800 cu. yds.	.25	700.00	Approved	10-23-22		
Cherokee	249		Bone and Son	Graveling	3,510 cu. yds.	.30					
				1/2 mi. haul	2,340 units	.12	8,492.10	Approved	11-24-22		
				Graveling	5,070 cu. yds.	.45					
Cherokee	249		M. J. Gillense Co.	1/2 mi. haul	29,780 units	.105	1,316.25	Approved	11-24-22		
Chickasaw	76		W. F. Clemson	Gravel	5,310 cu. yds.	.275					
Chickasaw	76		A. M. Russell Co.	Graveling	7,738 cu. yds.	.275	6,043.11	Approved	6-10-22		
Chickasaw	76		New Hampton Extension	1/2 mi. haul	33,067 units	.065					
Chickasaw	76		A. M. Russell Co.	Excavation	1,500 cu. yds.	.33	496.00	Approved	7-27-22		
Chickasaw	76			Grade, drain and gravel	28,245 cu. yds.	.275					
Chickasaw	131		Albert Gustafson	Loose rock	1	1.00	10,591.88	Approved	5-11-22		
				Solid rock	15,632 ft.	.074					
				6" tile labor	3,870 ft.	.087	1,420.46	Approved	5-11-22		
				Intakes	3	25.00					
Chickasaw	131		Bigelow, Donovan and Hettler	6" tile mat 1	15,632 ft.	.0429	847.39	Approved	5-13-22		
				8" tile mat 1	3,870 ft.	.0679					
Chickasaw	177		Tim Ryan and Son	Earth excav	113,304 cu. yds.	.298	33,784.59	Approved	5-5-22		
				Loose rock	1.25	2.30					
Chickasaw	177		John W. Cox	Solid rock	2	20.00	14,797.40	Approved	5-5-22		
				6" drain comp	91,940 ft.	.11					
				8" drain comp	26,000 ft.	.15	25.00	Cost-15%	14,797.40	Approved	5-5-22
				Type A intakes	19	25.00					
				Type B intakes	15	20.00	8.75	Cost-15%	14,797.40	Approved	5-5-22
				Barrel	106	8.75					
Clarke	31		Standard Bridge Co.	Guard rail	15,310 ft.	.185	2,820.35	Approved	9-4-22		
				Guard rail	5,280 ft.	.38					
				Int. braces	13	.50	5,782.75	Approved	9-4-22		
				End braces	110	.25					
Clarke	31		W. A. Dwyer	6" tile labor	3,700 ft.	.08	336.50	Approved	11-15-22		
				8" tile labor	450 ft.	.09					
Clay	56		H. Noel	Earth excav	24,548 cu. yds.	.30	7,363.89	Approved	1-3-22		
Clay	56		Clark Const. Co.	Earth excav	30,000 cu. yds.	.2425					

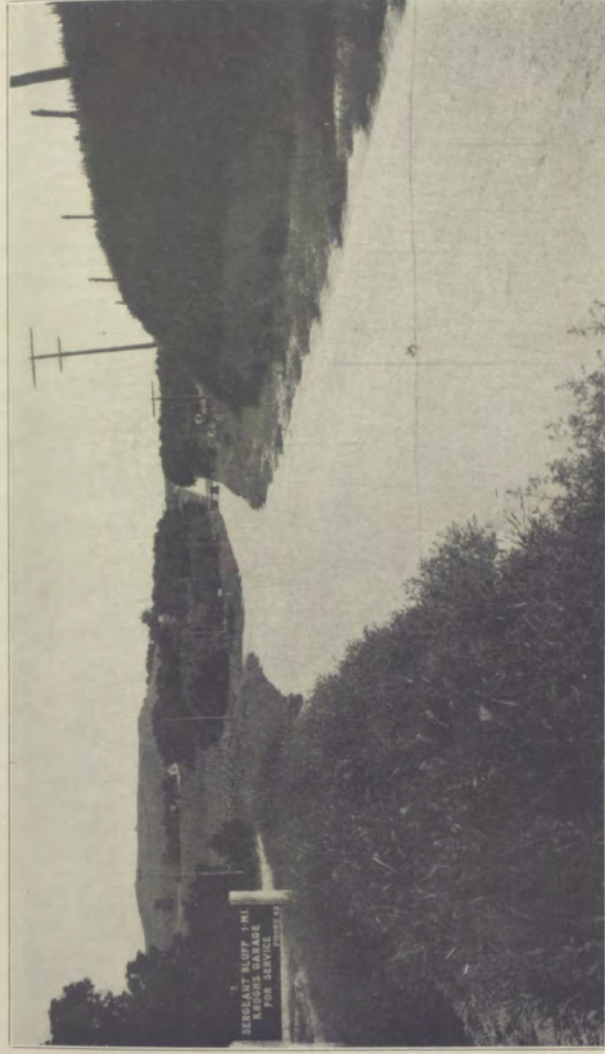
Schedules No. 11—Continued

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comm.	Date
	Federal	Primary							
Franklin	171		Peterson and Mathen	10" tile labor	1,000 ft.	.091			
				8" tile labor	2,050 ft.	.0735			
				6" tile labor	68,500 ft.	.003			
				Type A inlets	12,700 ft.	.074			
				6" tile labor	5,100 ft.	.058			
				30.00					
				Type B inlets	4	.2550	6,402.42	Approved	7-1-22
Franklin	171		J. W. Peof and Son	Earth excav	94,477 cu. yds.	.218	24,076.34	Approved	7-1-22
Franklin	171	190	J. E. Knight and Son	Earth excav	65,073 cu. yds.	.30	20,877.15	Approved	7-1-22
Franklin			F. F. Roberts	Graveling	4,819 units	.30	2,322.90	Approved	1-1-22
				5/8" mi. haul	32,000 ft.	.105			
				8" tile drain	1,144	.144			
				8" tile drain	44,073 ft.	.108			
				8" tile drain	4,650 ft.	.144			
				10" tile drain	3,000 ft.	.14			
				Type A inlets	19.03	.63	11,865.28	Approved	8-10-22
Greene	29		W. E. Scheppe	Gravel	405	.055			
				Guard rail	4,000 ft.	.0095			
				Graveling	4,000 ft.	.0095	864.00	Approved	1-25-22
Greene	282		A. Jackson and Son	3,700 cu. yds.	.38	2,000.00	Approved	6-5-22	
				19,000 units	.14				
Greene	279		Floyd Miller	8" tile drain	1,000 ft.	.185			
				Inlets	4				
Greene	279		G. W. Allison	13,600 cu. yds.	.245	1,929.00	Approved	10-27-22	
Greene	279		N. E. Handricks	Earth excav	3,052 cu. yds.	.39	3,850.70	Approved	10-27-22
				5/8" mi. haul	35,725 ft.	.11			
				8" tile drain	86,800 ft.	.15			
				8" tile drain	81,753 ft.	.105			
				8" tile drain	6,280 ft.	.14			
				10" tile drain	4,400 ft.	.30			
				Type A inlets	17	20.00	14,251.30	Approved	6-1-22
				Type B inlets	4	38.00			
Grundy	123		Mary Nicholson	Earth excav	181,150 cu. yds.	1.25	52,236.11	Approved	6-5-22
				Loose rock		2.00			

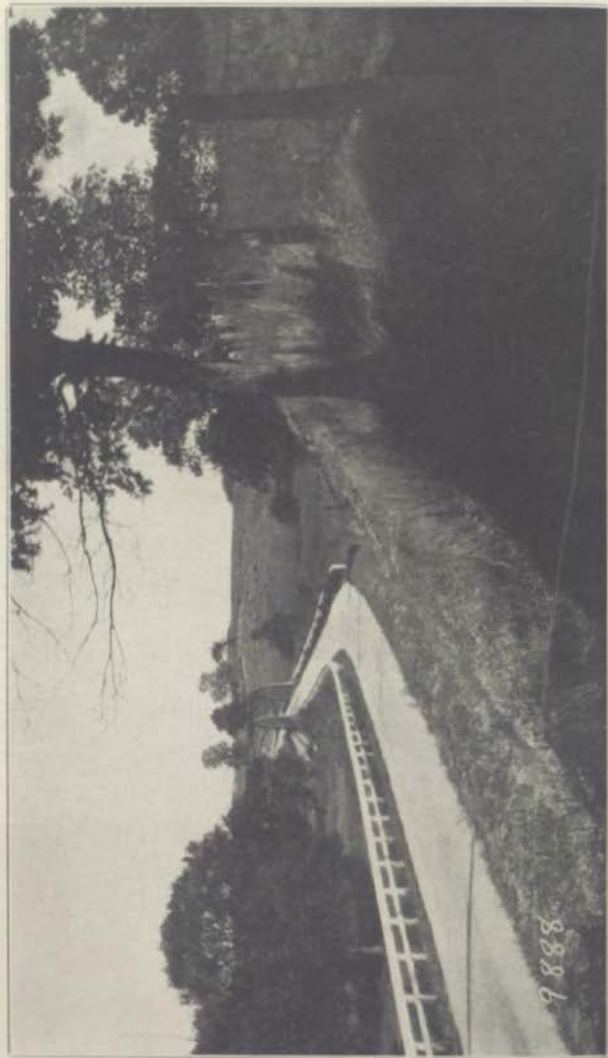
Grundy	242		Cedar River Sand and Material Co.	Gravel	7,847 cu. yds.	1.80	14,124.60	Approved	6-7-22
Grundy	242		John Ceman and Son	Graveling	12,850 cu. yds.	.35			
				5/8" mi. haul	6,425 units	.20			
				Graveling	14,750 cu. yds.	.275	11,127.89	Approved	6-7-22
Grundy	245		Nelson and M. obs.	Graveling	282,275 units	.09			
				5/8" mi. haul	2,000 cu. yds.	.32	30,250.00	Approved	6-7-22
				Stripping pit		10,645	601.00	Approved	6-7-22
Grundy	51		Geo. N. Berg	Coar. w. pits	20,000 ft.	.45	8,850.00	Approved	9-4-22
Grundy	51		Whisper Lumber, Bridge and Supply Co.	Coar. w. pits	1,900	.229	885.00	Approved	9-4-22
Grundy	145		F. P. Tracy	Earth excav	295,406 cu. yds.	.45	133,742.70	Approved	9-4-22
Grundy	145		Lanoux Bros.	Earth excav	4,100 ft.	.105	70,138.77	Approved	5-20-22
Grundy	145		Lanoux Bros.	8" tile drain	1,000 ft.	.30			
				10" tile drain	3	19.00			
				Type A inlets	2	17.00	601.10	Approved	6-1-22
				Type B inlets	2	8.35			
Grundy	145-A		Henningsen Const. Co.	Gravel	2,244	1.53	7,164.80	Approved	11-15-22
				Gravel	26,000 ft.	.28			
				Gravel	116,000 cu. yds.	2.20			
Grundy	178		Jas. Shipley	Earth excav	1,000	35.00	35,824.50	Approved	6-19-22
				Inlets	1,442 cu. yds.	.22	314.74	No contract	6-19-22
Grundy	178		Jas. Shipley	Earth excav	29,000 yds.	.25	7,250.00	Approved	9-11-22
Grundy	178-C		F. E. Schaefer	Earth excav	29,000 ft.	.166	3,574.40	Approved	9-16-22
Hamilton	57-A		Henry Targett	8" drain	940 ft.	.108	8,375.40	Approved	9-10-22
				Inlets	10	17.50			
Hamilton	79		Vaques and Carpenter	Graveling	13,000 cu. yds.	.65			
Hamilton	79		Henry Targett	Graveling	10,000 cu. yds.	.65			
				5/8" mi. haul	3,945 ft.	.106			
				6" drain	400 ft.	.30			
				9" bell tile	1,300 ft.	.17			
				8" drain	1	16.00	801.17	Approved	9-14-22
				Type B inlets	1	30			
Hamilton	79-B		Granville and Hanson	Graveling	780 cu. yds.	.08			
				Graveling	11,700 units	.40	2,020.20	Approved	9-21-22
				5/8" mi. haul	780 cu. yds.	.40			
				Graveling	4,700 cu. yds.	.45			
				Graveling	7,723 cu. yds.	.10			
				5/8" mi. haul	28,680 units	.25	6,236.85	Approved	10-6-22
Hamilton	79-B		Granville and Hanson	Earth excav	11,115 cu. yds.	.36	3,609.90	Approved	8-21-22
Hamilton	79-C		L. L. Kimball	Earth excav	10,000 cu. yds.	.36	14,532.80	Approved	9-21-22
Hamilton	254		Vaques and Carpenter	5" mi. haul	103,000 units	.22	3,265.56	Approved	8-21-22
Hamilton	254		L. O. Kimball	Earth excav	23,833 cu. yds.	.22			
Hamilton	254		Henry Targett	Earth excav	3,400 ft.	.168			
				5" tile drain	3	17.50	527.90	Approved	9-14-22
				Inlets	3				

Schedule No. 11—Continued

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comm.	Date
	Federal	Primary							
Hamilton		254	Geo. Wilson	Graveling	2,268 cu. yds.	.39	1,237.52	Approved	10-27-22
Hancock	94		Lars Jorgenson	1/2 mi. haul	4,430 units	.10			
				8" tile drain	5,800 ft.	.127			
Hancock	94		Hankel Const. Co.	2 1/2" x 8" A linkers	18,000	18.00	591.31	Approved	5-6-22
				Earth excav.	60,244 cu. yds.				
Hancock	94		C. A. Anderson	Concrete paving	160,233.1 sq. yds.	2.185	368,255.29	Approved	5-10-22
				8" tile labor	2,000 ft.				
Hancock	94		L. H. Marvill	6" tile labor	50	.50	25.00	Approved	5-10-22
				8" tile labor	112,231 ft.	.05	650.00	Approved	12-1-21
Hancock	139		North Iowa Brick and Tile Co.	37,925 ft.	37,925 ft.	.05			
				3,500 ft.	3,500 ft.	.05	8,962.95	Approved	5-6-22
Hancock	139		J. E. Knight and Son	10" tile labor	64	20.0477			
				linkers	60,244				
Hancock	139		Wiesty and Son	drain tile	31,868 ft.	.0713			
				8" drain tile	1,600 ft.	.125			
Hancock	139		G. E. Sargent Co.	10" drain tile	21,695 ft.	.0497			
				8" drain tile	6,062 ft.	.0795			
Hancock	139		Wesley and Son	10" drain tile	6,000 ft.	.17			
				8" drain tile	101,000 cu. yds.	.75	8,992.89	Approved	5-6-22
Hancock	139		Wesley and Son	Loose rock	1.50	19,100.00	Approved	5-10-22	
				Earth excav.	91,751 cu. yds.		21,469.73	Approved	6-10-22
Hancock	139		G. E. Sargent Co.	Loose rock	1.00				
				Earth excav.	2.00		7,492.55	Approved	8-11-22
Hancock	139		Heldt and Boyle	Graveling	14,355 cu. yds.	.11			
				12,000 units			7,169.24	Approved	8-15-22
Hancock	139		Wesley and Son	1/2 mi. haul	10,946 cu. yds.	.39			
				Graveling	25,740 units		12,117.50	Approved	8-15-22
Hardin	4		R. B. Orr and Co.	8" tile labor	62,130 cu. yds.	1.85			
				Earth excav.	130	10.80			
Hardin	88		W. F. Jacobs	Guard rail	32 ft.	.17			
				Brushed panels	568 ft.		1,716.24	Approved	9-15-22
Hardin	88		Suster Const. Co.	Guard rail	32	.40			
				Brushed panels	568 ft.		1,050.00	Approved	4-7-22
Hardin	88		L. C. Wood and Co.	Stripping pit	7,000 cu. yds.	.13			
				Earth excav.	2,200 cu. yds.	.185	407.00	Approved	6-14-22
Hardin	88		L. C. Wood and Co.	Earth excav.	31,217 cu. yds.	.30	9,365.10	Approved	6-22-22



Concrete Pavement—Primary Road No. 12—Sergeant Bluff to Sioux City, Woodbury County.



Concrete Pavement—Primary Road No. 6—East of Cedar Rapids, Linn County.



Rounded Corner—Shaded Parking Space—Primary Road No. 23, Sac County.



Gravel Road—Perfect Maintenance, Sac County.

Schedule No. 11—Continued

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comm.	Date
	Federal	Primary							
Pottawattamie		92	Webbman Bridge and Pipe Co.	Guard rail	544 ft.	.28			
				Guard rail	10,956 ft.	8.70	6,495.04	Approved	10-2-22
Poweshiek	174		M. A. Gladwin & Sons	6" tile labor	452	.09			
				8" tile labor	3,110 ft.	.06			
				6" curb labor	1,820 ft.	.06			
				6" sewer pipe	1,910 ft.	.10			
				Type A inlets	25	22.00	3,308.00	Approved	6-8-22
				Type B inlets	15	13.00			
				6" tile man	44,827 ft.	.06			
				6" tile man	3,110 ft.	.06			
				12" tile man	400 ft.	.15			
				6" sewer pipe	1,880 ft.	.06			
				6" sewer pipe	1,010 ft.	.06			
				Existing tile	100,160 sq. yds.	.25	25,040.00	Approved	6-8-22
				Earth cover	7,841 cu. yds.	.34	2,665.94	Approved	6-8-22
				Earth cover	92,079 cu. yds.	.27	24,861.33	Approved	6-8-22
				Ballast	1,144	8.75	10,010.00	Approved	9-30-22
				Gravel	27,737 ft.	.30			
				Gravel and	2,544 ft.	.50			
				Flared bases	50 miles	.40	10,102.70	Approved	8-20-22
				Graveling	10,920 cu. yds.	.60	2,932.72		
				Graveling	114,220 units	.09			
				5/8" mt. base	7,800 units	.105	17,401.80	Approved	2-20-22
				Gravel	2,900 cu. yds.	.60	2,340.00	Approved	3-13-22
				Earth cover	57,745 cu. yds.	.05			
				Earth cover	10,523 cu. yds.	2.10	135,004.33	Approved	9-12-22
				Earth cover	70,749.2 sq. yds.	2.77	225,279.07	Approved	9-12-22
				Paving	4,078 ft.	.08			
				6" tile labor	600 ft.	.08			
				6" tile labor	500 ft.	.08			
				6" tile labor	500 ft.	.08			
				Type A inlets	1	22.00			
				Type B inlets	2	22.00			
							832.24	Approved	12-30-21
Scott	55-B		D. Wiesty and Son.	6" drain tile	4,075 ft.	.0655			
				15" drain tile	600 ft.	.07			
				Earth cover	9,134 cu. yds.	1.75	522,910.06	Approved	1-6-22
				Paving	68,920.6 sq. yds.	3.28			
				6" tile labor	6,015	.015			
				6" tile labor	320 ft.	.15			
				Type A inlets	5	20.00			
				Type B inlets	1	15.00			
				6" tile man	855 ft.	.065			
				6" tile man	520 ft.	.06			
				6" tile man	520 ft.	.18			
				Earth cover	64,297 cu. yds.	2.74	20,181.57	Approved	12-30-21
				Sold rock	1,778 cu. yds.	2.60			
				South cross	15,316 cu. yds.	2.70			
				South cross	61,690 sq. yds.	10.60	144,589.40	Approved	9-12-22
				Paving	125	10.60	1,325.00	Approved	12-30-21
				Ballast	125	38	4,758.00	Approved	12-30-21
				Guard rail	12,600 ft.	.1385			
				6" tile	22,785 ft.	.15			
				6" tile	105 ft.	.224			
				Type A inlets	6	23.00	3,200.20	Approved	8-16-22
				Type B inlets	6	67.3			
				6" tile labor	2,000 ft.	.18			
				6" tile labor	2,000 ft.	.067	607.72	Approved	12-30-21
				Type B inlets	2,000 ft.	.067	327.47	Approved	12-30-21
				Earth cover	24,256 cu. yds.	.39			
				20,716 sq. yds.	4.00		110,673.95	Approved	1-4-22
				6" drain tile	6,220 cu. yds.	8.75	133,096.68	Approved	9-29-22
				Concrete paving	83,744 sq. yds.	2.72	14,385.26	Approved	9-29-22
				Earth cover	40,245 cu. yds.	.313			
				Power	3,809 cu. yds.	.11			
				Manhole cover	2,720 ft.	.155			
				6" tile drain	1,520 ft.	.155			
				Type A inlets	3	22.00			
				Type B inlets	1	22.00			
				Guard rail	672 ft.	.42	5,789.58	Approved	8-6-22
				Guard rail	11,270 ft.	.42	4,694.40	Approved	7-10-22
				Guard rail	113 ft.	.42			
				Guard rail	2,018 ft.	.42	851.27	Approved	7-10-22
Scott	114		D. Wiesty and Son.	6" drain tile	4,075 ft.	.0655			
Scott	115-B		Central Engr. Company	Earth cover	9,134 cu. yds.	1.75	522,910.06	Approved	1-6-22
Scott	115-C		Wm. Rathke	6" tile labor	6,015	.015			
Scott	115-C		D. Wiesty and Son.	Type A inlets	5	20.00			
Scott	115-C		E. D. Jenner	Type B inlets	1	15.00			
Scott	115-C		Central Engr. Co.	6" tile man	855 ft.	.065			
Scott	115-C		Central Engr. Co.	6" tile man	520 ft.	.06			
Scott	115-C		Central Engr. Co.	6" tile man	520 ft.	.18			
Scott	114		Peabody Const. Co.	Earth cover	64,297 cu. yds.	2.74	20,181.57	Approved	12-30-21
Scott	115		J. W. Oyle	South cross	1,778 cu. yds.	2.60			
Scott	115		C. N. Hildebrand	South cross	15,316 cu. yds.	2.70			
Scott	115-A		Wm. Rathke	Paving	125	10.60	1,325.00	Approved	12-30-21
Scott	115-A		Wm. Rathke	Ballast	125	38	4,758.00	Approved	12-30-21
Scott	115-A		J. J. Ryan	Guard rail	12,600 ft.	.1385			
Scott	115-A		McCarty Improvement Co.	6" tile	22,785 ft.	.15			
Scott	115		Central Engr. Company	Type A inlets	6	23.00	3,200.20	Approved	8-16-22
Scott	115		Thompson & McDougle	Type B inlets	6	67.3			
Scott	115		W. P. Baumgaertel	6" tile labor	2,000 ft.	.18			
Scott	115		W. P. Baumgaertel	6" tile labor	2,000 ft.	.067	607.72	Approved	12-30-21
Scott	115		W. P. Baumgaertel	Type B inlets	2,000 ft.	.067	327.47	Approved	12-30-21
Scott	115		W. P. Baumgaertel	Earth cover	24,256 cu. yds.	.39			
Scott	115		W. P. Baumgaertel	20,716 sq. yds.	4.00		110,673.95	Approved	1-4-22
Scott	115		W. P. Baumgaertel	6" drain tile	6,220 cu. yds.	8.75	133,096.68	Approved	9-29-22
Scott	115		W. P. Baumgaertel	Concrete paving	83,744 sq. yds.	2.72	14,385.26	Approved	9-29-22
Scott	115		W. P. Baumgaertel	Earth cover	40,245 cu. yds.	.313			
Scott	115		W. P. Baumgaertel	Power	3,809 cu. yds.	.11			
Scott	115		W. P. Baumgaertel	Manhole cover	2,720 ft.	.155			
Scott	115		W. P. Baumgaertel	6" tile drain	1,520 ft.	.155			
Scott	115		W. P. Baumgaertel	Type A inlets	3	22.00			
Scott	115		W. P. Baumgaertel	Type B inlets	1	22.00			
Scott	115		W. P. Baumgaertel	Guard rail	672 ft.	.42	5,789.58	Approved	8-6-22
Scott	115		W. P. Baumgaertel	Guard rail	11,270 ft.	.42	4,694.40	Approved	7-10-22
Scott	115		W. P. Baumgaertel	Guard rail	113 ft.	.42			
Scott	115		W. P. Baumgaertel	Guard rail	2,018 ft.	.42	851.27	Approved	7-10-22

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comm.	Date
	Federal	Primary							
Sioux		83	Millard Tile and Cement Co.	6" tile	2,000 ft.	.029			
				8" tile	2,000 ft.	.061			
				12" tile	180 ft.	.20			
Sioux		83	W. R. Leman Const. Co.	6" tile	8,915 ft.	.009	1,911.15	Approved	3-13-22
		83	Petersen, Shiley and Guntber	6" tile	5,250 ft.	.011	16,910.25	Approved	3-13-22
				Earth excav	80,335 cu. yds.	.21			
Sioux		83	E. W. Bertman	Loose rock	109,815 cu. yds.	.175	21,061.15	Approved	3-15-22
				Solid rock	1,015 ft.	1.39			
				8" tile labor	6,750 ft.	.001			
Sioux		83	Petersen, Shiley and Guntber	10" tile labor	2,820 ft.	.065	1,092.41	Approved	4-3-22
		183-A	L. E. Merrill	Gravel	4	.21	692.58	Approved	11-27-22
				Gravel	3,250 cu. yds.	.20			
Sioux		223	W. E. Scheppe	Guard rail	81,728 ft.	.0835	11,712.45	Approved	11-27-22
		223	C. F. Bell	Earth excav	24,908 ft.	.159	4,969.78	Approved	10-16-22
		223	Geo. E. Gray	Earth excav	109,268 cu. yds.	.207	22,617.44	Approved	10-16-22
Sioux		223	Geo. E. Gray	Earth excav	30,375 cu. yds.	.20	6,075.00	Approved	10-16-22
		223	L. E. Merrill	Gravel	1,171 cu. yds.	.40	470.84	Approved	10-16-22
		223		5 1/2" m. ball	54,000 units	.004			
Story		72-B	Ben J. Cole	Stripping pit	3,300 cu. yds.	.23	9,338.00	Approved	11-27-22
				Channel change	2,000 cu. yds.	.30	600.00	Approved	11-18-22
				Plung in place	26,284 ft.	.29	7,602.92	Approved	9-12-22
Story		231	Emmie Const. Co.	Earth excav	8,429 cu. yds.	.33	2,783.57	Approved	9-14-22
		231	F. E. Stanger	Earth excav	10,256 cu. yds.	.30	3,076.80	Approved	9-14-22
		232	R. F. Nelson	Graveling	7,740 cu. yds.	.36	2,786.40	Approved	9-14-22
Story		232	Harold Ehrbridge	Graveling	7,240 cu. yds.	.35	2,534.00	Approved	4-26-22
		232	E. L. Moore	Gravel	20,225 units	.082	1,660.05	Approved	4-27-22
		232	C. Foreman	Gravel	4,500 cu. yds.	1.00	4,500.00	Approved	9-10-22
Story		232	Cook Bros.	Gravel	27,840 units	.10	2,784.00	Approved	10-4-22
				5 1/2" m. ball	8,600 cu. yds.	.265	2,278.00	Approved	10-4-22
				5 1/2" m. ball	27,000 units	.10	2,700.00	Approved	10-4-22
Tama		47	J. Cleaman and Son	Graveling	20,070 cu. yds.	.44	8,830.80	Approved	8-15-22
				Stripping road	46,110 units	.00			
				Guard rail	1,848 ft.	.240	443.52	Approved	8-26-22
Tama		47	Vianck and Vockecka	Guard rail	1,848 ft.	.174	321.55	Approved	8-26-22
				Guard rail	7,208 ft.	8.72	62,871.36	Approved	8-26-22
				Barrels	260	8.50	2,215.00	Approved	8-26-22
Tama		47	Geo. Cronkhitte, Jr.	Barrels	167	8.50	1,419.50	Approved	8-26-22
				Graveling	12,870 cu. yds.	2.18	27,836.40	Approved	8-26-22
				Graveling	7,800 cu. yds.	2.18	16,986.00	Approved	8-26-22
Tama		47	Holtz and Boyan	Graveling	18,406 cu. yds.	.37	6,851.42	Approved	8-26-22
				Gravel at pit	265,000 units	.005	1,325.00	Approved	8-26-22
				6" tile drain	13,374 cu. yds.	.39	5,216.86	Approved	8-26-22
Tama		176	Geo. E. Gray	6" tile drain	30,030 ft.	.35	10,510.50	Approved	9-29-22
				8" tile drain	615 ft.	.154	94.71	Approved	9-29-22
				Graveling	1	16.00	16.00	Approved	9-29-22
Tama		178	J. C. Parvettie	Earth excav	74,558 cu. yds.	.25	18,639.50	Approved	10-17-22
				Earth excav	5,645 cu. yds.	.25	1,411.25	Approved	11-9-22
				6" drain	8,280 ft.	.25	2,070.00	Approved	11-9-22
Tama		276	Wm. Fitzgerald	6" drain	3,280 ft.	.25	820.00	Approved	11-9-22
				Gravel	311,344 cu. yds.	.25	77,836.00	Approved	11-9-22
				Guard rail	448 ft.	.27	120.96	Approved	11-9-22
Taylor		81	Phelan-Shiley Co.	Guard rail	7,922 ft.	.1979	1,558.76	Approved	11-9-22
		149	Earl Woodard	Guard rail	30 ft.	.20	6.00	Approved	11-9-22
				Guard rail	2,944 ft.	.27	794.88	Approved	11-9-22
Taylor		81	Earl Woodard	Guard rail	10,151 ft.	.1970	2,000.00	Approved	9-7-22
				Earth excav	167,828 cu. yds.	.255	42,796.14	Approved	9-7-22
				Guard rail	4,840 ft.	.31	1,500.40	Approved	9-7-22
Union		149	Phelan-Shiley and Guntber	Guard rail	1,848 ft.	.240	443.52	Approved	9-14-22
				Earth excav	8,600 ft.	.11	946.00	Approved	9-14-22
				6" drain tile	4,000 ft.	.05	200.00	Approved	9-14-22
Wapello		139	Murray, Gray Products Co.	6" drain tile	7,000 ft.	.085	595.00	Approved	12-29-21
				12" drain tile	3,970 ft.	.18	714.60	Approved	12-29-21
				15" drain tile	270 ft.	.35	94.50	Approved	12-29-21
Wapello		159	Lamson Bros.	Earth excav	965 cu. yds.	.24	231.60	Approved	4-10-22
				Earth excav	97,177 cu. yds.	.24	23,322.48	Approved	4-10-22
				Solid rock	600 cu. yds.	2.00	1,200.00	Approved	4-10-22

Schedule No. 11—Continued

County	Project Number		Contractor	Item	Estimated Quantities	Unit Price	Total Amount Contract	Action by Comm.	Date
	Federal	Primary							
Winneshiek	98		H. J. Murphy	Guard rail	348 ft.	30			
				Guard rail	5,500 ft.	28			
				Guard rail	9,848 ft.	26			
Winneshiek	98-C		J. A. Dunkel	Earth excav.	109,259 cu. yds.	21	3,722.13	Approved...	9-14-22
				Earth excav.	2,603 cu. yds.	275			
				Stone rock	12,178 cu. yds.	175	34,707.15	Approved...	10-7-22
				6" tile drain	1,324	1.34	1,897.48	Approved...	9-10-22
Winneshiek	121		C. F. Ulrichson Cordon and Roben	Earth excav.	42,031 cu. yds.	38			
				Earth excav.	8,126 cu. yds.	349			
				Earth excav.	16,627 cu. yds.	349			
				Earth excav.	12,164 cu. yds.	345			
Winneshiek	121		W. H. O'Brien	Earth excav.	21,233 cu. yds.	345	38,392.31	Approved...	8-19-22
				6" drain comp.	3,042 ft.	1.67			
				12" drain comp.	47,120 ft.	32			
				6" drain comp.	2,544 ft.	1.175			
				12" drain comp.	3,316	3.16			
				24" drain comp.	600 ft.	1.40			
				Type A inlets	14	25.00			
				Type B inlets	33,298 cu. yds.	33.00			
Winneshiek	121		S. J. Groves and Sons	Loose rock	6,652 cu. yds.	3.90	10,874.98	Approved...	5-22-22
Winneshiek	121		Leola Mos	Solid rock	6,228 cu. yds.	1.65	26,310.56	Approved...	8-16-22
Winneshiek	121-P		J. A. Dunkel	6" tile drain	12,234 ft.	1.52			
				Earth excav.	3	18.00	1,871.02	Approved...	10-16-22 *
				Earth excav.	23,798 cu. yds.	75			
				Solid rock	1,800	1.80	6,187.48	Approved...	10-7-22
Winneshiek	121		S. J. Groves and Sons	Earth excav.	2,090 cu. yds.	34			
				Loose rock	6,834 cu. yds.	95			
				Earth excav.	2,102 cu. yds.	33			
				Comp. paving	52,215 sq. yds.	2.51	7,608.00	Approved...	11-1-22
Woodbury	2		C. F. Lytle	Comp. paving	52,215 sq. yds.	2.51			
				6" tile drain	900 ft.	22			
				12" tile drain	180 ft.	65.00			
				Type B inlets	8	65.00	166,366.51	Approved...	3-18-22
Woodbury	126		C. F. Lytle	Earth excav.	56,028 cu. yds.	35			
				Type B inlets	74,122 sq. yds.	3.00			
Woodbury	102		R. E. Reit	Earth excav.	158,587 cu. yds.	250	211,512.93	Approved...	3-18-22
Woodbury	187		C. F. Lytle	Earth excav.	3,523 cu. yds.	37	27,802.36	Approved...	8-4-22
				Stone paving	2,102 sq. yds.	2.05			
				Comp. paving	24,125 lbs.	3.015	27,383.46	Approved...	3-6-22
Worth	124		Mainly extension Mackato Const. Co.	Gravel and drain	11,265 ft.	1075	3,369.94		
				6" tile drain	1,105 ft.	143			
				6" tile drain	3,000 ft.	252			
				12" tile drain	2,660 ft.	282			
				12" tile drain	37	19.00			
				Type A inlets	19	17.00	5,509.45	Approved...	7-22-22
				Type B inlets	90,002 cu. yds.	255			
Worth	216		Ira A. Cox	Earth excav.	27,125 cu. yds.	1075	27,009.12	Approved...	8-16-22
Wright	19		L. L. Kimball	Earth excav.	2,788 cu. yds.	32			
				Graveling	2,788 cu. yds.	32	8,803.76	Approved...	1-14-22
Wright	200		Lars Ferguson	1/2 cu. bal.	20,070 units	40			
				6" tile comp.	60,271 ft.	609			
				6" tile comp.	17,023 ft.	18			
				12" tile comp.	4,400 ft.	45			
				15" tile comp.	36	18.00	12,466.45	Approved...	8-12-22
				Type A inlets	38	15.00	571.80	Approved...	7-1-22
Wright	200		P. E. Shuger	Type B inlets	145,209 cu. yds.	247	35,674.00	Approved...	7-1-22
				Earth excav.					

Totals—103 contracts approved. Amount—\$9,154,112.37.
3 contracts rejected. Amount—\$2,897.55.

SCHEDULE NO. 12

CITY PRIMARY ROAD CONTRACTS APPROVED BY HIGHWAY COMMISSION,
DECEMBER 1, 1921—DECEMBER 1, 1922

City	Project No.	Contractor	Item	Quantity	Price	Amount	Date Approved
Algona	7	Empire Construction Co.	Paving	10,740 sq. yds.	2.75	\$31,518.00	8-1-22
Algona	7	Empire Construction Co.	Excav	3,305 cu. yds.	8.00		8-1-22
Algona	7	Empire Construction Co.	Paving	4,630 sq. yds.	2.75		8-1-22
Algona	7	Empire Construction Co.	Excav	1,889 cu. yds.	2.75	14,211.50	8-1-22
Anna	9	Chas. Weiss & Sons	Excav	1,675 cu. yds.	6.00	10,045.00	8-1-22
Burlington	13	W. J. Miller	Paving	5,857 sq. yds.	2.69	28,414.55	9-15-22
			Excav	5,658 sq. yds.	2.57		
			Excav	4,504 cu. yds.	3.91		
			Excav	8,400 cu. yds.	35		
Iowa City	4	Moore-Young Construction Co.	Paving	25,231 sq. yds.	2.70	76,275.70	9-15-22
			Excav	7,659 cu. yds.	7.70		
			Excav	8,575 lin. ft.	1.05		
			Excav	12,063 sq. yds.	2.70		
			Excav	2,440 lin. ft.	1.25	49,215.25	6-27-22
			Excav	8,839 sq. yds.	2.76		
			Excav	600 lin. ft.	2.65		
			Excav	10" pipe	1.00		
			Excav	40 lin. ft.	1.40		
			Excav	4	30.00	38,160.74	9-20-22
Manchester	8	Percy P. Smith	Paving	20,027 sq. yds.	2.56		
			Excav	3,923 sq. yds.	3.71		
			Excav	2,159 cu. yds.	1.00		
			Excav	10" pipe	1.00		
			Excav	135 lin. ft.	1.65		
			Excav	1,170 lin. ft.	2.50	71,935.20	7-7-22
Mount Valley	3	Moore-Young Construction Co.	Excav	11,029 sq. yds.	100.00		
			Excav	10,070 lin. ft.	2.80		
			Excav	50 lin. ft.	6.00		
			Excav	30 lin. ft.	1.35	34,859.10	12-29-21

Ottumwa	2	Central Engineering Co.	Paving	14,218.8 sq. yds.	3.52		
			Excav	2,588 sq. yds.	4.47		
			Excav	8,600 lin. ft.	.30		
			Excav	7,541 lin. ft.	.45		
			Excav	5,800 sq. yds.	2.60	75,120.05	5-31-21
Starr City	12	Pickens Bazar and Const. Co.	Paving	13,160 sq. yds.	3.04	16,325.00	10-17-22
Starr City	6	C. F. Lytle	Excav	4,856.7 cu. yds.	.35	40,006.40	10-17-22
Hardin	6	Western Asphalt Paving Corp.	Paving	22,150 sq. yds.	2.10	32,699.55	3-17-22
Wauken	10	Thos. Carey and Sons	Paving	13,579 lin. ft.	2.40		
			Excav	6,570 cu. yds.	.80		
			Excav	10	35.00		
			Excav	8,000 lin. ft.	1.50		
			Excav	2,500 sq. ft.	.17	74,640.30	8-1-22
			Excav	2,500 sq. ft.			

Total—14 contracts on 11 projects. Total amount—\$603,278.84.

SCHEDULE NO. 13

Schedule No. 13—Continued

SECONDARY ROAD CONTRACTS APPROVED ASIDE FROM SECONDARY ROAD DISTRICT CONTRACTS
DECEMBER 1, 1921—DECEMBER 1, 1922

County	Contractor	Item	Estimated quantity	Unit price	Amount of Contract	Action by Comm.	Date
Black Hawk	Cement Products Co.	6" drain.....	18,029 ft.	\$.112			
		8" drain.....	200 ft.	.15			
		Intakes.....	2	20.00	\$ 2,080.25	Approved	5-19-22
Black Hawk	Paul Berg	6" drain.....	26,790 ft.	.133			
		Intakes.....	2	17.50	2,790.25	Approved	5-19-22
Black Hawk	C. F. Chaney	Earth excav.....	12,383 cu. yds.	.309			
		Earth excav.....	19,957 cu. yds.	.329			
		Graveling.....	3,790 cu. yds.	.44			
		1/2 mi. haul.....	88,500 units	.12			
		Graveling.....	3,000 cu. yds.	.45			
		Stripping pit.....	1,000 cu. yds.	.24			
		Stripping pit.....	1,000 cu. yds.	.25			
		Shaping road.....	5 miles	80.00	21,152.20	Approved	5-25-22
Black Hawk	Paul Berg	6" drain.....	42,490 ft.	.1099			
		Excavation.....	15,000 cu. yds.	.19	2,850.00	Approved	9-26-22
Bee	I. T. & L. O. Wilson	Excavation.....	10,375 cu. yds.	.373			
Corro	E. J. Thrause	Graveling.....	3,500 cu. yds.	.60			
		1/2 mi. haul.....	64,000 units	.09	10,850.62	Approved	5-4-22
Chickasaw	A. M. Russell Co.	Earth excav.....	3,000 cu. yds.	.36			
		Earth excav.....	3,000 cu. yds.	.33	2,250.00	Approved	7-27-22
Chickasaw	A. M. Russell Co.	Earth excav.....	4,000 cu. yds.	.34	1,360.00	Approved	9-14-22
Clay	L. H. Marville	Graveling.....	15,000 cu. yds.	.33			
		Screening.....	15,000 cu. yds.	.44			
		1/2 mi. haul.....	33,600 units	.09	8,574.00	Approved	6-8-22
Clayton	A. P. Schweikert	Rock excav.....	2,087 cu. yds.	1.75	3,652.25	Approved	10-6-22
Dallas	C. Slick	Graveling.....	2,875 cu. yds.	.30			
		1/2 mi. haul.....	22,875 units	.08			
		Graveling.....	2,415 cu. yds.	.30			
		1/2 mi. haul.....	24,810 units	.08	5,401.80	Approved	7-19-22
Dallas	W. V. Flynn	Excavation.....	21,810 cu. yds.	.255	5,561.55	Approved	9-18-22
Dallas	W. V. Flynn	Excavation.....	10,533 cu. yds.	.31	3,265.23	Approved	9-18-22
Dallas	S. F. Little	Excavation.....	7,975 cu. yds.	.30	2,392.50	Approved	9-23-22
Dubuque	Jas. Tift	Excavation.....	20,385 cu. yds.	.33			
		Loose rock.....	300 cu. yds.	1.00			
		Solid rock.....	200 cu. yds.	2.00	8,434.90	Approved	7-10-22
Greene	Thos. Ferrell	Excavation.....	4,000 cu. yds.	.375	1,500.00	Approved	19-21-21
Hamilton	Granville and Hanson	Graveling.....	4,300 cu. yds.	.45			
		1/2 mi. haul.....	10,250 units	.125	3,151.25	Approved	10-6-22
Hardin	L. C. Wood and Co.	Excavation.....	15,487 cu. yds.	.38			
		Placing culvert.....	415 ft.	.10			
		Grubbing.....	1 acre	300.00			
		Moving fence.....	1 rod.	2.00	6,228.35	Approved	12-3-21
Hardin	Switzer and Borne	Excavation.....	12,000 cu. yds.	.28	3,360.00	Approved	9-26-22
Hardin	John Mitterer	Excavation.....	4,000 cu. yds.	.369	1,480.00	Approved	9-29-22
Humboldt	J. W. Donnelly	Graveling.....	7,750 cu. yds.	.40			
		1/2 mi. haul.....	64,000 units	.09			
		Stripping pit.....	3,500 cu. yds.	.25	9,735.00	Approved	9-23-22
Johnson	Thos. Mickle	Excavation.....	24,600 cu. yds.	.28	6,720.00	Approved	9-13-22
		Excavation.....	5,747 cu. yds.	.298	1,709.62	Approved	10-10-22
Linn	W. O. Sprague	6" tile.....	52,410 ft.	.054			
		8" tile.....	2,250 ft.	.063	3,521.39	Approved	3-13-22
Linn	C. T. Wood	6" tiling.....	52,410 ft.	.059			
		8" tiling.....	8,250 ft.	.063			
		Intakes.....	25	23.00	4,226.44	Approved	5-15-22
Marshall	L. O. Kimball	Graveling.....	8,000 cu. yds.	.34			
		1/2 mi. haul.....	59,500 units	.10			
		Stripping pit.....	3,200 cu. yds.	.23	9,406.00	Approved	7-23-22
Marshall	J. Herbert and Sons	Excavation.....	28,500 cu. yds.	.249	7,095.00	Approved	5-16-22
Marshall	W. H. Wignall	Excavation.....	4,000 cu. yds.	.28	1,120.00	Approved	8-21-22
Palo Alto	W. D. Donovan	Stripping.....	7,300 cu. yds.	.30	2,190.00	Approved	3-24-22
Plymouth	E. A. Tone	Excavation.....	5,233 cu. yds.	.25	1,308.25	Approved	3-2-22
Plymouth	G. F. Brown	Excavation.....	64,044 cu. yds.	.205	13,129.02	Approved	5-8-22
Pocahontas	M. R. Walsh	Graveling.....	5,250 cu. yds.	.45			
		1/2 mi. haul.....	4,200 units	.09			
		Stripping pit.....	2,000 cu. yds.	.25	3,240.50	Approved	9-4-22
Polk	Williamson and Snelzai	Excavation.....	29,000 cu. yds.	.247	7,163.00	Approved	5-29-22
Polk	H. E. Mills	Excavation.....	35,000 cu. yds.	.2875	10,925.00	Approved	8-4-22
Scott	Jenner Bros	Excavation.....	23,920 cu. yds.	.24			
		Placing pipe.....	132 ft.	.35			
		Placing pipe.....	90 ft.	.40	5,823.00	Approved	8-4-22

County	Contractor	Item	Estimated Quantity	Unit Price	Amount of Contract	Action by Comm.	Date
Scott	Jenner Bros	Excavating.....	15,211 cu. yds.	.20			
		Placing pipe.....	315 ft.	.35			
		Placing pipe.....	130 ft.	.40	3,271.50	Approved	5-4-22
Scott	W. P. Bungebauer	6" drain.....	22,187 ft.	.128			
		6" drain.....	2,411 ft.	.155			
		Intakes.....	6	22.50			
		Intakes.....	1	20.00	3,215.25	Approved	8-4-22
Scott	C. M. Hildebrand	6" drain.....	8,714 ft.	1.295			
		Intakes.....	1	23.00			
		Intakes.....	2	18.00			
		Excavation.....	7,533 cu. yds.	.35	1,305.46	Approved	8-10-22
Webster	Johnson and Andersen	Excavation.....	4,802 cu. yds.	.25	3,228.31	Approved	4-19-22
Woodbury	Jas. Main	Excavation.....	12,761 cu. yds.	.24	3,062.64	Approved	8-10-22
Woodbury	W. H. Dugan	Excavation.....	85,155 cu. yds.	.178	10,351.59	Approved	7-15-22
Woodbury	C. F. Beta	Excavation.....	84,034 cu. yds.	.184			
		Excavation.....	76,848 cu. yds.	.199	20,738.29	Approved	6-12-22
		Excavation.....	70,743 cu. yds.	.25			
Wright	N. C. Nelson	Excavation.....	47,154 cu. yds.	.255			
Wright	W. A. Fox	Excavation.....	47,763 cu. yds.	.25	23,960.17	Approved	4-4-22
Wright	O'Hanlon and Reilly	Excavation.....	57,215 cu. yds.	.255	13,446.23	Approved	5-23-22
Wright	G. Westergaard	6" tiling.....	49,432 ft.	.0455			
		6" tiling.....	3,189 ft.	.05	2,608.68	Approved	6-8-22
Wright	Vincent Clay Products Co.	6" tile.....	49,842 ft.	.045			
		8" tile.....	3,189 ft.	.072	2,472.50	Approved	6-19-22

Total—47 contracts approved. Amount—\$301,654.11.

SCHEDULE NO. 14

SECONDARY ROAD DISTRICT CONTRACTS APPROVED, DEC. 1, 1921-DEC. 1, 1922

County	Dist. No.	Contractor	Item	Estimated Quantity	Unit Price	Amount of Contract	Action by Comm.	Date
Boone	17	M. Memon	Graveling	4,000 cu. yds.	\$ 1.49	\$5,960.00	Approved	10-20-22
Boone	28	Pentstark Bros.	Graveling	2,000 cu. yds.	1.645	4,035.00	Approved	3-14-22
Boone	32	A. F. Farris	Graveling	7,135 cu. yds.	1.15	1,700.00	Approved	2-25-22
Calhoun	1	A. J. Mullinger	5/8 in. haul	20,000 units	.43	5,477.80	Approved	1-30-22
Calhoun	31	Memon and Son	5/8 in. haul	27,000 units	.115	5,040.00	Approved	7-27-22
Calhoun	31	Memon and Son	5/8 in. haul	13,850 cu. yds.	.33	4,561.35	Approved	1-17-22
Calhoun	31	Memon and Son	5/8 in. haul	29,750 units	65.00	9,556.25	Approved	1-17-22
Cerro Gordo	3	E. J. Tharvas	Graveling	7,125 cu. yds.	.373	5,101.88	Approved	8-25-22
Clay	6	L. H. Merrill	Graveling	27,000 units	.09	5,101.88	Approved	8-25-22
Clay	46	M. O. Weiser	5/8 in. haul	5,000 cu. yds.	.33	5,140.00	Approved	6-9-22
Clay	46	M. O. Weiser	5/8 in. haul	7,250 units	.264	5,140.00	Approved	6-9-22
Clay	48	M. Hickman	5/8 in. haul	35,625 units	.099	9,346.88	Approved	7-19-22
Dallas	11	N. M. Steune	Graveling	8,125 cu. yds.	.30	7,024.64	Approved	8-16-22
Dallas	20	Moody and Foster	Graveling	8,125 cu. yds.	.08	9,066.57	Approved	7-19-22
Dallas	22	H. E. Miller	5/8 in. haul	81,275 units	.089	9,066.57	Approved	7-19-22
Franklin	13	O. J. Stackhouse	Graveling	41,275 units	.099	5,846.12	Approved	9-14-22
Franklin	13	O. J. Stackhouse	Graveling	9,250 cu. yds.	.40	7,700.00	Approved	9-14-22
Franklin	13	O. J. Stackhouse	5/8 in. haul	9,275 units	.30	7,700.00	Approved	9-14-22
Franklin	13	O. J. Stackhouse	5/8 in. haul	8,225 units	.065	7,700.00	Approved	9-14-22
Franklin	13	O. J. Stackhouse	Screening	2,275 cu. yds.	.08	2,025.63	Approved	8-10-22
Franklin	13	O. J. Stackhouse	Stripping	4,700 cu. yds.	.23	2,025.63	Approved	8-10-22
Franklin	13	O. J. Stackhouse	Graveling	13,000 cu. yds.	.305	3,365.00	Approved	11-28-22
Franklin	13	O. J. Stackhouse	Graveling	9,105 cu. yds.	.38	3,365.00	Approved	11-28-22
Franklin	13	O. J. Stackhouse	5/8 in. haul	91,400 units	.666	9,661.90	Approved	1-31-22
Franklin	13	O. J. Stackhouse	Stripping	1,000 cu. yds.	.30	9,661.90	Approved	1-31-22
Franklin	13	O. J. Stackhouse	Graveling	8,175 cu. yds.	.35	9,661.90	Approved	1-31-22
Franklin	13	O. J. Stackhouse	5/8 in. haul	49,175 units	.35	9,661.90	Approved	1-31-22
Franklin	13	O. J. Stackhouse	Stripping	1,000 cu. yds.	.35	9,661.90	Approved	1-31-22

Kossuth	29	M. O. Weaver	Graveling	7,150 cu. yds.	285	6,111.75	Approved	11-1-22
Kossuth	4	A. C. Newton	5/8 in. haul	41,000 units	39	6,111.75	Approved	11-1-22
Kossuth	4	A. C. Newton	5/8 in. haul	6,750 units	54	9,078.75	Approved	10-16-22
Palo Alto	16	L. J. Rankin	Graveling	41,250 units	115	9,078.75	Approved	10-16-22
Palo Alto	16	L. J. Rankin	5/8 in. haul	7,175 cu. yds.	39	9,066.87	Approved	7-12-22
Se	11	A. B. Tempel	Graveling	7,000 units	130	9,066.87	Approved	7-12-22
Se	11	A. B. Tempel	5/8 in. haul	3,250 units	10	1,275.00	Approved	9-20-22
Se	13	Holsberg Garage & Mach. Co.	Graveling	6,000 cu. yds.	39	5,204.64	Approved	7-25-22
Winneshiek	1	C. N. Hildbrand	5/8 in. haul	25,212 units	.065	1,718.45	Approved	1-6-22
Winneshiek	1	National Clay Works	6" silo	25,775 ft.	.069	1,718.45	Approved	1-6-22
Winneshiek	1	J. C. Paepcke	Excavation	32,027 cu. yds.	37.63	11,849.99	Approved	1-2-22
Wright	4	H. E. Jacobs	Graveling	4,875 cu. yds.	.40	2,025.00	Approved	7-31-22
Wright	4	H. E. Jacobs	5/8 in. haul	9,750 units	.30	2,025.00	Approved	7-31-22
Wright	11	A. J. Baumann	Graveling	2,000 cu. yds.	.8273	4,053.60	Approved	7-31-22
Wright	11	A. J. Baumann	5/8 in. haul	24,100 units	.168	4,053.60	Approved	7-31-22

Total—27 contracts. Amount, \$156,033.38.

SCHEDULE NO. 15

SECONDARY ROAD DISTRICTS ESTABLISHED BY RESOLUTION OF BOARD OF SUPERVISORS,
DECEMBER 1, 1921—DECEMBER 1, 1922

County	Dist. No.	Type of surfacing	Length in miles	Approx. area in district	Date established	Date filed with Commission
Black Hawk	3	Gravel	7.00	8,960	10-23-23	10-26-22
Boone	11	Gravel	8.00	8,600	5-12-22	6-13-22
Boone	13	Gravel	1.50	960	3-12-22	4-13-22
Boone	14	Gravel	4.00	3,840	3-12-22	4-13-22
Boone	18	Gravel	2.50	3,400	5- 8-22	5-10-22
Boone	16	Gravel	3.00	1,000	3- 6-22	4-14-22
Boone	17	Gravel	3.75	2,560	2- 6-22	3- 9-22
Boone	19	Gravel	1.00	640	4-24-22	4-24-22
Boone	22	Gravel	6.00	7,680	5- 1-22	5- 3-22
Boone	38	Gravel	5.00	3,200	2-10-22	2-12-22
Boone	39	Gravel	6.25	3,200	2-24-22	2-25-22
Boone	42	Gravel	4.50	3,000	5-25-22	5-29-22
Boone	43	Gravel	5.00	3,840	5-25-22	5-29-22
Boone	44	Gravel	2.50	1,780	5- 8-22	5-10-22
Boone	45	Gravel	7.50	14,000	4-26-22	4- 1-22
Boone	47	Gravel	3.00	2,960	5- 7-22	5- 8-22
Boone	49	Gravel	1.00	640	7-26-22	11-20-21
Buena Vista	14	Gravel	1.75	1,280	10- 4-21	11-20-21
Buena Vista	15	Gravel	4.75	3,500	10- 4-21	11-20-21
Buena Vista	16	Gravel	4.00	2,400	10- 4-21	11-20-21
Buena Vista	17	Gravel	2.00	2,560	10- 4-21	11-20-21
Buena Vista	18	Gravel	2.00	1,390	11- 1-21	11-20-21
Buena Vista	19	Gravel	1.00	640	11-29-21	11-20-21
Buena Vista	20	Gravel	1.00	640	11-29-21	11-20-21
Calhoun	21	Gravel	3.00	3,840	7-11-22	7-13-22
Calhoun	26	Gravel	1.00	1,280	7-23-22	8- 3-22
Calhoun	27	Gravel	2.00	2,840	7-23-22	8- 3-22
Calhoun	28	Gravel	2.00	6,400	10- 4-22	10- 4-22
Calhoun	36	Gravel	3.00	7,430	8-23-23	8-24-23
Cerro Gordo	2	Gravel	7.50	12,240	2-20-22	3- 3-22
Cerro Gordo	3	Gravel	4.50	6,880	6-21-22	6-22-22
Clay	6	Gravel	10.00	6,000	10-17-19	6-21-22
Dallas	15	Gravel	4.50	3,120	4-15-22	4-15-22
Dallas	16	Gravel	3.60	3,580	7-15-22	7-21-22
Dallas	17	Gravel	3.00	1,520	7-15-22	7-21-22
Dallas	19	Gravel	3.00	2,240	6-28-22	6-28-22
Dallas	20	Gravel	3.00	2,080	7-26-22	8-12-22
Dallas	21	Gravel	0.75	490	7-15-22	7-21-22
Dallas	22	Gravel	7.25	6,360	7-26-22	8-23-22
Dallas	23	Gravel	2.00	1,520	7-15-22	7-21-22
Dallas	24	Gravel	2.25	1,480	10- 3-22	10-28-22
Dallas	26	Gravel	2.50	240	10- 3-22	10-28-22
Emmet	8b	Gravel	7.25	4,640	9- 5-22	9-14-22
Emmet	11	Gravel	6.25	3,120	9- 5-22	9-14-22
Emmet	18	Gravel	5.00	3,200	9- 5-22	9-23-22
Greene	7	Gravel	4.00	5,640	8-21-22	11-24-22
Kossuth	6	Gravel	6.00	11,520	12-21-21	10-26-22
Kossuth	12	Gravel	5.75	11,970	1-19-22	1-15-22
Kossuth	14	Gravel	1.25	800	5- 3-22	5- 6-22
Kossuth	15	Gravel	5.00	9,800	12-21-21	1-26-22
Kossuth	16	Gravel	1.00	6,800	12-21-21	1-26-22
Kossuth	18	Gravel	5.00	3,200	3- 8-22	3-15-22
Kossuth	29	Gravel	6.50	3,840	10-19-22	10-24-22
Lyon	2	Gravel	5.50	10,590	11- 9-22	11-18-22
Marshall	3	Gravel	8.00	15,360	3-29-22	4- 4-22
Marshall	4	Gravel	6.50	6,250	9-15-22	10-25-22
Palo Alto	8	Gravel	4.50	2,590	7- 1-21	4-19-22
Palo Alto	10	Gravel	7.50	3,120	7- 1-21	4-19-22
Palo Alto	11	Gravel	4.00	2,084	7- 1-21	4-19-22
Palo Alto	12	Gravel	3.00	1,920	7-15-21	4-19-22
Palo Alto	13	Gravel	5.00	3,360	10-28-21	4-19-22
Palo Alto	14	Gravel	2.40	1,377	10-28-21	4-19-22
Palo Alto	15	Gravel	2.00	1,340	6- 8-22	8-26-22
Palo Alto	16	Gravel	2.00	1,920	6- 8-22	8-26-22
Palo Alto	17	Gravel	3.00	6,020	6- 8-22	8-26-22
Palo Alto	18	Gravel	3.00	1,920	6- 8-22	8-26-22
Palo Alto	19	Gravel	3.50	2,240	1- 9-22	3-23-22
Sac	10	Gravel	3.50	2,400	1-15-22	2-22-22
Sac	11	Gravel	3.00	1,920	1-15-22	2-22-22
Sac	12	Gravel	3.50	2,240	2- 3-22	2-22-22
Sac	13	Gravel	4.00	2,860	6-15-22	7-13-22

Schedule No. 15—Continued

County	Dist. No.	Type of surfacing	Length in miles	Approx. area in district	Date established	Date filed with Commission
Sac	14	Gravel	3.50	2,240	7- 1-22	7-13-22
Sac-Calhoun	15-13	Gravel	3.12	2,370	7- 7-22	7-13-22
Sac	16	Gravel	0.75	320	7- 7-22	7-13-22
Wright	11	Gravel	7.00	13,440	12-23-21	1-16-22
Wright	10	Gravel	2.00	3,840	1-31-21	8- 7-22
Wright	12	Gravel	7.00	11,680	3- 7-22	3-28-22
Wright	15	Gravel	7.00	8,960	2-23-22	3- 8-22
Totals	78		318.42	328,991		

CHAPTER VII

Department of Road Design

During 1922 there were seven seven-man survey parties in operation most of the time. In some instances smaller parties were organized from existing forces to handle isolated jobs.

Prior to 1922 practically all of the preliminary road plan work was done by the district offices, and the checking, revising and completing of the plans was done by the central office force. During 1922 owing to more efficient organization methods the central office force was able to take over from the district offices a considerable mileage of preliminary plan work, which will enable the district offices to make substantial reductions in the size of their forces during the coming winter months.

Surveys.

From December 1, 1921, to December 1, 1922, surveys were completed on 999 miles of primary road. This mileage includes (a) the mileage remaining to be done on projects which were begun before December 1, 1921; (b) the mileage of all projects begun and completed during the above period; and, (c) the mileage thus far covered on projects which were begun during 1922 but are not yet completed. Schedule No. 16 shows the projects on which surveys were completed in 1922. Schedule No. 17 shows the projects on which surveys were begun but not completed. Previous to December 1, 1921, surveys had been made on 3,589 miles. Adding this to the 999 miles surveyed during 1922 brings the total mileage of surveys up to 4,588 miles. Surveys have now been completed in thirty-one counties, a list of which appears in Schedule No. 20.

Plans.

From December 1, 1921, to December 1, 1922, plans were completed for projects totaling 1,794 miles. This figure added to the previous total plan mileage, i. e., 3,223 miles, gives a revised total of 5,017 miles, a figure somewhat in excess of the total survey mileage. This apparent discrepancy is due to the fact that in many cases project plans for the further improvement of a road have been assembled from the plans previously prepared for the grading of the same road. The total plan mileage also includes a certain mileage

of alternate plans which were worked up for comparative purposes but not used. Schedule No. 18 shows the projects on which plans were completed during 1922. Schedule No. 19 shows the projects on which plans were begun but not completed.

Secondary Road Plans.

During the year 1922, 251.2 miles of secondary road plans prepared by the county engineers were checked and approved. The following data pertaining to these plans is of interest:

Mileage of plans checked and approved.....	251.2
Average original maximum grade....	5.07%
Average final maximum grade.....	2.94%
Average original rise and fall.....	45.4 ft.
Average final rise and fall.....	29.9 "
Total earthwork.....	1,279,567 cu. yd.
Average earthwork per mile.....	5,093.8 " "

SCHEDULE NO. 16

PROJECTS ON WHICH SURVEYS WERE COMPLETED DURING 1922

County	Project number	Mileage
Adair.....	F-173-C	9.7
Adams.....	F-152	1.0 Relocation
Allamakee.....	P-305-A	3.1 Includes topography
Allamakee.....	F-170	1.2 Relocations
Allamakee.....	P-237	2.0
Allamakee.....	P-305-B	1.0
Allamakee.....	P-285	8.0
Allamakee.....	P-158	5.0
Allamakee.....	F-161	1.9 Relocation
Appanoose.....	P-227-A	8.0
Appanoose.....	P-227-B	3.0
Black Hawk.....	P-223	17.7
Black Hawk.....	P-234	1.5
Black Hawk.....	P-302	11.6
Bremer.....	P-191	10.0
Bremer.....	P-227	15.0
Buchanan.....	P-239	9.0
Buena Vista.....	F- 37	1.5 Extension
Buena Vista.....	P- 93	0.8 Extension
Butler.....	F- 85-D	0.8
Butler.....	P-260	11.0 Including topography
Butler.....	P-267	14.0
Carroll.....	F-154-B	14.0
Cedar.....	P-114-A	10.0
Cedar.....	T-517	3.1
Cedar.....	P-114-B	22.4
Cedar.....	F- 57	17.6 Relocation
Cedar.....	P-114-B	3.0 Relocations
Cerro Gordo.....	P-275	13.2 Including topography
Clarke.....	T-514	10.7
Clay.....	P- 56	6.4
Clayton.....	F-166	12.3 Including topography and relocation
Clayton.....	T-536	9.4 Including relocations
Clinton.....	F-186	4.0
Clinton.....	P-271	2.0
Clinton.....	P-272	2.0
Dallas.....	P-251	8.0
Dallas.....	P-196	6.0
Davis.....	P-230	16.0
Decatur.....	T-503	6.0
Decatur.....	T-504	9.5
Delaware.....	P-236-A&B	13.0
Delaware.....	P-236-A&B	5.3 Relocations and topography

Schedule No. 16—Continued

County	Project number	Mileage
Delaware	P-236-C	9.6
Delaware	F- 4	1.1 Extension
Dubuque	F-148	19.0
Fayette	P-144-A	7.0
Fayette	F- 59	1.5 Extension
Fayette	F-168	14.6 Including topography
Fayette	P-155-B	11.0 Including topography
Floyd	P-268	6.2
Floyd	P-269	5.0
Grundy	P-123	24.0
Guthrie	P-192	27.0
Hamilton	P-217	5.0
Hamilton	P-218	6.0
Harrison	P-172	16.0
Harrison	T-527	17.5 Including relocations
Henry	F-151	3.9 Relocations
Cherokee	P-214	1.9
Howard	P-103	32.0
Iowa	T-533	14.0
Jefferson	P-220	19.0
Johnson	T-518	5.0
Jones	P-266	10.0
Keokuk	P-245	18.1 Including topography
Keokuk	P-128-B	7.0 Reconnaissance
Linn	P-293	2.0
Louis	P-179	7.0
Lyon	P-229	17.5 Including topography
Mahaaka	F-146	13.0
Marion	F- 75	1.0 Relocation
Marion	T-505	19.5
Marion	T-507	9.0
Marion	P-248	2.0
Mitchell	P-138-B	9.0
Monona	P- 38-B	2.6 Relocations
Monona	P-263	19.7
Monroe	T-516	12.1
Monroe	T-516	0.8 Relocation
Muscatine	P-265	13.3 Including topography
Muscatine	P-265	2.0 Relocations
O'Brien	T-520	15.0
Page	P-171	30.0
Page	P-264	22.1
Palo Alto	P-219	13.0
Plymouth	P-215	14.4 Including topography
Plymouth	T-515	24.0
Pottawattamie	P-297	17.6 Including relocations
Pottawattamie	P-298	5.8
Poweshink	P- 41	2.5 Relocation
Ringgold	F-141	6.0
Ringgold	F-142	6.0
Scott	F-135	5.0 Including topography
Shelby	P- 42	2.0 Extensions
Sioux	P-223	16.0
Tama	F- 47	1.2 Extensions
Tama	T-532	12.7 Including alternates
Taylor	F-149	15.0
Taylor	T-526	10.9 Including topography
Van Buren	F-165	2.2 Relocations
Van Buren	T-511	11.7 Including relocations
Van Buren	T-512	11.6
Warren	T-521	7.0
Washington	F-167	2.0 Kalona relocation
Washington	F-253	11.2 Including topography
Wayne	T-510	28.0
Webster	F- 84	1.0 Gowrie extension
Webster	P-184	10.5
Winneshiek	F- 98	2.0 Relocations
Winneshiek	P-177	15.9 Including topography
Woodbury	P-185	8.0
Woodbury	T-528	8.7 Including relocations
Woodbury	T-529	8.0
Worth	P-216	23.0
Worth	P-216-C	1.5 Fertile extension
Wright	P-199	7.0
Total, 117 jobs		1,121.1 miles

SCHEDULE NO. 17

PROJECTS ON WHICH SURVEYS WERE BEGUN, BUT NOT COMPLETED DURING 1922

County	Project Number	Total length	Miles of survey completed
Adair	P-116	16.5	12.4
Black Hawk	T-537	1.8	1.8 Including relocations
Clay	P-259	27.0	2.7
Dickinson	P- 23	2.0	1.5 Relocation
Iowa	P-130	19.0	5.7 Relocation
Jasper	F- 84	7.0	3.5 Relocation
Mahaska	F-146	1.5	0.9 Relocation
Mahaska	P-287	7.0	1.4

SCHEDULE NO. 18

PROJECTS ON WHICH PLANS WERE COMPLETED DURING 1922

County	Project number	Mileage
Adair	F-173-A	4.2
Adair	F-173-B	7.5
Adams	F-152	1.6 Relocation
Adams	F-152	0.2 Revision
Allamakee	F-161	13.5
Allamakee	F-170	13.7
Allamakee	F-170	0.2 Revision
Appanoose	P-227	7.5
Appanoose	P-227	0.1 Revision
Audubon	F- 52	0.6 Extra extension
Black Hawk	P-164-B	6.2
Black Hawk	P-233	14.0
Black Hawk	P-235	7.9
Boone	P- 58	1.0 Madrid extension
Bremer	P-228	10.7
Bremer	P-191	9.6
Buchanan	F- 5	2.0 Relocation
Buchanan	P-239	6.6
Buchanan	P-300	1.9
Buena Vista	F- 37	1.4 Alta extension
Buena Vista	P- 93	0.8 Newell extension
Butler	F- 85-D	0.8 Relocation
Butler	P-167	15.0
Carroll	F-154-A	8.0
Carroll	F-154-B	16.0
Carroll	F-154	9.6 Gravel
Carroll	P-220-A	4.0
Carroll	P-226-B	3.0
Cass	F-155	17.0
Cedar	P-114-A	10.4
Cerro Gordo	P-275	13.2
Cherokee	P-151-A&C	13.5
Cherokee	P-214	17.4
Cherokee	P-151-D	9.0
Cherokee	P-249	5.5
Chickasaw	F-160	5.0
Chickasaw	F-177	12.0
Chickasaw	P-131	2.0
Chickasaw	F- 76	0.3 New Hampton extension
Chickasaw	F- 76	1.2 Nashua extension
Chickasaw	P-225	3.7
Clarke	P- 56	6.4
Clay	P- 56	0.9 Peterson extension
Clay	P- 70	9.1
Clayton	P- 70	0.9 Relocation
Clayton	F- 74-A&C	4.6
Clayton	F-156	14.3
Clayton	F- 74	31.9 Gravel
Clayton	F-156	2.0 Extensions and relocations
Clayton	F-156	1.0 Revision

Schedule No. 18—Continued

County	Project number	Mileage
Clinton	P-147	16.7
Clinton	P-238	0.2
Clinton	P-196-A	2.8
Clinton	P-271	1.1
Clinton	P-272	1.7
Crawford	P-181	1.0
Crawford	P-209	7.2
Crawford	P-255	0.8
Dallas	P-199-A	7.0
Dallas	P-196-B	7.0
Dallas	P-196	Revision
Dallas	P-153	Relocation
Davis	P-153	13.2
Davis	P-153	0.3
Des Moines	P-122	1.3
Delaware	P-256	22.0
Des Moines	P-273	1.5
Delaware	P-29-DEF	2.1
Delaware	P-17-A	1.7
Delaware	P-148	18.2
Emmet	P-49	4.0
Emmet	P-164	4.6
Fayette	P-164	Revision
Fayette	P-172	13.6
Fayette	P-144-A	3.4
Fayette	P-145	1.5
Fayette	P-241	1.3
Floyd	P-83-A	2.6
Floyd	P-41	0.3
Floyd	P-187	3.5
Franklin	P-171	13.0
Franklin	P-201	13.0
Grimes	P-279	2.0
Grundy	P-123	23.8
Grundy	P-242	17.7
Greene	P-145	9.8
Greene	P-170-A	4.1
Greene	P-170-B	5.0
Hamilton	P-70	8.0
Hamilton	P-79	1.5
Hamilton	P-254	1.5
Hamilton	P-67	6.0
Hamilton	P-70	Revision
Hancock	P-139	23.8
Hancock	P-139	2.0
Hancock	P-94	0.6
Hardin	P-88	9.8
Harrison	P-138	14.1
Horry	P-151	9.0
Howard	P-83	0.5
Howard	P-102	1.0
Howard	P-103-ABC	13.0
Humboldt	P-117	1.3
Humboldt	P-117	0.3
Ia	P-274	9.3
Jackson	P-143	15.1
Jackson	P-144	15.1
Jackson	P-144	0.3
Jasper	P-84-AB	3.8
Jasper	P-77-CH	11.5
Jasper	P-99	1.0
Jasper	P-77	0.5
Jasper	P-177-D	7.9
Jasper	P-180	23.5
Jefferson	P-120	0.3
Jefferson	P-220	21.9
Jefferson	P-220	Revision
Johanna	P-207-A	0.7
Jones	P-86	0.6
Jones	P-103-A	11.7
Jones	P-28	4.9
Jones	P-129-A	3.0
Kossuth	P-133	6.1
Kossuth	P-111	0.9
Kossuth	P-140	11.5
Lee	P-270	1.8
Lee	P-149-ABC	25.1

Schedule No. 18—Continued

County	Project number	Mileage
Lee	P-149	0.3
Lee	P-237	0.5
Lee	P-293	0.0
Lee	P-78	10.2
Linn	P-85	1.0
Linn	P-146-AC	11.0
Linn	P-146-B	4.0
Linn	P-292-A	12.3
Linn	P-109-BD	7.3
Linn	P-70-AD	11.2
Linn	P-148	14.5
Linn	P-145	0.3
Linn	P-13	2.0
Linn	P-345-A	8.3
Linn	P-340-B	7.9
Linn	P-45	0.5
Linn	P-126	11.2
Linn	P-38-B	0.9
Linn	P-38-C	1.5
Linn	P-38-C	1.5
Linn	P-38-D	9.3
Linn	P-184	30.0
Linn	P-69	33.0
Linn	P-197-A	5.3
Linn	P-197-B	10.9
Linn	P-209	17.0
Linn	P-296	5.3
Linn	P-137	19.3
Linn	P-178	13.7
Linn	P-219-AC	4.0
Linn	P-181	15.2
Linn	P-181	0.1
Linn	P-182	12.3
Linn	P-244	7.5
Linn	P-244	7.0
Linn	P-180	1.9
Linn	P-21	0.7
Linn	P-21	1.0
Linn	P-22	1.2
Linn	P-22	1.3
Linn	P-174	15.0
Linn	P-247	8.0
Linn	P-123	6.0
Linn	P-141	6.0
Linn	P-142	5.9
Linn	P-135	3.0
Linn	P-124-A	15.2
Linn	P-124-B	8.0
Linn	P-204	7.9
Linn	P-166	0.1
Linn	P-54	3.5
Linn	P-54	3.5
Linn	P-55-C	3.5
Linn	P-43-B	2.0
Linn	P-83	23.7
Linn	P-83	0.3
Linn	P-223	17.7
Linn	P-223	0.3
Linn	P-198	20.3
Linn	P-229	3.9
Linn	P-221	11.1
Linn	P-47	1.2
Linn	P-47	1.8
Linn	P-170	23.6
Linn	P-176	7.3
Linn	P-176	0.9
Linn	P-81-B	12.5
Linn	P-81-B	10.0
Linn	P-149	14.2
Linn	P-83-A	9.9
Linn	P-166	10.0
Linn	P-166	1.0
Linn	P-159	17.1
Linn	P-159	0.5
Linn	P-178	1.8
Linn	P-222	1.8

Schedule No. 18—Continued

County	Project number	Mileage	
Warren	P-291	1.8	Gravel
Washington	F-167-ABCE	15.4	Including alternates
Washington	F-167	7.0	Revisions
Washington	F-183-A	3.1	
Washington	P-253	9.3	
Washington	P-508	51.6	Gravel
Wayne	F-91-E	4.7	
Wayne	F-150	15.3	
Webster	F-84	0.9	Gowrie extension
Webster	P-184-ABCD	6.5	
Winnebago	F-2	0.5	
Winnebago	F-120	2.0	Extension
Winnebago	F-98-CD	13.2	Relocations
Winnebago	F-121	18.3	
Winnebago	F-121	0.9	County line extension
Winnebago	F-2	1.1	Relocation
Woodbury	F-2	0.4	Sioux City extension
Woodbury	P-117	7.6	
Worth	F-194	0.5	Mainly extension
Worth	P-216-AB	14.6	
Worth	P-216-CD	15.9	
Wright	P-200	9.5	
224 jobs		1,882.5	miles

SCHEDULE NO. 19

PROJECTS ON WHICH PLANS WERE BEGUN BUT NOT COMPLETED DURING 1922.

County	Project No.	Total Length	Miles of plans completed
Adair	F-173-C	8.6	2.6
Allamakee	P-156	12.5	10.0
Audubon	P-32-A	12.6	11.3
Audubon	P-170	9.0	7.0
Carroll	F-154-B	13.0	10.4
Cerro Gordo	P-89	5.5	4.7
Cherokee	P-151-B	9.0	7.6
Cedar	P-114-B	22.0	15.4
Cedar	T-517	3.1	2.2
Clarke	T-514	10.6	7.9
Clinton	P-188-B	1.7	1.4
Dallas	P-196	7.0	3.5
Davis	F-152	18.0	12.8
Decatur	T-504	5.7	4.6
Des Moines	P-193	8.3	7.0
Dickinson	F-23-ABC	7.4	6.3
Fayette	F-59	3.4	2.6
Fayette	P-143	11.0	9.3
Fayette	P-144-B	0.7	0.6
Fayette	P-144-C	8.8	2.2
Fayette	P-165	12.8	0.6
Fremont	P-84	15.0	12.8
Guthrie	F-81-B	8.0	6.8
Guthrie	P-82	14.0	11.9
Hamilton	F-817	6.0	2.6
Hamilton	P-215	6.0	4.5
Harrison	T-527	13.0	3.9
Henry	F-151	9.0	6.2
Howard	F-193-D	17.8	6.3
Iowa	F-180	25.0	0.5
Jasper	F-84-E	9.6	7.7
Johnson	P-207-B	10.0	6.5
Keokuk	F-193-B	17.8	16.9
Keokuk	P-245	20.0	16.0
Kossuth	P-6-C	12.0	9.0
Linn	P-179	7.0	5.8
Lyon	P-229	16.5	0.8

Schedule No. 19—Continued

County	Project No.	Total Length	Miles of plans completed
Madison	F-162-AC	10.2	9.2
Marion	F-73-DE	9.0	8.1
Marion	F-243	3.4	2.1
Marion	T-505	15.9	12.5
Marshall	P-240	6.0	5.4
Mills	F-37	8.0	6.5
Monroe	F-28-D	3.9	2.9
Monroe	F-78-A	4.0	3.6
Monroe	P-294	12.3	4.9
Montgomery	P-65	18.0	10.5
Montgomery	P-255	12.0	2.4
Page	P-264	11.0	2.7
Palo Alto	P-219-B	10.7	9.9
Plymouth	P-189	4.3	3.6
Plymouth	P-189	4.0	3.4
Polk	F-157	9.0	4.5
Pottawattamie	P-297	17.0	13.6
Pottawattamie	P-298	5.4	4.5
Poweshiek	P-41-B	7.5	1.5
Poweshiek	F-210	5.2	2.6
Sac	P-53-D	3.2	2.4
Scott	P-154	10.0	8.5
Scott	T-525	9.5	3.8
Van Buren	F-165-G	2.8	1.6
Washington	P-44	6.5	3.5
Washington	F-167-D	5.8	4.7
Wayne	T-510	14.4	11.5
Webster	P-184-EPG	4.0	3.4
Winnebago	F-98-E	1.5	1.3
Woodbury	F-2	18.0	13.5
Woodbury	F-188	8.0	6.4
Woodbury	P-185	16.5	14.0
Totals 69 jobs		670.2	434.6

SCHEDULE NO. 20

Counties in Which Surveys Are Completed

Buena Vista	Humboldt
Butler	Jefferson
Calhoun	Jones
Carroll	Kossuth
Cerro Gordo	Lyon
Cherokee	Osceola
Chickasaw	Page
Clay	Plymouth
Crawford	Pocahontas
Delaware	Sac
Emmet	Scott
Fayette	Sioux
Hamilton	Story
Hancock	Van Buren
Hardin	Winnebago
Howard	

CHAPTER VIII

Construction Department

Conditions Affecting Construction Work.

Contract prices on all construction work have been nearly as low as before the war. On all classes of work prices have been lower than in 1921. All classes of labor have been reasonably plentiful and efficient.

There has been an abundance of building materials for all classes of work, but during part of the season there was a shortage of railroad cars for hauling the same. All classes of construction work were affected by this car shortage. In a few cases construction work was closed down on account of this car shortage.

The construction program outlined for 1922 contemplated finishing the work carried over from 1921 and the new work consisting of 94.00 miles of paving, 257 miles of gravel surfacing and one thousand eighty-seven miles of grading.

The paving and graveling program has been exceeded slightly, but the grading program has fallen off materially due to the fact that work was not put under contract as early as contemplated.

In 1921, 1,050 miles of road were graded involving the moving of 8,860,000 cubic yards. In 1922, 1,069 miles of road were graded involving the moving of 12,500,000 cubic yards.

Construction Work Carried Over Into 1922.

On December 1, 1921, work was under construction on 151 projects in 92 counties.

These projects involved the following uncompleted work:

Paving	5.68	miles
Graveling	142.67	"
Grading	413.27	"
Tiling	520,380	feet

Work on these projects was continued in 1922 and practically completed and retired.

Construction Work Completed During 1922.

(Refer to Schedule 21)

During 1922 the following construction work was completed on federal aid and primary road projects:

Paving	101.42	miles
Graveling	432.00	"
Grading	1,069.68	"
Tiling	3,059,952	feet

Construction Work Carried Over Into 1923.

During 1922 contracts were let on 106 federal aid and primary road projects. (Refer to Schedules 10 and 11.) On December 1, 1922, construction work was under way on 152 projects located in 77 counties.

These projects included the following uncompleted work:

Paving	50.71	miles
Graveling	197.55	"
Grading	455.27	"
Tiling	1,173,960	feet

This work is being carried over into 1923.

Projects Completed and Retired.

There has been completed and retired to date a total of 160 federal aid and primary road projects. Of this number 55 were completed and retired prior to 1922 and 105 were completed and retired during 1922. (Refer to Schedule 21A.)

Projects Ready to be Retired.

On the following twenty-five projects which are still carried on the active list the actual work of construction has all been finished and the projects will be accepted and retired early in 1923.

County	Project number	Mileage	Nature of work
Allamakee	P- 20	3.41	Grading and draining
Appanoose	P- 27	11.00	Grading
Buchanan	P- 66	6.52	Grading and draining
Buick	P- 88	15.75	Grading and draining
Calhoun	P- 95	12.00	Grading, graveling and draining
Cass	P-105	16.94	Grading
Clayton	P- 70	8.12	Grading
Clinton	P-125	16.67	Grading and draining
Frank	P-157	2.88	Grading, paving and draining
Grundy	P- 48	19.44	Grading and draining
Hancock	P- 94	25.22	Grading, paving and draining
Iowa	P- 95	11.50	Grading, graveling and draining
Howard	P-101	13.56	Grading
Iowa	P- 90	26.12	Grading and draining
Iowa	P- 66	25.75	Grading, graveling and draining
Kossuth	P-111	14.21	Grading, graveling and draining
Kossuth	P-283	12	Grading and paving
Linn	P-257	.47	Grading
Lyon	P-149	13.53	Grading and draining
Muscatine	P- 87	28.15	Grading, graveling and draining
O'Brien	P- 69	11.20	Grading and draining
Pottawattamie	P- 74	13.92	Grading
Pottawattamie	P- 92	9.94	Grading
Van Buren	P- 60	11.92	Grading and draining
Webster	P- 64	16.98	Grading and draining

City Paving Projects.

Chapter 230, Acts of the Thirty-ninth General Assembly, provides for paving within cities of the first class. Under this act agreements have been made to participate in thirteen paving projects on which contracts have been let. Construction work on eight of these projects has been completed. (Refer to Schedule 22.)

The work contracted for is equivalent to 19.45 miles of eighteen-foot paving. The work completed is equivalent to eleven miles of eighteen-foot paving.

Assignment of Government Equipment.

The commission has continued the distribution of government equipment started in 1919.

There were distributed to the counties:

101 trucks valued at.....	\$403,512.00
30 tractors valued at.....	93,000.00
Trailers, wagons, carts and rolling stock valued at.....	32,503.39
Shop machinery valued at.....	21,120.17
General supplies valued at.....	13,926.87

Four trucks valued at \$11,900.00 and miscellaneous general supplies valued at \$212,617.00 have been assigned to the Board of Control of State Institutions. Two trucks valued at \$7,800.00 have been assigned to the Executive Council and small tools to the value of \$500.00 to the park commission. (Refer to Schedule 23.)

Government Equipment Received.

In former reports attention has been called to a law passed by congress in February, 1919, authorizing the war department to distribute to the state highway departments such surplus equipment as was not needed in the army.

During 1922 Iowa received, under this law, equipment and supplies valued at \$1,221,113.00. (See Schedule 24.)

A total of 74 trucks valued at \$275,400.00, 26 tractors valued at \$77,000.00, 10 White reconnaissance cars valued at \$5,000.00, and miscellaneous shop equipment, tools, building materials and general supplies valued at \$863,713.00 was received.

The total value of equipment received from the government up to December 1, 1922, is \$4,041,201.00.

Cost of Government Equipment to the State.

The cost of transporting such equipment to the state is paid by the Executive Council from the general state fund. The cost of

erecting the necessary buildings, unloading, storing and handling was paid by the highway commission from its maintenance fund.

The expenditures from December 1, 1921, to December 1, 1922, were as follows:

Executive Council for freight and packing....	\$ 81,081.32
Highway Commission for buildings and im- provements.....	14,911.08
Highway Commission for unloading and stor- ing	8,427.29
	\$104,419.69

Storage and Equipment:

In 1919 four storage buildings were erected for the purpose of providing shelter for unassigned equipment allotted to the state by the federal government. In 1921 two additional buildings were erected, but these were insufficient to provide the increasing need, and in 1922 a contract was let for the erection of two more buildings of the same type. It is anticipated that even these eight buildings may be inadequate to care for all the supplies and equipment that may be received.

A new heating plant for the shop has been installed, and some additional improvements have been made in the buildings erected in former years.

A very complete repair shop, fully equipped with modern machinery, has been provided. The machines and nearly all of the tools were supplied by the federal government.

Every truck (except the new ones) assigned to the counties during 1922 was overhauled before being sent out. The cost of these truck repairs is paid by the county to which they are assigned.

Bridges and Culverts Constructed.

Chapter 237, Acts of the Thirty-eighth General Assembly, amended in chapter 20, Acts of the Thirty-ninth General Assembly, provided that bridges built on primary roads could, at the option of the county, be paid for from primary road funds.

Only a few counties have continued paying for bridge and culvert work from their county bridge funds.

The 1921 annual report showed only the bridge contracts approved and money expended for bridge work on primary roads. The 1922 report will include all the work done in 1921 and 1922. (Refer to Schedule 25.)

During the two seasons covered by this report there have been in active operation 152 bridge projects in 75 counties, involving a total of 4,353 structures.

During 1921 thirty projects were completed and a total of 1,480 structures built.

During 1922 fifty-three projects were completed and a total of 2,106 structures built.

SCHEDULE NO. 21

ROAD CONSTRUCTION WORK COMPLETED DURING 1922
December 1, 1921 to December 1, 1922

County	Project number	Tiling		Grading		Graveling		Paving		Per cent completed
		Lineal feet	Miles	Cubic yards	Miles	Cubic yards	Miles	Square yards		
Adair	P-28		1.31	19,716						100.00
Adair	P-162		.54	13,600						100.00
Adair	P-173		6,076	71,000						100.00
Adams	P-132	10,250	7.81	120,919						51.00
Allamakee	P-29	3,852	.53	10,958						100.00
Allamakee	P-113		.11	9,719						100.00
Allamakee	P-151	4,572	.24	600						1.00
Allamakee	P-169		305	900						12.00
Allamakee	P-170	7,750	1.96	32,550						97.00
Appanoose	P-76	6,532	9.40	207,500						100.00
Audubon	P-52	3,257	14.61	466,534						100.00
Black Hawk	P-62	24,963	14.00	70,278		7.60	80,346			42.00
Black Hawk	P-164	20,543	3.73	32,782						100.00
Black Hawk	P-235				7.91	12,490				100.00
Boone	P-58				1.39	4,243				100.00
Boone	P-134	840			5.41	6,623				100.00
Bremner	P-38		2.63	33,188						80.00
Bremner	P-191	59,216	7.68	95,440						100.00
Bremner	P-228				6.76	10,963				54.00
Buchanan	P-5	26,131	14.13	72,000		14.13	149,441			100.00
Buchanan	P-66	67,764	6.52	69,736						100.00
Buena Vista	P-93	1,800		3,000	.71	1,078				99.00
Butler	P-71	80,563	11.42	112,800	11.40	17,778				99.00
Butler	P-85	11,811	2.88	18,300	4.35	7,732				100.00
Butler	P-167	100,477	11.36	181,100						82.00
Calhoun	P-95		1.04	2,000	8.00	9,000				100.00
Calhoun	P-99	6,348	1.25	2,000	.25	750				90.00
Calhoun	P-107		3.43	5,724	5.25	9,000				100.00
Carroll	P-14	4,200	1.61	23,447						100.00
Carroll	P-154	34,475	9.56	84,400						28.00
Carroll	P-226		.90	17,200						100.00
Cass	P-150		.86	29,000						100.00
Cass	P-155	16,94	16.94	324,313						100.00
Cedar	P-57		6.95	39,747						43.00
Cedar	P-114	12,000	1.75	25,500						21.00
Cerro Gordo	P-275	16,500	4.3	4,800						9.00
Cherokee	P-151	7,160	17.93	86,890						99.00
Cherokee	P-214		.21	3,000						2.00
Chickasaw	P-76		1.50	3,000	3.16	9,594				100.00
Chickasaw	P-131	18,438	1.96	37,706						98.00
Chickasaw	P-177	108,900	11.99	114,800						100.00
Clark	P-31		10.74	158,648						100.00
Clay	P-59	5,000	7.10	154,580						92.00
Clayton	P-74		8.12	84,120						100.00
Clayton	P-74		7.47	94,504						9.00
Clayton	P-156		3.60	64,400						31.00
Clinton	P-18					.01	4,254			99.00
Clinton	P-173	90,584	12.01	79,270						100.00
Clinton	P-147		14.95	23,130		13.91	143,732			83.00
Clinton	P-186	4,252	2.67	28,000						94.00
Clinton	P-238		2.80	900		.20	2,167			100.00
Crawford	P-8		453	14.31	354,000					12.00
Crawford	P-181	7,351	1.01	10,950						100.00
Dallas	P-33	6,289	1.02	14,772						100.00

Schedule No. 21—Continued

County	Project number	Tiling		Grading		Graveling		Paving		Per cent completed
		Lineal feet	Miles	Cubic yards	Miles	Cubic yards	Miles	Square yards		
Dallas	P-109		.74	1,500						100.00
Dallas	P-194		.37	1,000	.74	1,155				100.00
Dallas	P-195	17,950	10.85	88,358						100.00
Dallas	P-196	22,050	2.49	35,250						56.00
Davis	P-50		2,101							100.00
Davis	P-153	660	1.12	15,130						100.00
Desatur	P-122	8,183	7.75	108,500						86.00
Delaware	P-103	7,004	8.06	73,008						83.00
Delaware	P-159		1.16	15,000						100.00
Delaware	P-236	20,407			3.25	6,603				11.00
Dubuque	P-37		.65	16,394						94.00
Dubuque	P-46		.30	2,646	.75	760				82.00
Fayette	P-56		2.64	27,175	32.04	55,071				98.00
Fayette	P-145	6,066	1.72	21,683	2.43	4,817				96.00
Fayette	P-164		8.96	129,990						87.00
Fayette	P-172	96,000	12.00	137,300						90.00
Floyd	P-63									100.00
Floyd	P-121	13,726	2.58	20,885						100.00
Franklin	P-46		.96	14,421						100.00
Franklin	P-105	1,823			9.17	13,765				100.00
Franklin	P-171	56,645	10.20	160,065						73.00
Franklin	P-193				10.75	17,119				100.00
Franklin	P-261	18,801								15.00
Fremont	P-77	120								100.00
Greene	P-24	18,900								100.00
Greene	P-252									100.00
Greene	P-276		5.275	102						3.76
Grundy	P-19	11,181	.28	17,760						8.00
Grundy	P-48	33,263	5.64	48,194						99.00
Grundy	P-123	89,442	12.45	94,809						57.00
Grundy	P-163				4.76	9,100				87.00
Grundy	P-242				13.06	23,373				100.00
Guthrie	P-145		9.77	306,000						98.00
Guthrie	P-179		.86	25,000						21.00
Hamilton	P-67		4.25	29,550						49.00
Hamilton	P-79	56,545	18.30	135,850	1.93	3,788				45.00
Hamilton	P-206				14.94	21,773				100.00
Hamilton	P-254	3,900	1.45	23,933						80.00
Hancock	P-94	8,026	15.17	107,715						100.00
Hancock	P-139	135,476	22.59							92.00
Hardin	P-4	2,843	3.01	14,661						100.00
Hardin	P-88	91,087	3.98	37,616	14.32	36,218				96.00
Hardin	P-212				3.67	6,023				100.00
Harrison	P-14		.25	1,000						100.00
Harrison	P-24		2.42	70,290						75.00
Henry	P-56	11,801								100.00
Howard	P-31	23,632								100.00
Howard	P-93		.28	65						100.00
Howard	P-102				1.01	1,463				100.00
Howard	P-103	54,574	10.41	138,793						87.00
Humboldt	P-48		.06	200						1,063
Humboldt	P-117	13,369	7.15	74,505	24.12	34,658				88.00
Ia	P-89	44,143	.83	9,595						100.00
Ia	P-101	13,866		204,701						100.00
Ia	P-203				2.40	5,340				90.00
Iowa	P-90	97	12.82	150,863						100.00
Jackson	P-21	435	3.12	26,154						100.00
Jackson	P-144		.47	9,500						1.00
Jasper	P-64	28,205	8.19	168,253						93.00
Jasper	P-77	47,500	25.48	225,223	5.71	7,855				100.00
Jasper	P-99		.69	36,000						71.00
Jasper	P-180		.58	10,621	17.52	27,239				73.00
Jefferson	P-3									100.00
Jefferson	P-120	14,827	6.83	84,000						100.00
Jefferson	P-220		.15	2,000						1.00
Johnson	P-62		.17	622						100.00
Johnson	P-55	21,111	4.48	55,359						100.00
Johnson	P-97	1,916	.08	4,998						100.00
Johnson	P-125		.19	1,176						100.00
Johnson	P-88	8,800	16.71	194,160	3.43	5,400				99.00
Jones	P-251									70.00
Kossuth	P-128	8,273	2.56	20,000						55.00
Kossuth	P-5	70,000	6.48	54,469	8.50	13,200				100.00

Schedule No. 21—Continued

County	Project number	Tiling		Graveling		Graveling		Paving		Per cent completed
		Linear feet	Miles	Cubic yards	Miles	Cubic yards	Miles	Square yards		
Kossuth	F-66	57,029	2.00	69,372	35.73	57,908			100.00	
Kossuth	F-111		8.71	5,713	14.21	21,720			100.00	
Kossuth	F-140	11,200	16,300				11.20	118,760	99.00	
Kossuth	F-282		12	500			12	1,200	100.00	
Lee	F-68	496	2.56	5,325	2.20	10,860			96.00	
Lincoln	F-257		47	4,492					100.00	
Lincoln	F-305		50						100.00	
Loras	F-63	3,629	6.73	129,864					100.00	
Lyon	F-85	3,911	15.20	145,662					100.00	
Lyon	F-146	7,624	12.53	8,138					100.00	
Lyon	F-174			91,000	11.90	17,020			100.00	
Madison	F-36		2.83	33,000					100.00	
Madison	F-169		1.53	33,000					45.00	
Mahaska	F-70	17,121	8.99	85,736					88.00	
Mahaska	F-144	18,625	2.91	60,309					25.00	
Marion	F-74		0.86	440					100.00	
Marshall	F-13	8,515	3.72	81,205					100.00	
Marshall	F-23		85	2,911					100.00	
Mills	F-15		10	6,949					100.00	
Mills	F-45			2,044	2.54	7,400			100.00	
Mitchell	F-128	99,455	1.90	55,148					100.00	
Monona	F-38		18.92	270,269					95.00	
Monroe	F-78		1.78	33,359					100.00	
Montgomery	F-16		36	1,000					100.00	
Muscatine	F-40	4,376							100.00	
Muscatine	F-87	22,262	25.65	301,800	6.64	13,700			100.00	
O'Brien	F-60	31,928	11.39	81,401					95.00	
Osceola	F-100				4.85	8,130			100.00	
Osceola	F-107	11,250	5.64	38,797					3.00	
Osceola	F-203		82	3,043	52	830			100.00	
Osceola	F-202				17.00	26,581			100.00	
Pace	F-27		99	90,342					100.00	
Plymouth	F-38		1.01	14,600					100.00	
Plymouth	F-39		17.90	232,000					80.00	
Plymouth	F-74		11.88	161,059					100.00	
Plymouth	F-181		1.05	1,400					1.00	
Pocahontas	F-20	775	.67	1,242	1.10	1,800			100.00	
Pocahontas	F-50				11.00	17,012			100.00	
Pocahontas	F-91		1.23	1,000	1.23	1,860			100.00	
Polk	F-1	1,800	.66	2,322			54	6,300	100.00	
Polk	F-29	10,702							100.00	
Polk	F-72	18,449							100.00	
Polk	F-110	22,510	4.10	58,300					100.00	
Polk	F-127	9,650	11.30	35,000		8.30	88,846	67.00		
Polk	F-244	54,928	6.20	83,587					95.00	
Polk	F-218	6,849	.99	2,900		.99	11,882	100.00		
Polk	F-280	2,850	.56						100.00	
Pottawattamie	F-21	11,700	17.00	170,000					75.00	
Pottawattamie	F-22	20,000	501,000						99.00	
Pottawattamie	F-92	52,262	9.94	305,000					100.00	
Pottawattamie	F-174	52,262	12.63	133,142					80.00	
Ringgold	F-61		1.15	13,360					100.00	
Ringgold	F-123	815	7.75	178,061					83.00	
Sae	F-106				9.50	14,782			100.00	
Scott	F-50	14,830	3.91	5,250			3.16	33,400	72.00	
Scott	F-55	7,228	10.19	71,000			6.90	72,732	61.00	
Scott	F-124	17,540							77.00	
Scott	F-135	12,328	3.86	25,600			2.86	29,930	94.00	
Scott	F-165		.69	600					1.00	
Shelby	F-42		4.14	108,108					100.00	
Shelby	F-82	21,514	23.24	136,504					100.00	
Sioux	F-223		.08	1,100					1.00	
Story	F-72	59,295	5.77	61,300	5.60	8,376			99.00	
Story	F-251		.90	12,000					27.00	
Story	F-223				18.44	15,588			61.00	
Tama	F-47	39,171	17.04	212,109	1.77	2,794			93.00	
Tama	F-176	12,803							6.00	
Taylor	F-81		12.85	196,180					100.00	
Taylor	F-149		1.30	25,800					10.00	
Van Buren	F-60	5,033		6,462					100.00	
Wapello	F-169	6,928	8.30	141,775					80.00	
Warren	F-11	2,900	4.56	20,900					100.00	
Warren	F-44	400	8.25	127,900					99.00	
Warren	F-222		1.77	12,500					100.00	

Schedule No. 21—Continued

County	Project number	Tiling		Graveling		Graveling		Paving		Per cent completed
		Linear feet	Miles	Cubic yards	Miles	Cubic yards	Miles	Square yards		
Washington	F-71		9.04		31,830				100.00	
Washington	F-167	22,466	6.21	94,214					40.00	
Wayne	F-91	7,000	4.92	103,085					92.00	
Wayne	F-150	23,374	13.80	164,900					86.00	
Weber	F-25		1.50	4,000					100.00	
Weber	F-64	113,784	16.98	82,513					100.00	
Weber	F-184	30,519	4.82	12,072					54.00	
Winnebago	F-7	2,500	4.52	1,500	.43	750			100.00	
Winnebago	F-120	103,694	4.46	30,445	13.96	24,640			99.00	
Winnebago	F-98	32,881	14.27	184,828					75.00	
Winnebago	F-121	89,075	13.65	134,011					85.00	
Woodbury	F-2		6.31	67,456			5.94	65,234	100.00	
Woodbury	F-78		11	320					100.00	
Woodbury	F-136		6.33	31,100			7.02	74,134	92.00	
Woodbury	F-162		6.03	128,000					78.00	
Woodbury	F-187		.92	3,523			.92	9,770	100.00	
Worth	F-124		1.43	13,523	5.93	13,500			100.00	
Worth	F-161	72,209							100.00	
Worth	F-216	31,410	6.90	88,344					50.00	
Wright	F-19	2,495	5.85	435	6.84	15,801			100.00	
Wright	F-200	60,676	9.47	145,239					99.00	
Tota		3,099,952	1,099.68	12,342,088	432.00	718,922	101.42	1,000,164		

SCHEDULE NO. 21 A

PROJECTS COMPLETED AND RETIRED

County	Project number	Mileage	Nature of work
Adair	F-28	16.54	Grading and draining
Adair	F-162	3.79	Grading
Adair	F-26	9.96	Grading
Albion	F-113	7.49	Grading and draining
Black Hawk	F-36	22.36	Grading, paving and draining
Black Hawk	F-164	7.91	Grading and draining
Black Hawk	F-235	7.91	Graveling
Boone	F-38	13.69	Grading, graveling and draining
Boone	F-65	22.08	Grading, graveling and draining
Boone	F-134	8.56	Grading, graveling and draining
Bremer	F-88	10.70	Grading and draining
Bumby Vista	F-93	4.19	Graveling and draining
Calhoun	F-95	5.50	Grading and draining
Calhoun	F-107	6.24	Grading, graveling and draining
Carroll	F-14	10.96	Grading and draining
Carroll	F-99	8.96	Grading and draining
Cass	F-150	3.52	Grading
Chickasaw	F-76	14.74	Grading, graveling and draining
Chickasaw	F-131	1.96	Grading and draining
Clarke	F-23	8.45	Grading and draining
Clinton	F-18	17.58	Grading, paving and draining
Clinton	F-238	7.30	Grading and paving
Crawford	F-181	1.01	Grading and draining
Dallas	F-33	22.14	Grading, graveling and draining
Dallas	F-109	16.82	Graveling
Dallas	F-104	14.72	Grading
David	F-50	10.32	Grading and draining
DeWitt	F-8	9.83	Grading
Delaware	F-4	12.62	Grading and draining
Delaware	F-159	12.62	Grading
De Moines	F-28	9.78	Grading, paving and draining
Dickinson	F-68	4.80	Grading, paving and draining
Dubuque	F-17	21.20	Grading and draining
Dubuque	F-147		Drainage
Emmet	F-67		Drainage
Floyd	F-63	5.56	Grading, paving and draining
Franklin	F-46	10.57	Grading and draining

Schedule No. 21 A—Continued

County	Project number	Mileage	Nature of work
Franklin	F-105	9.84	Grading, graveling and draining
Franklin	P-190	10.37	Graveling
Fremont	F- 77	18.07	Grading
Greene	F- 39	7.47	Grading, graveling, paving, draining
Greene	F- 24	6.92	Grading and draining
Greene	P-252	3.76	Graveling
Grundy	F- 19	15.92	Grading and draining
Grundy	P-163	8.21	Graveling
Guthrie	F- 31	12.39	Grading and draining
Hamilton	P-206	14.94	Graveling
Hardin	P- 4	8.95	Grading, graveling and draining
Hardin	P-212	3.67	Graveling
Harrison	F- 14	15.80	Grading
Henry	F- 56	20.62	Grading and draining
Howard	F- 31	10.40	Grading, graveling and draining
Howard	P-102	1.01	Graveling
Humboldt	F- 48	1.85	Grading, graveling, paving, draining
Ia.	P-203	9.84	Graveling
Ia.	F- 80	19.85	Grading and draining
Jasper	P-180	12.11	Graveling
Jefferson	F- 3	10.78	Grading and draining
Johnson	F- 9	11.10	Grading and paving
Johnson	F-128	2.54	Grading and paving
Johnson	P- 33	18.08	Grading and draining
Johnson	P- 97	1.57	Grading
Keokuk	F- 34	11.63	Grading and draining
Kossuth	F- 6	17.46	Grading, graveling and draining
Linn	F- 22	13.80	Grading, paving and draining
Linn	F- 96	12.40	Grading and draining
Louis	F- 53	20.84	Grading and draining
Lyon	P-174	23.60	Graveling
Madison	P- 36	11.33	Grading
Marion	F- 7	17.90	Grading
Marion	F- 75	13.51	Grading and draining
Marshall	P- 13	6.95	Grading and draining
Marshall	F- 23	5.53	Grading and paving
Mills	F- 15	13.10	Grading
Mitchell	F- 45	18.19	Grading, graveling and draining
Monroe	F- 20	8.23	Grading
Monroe	F- 78	5.85	Grading
Muscatine	F- 40	19.40	Grading and draining
O'Brien	F- 43	22.49	Grading, paving and draining
Osceola	P-160	10.45	Graveling
Osceola	P-202	17.00	Graveling
Osceola	P-201	5.2	Grading and graveling
Page	P- 27	22.62	Grading
Palo Alto	F-109	11.05	Grading, paving and draining
Plymouth	F- 38	26.26	Grading and draining
Polk	P- 1	1.50	Grading, paving and draining
Polk	P- 40	4.78	Grading and paving
Polk	P- 59	3.55	Grading and draining
Polk	P- 72	15.85	Grading and draining
Polk	F- 89	7.35	Grading and paving
Polk	P-258	69	Grading, paving and draining
Ringold	F- 6	12.00	Grading
Sae	P-106	18.35	Graveling
Shelby	P- 42	23.98	Grading
Union	F- 83	14.50	Grading and draining
Wapello	F- 42	10.50	Grading
Warren	F- 11	16.26	Grading and draining
Washington	F- 71	21.84	Grading and draining
Webster	P- 25	16.90	Grading and draining
Woodbury	P- 45	14.00	Grading, paving and draining
Woodbury	P- 78	2.73	Grading and paving
Woodbury	F-187	.92	Grading and paving
Worth	P-161	34.30	Drainage
Wright	P- 19	9.90	Grading, graveling and draining
Worth	F-134	3.98	Grading, graveling and draining

SCHEDULE NO. 22

CITY PRIMARY ROAD PAVING PROJECTS PLACED UNDER CONSTRUCTION

County	City	Project number	Miles	Square Yards	Remarks
Harlin	Eldon	C- 1	1.35	16,324	Completed
Wapello	Ottumwa	C-2	.81	14,219	Completed
Harrison	Missouri Valley	C- 3	1.05	11,072	Completed
Johnson	Iowa City	C- 4	.84	13,350	Completed
Shelby	Harlan	C- 5	.95	10,900	Completed
Kossuth	Algona	C- 7	1.57	22,350	Completed
Delaware	Manchester	C- 8	1.21	23,850	Completed
Story	Ames	C- 9	8.75	11,013	Uncompleted
Allamakee	Waukon	C-10	1.54	22,198	Uncompleted
Johnson	Iowa City	C-11	.83	9,839	Uncompleted
Woodbury	Soson City	C-12	1.76	15,790	Uncompleted
Des Moines	Burlington	C-13	1.72	23,231	Uncompleted
Monroe	Albia	C-16	.56	7,018	Completed
	13 cities		15.14	205,324	

SCHEDULE NO. 23
DETAIL OF ASSIGNMENT OF GOVERNMENT EQUIPMENT, DECEMBER 1, 1922

County	Trucks		Tractors		Trailers w/eng. crts rolling stock	Shop machinery	Small Tools	General Supplies	Totals
	Number	Value	Number	Value					
Adair	3	412,430	1	83,000	\$ 331.00	\$ 69.50	\$ 416.85	\$ 18,436.70	
Adams					311.00		190.50	1,067.67	
Albany					321.52	69.50	167.80	1,469.47	
Albion					281.00		141.90	1,031.54	
Appanoose					290.00		1,441.82	5,166.72	
Audubon					282.00		1,212.20	4,124.39	
Benton					290.00		239.70	1,731.99	
Black Hawk					300.00		177.20	699.62	
Bloom					325.00	69.50	248.75	1,390.98	
Branford					325.00		193.20	1,005.29	
Buchanan					325.00		325.55	3,002.69	
Bureau					325.00		325.55	2,471.89	
Buena Vista					325.00		325.55	1,851.04	
Butler					325.00	69.50	184.40	1,264.14	
Caldwell					317.00		228.92	8,701.22	
Cass					317.00		332.89	9,036.43	
Cedar					314.00		124.01	9,322.01	
Cerro					345.00		210.16	2,110.94	
Cerro Gordo					345.00		225.70	2,110.94	
Cherokee					1,240.00	2,003.00	941.37	4,348.37	
Chickasaw					275.00		387.49	1,723.42	
Clarke					275.00		274.50	1,165.09	
Clatsop					275.00		184.50	1,069.09	
Clayton					275.00		184.50	1,069.09	
Clinton					317.00		303.50	1,374.94	
Crawford					317.00		183.75	980.67	
Crawford					496.00	69.50	228.89	1,805.61	
Dallas					496.00	69.50	1,021.25	6,209.53	
Dawson					199.00		1,021.25	1,805.61	
DeKalb					356.00		129.05	1,805.61	
Delaware					275.00		137.05	952.37	
Des Moines					181.00	708.75	201.55	1,299.09	
Dickinson					317.00		347.40	1,765.84	
Dubuque					317.00		347.40	1,379.15	
Dunn					317.00		177.65	9,457.35	
Emmett					317.00		177.65	9,457.35	
Euclid					275.00		194.10	1,379.15	
Fayette					746.00	889.00	236.79	1,379.15	
Floyd					775.00		123.80	13,992.12	
Franklin					775.00		123.80	1,802.47	
Fremont					212.00		309.39	1,802.47	
Greene					212.00		309.39	1,802.47	

Hamilton	2	7,850	1	3,000	200.00		113.55	934.17
Hancock					71.00		126.70	1,125.17
Harrison					496.00		197.80	12,672.57
Haskell					146.00		996.77	4,325.17
Hawley					146.00		894.72	1,845.72
Henry					317.00		170.35	1,403.34
Herrick					725.00		1,021.25	2,002.59
Howard					31.00		196.86	6,355.51
Humboldt					417.00		124.05	15,909.31
Iowa					316.00	69.50	124.05	4,162.82
Jackson					320.00		126.73	6,155.29
Jasper					212.85		1,896.84	5,577.54
Jefferson					212.85		1,165.17	8,419.03
Johnson					4,000.00		1,655.17	9,419.03
Jones					1,245.00	644.50	302.30	17,879.29
Kossuth					725.00	315.75	123.40	1,072.09
Lee					246.00		90.40	1,291.24
Lea					146.00		414.20	18,830.41
Linn					300.00		230.75	1,643.09
Linn					300.00	219.50	196.46	10,291.56
Linn					275.00		169.05	4,374.57
Linn					21.00		992.53	4,374.57
Linn					121.00	1,444.50	299.00	6,884.19
Linn					251.00		184.05	7,299.42
Linn					251.00		184.05	9,885.23
Linn					115.00	619.50	323.45	4,512.48
Linn					321.00	69.50	161.80	9,959.37
Linn					321.00	69.50	6,075.57	8,233.48
Linn					321.00		160.00	3,869.52
Linn					321.00		15,744.72	13,537.83
Linn					321.00	604.50	1,819.50	4,357.95
Linn					321.00	330.75	1,819.50	4,357.95
Linn					321.00		191.20	6,049.71
Linn					253.00	184.50	1,309.20	13,922.52
Linn					31.00	69.50	212.00	13,948.37
Linn					31.00	69.50	171.80	1,131.66
Linn					146.00	31.25	388.49	1,971.15
Linn					146.00	25.00	269.55	5,231.05
Linn					146.00	25.00	269.55	745.56
Linn					31.00	3.00	170.25	1,805.96
Linn					31.00	3.00	183.55	6,431.13
Linn					287.00	1,469.50	178.25	8,648.43
Linn					287.00	60.50	149.55	7,512.41
Linn					200.00	332.50	305.35	2,292.65
Linn					200.00			10,240.91

Schedule No. 23—Continued

County	Trucks		Tractors		Trailers wagons, cars rolling stock		Shop machinery	Small Tools	General Supplies	Totals
	Number	Value	Number	Value	Number	Value				
Tama	1	3,910			190.00			165.80	890.25	5,162.05
Taylor	1	3,300			121.00			133.55	911.35	4,485.90
Union	1	3,910			121.00			133.80	935.50	4,170.30
Van Buren	1	3,910			202.00			185.00	1,018.55	4,933.55
Warren	2	8,310			200.00		342.00	185.00	1,018.55	4,933.55
Washington					150.00			166.25	1,478.23	1,813.47
Wayne	2	7,820	1	4,000	1,040.27		113.20	296.00	1,450.00	14,719.47
Webster	4	11,660	1	5,000	200.00		69.50	142.55	937.25	13,349.29
Winneshiek	3	3,350			242.00		69.50	142.55	770.00	28,001.97
Woodbury	3	12,020			267.00		69.50	172.20	585.49	13,373.69
Worth					275.00			193.55	5,079.40	17,629.53
Wright	1	4,000		2,000	225.00		912.50	190.25	1,041.35	4,906.00
Wright (Coated and State Institutions)	1	4,000			225.00		912.50	190.25	1,478.19	17,519.14
Wright (Iowa State College)	2	5,800			12,200.00		31,100.00	13,920.00	150,397.00	215,843.00
Executive Council	2	7,800							500.00	7,800.00
Park Commission									500.00	7,800.00
	108	\$423,212	30	\$63,000	\$44,760.30		\$44,277.90	\$35,040.17	\$295,138.87	\$938,992.33

SCHEDULE NO. 24

GOVERNMENT EQUIPMENT RECEIVED, DECEMBER 1, 1921, TO DECEMBER 1, 1922

Description	Quantity	Value
Trucks, in serviceable condition	68	\$274,200.00
Trucks, in unserviceable condition	6	1,200.00
Tractors, 10-ton Holt	24	72,000.00
Tractors, 5-ton Holt	2	5,000.00
Cars, White, reconnaissance	10	5,000.00
Cranes, derricks, hoists and conveyors	15	48,575.00
Wagons, trailers and other rolling equipment	843	50,400.00
Pumps, gas engines and concrete mixers	250	4,650.00
Boilers	24	17,980.00
Shop machines, lathes, grinders, etc.	283	64,175.00
Motors and dynamos	84	6,070.00
Truck and car repair parts		46,040.00
Tractor repair parts		10,040.00
Heating plant equipment		1,325.00
Pipe and pipe fittings		5,765.00
Tents and tarpaulins		46,040.00
Canvas	305,414 yards	82,660.00
Rope, cord and cable		22,015.00
Nails	677 tons	54,170.00
Staples	139 tons	11,115.00
Building materials		24,770.00
Electrical Equipment and supplies		9,455.00
Lamps, lanterns and supplies		16,490.00
Steel and iron		6,700.00
Harness and leather goods		18,395.00
Small tools, carpenter and blacksmith, etc.		32,135.00
Tile and sewer pipe		138,325.00
Wagon parts		2,450.00
Unclassified		1,790.00
		159,560.00
		\$1,221,113.00

SCHEDULE NO. 25
BRIDGES AND CULVERTS CONSTRUCTED

County	Project Number	Number of Structures in Project					Total	Percent completed	Number of structures completed previous to 1922	Number of structures completed 1922	Number of structures completed Date
		Concrete culverts box-Cr. arch and pipe	Handwalls culverts length-stand.	Concrete abut. bridges, thru girders, deck girders	Concrete Abut. spans, steel Gir.	Concrete Abut. spans, steel truss, deck iron					
Adair	B-20	14		1	1		16	100.00	14	2	16
Adair	B-22	18					21	100.00	21		21
Adair	B-21	17					23	100.00	23		23
Adair	B-103	1					25	100.00	25		25
Adair	B-211	23					24	100.00		20	20
Adams	B-109	50					55	82.60		52	52
Adams	B-68	3	4				4	100.00		4	4
Adams	B-156	8					12	100.00		12	12
Allamakee	B-161						41	25.00		27	27
Allamakee	B-178	55					61	84.00		57	57
Allamakee	B-30	22					25	4.00		22	22
Allamakee	B-163	47					51	91.50		51	51
Allamakee	B-164	4					5	80.00		4	5
Allamakee	B-165	13	11				24	100.00		24	24
Allamakee	B-166	14					18	10.70		14	14
Allamakee	B-167	12					19	100.00		19	19
Allamakee	B-80	4					11	100.00		11	11
Allamakee	B-168	14					24	100.00		24	24
Allamakee	B-72						1	99.00		1	1
Allamakee	B-203	8	12				22	67.30		21	21
Allamakee	B-14	26	18				45	100.00		45	45
Allamakee	B-11	1					1	100.00		1	1
Allamakee	B-113	2					27	25.20		25	25
Allamakee	B-152	23					27	75.20		26	26
Allamakee	B-61	6					10	100.00		7	7
Allamakee	B-109	80					92	92.80		86	86
Allamakee	B-204	23	11				34	72.50		30	30

Cedar	B-105	17	15				30	40.00		14	14
Cedar	B-170	43	5				34	100.00		45	34
Cedar	B-182	14	1				79	98.70		48	48
Cedar	B-183	1					2	100.00		5	5
Cedar	B-36	38	15				39	100.00		27	27
Cedar	B-62	48					19	100.00		18	19
Cedar	B-63	24					48	100.00		47	48
Cedar	B-64	31					35	100.00		34	35
Cedar	B-65	49	4				52	100.00		52	52
Cedar	B-71	30	5				20	100.00		20	20
Cedar	B-116	4					21	100.00		20	21
Cedar	B-33	30	6				36	65.00		34	34
Cedar	B-126	18					28	4.30		4	4
Cedar	B-178	4					5	24.00		5	5
Cedar	B-189	5					5	83.00		5	5
Cedar	B-194	22					24	100.00		24	24
Cedar	B-195	17					18	100.00		18	18
Cedar	B-6						35	100.00		35	35
Cedar	B-22	22	10				32	100.00		32	32
Cedar	B-102	2					32	100.00		32	32
Cedar	B-112	38					47	100.00		47	47
Cedar	B-78	64					69	92.00		65	65
Cedar	B-9	11					11	100.00		11	11
Cedar	B-41	30					31	100.00		31	31
Cedar	B-117	2					2	95.40		2	2
Cedar	B-118	2					3	100.00		3	3
Cedar	B-88						5	65.70		1	1
Cedar	B-109	1					1	100.00		1	1
Cedar	B-44	28					28	100.00		28	28
Cedar	B-12	30					35	100.00		35	35
Cedar	B-13	6					7	100.00		7	7
Cedar	B-38	29					39	7.70		31	31
Cedar	B-58	18					26	100.00		26	26
Cedar	B-70	35					74	64.00		55	55
Cedar	B-34	35					56	60.00		16	16
Cedar	B-120	14					17	99.20		17	17
Cedar	B-168	14					17	100.00		17	17
Cedar	B-45	13					13	11.80		13	13
Cedar	B-107	73					79			79	79

Schedule No. 25—Continued

County	Project Number	Number of Structures in Project						Total	Percent completed	Number of structures completed previous to 1922	Number of structures completed in 1922	Number of structures completed to Date
		Concrete culverts low-Cr. pipe	Headwalls culverts length-arch and mnd.	Concrete abutments, arch bridges, thru girders, etc.	Concrete spans, steel arch, etc.	Concrete Abut. masonry, steel deck, truss	Miscellaneous permanent construction and remaining Wk.					
Jones	B-23	47	2			3	52	90.00	45	6	51	
Kendall	B-148	11	2			1	14	100.00		14	14	
Kossuth	B-128	8	2			1	10	38.20		8	8	
Lee	B-2	12	2			1	14	100.00	13	1	14	
Low	B-100	57	2			2	59	31.90		4	4	
Louis	B-4	28	3			3	33	100.00		33	33	
Linn	B-6	18	3			2	23	100.00		13	33	
Linn	B-101	25	1			1	27	100.00		1	27	
Linn	B-66	25	19	1		1	46	100.00	2	30	77	
Linn	B-84	18	2			2	22	77.00		20	42	
Linn	B-179	18	1			2	21	100.00	43	20	63	
Linn	B-190	92	4			1	97	100.00		23	120	
Madison	B-106	41	4			1	46	100.00	44	2	48	
Madison	B-27	41	4			1	46	96.60		22	68	
Madison	B-125	23	4			3	30	100.00		22	52	
Madison	B-129	34	4			1	43	100.00		23	66	
Madison	B-139	12				1	13	100.00		1	14	
Madison	B-140	30	3			1	34	100.00		8	42	
Marshall	B-14	19				3	22	100.00		3	25	
Marshall	B-31	81	1			3	85	100.00	21	3	89	
Monona	B-48	14				1	15	100.00	13	1	16	
Muscatine	B-25	14				6	20	89.50	15	34	49	
Muscatine	B-211	1				1	2	100.00		5	7	
Muscatine	B-212	1				1	2	100.00		1	3	
Muscatine	B-49	42	3			4	49	89.50	15	34	49	
O'Brien	B-107	16	7			1	24	100.00	1	7	31	
Oswego	B-57	8	1			1	10	100.00		8	18	
Osceola	B-919	45	3			3	51	100.00	55	48	103	
Osceola	B-31	25	3			2	30	100.00	16	12	42	
Plymouth	B-105	25	3			2	30	100.00		28	58	

Plymouth	B-212	63	2			2	67	25.60	13	9	76
Plymouth	B-95	53	1			2	56	75.00		45	101
Pottawattamie	B-97	23	4			2	29	94.50	29	28	57
Pottawattamie	B-15	42	0			0	42	100.00	48	16	64
Pottawattamie	B-184	24	2			1	27	100.00		16	43
Pottawattamie	B-165	50				1	51	100.00		41	91
Pottawattamie	B-70	34	3			4	41	90.50		39	80
Ringgold	B-16	33	1			2	36	100.00	19	19	38
Ringgold	B-22	33	12			2	47	100.00	30	8	55
Scott	B-10	7				1	8	100.00		9	17
Sioux	B-51	19	1			1	21	99.00	19	1	21
Sioux	B-123	2				1	3	100.00		6	9
Sioux	B-135	2	9			1	11	83.40		6	17
Tama	B-25	27	8			3	38	100.00	48	6	92
Tama	B-214	27	4			3	34	100.00		12	46
Taylor	B-11	33	0			3	36	66.20		42	78
Taylor	B-213	69	6			3	78	43.70		39	117
Union	B-42	38	6			1	45	100.00		16	61
Union	B-37	4	2			1	7	100.00		1	8
Van Buren	B-75	30	7			1	38	73.70		62	100
Van Buren	B-118	42	3			2	47	100.00	15	31	78
Van Buren	B-21	12	3			2	17	100.00		1	18
Warren	B-93	18	2			2	22	89.30		33	55
Warren	B-99	18	2			1	21	100.00		2	23
Warren	B-10	42	3			2	47	100.00		4	51
Washington	B-30	13	3			1	17	100.00		1	18
Washington	B-86	39	3			1	43	100.00	43	1	86
Wayne	B-13	45	5			2	52	100.00		51	103
Wayne	B-104	45	5			2	52	100.00		2	54
Wayne	B-55	35	12			1	48	100.00	40	2	50
Wayne	B-146	45	13			1	59	100.00		20	79
Winnebago	B-162	45	13			1	59	100.00		48	107
Winnebago	B-98	9	15			2	26	100.00	6	24	30
Wright	B-35	15	4			2	21	100.00		22	43
Wright	B-35	15	4			2	21	100.00		22	43
		2,917	463	19	56	* 343	4,398		1,480	2,196	3,588

CHAPTER IX.

Department of Road Maintenance

The maintenance policy of the commission is one of cooperation with the counties in an endeavor to keep every mile of the 6,616 miles of primary road smooth and safe for travel at all times.

Complaints.

During the fiscal year forty-three complaints were filed with the commission. The complaints were divided among the different road systems as follows:

Primary system.....	6 complaints
County system.....	4 complaints
Township system.....	33 complaints

All the primary and county road complaints have been adjusted, and only three township complaints are now pending. This makes a total of forty complaints investigated and adjusted. A comparison of the number of complaints filed during the last three years follows:

1920.....	128 complaints
1921.....	56 complaints
1922.....	43 complaints

The total number of complaints filed with the commission since 1913 is one thousand and forty-five.

Maintenance Budget.

On January 1 the commission adopted a temporary budget to provide for maintenance until the adoption of the permanent budget. The temporary budget amounted to \$658,000. The final 1922 maintenance program was definitely outlined early in the year by the various county engineers and district engineers. These estimates were revised and submitted to the commission by the maintenance engineer.

On February 13 the final budget was passed, the total being \$1,599,421.00. It has since been found necessary to make slight increases in the budget for twelve counties. Schedule No. 26 shows the budget including the January 1, 1922, balance and all additions to December 1, 1922. The total revised budget is \$2,685,000.00.

Note: For a statement of maintenance expenditures from the above budget see Schedules No. 71 and 72, Chapter XIV. The following table shows the comparative expenditures for maintenance for the last three years.

Year	Mile maintained	Total cost of Maint.	Avg. cost per mile
Jan. 1, 20-Jan. 1, '21.....	5,619.1	\$1,393,654	\$241*
Dec. 1, 20-Dec. 1, '21.....	5,616.0	2,294,892	342†
Dec. 1, 21-Dec. 1, '22.....	5,615.3	2,444,665	370‡

*Does not include any bridge maintenance. Bridge maintenance paid from county funds.
 †Includes part of bridge maintenance; part paid from county funds.
 ‡Includes all bridge maintenance on primary system.

Primary Road Condition Map.

Annually the commission collects the data for and prepares the map showing the condition of the primary road system on December 1. The roads are classified as follows: First, paving; second, gravel; third, built to permanent grade; and, fourth, not built. The mileage of the primary road system in each of the above named classes was on December 1, 1922, as follows:

Paving	334.4 miles
Gravel	1,558.0 "
Built to permanent grade.....	1,761.1 "
Not built.....	2,961.5 "

These mileages do not include any work partially completed or work in towns or cities. A copy of the condition map is appended hereto. A comparison of this map with the condition map filed with the 1921 report shows graphically the location and the extent of the construction work accomplished during the year. Schedule No. 27 shows the condition of the primary road system by counties on December 1, 1922.

County Use of Government Trucks.

In order to determine what use is being made of the government trucks which have been assigned the counties, a blank was sent to each county upon which they reported the work done in 1922 by each of the trucks assigned them. These reports show that the total number of trucks assigned was 535 and that the work was distributed as follows:

Primary Road Work—	
Construction.....	11.0
Maintenance.....	174.9
Secondary Road Work—	

Construction.....	16.2
Maintenance.....	70.6
Bridge work.....	205.3
Trucks not used.....	55.0

The number of trucks reported "not used" indicates that some of the first trucks which were assigned the counties are beginning to wear out. It is the intention of the commission to inspect these trucks as fast as possible and determine whether or not they are worth overhauling. Wherever feasible the trucks will be overhauled; otherwise they will be dismantled and the parts salvaged.

Maintenance Letter and Instructions.

During the year several maintenance letters were sent to all of the county engineers in an endeavor to have necessary maintenance work performed promptly. The first letter was sent in the spring and called their attention to numerous subgrade failures. They were requested to not only repair the failures, but to make a record of the locations so that during the summer work could be done which would obviate their recurrence. The second letter was sent in the middle of the summer and appealed to them to cut the weeds along the highways. In October a letter was sent out requesting that all new grading be crowned up to the standard for the winter.

Complete instructions for the maintenance of paved roads were issued in March and complete instructions for the maintenance of gravel roads were issued in June.

Traffic Census.

In order to determine the actual amount of traffic carried by the primary roads, the commission has established five representative traffic counting stations. These stations are located at widely varying points in the state and cover all common types of road. The counts were taken at these stations a week at a time periodically through the summer and fall. All traffic between 5 a. m. and 11 p. m. was recorded and once each week an all-night count was made. The data procured have been summarized in Schedule No. 28. A continued study of the traffic at these points will be made through the winter and spring so that a fair annual traffic may be determined.

Contract Approval.

Most of the maintenance work on the primary system is being done by day labor, but some work has been let by contract by the counties. Contracts have been approved by the commission for \$99,954.00 of maintenance work.

SCHEDULE NO. 26

PRIMARY ROAD MAINTENANCE BUDGET, JANUARY 1, 1922—DECEMBER 1, 1922

County	Mileage	Budget	County	Mileage	Budget
Adair.....	56.5	\$19,000	Jefferson.....	48.8	\$22,000
Adams.....	35.1	16,000	Johnson.....	73.9	28,000
Allamakee.....	84.5	27,000	Jones.....	55.0	25,000
Appanoose.....	37.2	23,000	Kossuth.....	79.9	22,000
Audubon.....	46.6	21,000	Lee.....	89.2	29,000
Benton.....	90.3	31,000	Linn.....	84.6	28,000
Black Hawk.....	76.4	28,000	Lyon.....	95.2	43,000
Boone.....	77.9	40,000	Louisia.....	52.1	17,000
Bruwer.....	71.6	22,000	Lucas.....	66.5	23,000
Buchanan.....	46.6	23,000	Madison.....	65.7	18,000
Buena Vista.....	66.6	32,000	Mahaska.....	84.6	29,000
Butler.....	70.2	29,000	Marion.....	93.3	38,000
Calhoun.....	72.8	32,000	Marshall.....	48.8	20,000
Carroll.....	70.0	45,000	Miller.....	49.9	22,000
Cass.....	74.0	35,000	Mills.....	60.5	31,000
Cedar.....	75.9	24,000	Mitchell.....	76.2	22,000
Cerro Gordo.....	53.8	24,000	Monroe.....	58.3	21,000
Cherokee.....	77.2	19,000	Montgomery.....	52.2	25,000
Chickasaw.....	46.1	23,000	Muscatine.....	80.9	27,000
Clarke.....	45.0	18,000	O'Brien.....	74.3	17,000
Clay.....	53.6	36,000	Cecilia.....	41.5	9,000
Clayton.....	105.2	29,000	Page.....	59.2	24,000
Clinton.....	89.9	35,000	Palo Alto.....	48.9	17,000
Crawford.....	81.8	57,000	Plymouth.....	118.9	25,000
Dallas.....	88.4	32,000	Pocahontas.....	65.3	40,000
Davis.....	47.4	17,000	Polk.....	91.0	36,000
Decatur.....	53.1	25,000	Pottawattamie.....	143.1	75,000
Delaware.....	46.8	19,000	Poweshiek.....	66.5	25,000
Des Moines.....	38.9	18,000	Ringgold.....	52.3	24,000
Dickinson.....	41.4	26,000	Sac.....	61.3	40,000
Dubuque.....	81.4	40,000	Scott.....	72.2	27,000
Emmett.....	41.5	35,000	Shelby.....	80.5	25,000
Fayette.....	94.4	28,000	Sioux.....	73.3	18,000
Floyd.....	67.3	25,000	Story.....	65.3	37,000
Franklin.....	41.7	24,000	Tama.....	70.1	21,000
Fremont.....	80.0	29,000	Taylor.....	49.3	24,000
Greene.....	73.4	45,000	Union.....	51.8	23,000
Grundy.....	62.8	28,000	Van Buren.....	46.5	17,000
Guthrie.....	71.9	38,000	Wapello.....	42.7	17,500
Hamilton.....	68.3	26,000	Warren.....	83.4	34,000
Hancock.....	58.7	19,000	Washington.....	87.2	34,000
Hardin.....	62.2	33,000	Wayne.....	61.8	20,000
Harrison.....	79.4	37,000	Webster.....	84.5	44,000
Henry.....	46.2	16,000	Winnebago.....	48.9	19,000
Howard.....	90.5	21,000	Winneshiek.....	51.6	25,000
Humboldt.....	41.5	23,000	Woodbury.....	124.1	34,000
Ida.....	49.4	13,000	Worth.....	60.0	29,000
Iowa.....	66.9	27,500	Wright.....	59.2	30,000
Jackson.....	49.5	25,000			
Jasper.....	87.6	37,000			
			Total.....	6,615.3	\$2,688,000

SCHEDULE NO. 29

DISTRIBUTION OF DISTRICT ENGINEERS' AND ASSISTANT DISTRICT ENGINEERS' TIME
ACCORDING TO CLASS OF WORK

District Number.....	1	2	3	4	5
District Engineer.....	W. F. Board H. O. Hickok	R. R. Zaak T. R. Ferry	E. W. Dunn E. Capel	I. M. Martin C. D. Weiler	J. S. Morrison W. J. Smith
Assistant District Engineer.....					
Primary System:					
Preliminary engineering, road work.....	94.0	61.2	155.5	113.3	315.0
Construction engineering, road work.....	153.2	124.8	150.5	126.2	54.0
Preliminary engineering, bridge work.....	4.5	5.0	25.7	46.3	17.5
Construction engineering, bridge work.....	14.0	12.2	41.7	22.5	3.0
Alterations in primary road system.....	3.3	2.0	1.5	7.0	1.0
Maintenance.....	42.3	73.3	18.3	39.5	13.5
Railroad crossings.....	7.0	0.5	4.0	3.3	15.0
Secondary System:					
Preliminary engineering, road work.....	19.7	3.0	17.2	1.0	1.5
Construction engineering, road work.....	13.5	11.8	1.8		13.5
Preliminary engineering, bridge work.....	4.5	11.5	19.0		8.5
Construction engineering, bridge work.....	5.8	18.2	7.0		2.5
Alterations in county road system.....	3.5	3.5	2.5	6.0	3.0
Maintenance.....	3.0	2.0		4.0	0.5
Railroad crossings.....		1.0		0.5	
General administrative work.....	178.3	252.8	127.3	180.0	144.0
Total.....	571.3	588.8	572.0	590.0	587.0

Schedule No. 29—Continued

District Number.....	6	7	8	9	Total
District Engineer.....	W. M. Lee I. S. Gates	J. A. Paulsen I. E. Goodrich	J. F. Reynolds A. A. Baustian	W. O. Price V. G. Gould	
Assistant District Engineer.....					
Primary System:					
Preliminary engineering, road work.....	37.2	127.4	113.0	151.7	1,169.3
Construction engineering, road work.....	78.3	94.1	53.2	109.0	1,017.3
Preliminary engineering, bridge work.....	56.0	41.8	7.5	32.8	272.9
Construction engineering, bridge work.....	8.0	5.7	11.0	32.7	153.3
Alterations in primary road system.....	1.5	3.5	5.3	3.3	31.8
Maintenance.....	75.3	55.3	105.3	31.0	642.7
Railroad crossings.....	1.5	17.3	11.0	2.5	62.1
Secondary System:					
Preliminary engineering, road work.....	4.0	10.7	25.3	1.0	86.4
Construction engineering, road work.....	1.0	8.5	10.5		26.5
Preliminary engineering, bridge work.....	3.5	19.5	11.5	0.5	75.0
Construction engineering, bridge work.....	1.5	3.8	4.5	2.5	50.3
Alterations in county road system.....		19.0	0.5	1.3	41.3
Maintenance.....					19.5
Railroad crossings.....			0.5		3.0
General administrative work.....	299.3	186.0	194.0	232.6	1,794.3
Total.....	568.0	599.5	595.3	602.6	5,274.7

SCHEDULE NO. 30

DISTRIBUTION OF DISTRICT ENGINEERS' AND ASSISTANT DISTRICT ENGINEERS' TIME
BY COUNTIES

County	Days	County	Days
Adair.....	27.0	Johnson.....	27.3
Adams.....	31.7	Jones.....	34.7
Albion.....	38.2	Keokuk.....	63.6
Alfonso.....	32.0	Kossuth.....	42.5
Appanoose.....	32.5	Lee.....	37.0
Audubon.....	29.7	Linn.....	29.8
Benton.....	46.0	Linn.....	13.4
Black Hawk.....	31.5	Lucas.....	15.5
Boone.....	33.5	Lyon.....	34.3
Bremer.....	43.3	Madison.....	37.5
Buchanan.....	40.5	Mahaska.....	47.5
Buena Vista.....	35.2	Marion.....	34.0
Butler.....	27.5	Marshall.....	23.2
Calhoun.....	43.0	Mills.....	17.3
Carroll.....	44.2	Mitchell.....	27.6
Cass.....	32.2	Monona.....	58.7
Cerro.....	17.3	Monroe.....	24.5
Cherokee.....	41.0	Montgomery.....	14.2
Chickasaw.....	25.7	Muscatine.....	25.1
Clarke.....	37.2	O'Brien.....	36.3
Clay.....	47.0	Oceola.....	33.3
Clayton.....	51.0	Pago.....	29.0
Clinton.....	33.3	Palo Alto.....	22.0
Crawford.....	29.0	Plymouth.....	48.0
Dallas.....	40.7	Pocahontas.....	33.5
Daviess.....	36.2	Polk.....	62.0
Decatur.....	30.5	Pottawattamie.....	96.5
Delaware.....	29.4	Poweshiek.....	27.0
Des Moines.....	33.5	Ringgold.....	32.3
Dickinson.....	34.0	Sac.....	49.5
Dubuque.....	43.1	Scott.....	29.7
Emmet.....	17.0	Shelby.....	19.8
Fayette.....	53.4	Sick.....	56.3
Floyd.....	43.3	Story.....	18.2
Franklin.....	29.5	Tama.....	35.8
Fremont.....	20.7	Taylor.....	43.0
Grundy.....	25.3	Union.....	27.3
Guthrie.....	42.9	Wapello.....	35.3
Hamilton.....	61.5	Warren.....	34.5
Hancock.....	32.2	Washington.....	37.5
Hardin.....	34.0	Wayne.....	41.8
Harrison.....	38.3	Webster.....	43.3
Henry.....	24.2	Winneshiek.....	22.0
Howard.....	14.0	Winneshiek.....	40.1
Humboldt.....	42.2	Woodbury.....	76.0
Ia.....	31.0	Worth.....	38.4
Iowa.....	23.8	Wright.....	21.8
Jackson.....	32.7	Office.....	1,724.3
Jasper.....	62.8		
Jefferson.....	42.5	Total.....	5,274.7

CHAPTER XI.

Roads at State Institutions

Organization.

The Iowa law provides that all roads within and adjacent to state lands shall constitute separate road districts under control and supervision of the board of control. The board of control of state institutions has designated the chief engineer of the highway commission as supervisor of state roads, without additional compensation.

There are about seventy miles of road at the different state institutions which are maintained under this law.

Summary of Work During 1922.

Very little new work has been undertaken during the past year. Contracts which were unfinished during the preceding year have been completed and the roads have been maintained in as good shape as possible. At Cherokee, Independence, Woodward and Ames, regular patrolmen are employed. At the other institutions men are employed part time on the roads.

Iowa State College—Ames.

The roads have been maintained by the patrol system, gravel or cinders being applied when necessary, ditches kept clean and some grade work accomplished. Two miles of road were graveled.

About 200 cubic yards of earth were used to build up and reshape the shoulders along Lincoln Highway across the Squaw Creek bottom lands.

The approach to the railroad grade crossing at the agronomy farm has been graded to improve the view and decrease the approach grade.

Additional land purchases by the state have added three-fourths of a mile of road at this institution. One-half mile of this road has been blade graded under directions of the road patrolman.

Expenditures:

Earth work.....	\$1,353.49
Surfacing—gravel.....	1,638.29
Dragging and repairs.....	2,309.35
Equipment and supplies.....	136.16
Miscellaneous.....	88.99
Total.....	\$5,526.28

State Hospital—Cherokee.

The roads have been maintained and kept in good repair with gravel and cinders by the patrol system, grading and guard rail construction being undertaken where necessary.

Expenditures:

Earth work.....	\$ 241.50
Surfacing—gravel.....	395.11
Dragging and repairs.....	1,468.58
Miscellaneous.....	40.11
Total.....	\$2,145.30

State School for Deaf—Council Bluffs.

The roads have been kept in good condition by dragging. Drainage conditions were improved and guard rail constructed in the vicinity of the Mosquito Creek bridge.

Expenditures:

Dragging.....	\$ 655.10
Guard rail.....	83.95
Total.....	\$ 739.05

Boys' Training School—Eldora.

The roads have been maintained by the inmates of the institution under the direct supervision of the local road supervisor.

The old bridge on the paved road between the institution and the city of Eldora was removed and the road built to grade and cindered. This piece of road will not be paved until the earth fill has settled.

Expenditures:

Earth work.....	\$1,841.44
Miscellaneous.....	87.16
Total.....	\$1,928.60

State Penitentiary—Fort Madison.

The roads have been maintained by applying cinders and dragging. Three thousand feet of tile were laid by inmates of the institution for road drainage.

Expenditures:

Tiling.....	\$ 156.00
General supervision.....	12.27
Total.....	\$ 168.27

State Hospital—Independence.

The roads at this institution have been kept in excellent condition by the patrol system, cinders being used for the road surface.

Expenditures:

Dragging and repairs.....	\$1,719.50
Surfacing	225.00
Engineering and supervision.....	26.48
Equipment and tools.....	57.00
Miscellaneous	70.00
Total.....	\$2,089.98

State University—Iowa City.

Construction of the brick pavement in front of the Children's Hospital on the River to River road was completed in 1921, final payment being made this year.

No additional paving has been undertaken.

Expenditures:

Paving.....	\$6,579.15
Engineering and supervision.....	29.98
Total.....	\$6,609.13

Training School for Girls—Mitchellville.

The roads have been maintained and repaired by institution forces.

Expenditures:

Repairs	\$ 100.50
Engineering	5.46
Total.....	\$ 105.96

State Hospital—Mount Pleasant.

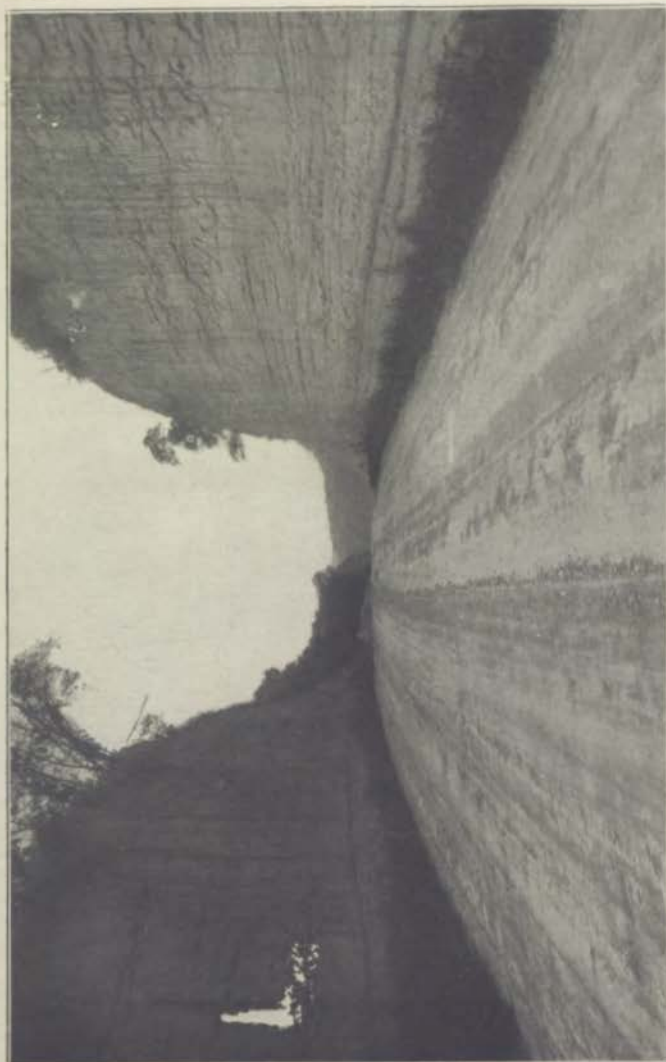
The roads have been maintained by institution forces. About two miles of road along the south and east side of the institution land were reshaped and some grade reduction work accomplished.

Expenditures:

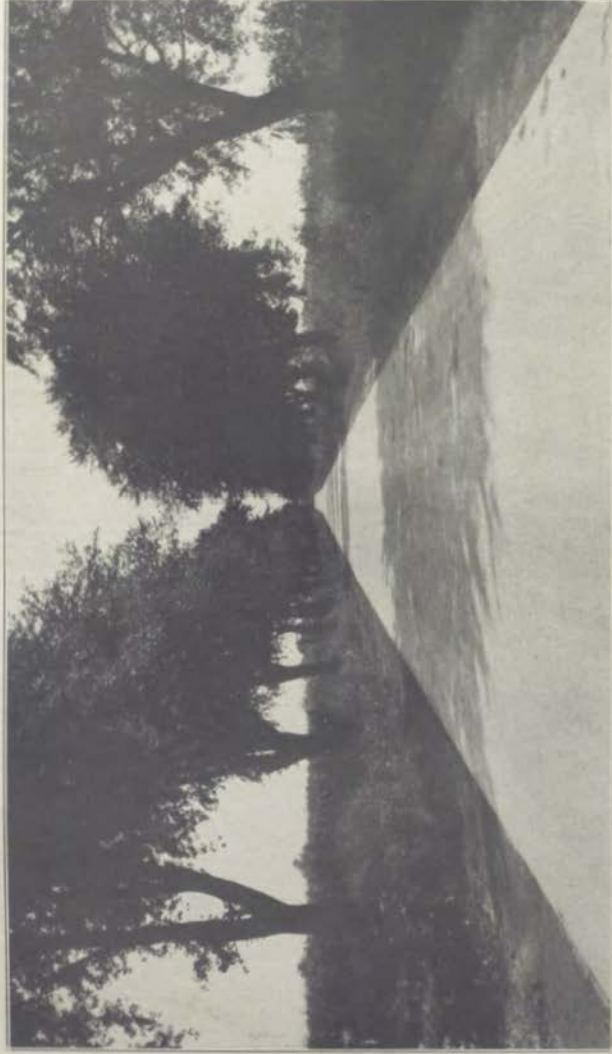
Dragging.....	\$ 94.96
Repairs	35.58
General supervision.....	12.27
Total.....	\$ 142.81

State Sanatorium—Oakdale.

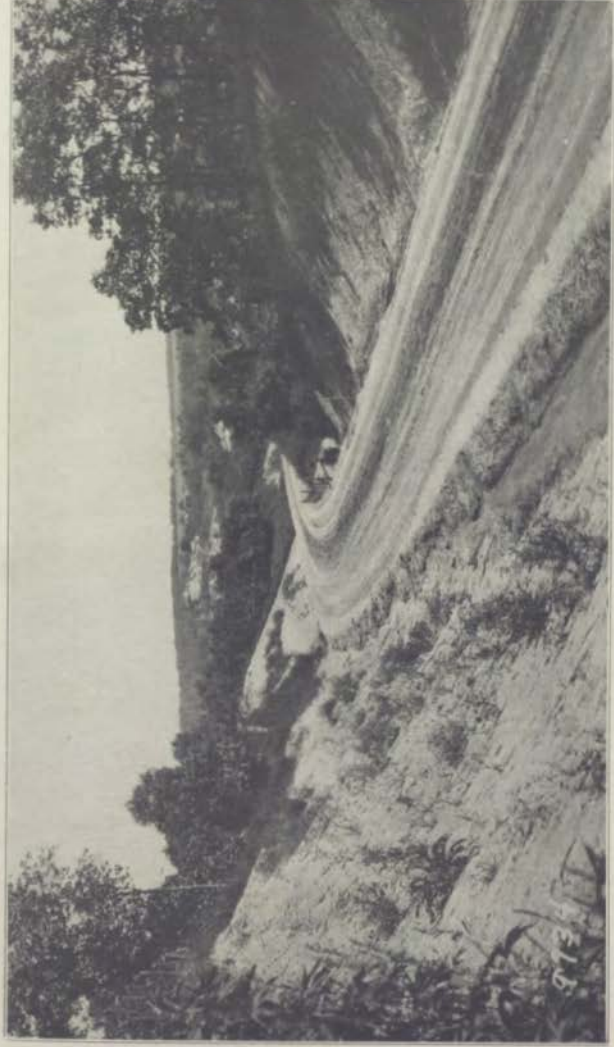
Roads have been cindered and maintained by institution forces. Surveys have been made, plans prepared and contract awarded for approximately 1.8 miles of new road, involving 45,000 cubic



Cut through Honey Creek Hill—Primary Road No. 6, Lincoln Highway, Pottawattamie County.



Concrete pavement—Primary Road No. 4—Lincoln Highway west of Marshalltown, Marshall County.



Looking north toward Hocking—Primary road No. 59, Monroe County.



Filling the Hollows—Primary Road No. 37—Turin to Soldier, Monona County.



Cutting Through the Hills—Primary Road No. 37—Turin to Soldier, Monona County.

yards of earth excavation, connecting the institution with the pavement on Primary Road No. 7 at Coralville.

Three large culverts have been staked out and built on this road and grade stakes set for a portion of the roadway. Grading operations were begun in October and continued until December.

An appropriation of \$20,000 has been made from the general fund to pay for the construction of this road.

Expenditures:

Engineering.....	\$ 641.19
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Women's Reformatory—Rockwell City.

The roads have been maintained by institution forces.

Expenditures:

Surfacing.....	\$ 33.60
General supervision.....	5.21

Total.....	\$ 38.81
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Hospital and Epileptic Colony—Woodward.

Roads have been maintained in excellent condition by the patrol system. Five miles of road were surfaced with gravel.

Three thousand feet of drain tile are being placed by contract.

Expenditures:

Surfacing—gravel.....	\$4,858.39
Dragging and repairs.....	2,095.00
Purchase of gravel pit.....	1,499.00
Equipment and tools.....	65.11
Tiling.....	77.09
Engineering and supervision.....	32.74
Miscellaneous.....	141.24

Total.....	\$8,768.57
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At all other institutions no expenditures have been reported, but roads have been maintained by institution forces.

CHAPTER XII.

Drainage Investigations

The work of this division consists principally of studying the flow of Iowa's streams to determine reasonable rates of flood run-off to be used in the design of highway bridges and culverts. Other lines of work have been undertaken at times, such as assisting the Executive Council in the drainage of lake beds and on state park work.

Stream Gaging Work.

The co-operative agreement for stream gaging work between the State Geological Survey, the State Highway Commission, and the U. S. Geological Survey, has been continued under the direction of J. B. Spiegel, Hydraulic Engineer, U. S. Geological Survey, who devotes his entire time to this work in Iowa.

Twenty-eight regular gaging stations as shown by the following list, are maintained in the most important streams where river stages are observed once or twice a day. At six stations a continuous record of stage is being obtained by means of mechanical recorders.

One hundred nineteen regular and two miscellaneous measurements of the amount of water flowing were made. The daily flow at these stations has been computed and is available to anyone interested in these matters.

Cleaning devices for intakes were installed at the following recording gage stations:

Des Moines River at Kalo.

Iowa River at Iowa City.

Upper Iowa River near Decorah.

The intake at Kalo was lowered one foot and extended about forty feet. At Iowa City the intake was extended fifty feet.

General climatic conditions were moderate and precipitation and run-off were somewhat below normal, especially in the northern portion of the state.

MISSISSIPPI DRAINAGE

River	Town	County
Upper Iowa.....	Decorah.....	Winnebago
Turkey.....	Gaer.....	Clayton
Maquoketa.....	Maquoketa.....	Jackson
Shell Rock.....	Clarksville.....	Butler
Cedar.....	Janesville.....	Brenner
Iowa.....	Cedar Rapids.....	Linn
Iowa.....	Marshalltown.....	Marshall
Iowa.....	Iowa City.....	Johnson
Iowa.....	Wapello.....	Linn
Squaw Creek.....	Ames.....	Story
Skunk.....	Ames.....	Story
Skunk.....	Coppick.....	Henry
Skunk.....	Augusta.....	Lee
Raccoon.....	Van Meter.....	Dallas
Des Moines.....	Kalo.....	Webster
Des Moines.....	Boone.....	Boone
Des Moines.....	Des Moines.....	Polk
Des Moines.....	Ortman.....	Wapello
Des Moines.....	Kennasqua.....	Van Pelt
Des Moines.....	Tracy.....	Marion
Sugar Creek.....	Koskuk.....	Lee
	MISSOURI DRAINAGE	
Little Sioux.....	Correctionville.....	Woodbury
Boyer.....	Logan.....	Harrison
West Br. Nishnabotna.....	White Cloud.....	Mills
East Br. Nishnabotna.....	Red Oak.....	Montgomery
Nodaway.....	Clarinda.....	Page
Grand.....	Davis City.....	Decatur
West Br. Nishnabotna.....	Villias.....	Montgomery

Drainage and Sale of Lake Beds.

At the request of the Executive Council, a sub-division survey was made of the bed of Tow Head Lake in Calhoun County, and descriptions of each tract of land were prepared for use in preparing patents.

State Parks.

Surveys were made of proposed park sites at Farmington in Van Buren County and at Wall Lake in Wright County. Also a survey was made and detailed plans were prepared for a combined bridge and dam at the Pine Creek state park near Eldora.

CHAPTER XIII.

Department of Materials And Tests

Tests of Materials.

During the period of this report, 28,398 samples of material were tested. This work has included detailed examination of approximately 2,715 cars of cement, 3,857 cars of sand, 6,200 cars of screened gravel and crushed stone, 4,126 cars of pit run gravel, 79 cars of paving brick, 102 cars of reinforcing steel, 714 cars of drain tile, and 3 cars of asphalt. A train long enough to carry this material would reach from Des Moines to Davenport. These tests were divided as follows:

Primary roads.....	18,606
Secondary roads.....	362
Bridges	3,731
General	3,699
	26,398

The most notable improvement in the inspection of materials has been made in connection with the bridge work. The department was able this year to organize the work so that tests of all materials on each individual structure built under the supervision of the Highway Commission, were made. Tests were made on 3,731 samples of materials entering into the construction of 2,106 different structures.

A considerable reduction in the amount of cement rejected was found this year over 1921, which indicates increased carefulness on the part of the mills, due in part to our refusal to accept any material not strictly first-class.

Rejections were as follows:

Cement	2,977 bbls.	— 0.47 per cent
Sand	2,515 tons	— 1.45 " "
Gravel	2,688 "	— 1.37 " "
Crushed stone.....	1,752 "	— 2.13 " "
Steel	277 "	— 6.83 " "
Paving brick	123,000 brick	—15.65 " "
Drain tile	289,677 lin. ft.	—10.67 " "
Pit run gravel.....	7,185 tons	— 3.87 " "

Of 3,731 samples of material submitted for use in bridge work, 3.05 per cent were rejected as not being first-class and suitable for use. In view of the fact that human life depends upon the safety of these structures, the prevention of the use of dangerous material is a major duty of the department and is well worth the cost.

Material Resource Surveys.

One of the principal phases of the work of this division during 1922 has been the location of material for the primary road gravel surfacing projects. Two hundred thirty-four deposits in 47 counties for use on 402 miles of gravel surfacing were examined in detail. Sufficient information on concrete materials was secured in 1920 and 1921 to care for the paving program to be expected in 1922 and 1923.

Experimental Work.

Considerable progress has been made in the experimental solution of various problems relating to the design of pavement slabs and the proper utilization of Iowa materials. Final report was made to the American Society for Testing Materials, demonstrating the correctness of the Iowa method of proportioning concrete mixtures with varying percentages of sand. This method was developed to make available vast quantities of sand not usable under older specifications. The method has been adopted as standard for use with similar materials by the American Association of State Highway Officials.

The major problems under investigation are "The control of cracking in concrete slabs," "Effect of various physical characteristics of sand and gravel upon the quality and durability of gravel surfacing," and "Effect of various characteristics of the subsoil in construction of improved roads."

SCHEDULE NO. 33.

TESTS MADE IN THE VARIOUS LABORATORIES AND TESTING STATIONS

	For Use On				Kind of Material														Total, all materials	
	Primary Roads	County or Twp. roads	Bridges	General	Cement	Sand	Coarse aggregate	Pit run gravel	Water	Brick	Washed concrete	Drain tile	Reinforcing steel	Corrugated metal	Oils, tars, asphalt	Lime-stone	Shale	Paint		Mor-tar
	Number of samples																			
A—Permanent Labr't's.																				
Ames	156	20	520	799	324	68	120	213	12			40	276	6	283	70		72		1,405
Des Moines	441	64	1,740	619	1,182	673	757	206				44								2,964
Mason City	4,511	291	440	610	1,607	1,008	1,883	59				704					638	206		5,802
Davenport	1,170	27	158	1,667	1,021	76	83	228				51			4	1,265			223	3,023
Total	6,278	352	2,858	3,695	4,134	1,823	2,443	708	13		51	859	276	6	292	1,979	205	72	223	13,183
B—Field Testing Stations																				
Buchanan	1,268					782										456				1,268
Black Hawk	76					38	38													76
Clinton	1,098					327	619	252												1,098
Delaware			3					3												3
Floyd	422					211	211													422
Hamilton			12					12												12
Hancock	1,248					624	624													1,248
Kosuth	5					4										1				5
Lee	98															98				98
Pulk	1,210					379	379	482												1,210
Scott	594					174	277	543												594
Woodbury	661					281	380													661
Totals	7,080		15			2,820	2,428	1,262								585				7,085
C—Plant Testing Stations																				
Adrian	23															23				23
Bellevue	71							51												71
Clarkeville	372					100	272													372
Clermont	13		65					68												68
Correctionville	765					175	100													765
Dubuque	35															25				25
Flint	654					369	345													654
Glory	25															25				25
Galesburg, Ill.	106								106											106
Gilmore City	263		2		150											117				267
D—Dist. Inspection Cars.																				
District No. 1	10			30			6	24												30
District No. 3	29			76			26	60												96
District No. 4	49			125			3	17	133							1				154
District No. 5	17	2		172			38	35	91			49				10				223
District No. 7	135			33	4							17								17
District No. 8	183	8		33	4		1	1	58			122								180
Total	349	10	436	4		42	85	364				195	1		12				699	
Totals all tests	18,066	362	3,731	3,699	4,284	6,483	7,134	3,400	12	106	51	1,054	277	6	292	2,799	205	72	223	26,338

CHAPTER XIV

Financial Statement

Period Covered.

The data contained herein constitutes a statement of the expenditures from the Commission's Maintenance Fund and from the Federal Aid Engineering Fund for the fiscal year July 1, 1921, to June 30, 1922, and also a statement of the expenditures from the primary road funds for the year December 1, 1921, to November 30, 1922.

Classification of Expenditures.

The expenditures of the Commission are divided into five classes, as follows:

- (a) Supervision of county and township highway work and purchase of equipment for primary road work.
- (b) Receipt, storage, and repair of government equipment.
- (c) Federal Aid Engineering work.
- (d) Construction work on primary road system.
- (e) Maintenance work on primary road system.

Supervision of County and Township Road Work and Purchase of Equipment for Primary Road Work.

The total expenditures for supervising county and township road work and purchasing equipment for primary road work for the fiscal year ending June 30, 1922, was \$128,283.14. From this should be deducted \$16,208.35 which was collected as rental on engineering equipment and returned to the Commission's support fund, leaving a net cost to the state of \$112,074.79. A comparison of the cost of supervising county and township road work for the past four years follows: (Refer to Schedule Number 61).

Fiscal year ending June 30, 1919.....	\$121,962.05
Fiscal year ending June 30, 1920.....	110,623.04
Fiscal year ending June 30, 1921.....	146,456.39
Fiscal year ending June 30, 1922.....	128,283.14

Receipt, Storage, and Repair of Government Equipment.

For the receipt, storage, and repair of government equipment during the fiscal year ending June 30, 1922, the Commission spent \$112,567.71. During the same period, the Commission collected \$51,601.35 from rentals on some of such government equipment,

the sale of spare parts therefor, and the sale of unserviceable equipment. Accordingly, the net cost of this phase of the work was \$60,966.36. From this should be deducted \$16,212.26 which was invested in storage buildings, heating plant, etc., leaving a net operating cost of \$44,754.10.

The government equipment received during 1922 is valued at \$1,221,113.00.

Federal Aid Engineering Work.

The total expenditure from the federal aid engineering fund for the fiscal year ending June 30, 1922, for engineering in connection with federal aid and primary road work was \$503,142.61. The following is a classification of this expenditure and comparison with 1921: (Refer to Schedule Number 63).

	1921	1922
Reconnaissance and traffic census.....	\$ 3,846.54	\$ 3,639.28
Surveys	135,900.29	125,407.39
Profiles	118,657.88	130,871.43
Specifications, conferences and records.....	73,496.20	81,453.92
Bridge and culvert plans.....	43,839.58	40,912.40
Supervising construction and testing materials....	103,201.63	120,853.19
Totals.....	\$478,942.02	\$503,142.61

Practically the entire increase in the expenditure for federal aid engineering work in 1922 over 1921 is an increase in the expenditures for supervising construction work, testing materials, and keeping records. The increase in expenditures for this phase of the work is due to the increase in the volume of the construction work supervised by the Commission.

The survey and profile work, which heretofore has shown the greatest increase, was practically the same for 1922 as for 1921. The survey and profile work has now reached the stage where its expenditures will show no further increases. On the contrary, the expenditures for this phase of the work should show decreases from now on. In thirty-one counties the surveys of the primary roads have been completed, and in many other counties the surveys are nearing completion.

Construction Work on Primary Road System.

The total expenditure for the construction work on the primary road system from December 1, 1921, to November 30, 1922, was \$13,324,555.14. The funds from which these expenditures were made are as follows:

Primary road fund.....	\$ 8,729,773.81
Primary road bond fund.....	2,595,093.53
Anticipation certificates.....	1,178,441.37
Special assessments.....	702,757.40
County funds.....	
City funds.....	118,489.03

\$13,324,555.14

In 1921 the total expenditure was \$15,500,52.364.

This expenditure is classified according to the kind of work, as follows:

Grading	\$ 5,528,918.08
Graveling	1,236,914.21
Paving	3,197,922.01
Drainage	610,109.31
Bridges and culverts.....	1,979,872.53
Guard rail	247,398.40
Machinery and equipment.....	
Engineering	528,790.91

13,329,925.45

Refund on machinery and equipment..... 5,370.31

Total.....\$13,324,555.14

The total expenditure for construction work on the primary road system since the first federal aid law became effective, to November 30, 1922, was \$34,472,797.47. The funds from which these expenditures were made are as follows:

Primary road fund.....	\$23,206,972.35
Primary road bond fund.....	6,842,642.68
Anticipation certificates.....	1,178,441.37
Special assessments.....	2,826,453.36
County funds.....	279,798.68
City funds.....	118,489.03
Donations.....	20,000.00

Total.....\$34,472,797.47

This expenditures is classified according to the kind of work, as follows:

Grading	\$12,608,779.73
Graveling	2,796,030.35
Paving	12,237,427.68
Drainage	2,135,469.66
Guard rail	247,398.40

Bridges and culverts.....	3,107,181.33
Machinery and equipment.....	103,463.65
Engineering	1,235,046.67
Total.....	\$34,472,797.47

Maintenance Work on the Primary Road System.

During the year December 1, 1921, to November 30, 1922, the cost of maintaining the primary road system was \$2,444,664.54. Since the primary road system contains 6,616 miles, the maintenance cost averaged \$369.50 per mile.

Summary Statement of Primary Road Funds.

Balance on hand, December 1, 1921	\$ 5,959,518.49
Receipts.	
Federal aid	\$2,102,872.74
Auto fees	6,477,687.60
Total receipts	8,580,560.34
Total	\$14,540,078.83
Expended during 1922.....	11,259,868.98
Balance on hand, November 30, 1922	\$ 3,280,209.85

Of the balance in the primary road fund on November 30, 1922, (\$3,280,209.85) \$2,584,667.39 is in the possession of the federal government at Washington, D. C. The remaining \$695,542.46 is in the hands of the state treasurer and the various county treasurers of the State of Iowa.

SCHEDULE NO. 34

SUMMARY OF EXPENDITURES—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Commissioners	\$ 2,890.00	\$ 1,747.15	\$ 4,637.15	\$ 1,240.00	\$ 664.65	\$ 1,904.65	\$ 2,732.47
Executive Department	10,940.16	1,137.08	11,177.24	4,183.34	143.89	4,327.23	5,870.01
Dept. of purchases and accounts	20,647.08	672.28	21,319.36	4,072.06	199.22	4,271.31	17,048.05
Accounting division	27,702.75	149.99	27,852.74	28,182.72	86.05	28,268.77	1,410.97
Dept. of road administration	10,574.88	626.41	11,201.29	7,783.55	266.57	8,050.15	3,151.14
Dept. of road design—plans	21,875.18	1,131.64	23,006.82	20,121.84	965.93	21,087.77	1,919.05
Dept. of road design—surveys	82,333.22	25,494.84	107,828.06	81,567.85	24,724.89	106,292.74	1,535.23
Dept. of road construction	11,830.95	1,731.34	13,562.29	11,725.95	1,678.28	13,404.23	161.06
Machinery and equipment division	39,055.29	16,767.88	55,823.17				55,823.17
Dept. of road maintenance	7,539.84	372.87	7,912.71				7,912.71
Traffic census division	214.82		214.82				214.82
Bridge department	46,455.74	990.02	47,445.76	28,990.15	374.49	29,364.64	4,946.48
Drainage department	4,555.28	391.68	4,946.46				4,946.46
Women's drafting department	18,227.65	4.02	18,231.67	12,649.52		12,649.52	5,582.15
Dept. of materials and tests	68,203.91	6,911.20	75,115.11	65,803.55	5,159.55	70,963.10	4,152.01
Equipment and supplies	101.80	133,829.07	133,930.87		77,900.38	77,900.38	56,030.49
District offices	153,898.91	23,869.07	177,767.98	114,725.88	11,572.04	126,297.92	51,490.09
Totals	\$326,147.22	\$217,845.94	\$543,993.16	\$379,939.47	\$123,203.14	\$503,142.61	\$240,850.55

SCHEDULE NO. 35

COMMISSIONERS—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
J. W. Holden	\$1,400.00	\$739.47	\$2,139.47	\$690.00	\$345.98	\$1,035.98	\$1,103.49
Wm. Collinson	1,490.00	841.34	2,331.34	550.00	318.70	868.70	1,462.64
Anson Marston		166.34	166.34				166.34
Totals	\$2,890.00	\$1,747.15	\$4,637.15	\$1,240.00	\$664.65	\$1,904.65	\$2,732.47

SCHEDULE NO. 36

EXECUTIVE DEPARTMENT—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
F. E. White, chief engineer	\$6,000.00	\$1,028.04	\$7,028.04	\$3,000.00	\$70.49	\$3,070.49	\$3,957.55
T. E. Agg, consulting engineer	959.98	109.04	1,109.04	708.34	73.40	781.74	327.30
A. E. Fuller, consulting bridge Engr.	1,500.00		1,500.00	750.00		750.00	750.00
May Vanderinden, secretary	1,430.00		1,430.00	705.00		705.00	725.00
Extra help	110.20		110.20				110.20
Totals	\$10,040.16	\$1,137.08	\$11,177.24	\$5,163.34	\$143.89	\$5,307.23	\$5,870.01

SCHEDULE NO. 37

DEPARTMENT OF PURCHASES AND ACCOUNTS—
JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
C. R. Jones, auditor	\$3,300.00	\$442.92	\$3,742.92	\$1,650.00	\$199.22	\$1,849.22	\$1,893.70
J. W. Eichinger, bulletin editor	2,799.96	141.48	2,941.44				2,941.44
Vern L. Bovee, stenographer	132.35		132.35	88.35		88.35	45.00
Lacy Dow, stenographer	217.74		217.74	79.03		79.03	138.71
May A. Carr, stenographer	658.07		658.07	353.00		353.00	305.07
Ruth Miller, stenographer	511.52		511.52	265.36		265.36	246.16
Ira Robinson, stenographer	180.00		180.00	91.00		91.00	89.00
Margaret Whistler, stenographer	123.82		123.82				123.82
Anna S. Lynch, stenographer	600.00		600.00	300.00		300.00	300.00
Eva Throckmold, stenographer	600.00		600.00	300.00		300.00	300.00
Katherine Barkin, stenographer	116.98		116.98	10.25		10.25	106.73
Bernita Burton, stenographer	431.29		431.29	175.00		175.00	256.29
Vleta Craig, stenographer	151.61		151.61				151.61
Edna Cox, stenographer	700.00		700.00	700.00		700.00	700.00
Velda Rowland, file clerk	1,590.92		1,590.92	792.50		792.50	797.50
Moseley Drenner, blue print clerk	1,380.00		1,380.00	1,099.92		1,099.92	1,280.00
G. E. Merrill, asst. blue print clerk	963.99		963.99	246.50		246.50	717.49
W. H. Rapp, asst. blue print clerk	1,485.00		1,485.00	64.12		64.12	1,420.88
A. A. Haggan, inventory clerk	1,599.96		1,599.96	23.76		23.76	1,623.72
L. H. Duggan, store room clerk	846.00		846.00				846.00
D. Scarborough, asst. store rm. clerk	35.70		35.70				35.70
Extra help—stenographic	305.00		305.00				305.00
Extra help—miscellaneous							
Totals	\$20,647.08	\$672.28	\$21,319.36	\$4,072.06	\$199.22	\$4,271.31	\$17,048.05

SCHEDULE NO. 38

ACCOUNTING DIVISION—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
M. E. Davis, assistant auditor	\$2,799.96	\$89.46	\$2,889.42	\$2,799.96	\$33.21	\$2,833.17	\$56.25
E. T. Burk, chief clerk	2,149.92		2,149.92	2,149.92		2,149.92	
Edwin E. Aron, audit clerk	1,146.43		1,146.43	1,146.43		1,146.43	
R. W. Ott, audit clerk	1,999.92	\$2.62	2,002.54	1,729.07	22.84	1,751.91	300.63
C. E. Bennett, audit clerk	610.74		610.00	333.31		333.31	277.43
Ernest L. Risley, audit clerk	832.26		832.26	832.26		832.26	
Edna W. Hanna, audit clerk	915.71		915.71	915.71		915.71	
E. D. Shivers, audit clerk	437.50		437.50	437.50		437.50	
V. L. McGriff, audit clerk	396.78		396.78	396.78		396.78	
E. F. Mattox, bookkeeper	363.59		363.59	363.59		363.59	
D. C. McNeill, bookkeeper	1,629.97		1,629.97	1,611.25		1,611.25	18.72
R. C. Hoon, assistant bookkeeper	167.74		167.74	125.81		125.81	41.93
Ross Whitacre, asst. bookkeeper	1,310.48		1,310.48	1,201.61		1,201.61	108.87
D. A. Britten, asst. bookkeeper	1,213.06		1,213.06	1,213.06		1,213.06	
F. G. Nelson, asst. bookkeeper	865.48		865.48	865.48		865.48	
Lowell Mattox, clerk	822.00		822.00	822.00		822.00	
J. R. Harrison, clerk	1,849.98	7.91	1,857.89	1,766.65		1,766.65	91.24
L. C. O'Brien, clerk	132.10		132.10	132.10		132.10	
Nellie Maroney, stenographer	1,215.00		1,215.00	1,086.25		1,086.25	128.75
Fanny Swanberg, stenographer	138.71		138.71	65.71		65.71	73.00
Lucille Nishelski, stenographer	751.93		751.93	751.93		751.93	
Edna Janssen, stenographer	958.39		958.39	794.19		794.19	164.20
Netha Riddlesberger, stenographer	293.23		293.23	293.23		293.23	
Mildred Poutan, stenographer	227.17		227.17	227.17		227.17	
Thelma Houghton, stenographer	920.00		920.00	720.00		720.00	200.00
Faarl Nunsmaeker, stenographer	199.50		199.50	179.67		179.67	19.83
Josephine Maroney, stenographer	897.42		897.42	857.42		857.42	40.00
Dorothy Craven, stenographer	210.00		210.00	155.81		155.81	54.19
Edna C. Cooper, stenographer	658.96		658.00	658.00		658.00	
Bertha Lawson, stenographer	623.87		623.87	623.87		623.87	
Florence Speers, stenographer	101.23		101.23	101.23		101.23	
Gladys Collins, stenographer	559.67		559.67	539.67		539.67	20.00
Margaret Collins, stenographer	189.00		189.00	189.00		189.00	
Melvina Allen, stenographer	81.21		81.21	81.21		81.21	
Extra help—clerical	22.40		22.40	8.90		8.90	13.50
Extra help—stenographic	14.00		14.00	14.00		14.00	
Extra help—miscellaneous	.40		.40				.40
Totals	\$27,702.75	\$149.99	\$27,852.74	\$26,185.72		\$26,185.72	\$1,667.02

SCHEDULE NO. 39

DEPARTMENT OF ROAD ADMINISTRATION—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
C. Coykendall, asst. chief engineer	\$4,599.96	\$498.58	\$5,098.54	\$4,416.63	\$159.23	\$4,575.86	\$522.68
M. L. Hutson, asst. Eng. road ad.	3,199.92	127.83	3,327.75	1,531.95	107.34	1,639.29	1,688.46
Anna Vandertinden	1,635.00		1,635.00	817.50		817.50	817.50
Myrtle Jorgensen, stenographer	1,140.00		1,140.00	997.50		997.50	142.50
Totals	\$10,574.88	\$626.41	\$11,201.29	\$7,783.58	\$266.57	\$8,050.15	\$3,151.14

SCHEDULE NO. 40

DEPARTMENT OF ROAD DESIGN—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
W. E. Jones, engineer of road design	\$4,399.92	\$301.24	\$4,701.16	\$3,994.09	\$371.47	\$4,365.56	\$335.60
L. L. Clement, road designer	2,300.81	265.18	2,565.99	2,210.81	243.38	2,454.19	111.80
F. C. Schneider, road designer	2,491.59		2,491.59	2,303.41		2,303.41	188.18
R. R. Meredith, road designer	2,599.98	362.65	2,962.63	2,582.65		2,582.65	379.98
J. S. Percival, road designer	391.10		391.10	372.76		372.76	18.34
D. B. Clement, road designer	1,538.71	5.90	1,544.61	1,438.71	5.00	1,443.71	200.00
W. F. Lindauer, road designer	1,637.75		1,637.75	1,534.42		1,534.42	103.33
Carl Albaugh, draftsman	1,893.00		1,893.00	1,923.00		1,923.00	177.00
H. W. Groch, draftsman	947.53	72.20	1,019.73	862.50	72.20	934.70	85.03
J. O. Orr, draftsman	516.83		516.83	448.60		448.60	68.23
Forrest K. Mullins, draftsman	475.36		475.36	433.40		433.40	41.96
L. E. O'Toole, draftsman	275.81	11.82	275.81	256.81		256.81	19.00
J. D. Kaser, draftsman	313.39		313.39	307.80		307.80	5.59
Fredrick Bender, draftsman	225.32		225.32	224.27		224.27	1.05
L. A. Britten, draftsman	233.67		233.67	219.00		219.00	13.87
Robert McCormick, resident eng.	1,094.46		1,094.46	992.00		992.00	102.46
Extra help—drafting	314.62	12.65	327.27	229.67	12.65	242.32	84.95
Totals	\$21,875.18	\$1,131.64	\$23,006.82	\$20,121.84	\$965.93	\$21,087.77	\$1,919.05

SCHEDULE NO. 41

DEPARTMENT OF ROAD SURVEYS—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
F. D. Caldwell, chief of party	\$920.58	\$105.25	\$1,025.83	\$916.94	\$105.25	\$1,022.19	\$3.64
L. E. Clayton, chief of party	1,883.81	285.73	2,169.54	1,883.81	282.47	2,166.28	3.26
Ernest Cook, chief of party	1,113.88	129.92	1,243.80	1,113.88	129.92	1,243.80	
C. M. Colvin, chief of party	1,344.39	409.13	1,753.52	1,344.39	332.76	1,677.15	86.37
W. F. Drury, chief of party	1,599.67	270.75	1,870.42	1,412.90	174.83	1,587.73	282.69
J. C. Dean, chief of party	278.25		278.25	278.25		278.25	
C. H. Ford, chief of party	410.36	65.27	475.63	410.36	65.27	475.63	
A. F. Fraker, chief of party	437.49	97.56	535.05	437.49	96.75	534.24	8.81
J. L. Geis, chief of party	525.45	46.35	571.80	525.45	46.35	571.80	
H. L. Gleason, chief of party	192.43	125.33	317.76	192.43	125.33	317.76	
G. M. Griffith, chief of party	451.25	3.74	454.99	451.25	3.74	454.99	
G. H. Irwin, chief of party	1,367.58	331.18	1,698.76	1,367.58	331.18	1,698.76	
A. W. Merritt, chief of party	2,400.00	264.71	2,664.71	2,400.00	259.46	2,659.46	8.25
R. W. Nelson, chief of party	1,696.77	248.27	1,945.04	1,696.77	229.86	1,926.63	18.41
F. R. Preston, chief of party	815.16	107.42	922.58	815.16	107.42	922.58	
P. W. Riedel, chief of party	318.22		318.22	318.22		318.22	
T. E. Riley, chief of party	1,603.63	501.62	2,105.25	1,603.59	500.67	2,104.26	99
J. A. Ryan, chief of party	1,347.37	373.85	1,721.22	1,344.05	473.87	1,817.92	8.33
W. D. Ross, chief of party	186.71	48.07	244.78	185.93	48.07	234.00	10.78
L. B. Stephenson, chief of party	444.44	309.42	753.86	399.28	178.85	578.13	175.73
H. F. Templeton, chief of party	1,134.10	152.66	1,286.76	1,123.08	152.66	1,275.74	11.02
M. A. Varley, chief of party	236.25		236.25	236.25		236.25	
V. L. E. Watson, chief of party	1,007.66	221.00	1,228.66	1,007.66	221.90	1,229.56	8.11
E. A. Jack, chief of party	309.65	43.57	353.22	309.68	38.72	348.40	5.15
J. T. Baugher, instrument man	206.93	27.89	234.82	206.93	27.89	234.82	
G. H. Butterfield, instrument man	719.83	183.44	903.27	719.83	75.44	795.27	108.00
W. F. Carlson, instrument man	1,118.37	150.15	1,268.52	1,118.37	149.47	1,267.84	66
M. L. Closset, instrument man	1,356.73	207.10	1,563.83	1,356.73	206.45	1,563.21	62
E. G. Clingens, instrument man	298.07	77.69	375.76	298.07	77.69	375.76	
Ferry Collins, instrument man	929.46	250.26	1,179.72	929.46	249.62	1,179.08	64
F. H. Cook, instrument man	526.32	159.03	685.35	526.62	159.03	685.65	
E. E. Copeland, instrument man	123.60	16.43	139.94	123.60	16.43	140.03	4.18
W. M. Daniels, instrument man	720.81	165.98	886.79	720.81	168.24	889.05	72
E. H. Dinmore, instrument man	474.19	114.47	588.66	473.47	114.47	587.94	72
W. M. Dunagan, instrument man	487.33	117.34	604.67	474.83	113.91	588.74	15.93
M. C. Everett, instrument man	1,106.43	185.46	1,291.89	1,106.43	184.65	1,291.08	81

Schedule No. 41—(Continued)

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Percy H. Fagan, instrument man	425.01	56.66	481.67	425.01	56.00	481.01	.66
Glen A. Foster, instrument man	197.41	35.77	233.18	197.41	35.77	233.18	
A. J. Gates, instrument man	879.32	1,010.00	1,889.32	879.68	1,24.12	1,003.80	6.20
Joe Gibson, instrument man	336.05	63.41	399.46	336.05	52.94	388.99	10.47
H. A. Harris, instrument man	415.65	55.42	471.07	310.65	39.96	349.71	121.36
G. H. Hendy, instrument man	36.15	167.26	203.41	169.95	24.00	193.95	12.65
A. L. Hertwig, instrument man	229.01	26.17	255.18	229.01	26.17	255.18	
F. A. Herz, instrument man	1,167.86	158.79	1,326.65	1,167.86	154.39	1,322.25	4.40
O. L. Jamison, instrument man	375.16	56.44	431.60	375.16	56.44	431.60	
R. C. Jensen, instrument man	726.15	152.94	879.09	736.46	88.27	824.73	1.77
Henry J. Kassel, instrument man	200.03	40.09	240.12	200.03	40.00	240.03	
H. A. Kavanaugh, instrument man	254.03	29.03	283.06	254.03	29.03	283.06	
H. A. Kennedy, instrument man	126.88	19.04	145.92	122.50	18.47	140.97	4.95
M. E. Koenig, instrument man	1,116.03	176.83	1,292.86	1,116.03	178.83	1,294.86	1.00
C. F. Lechner, instrument man	1,203.97	163.95	1,367.92	1,205.19	152.32	1,357.51	11.43
C. C. McCarthy, instrument man	1,498.74	336.29	1,835.03	1,498.74	331.84	1,830.58	4.43
J. G. McFadden, instrument man	878.15	131.09	1,009.24	878.15	131.09	1,009.24	
T. E. Martin, instrument man	208.68	31.47	240.15	208.68	32.85	232.33	7.62
L. D. Murphy, instrument man	318.07	48.65	366.72	318.07	48.65	366.72	
H. B. Nowlin, instrument man	30	210.90	240.90	210.90	29.94	239.94	.66
H. R. Olsen, instrument man	622.25	205.93	828.18	622.25	205.93	828.18	
J. O. Orr, instrument man	261.29	38.71	300.00	261.29	38.71	300.00	
Duane F. Raver, instrument man	133.23	17.77	151.00	133.23	17.77	151.00	
Amiel Reichert, instrument man	185.46	38.35	223.96	144.99	35.33	180.32	40.67
J. H. Richards, instrument man	270.67	256.05	526.72	270.67	256.05	526.72	
N. N. Ropes, instrument man	150.00	35.00	185.00	150.00	35.00	185.00	
C. W. Schafer, instrument man	145.16	33.84	179.00	145.16	33.84	179.00	
F. B. Schmidt, instrument man	152.03	26.97	209.00	74.03	10.97	85.00	124.00
T. B. Sauge, instrument man	420.00	40.00	460.00	408.00	65.69	473.69	
James Sorrell, instrument man	101.75	16.27	118.02	101.75	14.27	116.02	
J. F. Spratt, instrument man	387.00	21.76	408.76	387.00	21.76	408.76	
J. J. Stout, instrument man	210.00	30.00	240.00	210.00	30.00	240.00	
W. D. Tomlinson, instrument man	617.05	70.52	687.57	617.05	70.52	687.57	
D. W. Townsend, instrument man	142.26	142.26	284.52	142.26	142.26	284.52	
W. D. Toyne, instrument man	130.10		130.10	130.10		130.10	
K. F. Trestrow, instrument man	1,155.32	280.73	1,436.05	1,155.32	200.03	1,355.35	.70
C. J. White, instrument man	396.65		396.65	396.65		396.65	
R. E. White, instrument man	129.44	1,003.17	1,132.61	129.44	1,003.17	1,132.61	
J. W. Wiersma, instrument man	588.80	193.70	782.50	588.80	193.31	782.11	.39
R. H. Williams, instrument man	1,830.72	255.30	2,086.02	1,830.72	251.24	2,081.96	4.06
Harold Wilson, instrument man	445.16	59.35	504.51	445.16	59.68	504.84	.33
Brown Agnew, rod man	320.84	145.83	466.67	320.84	145.44	466.28	.39
D. G. Almy, rod man	61.25	28.60	89.86	61.26	28.60	89.86	
Roy Beala, rod man	183.79	38.71	222.50	183.79	38.71	222.50	
E. F. Blair, rod man	406.01	309.00	806.00	406.01	309.60	805.61	.39
G. B. Brewer, rod man	352.95	83.26	436.21	352.95	83.38	436.33	.38
G. E. Brown, rod man	338.95	241.15	580.10	338.95	240.74	579.69	.41
V. A. Budke, rod man	147.00		147.00	147.00		147.00	
Chas. Bunn, rod man	91.80	63.98	155.78	91.80	63.98	155.78	
T. L. Burrows, rod man	187.50	123.00	310.50	187.02	123.00	310.02	.48
W. F. Carlson, rod man	212.25	94.52	306.77	212.25	94.52	306.77	
C. J. Cavanaugh, rod man	306.61	193.39	500.00	306.61	193.00	499.61	.39
W. K. Chaney, rod man	578.63	287.90	866.53	578.63	287.42	866.05	.48
G. Christiansen, rod man	340.14	159.37	499.51	340.14	156.21	496.35	3.16
E. J. Cooper, rod man	153.33		153.33	153.33		153.33	
F. H. Cooper, rod man	290.01	261.06	551.07	290.01	260.67	550.68	.39
E. D. Davis, rod man	907.32	438.22	1,345.54	907.32	437.74	1,345.06	.48
W. A. Davis, rod man	261.29	174.19	435.48	261.29	173.71	435.00	.48
G. L. Elbert, rod man	599.99	336.14	936.13	599.99	335.62	935.61	.52
G. E. Erickson, rod man	212.25	153.17	365.42	212.25	153.17	365.42	
Emmett Elston, rod man	154.95	77.39	232.37	154.95	77.39	232.37	
S. B. Epe, rod man	230.71	124.21	354.92	230.71	123.69	354.40	.52
D. G. Fairchild, rod man	366.19	187.67	553.86	365.19	182.19	547.38	1.45
G. A. Foley, rod man	212.71	224.03	436.74	212.71	212.39	425.10	.64
Willis Fowler, rod man	185.67	118.33	304.00	185.67	116.67	302.34	1.66
A. E. Gardner, rod man	489.34	142.33	631.67	488.93	142.33	631.26	.41
C. H. Gibson, rod man	129.31	119.61	248.93	129.31	119.62	248.93	
Anton Glasmann, rod man	128.23	85.48	213.71	128.23	85.00	213.23	.48
I. R. Glense, rod man	80	103.33	183.33	80	103.33	183.33	
Paul Hanna, rod man	94.38	50.81	145.17	94.38	50.81	145.17	
Noel Harrison, rod man	124.42	38.71	163.13	124.42	38.71	163.13	
L. F. Hauser, rod man	218.99	172.52	391.51	218.99	172.52	391.51	

*Credit.

Schedule No. 41—(Continued)

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Wm. Henely, rod man	488.87	308.87	797.74	488.87	300.90	789.77	7.97
J. R. Hoover, rod man	130.00		130.00	130.00		130.00	
T. S. Horn, rod man	154.46	84.20	238.66	154.46	84.20	238.66	
W. H. Hostetler, rod man	208.06	138.71	346.77	208.06	138.23	346.29	.48
J. Hutchinson, rod man	215.23	159.84	375.07	215.23	159.84	375.07	
M. D. Jackson, rod man	465.67	273.33	739.00	464.67	272.81	737.48	.52
F. A. Johnson, rod man	128.81	83.87	212.68	129.51	83.39	212.90	.48
H. S. Jones, rod man	122.62		122.62	122.62		122.62	
R. L. Josten, rod man	185.80	123.88	309.68	185.80	123.88	309.68	
Edward Judge, rod man	139.01	113.19	252.20	139.01	113.19	252.20	
Grant Kappeler, rod man	91.42	25.88	117.30	91.42	25.88	117.30	
H. W. Kingman, rod man	109.13	77.97	187.10	109.13	77.97	187.10	
C. C. Kluver, rod man	65.32	43.55	108.87	65.32	43.55	108.87	
Leon Kringle, rod man	123.38		123.38	123.38		123.38	
A. C. Kutzer, rod man	97.58		97.58	97.58		97.58	
L. Langhals, rod man	220.40	58.79	279.19	220.40	59.35	279.65	
H. M. Lester, rod man	589.07	332.32	921.39	589.07	294.47	883.54	38.05
Ivan Luzzo, rod man	144.35	110.49	254.84	144.35	110.49	254.84	
W. B. Lucas, rod man	187.90	131.84	319.74	187.90	131.84	319.74	
F. R. Lachner, rod man	325.84	119.08	444.72	325.84	119.08	444.72	
M. B. McCord, rod man	161.13	159.84	320.97	161.13	159.84	320.97	
M. R. McCruder, rod man	308.06	135.49	443.55	308.06	114.63	422.71	20.84
E. R. McKee, rod man	928.62	452.43	1,381.05	928.62	451.90	1,380.57	.48
Glen McKee, rod man	561.38	45.81	607.19	561.38	45.81	607.19	
C. D. Mayne, rod man	361.38	375.90	737.28	361.38	375.90	737.28	
Melville Monk, rod man	131.82	58.07	189.89	131.82	58.07	189.89	
Ray Morgan, rod man	431.00	276.07	707.07	431.00	275.68	706.68	.39
W. L. Montague, rod man	204.84	125.16	330.00	204.84	125.16	330.00	
A. O. Toole, rod man	410.00	273.33	683.33	410.00	272.85	682.85	.48
Boyd Nelson, rod man	129.31	119.62	248.93	129.31	119.62	248.93	
Victor Nelson, rod man	242.99	168.09	411.08	242.99	168.09	411.08	
D. L. Pall, rod man	374.36	249.57	623.93	374.36	249.09	623.45	.48
C. D. Peterson, rod man	212.50	145.00	357.50	212.50	143.27	355.77	1.73
Chas. M. Reed, rod man	119.51	45.97	165.48	119.51	45.97	165.48	
E. E. Reis, rod man	119.51	45.97	165.48	119.51	45.97	165.48	
C. D. Rice, rod man	183.87	122.38	306.25	183.87	122.38	306.25	
H. A. Rice, rod man	166.93	111.29	278.22	166.93	111.29	278.22	
D. D. Roggenbach, rod man	412.50	275.00	687.50	412.50	274.52	687.02	.48
R. R. Rosenboom, rod man	105.01	104.99	210.00	105.01	104.99	210.00	
Benjamin Saches, rod man	487.50	300.00	787.50	487.50	298.27	785.77	1.73
J. H. Schilling, rod man	332.40	228.89	561.29	332.40	228.89	561.29	
J. H. Sears, rod man	145.99	45.83	191.82	145.99	45.83	191.82	
John Sellock, rod man	70.80	42.75	113.55	70.80	42.75	113.55	
Steiner Slesing, rod man	247.82	247.82	495.64	247.82	247.82	495.64	
W. M. Smith, rod man	835.00	300.00	1,135.00	835.00	300.00	1,135.00	
F. C. Smola, rod man	323.40	90.00	413.40	323.40	90.00	413.40	
Chas. J. Shimp, rod man	448.99	100.00	548.99	448.99	99.65	548.64	.35
B. F. Shinkle, rod man	404.00	275.33	679.33	404.00	269.39	673.39	5.97
W. B. Spangler, rod man	514.11	149.65	663.76	514.11	149.26	663.37	.39
G. N. Spindler, rod man	187.50	125.00	312.50	187.50	125.00	312.50	
P. E. Stephenson, rod man	250.96	172.04	423.00	250.96	172.01	422.97	.03
E. H. Thompson, rod man	200.24	133.30	333.74	200.24	132.60	332.84	.90
R. W. Thompson, rod man	925.62	452.42	1,378.04	925.62	451.95	1,377.57	.48
Geo. Trice, rod man	413.31	212.14	625.45	413.31	213.14	626.45	
Howard VanKirk, rod man	596.37	325.00	921.37	596.37	324.92	921.29	.08
W. R. Walsh, rod man	412.50	275.00	687.50	412.50	274.52	687.02	.48
L. G. Westbrock, rod man	223.35	146.82	370.17	223.35	146.52	369.87	.30
Earl Wilcox, rod man	212.34	131.86	344.20	212.34	131.86	344.20	
G. L. Windenburg, rod man	456.61	193.39	650.00	456.61	192.98	649.59	.41
Jerome Wright, rod man	99.03	91.29	190.32	99.03	91.29	190.32	
D. B. Wymore, rod man	532.57	246.07	778.64	532.57	246.07	778.64	
Extras bill—survey	3,215.82	5,084.06	8,300.88	3,215.82	5,084.06	8,300.88	
Transportation	471.17	471.					

SCHEDULE NO. 42

DEPARTMENT OF ROAD CONSTRUCTION—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
F. H. Mann, construction engineer	\$4,399.92	\$434.10	\$4,834.02	\$4,399.92	\$477.71	\$4,777.63	\$46.39
H. K. Davis, chief inspector	3,199.22	711.95	3,911.17	3,199.92	705.78	3,905.70	6.47
G. S. Foster, general inspector	3,076.11	595.29	3,671.40	3,076.11	591.79	3,667.90	3.50
Mrs. Leila Vanderlinden, stenog.	1,155.00		1,155.00	1,050.00		1,050.00	105.00
Totals	\$11,830.95	\$1,731.34	\$13,562.29	\$11,725.95	\$1,675.28	\$13,401.23	\$161.06

SCHEDULE NO. 43

DEPARTMENT OF ROAD CONSTRUCTION—MACHINERY & EQUIPMENT DIVISION—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
A. S. Miller, superintendent	\$2,700.00	\$98.26	\$2,798.26				\$2,798.26
Chas. Kinderman, shop foreman	2,700.00	40.81	2,740.81				2,740.81
F. E. Egan, stockkeeper	1,800.00	7.83	1,807.83				1,807.83
J. H. McKinney, watchman	1,245.00		1,245.00				1,245.00
Extra help—mechanics	26,070.59	500.61	26,571.20				26,571.20
Extra help—volunteers	1,888.62		1,888.62				1,888.62
Extra help—clerks	2,850.98	8.71	2,859.69				2,859.69
Buildings and grounds	100.10	14,195.78	14,295.88				14,295.88
Heating plant		1,916.37	1,916.37				1,916.37
Totals	\$39,055.29	\$16,767.88	\$55,823.17				\$55,823.17

SCHEDULE NO. 44

DEPARTMENT OF ROAD MAINTENANCE—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
W. H. Root, maintenance engineer	\$4,399.92	\$373.87	\$4,773.79				\$4,773.79
O. M. Briley, maintenance Supt.	1,999.92		1,999.92				1,999.92
Norma Greer, stenographer	1,140.00		1,140.00				1,140.00
Totals	\$7,539.84	\$373.87	\$7,913.71				\$7,913.71

SCHEDULE NO. 45

MAINTENANCE DEPARTMENT—TRAFFIC CENSUS—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
W. E. Lucas, instrument man	\$94.50		\$94.50				\$94.50
C. E. Malenda, rod man	60.16		60.16				60.16
M. B. Norland, rod man	60.16		60.16				60.16
Totals	\$214.82		\$214.82				\$214.82

SCHEDULE NO. 46

BRIDGE DEPARTMENT—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
J. H. Ames, bridge engineer	\$4,399.22	\$613.61	\$5,012.83	\$2,199.92	\$80.53	\$2,280.45	\$2,732.38
E. W. Rhinaman-Shen, asst. bridge eng.	3,399.84	203.07	3,602.91	3,033.03	1,699.95	4,733.00	1,869.91
W. N. Adams, chief bridge designer	3,000.00		3,000.00	2,187.50		2,187.50	812.50
R. E. Braun, bridge designer	2,599.92	30.11	2,630.03	2,091.85	30.11	2,121.96	508.07
M. G. Spangler, bridge designer	2,499.96	25.01	2,524.97	1,356.15	6.44	1,362.59	1,162.38
L. J. Wallis, bridge designer	2,400.00		2,400.00	1,302.00		1,302.00	1,098.00
C. H. Cook, bridge draftsman	2,299.92		2,299.92	1,240.99		1,240.99	1,058.93
H. A. Hanson, bridge draftsman	1,999.92		1,999.92	1,106.20		1,106.20	893.72
J. E. Hiland, bridge draftsman	1,967.74		1,967.74	1,397.60		1,397.60	570.14
H. Schmidt, bridge draftsman	2,199.96		2,199.96	1,668.21		1,668.21	531.75
J. R. DeLa Hunt, bridge draftsman	2,199.96		2,199.96	1,175.99		1,175.99	1,023.97
Paul Burnard, bridge draftsman	2,199.96		2,199.96	1,349.99		1,349.99	859.97
C. E. Lippert, bridge draftsman	1,749.99		1,749.99	1,417.99		1,417.99	332.00
W. P. Lindauer, road designer	333.32		333.32	301.65		301.65	31.67
L. L. Clement, road designer	399.19		399.19	199.59		199.59	199.60
J. W. Hewes, bridge designer	400.00		400.00	226.00		226.00	174.00
J. C. Nichols, bridge draftsman	592.12		592.12	411.37		411.37	180.75
H. E. Crosby, bridge designer	736.59		736.59	580.50		580.50	156.09
R. A. Caughey, bridge designer	450.00		450.00	299.25		299.25	150.75
H. W. Schneider, bridge draftsman	1,000.00		1,000.00	844.38		844.38	155.62
Harry Bowman, R. R. crossing Eng.	2,599.92	98.04	2,697.96	1,785.26	96.84	1,882.10	815.86
W. F. Nichols, field engineer	2,337.26	18.18	2,355.44	1,685.25	6.49	1,691.74	663.70
L. W. Wood, material inspector	206.48		206.48	206.41		206.41	0.07
Frank B. Howell, record clerk	1,699.92		1,699.92	354.15		354.15	1,345.77
Morse Govey, stenographer	1,320.00		1,320.00				1,320.00
Extra help—drafting	41.82		41.82				41.82
Extra transportation		8.00	8.00				8.00
Totals	\$46,455.74	\$900.02	\$47,445.76	\$28,900.15	\$274.40	\$29,174.64	\$18,271.12

SCHEDULE NO. 47

DRAINAGE DEPARTMENT—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
B. W. Clyde, drainage engineer	\$2,700.00	\$99.11	\$2,799.11				\$2,799.11
E. D. Burchard, Asst. drainage Eng.	225.33	180.39	405.72				405.72
J. B. Spigald, hydraulic engineer	897.19	111.58	1,008.77				1,008.77
Gauge readers			567.86				567.86
Extra help—miscellaneous	162.00		162.00				162.00
Totals	\$4,555.38	\$391.08	\$4,946.46				\$4,946.46

SCHEDULE NO. 48

WOMEN'S DRAFTING DEPARTMENT—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
W. T. Ide, superintendent	\$2,599.02	\$4.02	\$2,603.94	\$1,041.05		\$1,041.05	\$1,562.89
Violet Robinson, draftsman	1,500.00		1,500.00	1,099.38		1,099.38	400.62
Jeanne Brooks, draftsman	1,440.00		1,440.00	917.40		917.40	522.60
E. Carlotta Howard, draftsman	1,320.00		1,320.00	1,038.41		1,038.41	281.59
Belle Courtney, draftsman	1,322.90		1,322.90	1,063.61		1,063.61	259.29
Ruth Sleight, draftsman	1,200.00		1,200.00	1,117.49		1,117.49	82.51
June Erickson, draftsman	1,200.00		1,200.00	1,120.00		1,120.00	80.00
Mrs. J. C. Nichols, draftsman	1,100.00		1,100.00	586.50		586.50	513.50
Rowena C. Merritt, draftsman	960.00		960.00	737.20		737.20	222.80
Sarah McElroy, draftsman	80.00		80.00	72.40		72.40	7.60
Francis McCall, draftsman	330.00		330.00	165.00		165.00	165.00
Mrs. Margaret Dunham, draftsman	144.00		144.00	87.00		87.00	57.00
Evelyn Compton, tracer	900.00		900.00	437.26		437.26	462.74
Edna Linger, tracer	810.00		810.00	616.62		616.62	193.38
Coel D. McRae, tracer	79.90		79.90	74.65		74.65	5.25
H. R. Wilder, tracer	75.40		75.40	66.40		66.40	9.00
L. C. Mathis, tracer	68.33		68.33	49.58		49.58	18.75
Frank Paladin, tracer	367.18		367.18	283.00		283.00	84.18
H. W. Schneider, tracer	357.00		357.00	301.00		301.00	56.00
Elaine Wain, apprentice	878.00		878.00	420.87		420.87	457.13
Gladya H. Nichols, apprentice	480.64		480.64	385.86		385.86	94.78
Grace V. Clarke, apprentice	610.00		610.00	393.61		393.61	216.39
Mrs. K. Rosnitter, apprentice	467.30		467.30	406.50		406.50	60.80
Extra help	322.98		322.98	284.73		284.73	38.25
Totals	\$18,227.55	\$4.02	\$18,231.57	\$12,849.52		\$12,849.52	\$5,382.05

SCHEDULE NO. 49

DEPARTMENT OF MATERIALS & TESTS—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
R. W. Cram, eng. materials & tests	\$4,200.00	\$927.74	\$5,127.74	\$4,200.00	\$747.25	\$4,947.25	\$180.49
Bert Meyers, asst. eng. mat. & tests	3,037.00	146.44	3,183.44	3,000.00	130.45	3,130.45	152.99
Millic Oswald, stenographer	1,215.00		1,215.00	1,215.00		1,215.00	
Material Resource Division							
F. J. Preston, asst. eng. mat. & tests	350.80	104.85	455.65	350.80	140.75	491.55	54.10
J. E. Abrahamson, inspector	221.78	53.32	275.10	221.78	53.32	275.10	
Geo. M. Allen, inspector	720.54	123.09	843.63	670.40	114.11	784.51	59.12
R. A. Breitenross, inspector	118.55	25.71	144.26	118.55	25.71	144.26	
Ralph Clever, inspector	629.67	111.50	741.17	629.67	111.50	741.17	
E. M. Combs, inspector	1,155.97	143.30	1,299.27	1,015.97	137.91	1,153.88	145.29
W. H. Douglas, inspector	2,350.00	1,028.59	3,378.59	3,350.00	647.70	2,997.70	380.89
H. L. Holbrook, inspector	205.50	6.00	211.50	205.50	6.00	211.50	
E. H. Lambert, inspector	1,404.51	81.88	1,486.09	1,404.51	81.88	1,486.39	45.35
F. W. Maxwell, inspector	560.48	166.61	727.09	560.48	155.98	716.46	10.65
Mark Morris, inspector	2,299.92	278.77	2,578.69	2,299.92	299.87	2,599.79	8.90
G. A. Pugsley, inspector	378.07	41.37	419.44	378.07	11.74	389.81	29.63
W. R. Pugsley, inspector	243.81	34.90	278.71	243.81	194.64	438.45	79.17
C. F. Selby, inspector	206.98	57.32	264.30	206.98	57.32	264.30	
H. D. Susans, inspector	274.86	46.78	321.64	274.86	46.78	321.64	
L. G. Banner, laboratory assistant	629.03	96.39	725.42	629.03	96.39	725.42	
Frederick Bender, ch. prospect party	1,088.74	384.96	1,473.70	1,088.74	359.21	1,447.95	25.75
W. J. Combs, field assistant	1,175.00	8.90	1,183.90	1,175.00	8.99	1,183.99	
Joe Shepard, field assistant	187.10	8.22	195.32	187.10	8.22	195.32	
J. P. Camery, field assistant	60.00	6.44	66.44	60.00		60.00	6.44
Chas. S. Meyer, ch. prospect party	1,162.90	278.36	1,441.26	1,162.90	253.13	1,416.03	30.23
Herbert Plagman, laboratory assistant	300.00	81.50	381.50	300.00	80.00	380.00	1.50

Schedule No. 49—(Continued)

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Annes Laboratory							
Paul Critz, laboratory chief	2,419.32	129.63	2,548.95	2,419.32	129.63	2,548.95	
Jay Elliott, laboratory assistant	1,800.00	63.76	1,863.76	1,800.00	63.76	1,863.76	
Earl Elliott, laboratory assistant	1,419.94		1,419.94	1,419.94		1,419.94	
Alfred Paul, laboratory assistant	1,730.36	88.28	1,818.64	1,730.36	88.28	1,818.64	
L. V. Haas, laboratory assistant	210.00		210.00	210.00		210.00	
Robert P. Jones, laboratory assistant	679.37	65.85	745.22	679.37	65.85	745.22	
W. McCroly, laboratory assistant	1,230.00	28.07	1,258.07	1,230.00	28.07	1,258.07	
Ted Busnel, laboratory assistant	750.00		750.00	750.00		750.00	
J. L. Anderson, inspector	782.67	9.27	791.94	782.67	9.27	791.94	
R. A. Breitenross, inspector	372.58	8.68	381.26	372.58		372.58	8.68
Fred E. Gulick, inspector	904.84	57.32	962.16	904.84	33.00	937.84	23.42
T. D. Holloway, inspector	245.00	9.24	254.24	245.00		245.00	9.24
R. E. Sienstrom, inspector	850.00	9.24	859.24	850.00	9.24	859.24	
M. L. Vanderlinden, inspector	440.00		440.00	230.00		230.00	150.00
L. W. Wood, inspector	662.90	176.21	839.11	662.90	166.21	829.11	10.00
K. M. Dewey, chemist	2,100.00	5.81	2,105.81	2,100.00	5.81	2,105.81	
H. A. Christopherson, Asst. chemist	660.30		660.30	425.10		425.10	135.20
Davenport Laboratory							
Vera Ewing, laboratory chief	2,400.00	58.20	2,458.20	2,400.00	53.20	2,453.20	5.00
L. G. Banner, laboratory assistant	638.34	3.40	641.74	638.34	3.40	641.74	
Paul E. Bruner, laboratory assistant	56.45	7.65	64.10	56.45	7.65	64.10	
J. R. Clements, laboratory assistant	1,500.00	97.99	1,597.99	1,500.00	97.99	1,597.99	
D. G. Fairchild, laboratory assistant	282.50	9.19	291.69	282.50	1.51	284.01	7.68
J. D. Kaser, laboratory assistant	1,068.94	22.58	1,091.52	1,068.94	22.58	1,091.52	
Clark A. Pursella, laboratory assistant	1,200.00		1,200.00	1,200.00		1,200.00	
Onis O. Thornton, laboratory assistant	50.00	8.21	58.21	50.00	8.21	58.21	
Des Moines Laboratory							
M. D. Wickware, laboratory chief	1,999.92	22.67	2,022.59	1,999.92	22.67	2,022.59	
J. E. Wilt, laboratory assistant	1,450.00		1,450.00	1,450.00		1,450.00	
Frederick Bender, laboratory assistant	248.23		248.23	113.23		113.23	135.00
D. G. Fairchild, laboratory assistant	100.00		100.00	100.00		100.00	
L. E. Graeber, laboratory assistant	263.33		263.33	263.33		263.33	
Boy Melride, laboratory assistant	129.03		129.03	129.03		129.03	
Herbert Plagman, laboratory assistant	681.29	5.37	686.66	681.29	5.37	686.66	
H. L. Holbrook, inspector	1,549.50		1,549.50	1,549.50		1,549.50	
Mason City Laboratory							
B. J. Bewling, laboratory chief	2,499.96	205.00	2,704.96	2,499.96	183.28	2,683.24	21.72
R. S. Davidson, laboratory assistant	462.43		462.43	462.43		462.43	
Kenneth P. Ferrell, laboratory assistant	616.93	47.93	664.86	616.93	38.65	655.58	137.28
D. A. Jones, laboratory assistant	450.00	5.41	455.41	450.00	5.41	455.41	
Virgil L. Jones, laboratory assistant	375.00		375.00	375.00		375.00	
W. David Jones, laboratory assistant	1,500.00		1,500.00	1,500.00		1,500.00	
Chas. La Roe, laboratory assistant	1,500.00	4.00	1,504.00	1,500.00		1,500.00	4.00
Edw. P. McCoy, laboratory assistant	229.97		229.97	229.80		229.80	0.17
Gerald Miller, laboratory assistant	309.68		309.68	309.68		309.68	
H. D. Susans, laboratory assistant	1,405.81	12.96	1,418.77	1,405.81	12.96	1,418.77	
Chas. S. Meyer, inspector	937.10		937.10	700.00		700.00	237.10
Office rental	1,200.00		1,200.00	1,200.00		1,200.00	
Culvert investigation	3,087.00	107.98	3,194.98	2,160.40	103.02	2,263.42	931.56
Extra help—miscellaneous	1,086.31	118.98	1,205.29	673.33	107.50	780.83	424.46
Extra transportation		17.60	17.60		17.60	17.60	
Totals	\$66,203.91	\$6,911.20	\$73,115.11	\$65,803.56	\$5,159.55	\$70,963.10	\$4,152.01

SCHEDULE NO. 50

EQUIPMENT AND SUPPLIES—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Books, circular letters, etc.	\$10,569.77	\$10,569.77		\$5,782.89	\$5,782.89	\$4,816.88	
Maps	149.40	149.40				149.40	
Road guides	34.20	34.20				34.20	
Photos, slides, cuts	603.40	603.40				603.40	
Printing paper, linoleum and type	5,643.13	5,643.13		260.00	260.00	5,383.07	
Expenses	3,527.02	3,527.02		100.31	100.31	3,426.71	
Freight and drayage	2,250.30	2,250.30		69.24	69.24	2,181.06	
Postage	7,085.41	7,085.41		65.95	65.95	7,019.46	
Telegraph	394.96	394.96		34.12	16.17	378.86	
Telephone	3,306.87	3,306.87		128.99	128.99	3,177.88	
Bridle department supplies	21.82	21.82				21.82	
Drafting department supplies	7,282.48	7,282.48		792.50	792.50	6,490.98	
Drainage department supplies	67.13	67.13				67.13	
Machinery and Equip. Dep. Autos	1,675.00	1,675.00				1,675.00	
Machinery and Equip. Dep. supplies	22,803.47	22,803.47		2.08	2.08	22,801.41	
Materials and tools Dep. supplies	5,941.73	5,941.73		5,318.24	5,318.24	623.49	
Road department supplies	10,506.61	10,506.61		1,472.19	1,472.19	9,034.42	
State Fair exhibit	188.78	257.64				257.64	
Furniture and fixtures	3,571.98	3,571.98				3,571.98	
Stationery and office supplies	7,746.67	7,746.67		58.65	58.65	7,688.02	
Motor vehicle repairs—field	5,284.79	5,284.79		1,056.90	1,056.90	4,227.89	
Motor vehicle supplies—held	7,341.69	7,341.69		2,347.98	2,347.98	4,993.71	
Motor vehicle repairs—shop	15,127.58	13,127.38				15,127.58	
Motor vehicle supplies—shop	11,574.61	11,574.15				11,574.15	
Transportation, miscellaneous	6,000.00	6,000.00				6,000.00	
Testing lead	34.23	34.23				34.23	
Blue printing, etc.				60,003.30	60,003.30		
Totals	\$101.96	\$135,829.07	\$135,930.93	\$77,900.58	\$77,900.58	\$58,030.35	

SCHEDULE NO. 51

DISTRICT OFFICE NO. 1—JULY 1, 1921, TO JUNE 30, 1922

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	total	Salary	Expense	Total	
W. F. Beard, district engineer	\$1,300.00	\$1,298.66	\$4,298.66	\$1,834.25	\$1,136.15	\$2,970.40	\$1,328.26
H. O. Hickok, asst. district eng.	2,709.96	1,512.11	4,012.07	3,335.77	934.15	2,769.92	1,242.15
H. B. Light, road designer	2,499.96	103.99	2,603.95	2,249.88	103.99	2,353.85	250.10
K. V. Craig, resident engineer	709.98		709.98	668.00		668.00	21.98
C. C. Gleason, resident engineer	594.53		594.53	594.53		594.53	
L. G. Knoll, resident engineer	785.85		785.85	702.14		702.14	83.71
Robert McCormick, resident engineer	345.84		345.84	339.92		339.92	5.92
D. C. Burwell, inspector	555.16	1.34	556.50	554.15		554.15	2.35
John Jennings, inspector	495.83		495.83	339.69		339.69	156.14
J. A. Keer, instrument man	677.32		677.32	615.80		615.80	61.52
Donna F. Hawer, instrument man	333.21		333.21	333.21		333.21	
Charles W. Scholer, instrument man	150.00		150.00	150.00		150.00	
A. F. Khan, rod man	300.00		300.00	300.00		300.00	
Mrs. Leaband Burkank, draftsman	1,417.60		1,417.60	321.51		321.51	1,096.09
Edna Basins, draftsman	1,108.90		1,108.90	962.15		962.15	146.75
Glenn A. Foster, draftsman	308.47		308.47	282.41		282.41	26.06
C. M. Kenworthy—draftsman	643.28		643.28	576.44		576.44	66.84
D. A. Morris—draftsman	240.00		240.00	228.00		228.00	12.00
L. A. Vancay—draftsman	1,351.61		1,351.61	1,287.88		1,287.88	63.73
Extra help—clerical	551.92		551.92	473.89		473.89	78.03
Totals	\$18,968.32	\$2,615.06	\$21,583.38	\$13,929.19	\$2,174.29	\$16,103.48	\$5,480.34

SCHEDULE NO. 52

DISTRICT OFFICE NO. 2—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Raymond Zack, district engineer	\$3,200.00	\$377.01	\$3,667.01	\$3,263.20	\$239.80	\$3,503.00	\$1,174.01
T. K. Perry, asst. district engineer	2,790.96	\$16.89	2,807.85	2,790.11		2,790.11	17.74
T. S. Percival, road designer	1,808.88	94.31	1,903.19	1,694.14	90.50	1,784.64	118.55
Mrs. Albert Gordon, stenographer	1,320.00		1,320.00	1,178.20		1,178.20	141.80
E. B. Gordon, resident engineer	796.90		796.90	769.50		769.50	27.40
Wm. D. Ross, resident engineer	833.07		833.07	845.54		845.54	(12.47)
Henry Kassel, inspector	603.83		603.83	732.44		732.44	(128.61)
C. M. Colvin, chief of party	739.77		739.77	732.44		732.44	7.33
F. A. Preston, chief of party	726.07		726.07	711.74		711.74	14.33
M. L. Clement, instrument man	228.28	1.37	229.65	228.28		228.28	1.37
F. A. Horvick, instrument man	749.48		749.48	671.69		671.69	77.79
Barney McDonald, instrument man	662.19		662.19	658.99		658.99	3.20
Amel Hochstein, instrument man	665.81		665.81	665.81		665.81	
W. D. Tomlinson, instrument man	645.48	1.37	646.85	639.96		639.96	6.89
Harold Wilson, instrument man	667.74		667.74	666.58		666.58	1.16
Expenses		4.27	4.27		1.00	1.00	3.27
Freight and drayage		4.77	4.77		.92	.92	3.85
Office rental		1,226.00	1,226.00				1,226.00
Postage		2.00	2.00		1.00	1.00	1.00
Telephone		250.35	250.35		4.95	4.95	245.40
Miscellaneous supplies		184.87	184.87				184.87
Extra help—clerical		268.33	268.33		5.48	262.85	5.48
Totals	\$17,164.96	\$2,608.56	\$19,773.52	\$12,604.71	\$833.25	\$13,438.00	\$6,335.52

SCHEDULE NO. 53

DISTRICT OFFICE NO. 3—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
E. W. Dunn, district engineer	\$3,200.00	\$1,259.43	\$4,459.43	\$1,670.18	\$999.07	\$2,669.25	\$1,800.18
E. Capel, asst. district engineer	2,790.96	1,028.98	3,819.94	2,071.89	754.75	2,826.64	993.30
E. E. Spalden, road designer	2,166.96	5.81	2,172.77	2,071.96	5.81	2,077.77	95.00
Edna Eckert, stenographer	1,320.00		1,320.00	1,208.72		1,208.72	111.28
Thomas J. Lough, resident engineer	741.93		741.93	698.19		698.19	43.74
P. W. Hildebrand, resident engineer	913.19		913.19	806.45		806.45	106.74
E. B. Gleason, resident engineer	736.56		736.56	728.53		728.53	8.03
Harold C. Smith, resident engineer	604.99		604.99	604.99		604.99	
C. B. Zorn, resident engineer	574.19		574.19	574.19		574.19	
Ernest Cook, chief of party	798.31		798.31	798.31		798.31	
F. B. Garson, instrument man	567.74		567.74	489.03		489.03	78.71
Perry L. Collins, instrument man	322.86	1.78	324.64	295.66		295.66	28.98
Newell Hayes, instrument man	345.45	2.00	347.45	337.45		337.45	10.00
W. W. Thoms, instrument man	287.42		287.42	287.42		287.42	
D. W. Townsend, instrument man	507.31		507.31	502.64		502.64	4.67
Ray S. Huffman, inspector	620.96	276.	896.96	620.96		620.96	276.00
E. B. Lambert, inspector	312.96		312.96	47.90		47.90	265.06
F. J. Szwed, inspector	118.81		118.81	118.81		118.81	
Telephone		8.49	8.49		4.92	4.92	3.57
Office rental		147.85	147.85		13.15	13.15	134.70
Office supplies		700.00	700.00				700.00
Miscellaneous supplies		3.20	3.20				3.20
Extra help—clerical		188.22	188.22		11.18	177.04	11.18
Totals	\$17,186.45	\$3,268.22	\$20,454.67	\$13,070.51	\$1,777.70	\$14,848.21	\$5,606.76

SCHEDULE NO. 54

DISTRICT OFFICE NO. 4—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
L. M. Martin, district engineer	\$3,399.96	\$667.37	\$4,067.33	\$1,985.23	\$247.46	\$2,232.69	\$1,834.64
C. D. Weller, asst. district engineer	2,799.96	831.29	3,631.25	1,533.23	336.32	1,869.55	1,761.70
R. H. Irwin, road designer	1,026.20	9.13	1,035.33	747.48	6.13	753.61	281.72
Vera Wilson, draftsman	1,311.00		1,311.00	1,133.90		1,133.90	177.10
E. Irwin Higley, draftsman	1,320.00		1,320.00	1,201.75		1,201.75	118.25
J. L. Pratt, janitor	120.00		120.00				120.00
J. L. McLean, resident engineer	696.56		696.56	553.03		553.03	143.53
R. C. Cason, resident engineer	1,008.44		1,008.44	908.98		908.98	99.46
Frank H. Feller, resident engineer	825.69		825.69	800.31		800.31	25.38
D. M. Finley, resident engineer	884.76		884.76	478.78		478.78	405.98
Wm. J. Frees, resident engineer	400.00		400.00	300.00		300.00	100.00
C. D. McClintock, resident engineer	635.91		635.91	527.31		527.31	1.20
E. E. Martin, resident engineer	351.29		351.29	351.29		351.29	
W. F. Drury, chief of party	220.00		220.00	226.03		226.03	
W. F. Carlson, instrument man	440.22		440.22	401.32		401.32	38.90
Edway W. Cooper, instrument man	280.00		280.00	265.30		265.30	14.70
A. J. Gates, instrument man	252.50		252.50	252.58		252.58	
Ray Meyer, instrument man	252.58		252.58	228.15		228.15	24.43
T. B. Shupe, instrument man	195.07		195.07	195.97		195.97	
C. D. Jansman, rod man	196.83		196.83	195.38		195.38	1.45
L. P. Housner, rod man	196.87		196.87	198.87		198.87	
H. B. Hieker, rod man	141.25		141.25	140.86		140.86	38
L. Anderson, inspector	382.33	60.77	443.10	227.33		227.33	215.77
Wm. E. White, inspector	356.00		356.00	359.00	218.28	577.28	
Express		1.24	1.24		.67	.67	.57
Freight and drayage		5.42	5.42		1.05	1.05	4.37
Postage		1.38	1.38		1.38	1.38	
Telephone		22.47	22.47		9.39	9.39	13.08
Telephones		213.95	213.95		10.45	10.45	203.50
Miscellaneous supplies		18.86	18.86		1.00	1.00	17.86
Extra help—clerical	352.94	1.90	354.84	193.60		193.60	161.24
Totals	\$17,497.72	\$2,048.86	\$19,546.58	\$13,333.36	\$1,026.70	\$14,360.06	\$5,186.52

SCHEDULE NO. 55

DISTRICT OFFICE NO. 5—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
J. S. Morrison, district engineer	\$2,399.96	\$911.16	\$3,311.12	\$1,906.24	\$612.40	\$2,478.64	\$1,722.48
W. J. Smith, asst. district engineer	2,799.96	194.83	2,994.79	2,308.71	98.30	2,407.01	587.78
Geo. H. Meade, road designer	2,499.96	10.54	2,510.50	2,491.62	10.54	2,502.96	8.54
Edith Smith, stenographer	1,080.00		1,080.00	997.20		997.20	82.80
C. P. Brown, resident engineer	316.13		316.13	316.13		316.13	
E. E. Horner, resident engineer	741.94		741.94	741.94		741.94	
E. E. Nelson, resident engineer	802.67		802.67	802.67		802.67	
H. J. Norris, resident engineer	254.62		254.62	251.39		251.39	3.23
Don L. Neal, resident engineer	869.64	70	867.24	849.31	70	850.01	17.23
A. W. Wilson, chief of party	301.22	.40	303.63	295.23		295.23	8.40
Elyon G. Britton, instrument man	731.29	1.20	732.50	725.30	1.20	726.50	6.00
C. S. Fye, instrument man	520.65		520.65	507.92		507.92	12.73
Don McNaughton, instrument man	700.00		700.00	595.00		595.00	105.00
H. B. Nowlin, instrument man	180.00		180.00	140.00		140.00	40.00
Joe C. Bush, rod man	383.87	4.10	387.97	368.00		368.00	19.97
S. B. Sage, rod man	118.22	1.04	116.26	106.70	1.04	107.74	8.62
Glen McKee, rod man	116.13		116.13	104.13		104.13	12.00
W. M. Smith, rod man	150.00		150.00	150.00		150.00	
R. A. Bruestgen, inspector	421.23	56.04	477.27	229.33		229.33	247.94
L. D. Lewis, inspector	393.00	319.84	712.84	387.00	360.94	747.94	64.90
Express		4.45	4.45		2.94	2.94	1.41
Freight and drayage		7.99	7.99		3.99	3.99	3.99
Postage		100.33	100.33		18.00	18.00	82.33
Telephone		210.50	210.50		1.75	1.75	211.75
Miscellaneous supplies		66.21	66.21		3.25	3.25	62.96
Extra help, clerical	723.72	11.23	734.95	718.88		718.88	16.07
Totals	\$17,179.43	\$1,803.56	\$19,973.99	\$14,750.70	\$907.96	\$15,658.66	\$3,215.33

SCHEDULE NO. 56

DISTRICT OFFICE NO. 6—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
Will M. Lee, district engineer	\$3,300.00	\$800.40	\$4,100.40	\$1,376.39	\$550.60	\$1,926.99	\$2,173.41
L. S. Gates, asst. district engineer	2,799.96	657.71	3,457.67	786.76	295.25	1,082.01	2,375.66
W. E. Gandy, road designer	2,499.96	4.32	2,504.28	2,387.44	3.00	2,390.44	113.84
Paul M. Foster, stenographer	1,200.00		1,200.00	1,100.00		1,100.00	100.00
John G. Butler, resident engineer	541.94		541.94	430.85		430.85	111.09
R. D. Carothers, resident engineer	584.33		584.33	584.33		584.33	
R. C. Lary, resident engineer	518.47		518.47	518.47		518.47	
F. A. Miller, resident engineer	972.20		972.20	972.20		972.20	
A. F. Peterson, resident engineer	663.31		663.31	657.51		657.51	7.80
Frank M. Thiel, resident engineer	338.38	17.41	355.79	353.38	17.41	370.79	85.00
L. A. Davidson, instrument man	232.90	8.48	241.38	230.40		230.40	10.98
Res. A. Finley, instrument man	464.50		464.50	448.80	1.70	450.50	14.00
C. M. Jones, instrument man	198.00		198.00	198.00		198.00	
J. F. Spratt, instrument man	900.00		900.00	900.00		900.00	
K. F. Trotter, instrument man	584.56		584.56	584.56		584.56	
Paul Wadley, instrument man	655.00		655.00	655.00		655.00	
R. O. Yuminger, instrument man	116.36	5.23	121.59	115.43		115.43	6.16
R. H. Jester, instrument man	228.75		228.75	220.50		220.50	8.25
G. M. Griffith, chief of party	688.75		688.75	688.75		688.75	
T. E. Riley, chief of party	817.20		817.20	817.20		817.20	
J. A. Ryan, chief of party	405.46	11.90	417.36	405.46	11.90	417.36	
Ray Beale, rod man	277.50		277.50	277.50		277.50	
Noel Harrison, rod man	211.57		211.57	211.57		211.57	
G. J. Worth, draftsman	180.00		180.00	180.00		180.00	
J. B. Duchan, inspector	571.67	4.42	576.09	571.67	1.70	573.37	2.72
Express		2.30	2.30				2.30
Freight and drayage		12.30	12.30		3.87	3.87	8.43
Office rental		540.00	540.00				540.00
Telephone		1.78	1.78				1.78
Miscellaneous supplies		260.62	260.62		4.05	4.05	256.57
Extra help—clerical	361.06		361.06	304.30		304.30	56.76
Totals	\$21,566.28	\$2,487.66	\$24,053.94	\$16,099.37	\$919.10	\$16,998.94	\$7,995.00

SCHEDULE NO. 57

DISTRICT OFFICE NO. 7—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
J. A. Paulsen, district engineer	\$3,300.00	\$527.73	\$3,827.73	\$1,460.50	\$344.89	\$1,805.39	\$2,022.34
L. E. Goodrich, asst. dist. eng.	2,799.96	630.07	3,430.03	1,903.07	277.05	2,180.12	1,249.91
L. O. Huffman, road designer	2,499.96	38.41	2,538.37	2,374.89	12.26	2,387.15	151.22
Leola Ahl, draftsman	1,050.00		1,050.00	1,037.50		1,037.50	12.50
Edith Paulsen, stenographer	1,023.78		1,023.78	1,008.02		1,008.02	15.76
E. W. Hahn, resident engineer	651.62		651.62	624.84		624.84	26.78
F. A. Pata, resident engineer	696.78		696.78	692.84		692.84	3.94
Orlando Anderson, resident engineer	211.39		211.39	211.39		211.39	
H. E. Clayton, chief of party	518.19		518.19	496.46		496.46	21.73
R. F. Templeton, chief of party	869.61		869.61	846.94		846.94	22.67
C. W. Baldwin, instrument man	496.73		496.73	483.90		483.90	12.83
A. E. Barfield, instrument man	732.50		732.50	731.50		731.50	1.00
W. Roy Blackely, instrument man	470.33		470.33	455.52		455.52	14.81
G. H. Butterfield, instrument man	222.10		222.10	132.33		132.33	89.77
A. L. Hertz, instrument man	222.14		222.14	212.14		212.14	10.00
G. W. Koenig, instrument man	605.97		605.97	401.88		401.88	204.09
Donald S. Magowan, instrument man	298.29		298.29	298.29		298.29	
Howard Olsen, instrument man	670.65		670.65	649.31		649.31	21.34
R. F. Schmidt, instrument man	485.47		485.47	472.50		472.50	12.97
Fred B. Thillen, instrument man	474.05	5.35	479.40	466.29		466.29	13.01
R. E. Stansbury, inspector	319.00		319.00	155.00		155.00	164.00
Express		2.89	2.89				2.89
Freight and drayage		16.57	16.57				16.57
Office rental		858.22	858.22				858.22
Telephone		13.45	13.45				13.45
Miscellaneous supplies		197.73	197.73		1.84	1.84	195.89
Extra help—clerical		153.90	153.90		1.64	1.64	152.26
Totals	\$19,475.00	\$2,511.30	\$21,986.29	\$15,549.22	\$647.88	\$16,196.50	\$5,789.48

SCHEDULE NO. 58

DISTRICT OFFICE NO. 8—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
J. F. Reynolds, district engineer	\$3,399.96	\$1,553.61	\$4,953.57	\$1,279.99	\$912.79	\$2,192.78	\$2,860.79
A. A. Baustian, asst. dist. eng.	2,799.96	653.83	3,453.79	1,362.99	402.42	1,765.41	1,688.78
M. E. Johnson, road designer	1,297.02	4.00	1,301.02	1,224.10	4.00	1,228.10	72.92
Grace Baustian, stenographer	1,030.00		1,030.00	236.18		236.18	793.82
J. L. Geils, resident engineer	611.61		611.61	611.61		611.61	
S. W. O'Brien, resident engineer	971.50		971.50	963.16		963.16	8.34
K. J. Smith, resident engineer	562.80		562.80	554.24		554.24	8.24
H. R. Goyke, inspector	225.48		225.48	225.48		225.48	
L. B. Stephenson, resident engineer	1,920.00	517.18	2,437.18	1,465.90	487.67	1,953.57	483.61
J. H. Richards, draftsman	499.35		499.35	499.35		499.35	
Office rental		660.00	660.00				660.00
Freight and drayage		1.60	1.60		.85	.85	106.75
Postage		107.82	107.82		1.64	1.64	106.18
Telegraph		5.02	5.02				5.02
Telephone		181.90	181.90		9.60	9.60	172.30
Miscellaneous supplies		80.82	80.82				80.82
Extra help—clerical		19.91	19.91				19.91
Totals	\$13,327.69	\$3,795.78	\$17,123.37	\$8,432.91	\$1,818.07	\$10,250.98	\$6,871.49

SCHEDULE NO. 60

APPROPRIATION STATE HIGHWAY COMMISSION JULY 1, 1921 TO JUNE 30, 1922.

Debits		
Unexpended Appropriation on July 1, 1921		\$173,674.89
Tax Collected April, 1922		11,950.81
Tax Collected June, 1922		32,952.95
Refunds—Miscellaneous		67,809.70
Refund—Federal Aid Engineering Expense		603,142.61
		\$890,530.66
Credits		
Warrants issued in July, 1921		\$ 60,686.24
Warrants issued in August, 1921		60,318.21
Warrants issued in September, 1921		56,040.43
Warrants issued in October, 1921		48,327.31
Warrants issued in November, 1921		66,045.52
Warrants issued in December, 1921		58,321.46
Balance transferred to Primary Road Fund December 31, 1921		33,563.78
Warrants issued in January, 1922		76,304.17
Warrants issued in February, 1922		53,393.10
Warrants issued in March, 1922		87,912.70
Warrants issued in April, 1922		67,310.71
Warrants issued in May, 1922		53,899.73
Warrants issued in June, 1922		54,823.88
Balance June 30, 1922		113,033.42
		\$890,530.66

SCHEDULE NO. 59

DISTRICT OFFICE NO. 9—JULY 1, 1921 TO JUNE 30, 1922.

Name	Paid from Maintenance Fund			Charged to Federal Aid Engineering Fund			Net from Maintenance Fund
	Salary	Expense	Total	Salary	Expense	Total	
W. O. Price, district engineer	\$3,399.96	\$2,017.88	\$5,417.84	\$966.11	\$1,461.91	\$2,428.02	\$2,989.82
V. C. Gould, asst. dist. eng.	2,694.13	293.41	2,987.54	1,565.74	300.78	1,866.52	1,121.02
W. H. Richards, road designer	1,374.20		1,374.20	1,288.00		1,288.00	86.20
Susie Wright, stenographer	1,320.00		1,320.00	459.25		459.25	860.75
L. C. Whitten, janitor	120.00		120.00				120.00
C. W. Bennett, instrument man	398.39		398.39				398.39
Charles E. Beatz, instrument man	533.22		533.22	553.22		553.22	
H. A. Kennedy, instrument man	583.78		583.78	535.08		535.08	48.70
M. Moss, rod man	101.84		101.84	98.11		98.11	3.73
Martin M. Sheehan, rod man	134.45		134.45	134.45		134.45	
James Snelaker, rod man	162.10		162.10	162.10		162.10	
Oscar Weber, rod man	134.45		134.45	134.45		134.45	
Express		19.43	19.43				19.43
Freight and drayage		8.03	8.03				8.03
Postage		107.00	107.00				107.00
Telegraph		1.13	1.13		1.13	1.13	
Telephone		92.51	92.51		2.35	2.35	90.26
Miscellaneous supplies		141.96	141.96				141.96
Extra help—clerical		651.40	651.40				651.40
Totals	\$11,537.92	\$2,781.48	\$14,319.37	\$6,975.91	\$1,706.17	\$8,742.08	\$5,577.29

SCHEDULE NO. 61

COMPARISON OF EXPENDITURES FOR FOUR YEARS

Item	1918-1919	1919-1920	1920-1921	1921-1922
1 Commissioners	\$ 2,235.08	\$ 2,298.82	\$ 2,016.37	\$ 2,732.47
2 Administrative department	15,431.07	14,506.57	Note 1	Note 1
3 Executive department	Note 2	Note 2	5,768.71	5,870.01
4 Department purchases and accounts	Note 3	Note 3	14,112.34	17,048.08
5 Accounting department	Note 4	4,222.17	2,457.20	1,610.97
6 Department of road administration	4,235.83	3,342.38	3,147.01	3,151.14
7 Department of road design—Plans	4,710.24	778.09	834.96	1,919.05
8 Department of road design—Surveys	10,525.65	1,285.37	917.66	1,535.33
9 Department of road construction	Note 5	1,144.42	2,280.08	161.06
10 Department of machinery and equipment	9,338.16	86,053.83	30,304.96	55,823.17
11 Department of road maintenance		4,401.65	5,997.63	7,912.71
12 Traffic census		46.82	24.79	214.82
13 Bridge department	25,943.02	17,621.80	14,965.11	18,271.12
14 Drainage department	4,913.90	4,894.47	4,353.34	4,945.45
15 Women's drafting department	7,302.79	4,301.11	4,727.01	5,582.05
16 Department of materials and tests		997.52	759.59	4,132.01
17 Equipment and supplies	19,998.06	8,544.08	40,800.16	58,430.35
18 District offices	17,281.43	33,187.80	42,560.41	51,490.09
Totals	\$121,962.05	\$187,392.87	\$178,761.36	\$*246,850.85
Deduct on account of refunds	1,067.98	6,112.10	44,983.39	* 67,809.70
Net totals	\$120,894.07	\$181,280.77	\$133,777.97	\$173,041.15

Note 1—Divided under Items 3 and 4.

Note 2—Previously included in Item 2.

Note 3—Previously included in Item 2.

Note 4—Previously included in Item 2.

Note 5—Included in Item 8 for year 1918-1919.

*Deducting \$67,809.70 refunded to the State Treasurer, the total cost of maintaining the Highway Commission for the year ended June 30, 1922, was \$173,041.15.

SCHEDULE NO. 62
 APPROPRIATION FEDERAL AID ENGINEERING FUND JULY 1, 1921—
 JUNE 30, 1922.

Unexpended Appropriation July 1, 1921.....	\$288,689.15
Appropriation March 1, 1922.....	425,000.00
	\$713,689.15
	Credits

Expended in July, 1921.....	\$23,741.95
Expended in August, 1921.....	28,951.26
Expended in September, 1921.....	42,648.13
Expended in October, 1921.....	43,486.76
Expended in November, 1921.....	37,485.41
Expended in December, 1921.....	40,443.72
Expended in January, 1922.....	39,448.01
Expended in February, 1922.....	62,111.39
Expended in March, 1922.....	62,111.39
Expended in April, 1922.....	47,681.46
Expended in May, 1922.....	32,222.62
Expended in June, 1922.....	30,527.87
Balance June 30, 1922.....	211,428.54
	\$714,669.15

SCHEDULE NO. 63

STATEMENT OF EXPENDITURES FEDERAL AID ENGINEERING FUND—JULY 1, 1921 TO JUNE 30, 1922.

County	Project No.	Miles	Reconnaissance	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction	Total
Adair	172	11.00	\$ 34.06	\$ 1,325.00	\$ 899.06	\$ 21.42	\$ 14.87	\$ 469.98	\$ 59.85	\$ 586.78	\$ 12.17	\$ 3,933.19
Adair	P-28	15.50		22.86	68.34	122.03		56.69	11.16	70.74		213.21
Adair	P-162	3.75	10.83	82.45	89.85		30.95	71.89	17.94	89.76	200.88	591.57
Adair	B-20						1.73	31.62	134.64	39.48		46.23
Adair	B-23							19.70	106.92		24.60	151.22
Adair	B-64							17.15	95.48		21.96	134.59
Adair	B-163				69.43	21.46	10.32	38.46	124.47	48.02		312.16
Adams	26	9.95			16.53		29.93	32.66		40.77	181.44	301.13
Adams	152	14.00		105.26	605.56	305.37	20.63	182.90	61.77	228.30	71.27	1,611.12
Adams	B-109							53.22	299.67	68.94		421.83
Adams	B-142				626.00		7.21	7.66	41.60	9.57		57.53
Allamakee	161	13.00		1,077.81			321.91	321.91	1.79	401.92	21.18	2,357.52
Allamakee	170	13.49	33.46	1,933.41	970.97		20.03	621.89	3.28	776.45	25.42	4,431.91
Allamakee	P-29	3.41			3.65		16.99	11.28	4.65	14.08	53.76	101.41
Allamakee	P-113	34.83			29.86			23.19	6.87	28.96	113.88	292.76
Allamakee	P-156	6.50		1,103.43	892.58			411.36	25.16	513.59		2,945.83
Allamakee	P-169	.50	2.31	43.33	76.12	11.37		24.43		30.51		181.09
Allamakee	B-68							4.32		5.40		33.19
Allamakee	B-69							1.21	6.56	1.51		9.28
Allamakee	B-141							1.87	10.15	2.33		14.35
Allamakee	B-156				6.08			5.88	41.92	11.08		67.96
Allamakee	B-161							91.69	497.62	114.48		701.79
Allamakee	B-175							34.36	179.84	42.90		258.03
Appanoose	27	10.58					3.91	4.32		4.88	27.37	38.16
Appanoose	P-76	10.45	2.60	7.74	188.59	11.37	74.34	87.44	112.49	109.18	142.32	731.67
Appanoose	P-227	6.70	62.52	894.65	556.63			316.52	48.59	395.18	10.67	2,211.71
Appanoose	B-30							43.03	204.50	57.53	31.56	331.62
Appanoose	B-183							5.57	30.23	6.95		42.75
Audubon	52	26.23		133.60	206.16			121.74	13.79	151.99	323.27	691.31
Audubon	P-170	8.75	43.52	1,301.58	908.77		20.52	460.48		574.93		3,501.89
Audubon	B-60							107.22	482.52	140.94	117.33	838.01
Benton	58	17.89			34.73			53.41		81.35		473.11
Black Hawk	62	17.17		30.92	89.02			30.55		38.14		232.51
Black Hawk	P-51	6.18						1.10		6.37		7.47
Black Hawk	P-164	14.00		13.11	884.05	5.65		192.26	1.07	288.29	66.02	1,409.05
Black Hawk	P-233	14.00	4.63	953.47	709.53	51.09	27.09	347.31	5.37	433.63		2,512.32
Black Hawk	P-234	1.50		605.14				130.20		162.56		879.91
Black Hawk	P-235	7.91	16.19		27.91			7.35		9.17		69.32
Black Hawk	B-77							14.41	78.23	17.80		113.11

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconnaissance	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction	Total
Black Hawk	B-125							16.60	90.11	20.73		127.44
Black Hawk	B-126							4.58	24.84	5.71		35.13
Boone	65	22.50		123.59	191.20			86.61	108.14	166.27		675.81
Boone	P-30	19.00						.06	.07	.43		56.56
Boone	P-58	13.00			84.36		13.18	45.37	56.84	194.47		394.02
Boone	P-61	8.50						1.46	1.82	10.21		13.49
Boone	P-94	2.50							.07	.43		56
Boone	P-134	6.50			88.91			29.33	74.93	5.93	373.99	666.05
Boone	B-33				91.97		34.88	86.57	254.34	112.76	119.18	1,099.70
Bremer	88	16.50			487.69	46.84	31.86	245.18		324.78	14.37	1,806.47
Bremer	P-191	9.25	9.96	645.79	19.07		24.80	10.75		12.53		87.31
Bremer	P-228	10.70							67.99	15.64		96.16
Bremer	B-80				351.30	101.85	71.70	125.60	.42	187.71	247.91	1,108.22
Buchanan	5	15.65	21.73		274.48	63.87	62.76	87.78	10.21	136.83	68.04	737.61
Buchanan	P-66	11.25			33.64			20.40		174.50		998.16
Buchanan	P-239	8.00		393.50	290.39			139.77	218.22	30.20		308.63
Buchanan	B-91							83.49		25.47	142.90	188.77
Buena Vista	37	12.84			372.22	1.56				104.34	21.47	582.95
Buena Vista	P-18	24.52					10.32	2.18		2.72	6.55	21.77
Buena Vista	P-49	25.30						20.33		37.49	84.26	181.38
Buena Vista	P-93	4.00	31.81	7.40			16.99	46.15		57.62	77.17	388.38
Butler	85	16.32	48.59		141.86		60.87	111.84	27.33	156.49	63.02	853.89
Butler	P-71	12.78		170.33	264.01		39.00	551.81	18.98	688.96	19.94	4,109.39
Butler	P-167	15.85	54.66	1,250.18	1,365.98	124.88		1.44		1.80		14.61
Butler	P-260	11.00	11.37		633.54			136.31		170.19		940.04
Butler	P-267						3.10	51.75	249.06	64.61	38.32	406.93
Butler	B-72					1.09		49.98	269.12	62.41		383.69
Butler	B-192							8.97		11.20		83.00
Calhoun	10	10.86						.42		.53		2.96
Calhoun	P-5	4.00						.42		.53		2.96
Calhoun	P-16	10.60		2.40			4.24	20.23		54.57	89.34	170.78
Calhoun	P-65	18.00			38.91		20.65	47.22		58.96	77.24	265.28
Calhoun	P-96	6.30		122.30	.72		4.24	14.09		27.74	75.54	124.30
Calhoun	P-107	6.24		1.97				32.46	1.07	40.88	209.94	295.91
Carroll	69	8.88			12.51			3.41		1.02		7.72
Carroll	127				5.41		11.37	49.14	450.72	175.81	561.64	3,425.12
Carroll	154	23.90	28.32	314.35	143.26			63.14	14.32	78.83	233.25	532.90
Carroll	P-14	14.00			4.06			9.43	29.98	11.77	10.32	79.32
Carroll	P-141							.35		.45		3.22
Carroll	P-224	22.50	2.74					44.07		55.78	22.84	345.18
Carroll	P-226	3.50		3.61	212.62	5.66						
Carroll	B-14							25.00	135.67	31.21		191.88
Carroll	B-52				6.95			11.40	84.70	14.22		87.26
Carroll	B-113							27.13	92.90	21.37		131.49
Carroll	B-152						6.43	140.65	688.52	175.60	14.37	1,083.29
Carroll	B							29.31	159.05	36.59		224.95
Cass	44	19.60			1.04		48.34	6.04		7.54		62.96
Cass	155	17.00	9.02	193.88	1,547.48		106.78	386.12	47.31	482.08	196.17	2,968.84
Cass	P-150	4.25			11.90			51.02		58.80	282.97	433.72
Cass	B-46				.97			75.91	410.95	94.77		582.60
Cass	B-61				1.56			25.79	132.79	32.20	7.19	199.33
Cass	B-160				205.85		61.66	61.66	93.04	76.98	38.19	475.72
Cedar	57	24.20	7.31	21.82	85.99		33.15	20.25		25.28		163.80
Cedar	P-114	29.00	16.19	2,236.58	993.88	11.32		678.48	3.28	843.33		4,900.11
Cedar	B-108							22.28	120.94	27.82		171.04
Cedar	T-517				130.03			27.98		34.93		192.94
Cerro Gordo	61	6.05						6.58		25.62	19.29	51.49
Cerro Gordo	115	22.07						15.76		39.54	79.76	135.06
Cherokee	116	14.00	4.91			5.66		25.37		43.82	152.59	232.35
Cherokee	P-98	11.05		4.86		5.66		29.44	23.00	25.81	106.90	196.67
Cherokee	P-151	22.50		2,823.96	1,926.12	11.37	44.30	933.02		1,125.29	94.74	6,658.40
Cherokee	P-214	17.37	6.17	350.71	550.41	17.03		181.56		229.68		1,332.56
Cherokee	B-7							1.54		1.92	10.78	14.24
Cherokee	B-170							18.45	86.58	23.03		148.69
Cherokee	B-182							7.40	40.16	9.24		66.80
Chickasaw	38	13.17			6.37			9.20		11.48	55.93	82.98
Chickasaw	76	13.50	14.32	82.95	232.89	11.37		81.67	92.90	101.96		636.12
Chickasaw	160	5.10	12.06	657.30	769.31		19.46	299.89	28.95	374.43	22.82	2,184.35
Chickasaw	177	11.99	12.04	657.31	769.31		19.48	299.89	28.97	374.43	22.82	2,184.35
Chickasaw	P-131	2.00	12.04	657.31	769.31	45.43	19.48	302.24	28.97	377.35	22.91	2,235.04
Chickasaw	B-169				25.38			28.97	125.54	36.17	7.18	223.24
Chickasaw	B				4.17			6.57	21.90	110.27		170.26
Clarke	33	8.45						3.61		15.16	75.88	97.65
Clarke	P-31	14.25		6.89	245.09	11.37		85.9	100.10	106.83	122.60	637.01
Clarke	P-225	3.70	23.13	188.65	298.33		10.32	107.79	37.97	134.57		797.65
Clarke	B-83							44.13	238.84	55.10	.86	328.93
Clarke	B-114				15.58			30.03	150.03	37.49		220.13
Clarke	T-514		15.81	4.36				2.92		3.65		26.64
Clay	P-32	7.67			15.01			10.54		4.50		27.12
Clay	P-56	7.00	36.87	52.05	185.93	81.75	79.16	174.78	76.69	435.45	331.07	1,456.76
Clay	P-236	16.00	4.63	68.60				15.35		19.16		10.71
Clay	P-259	26.00	31.51	430.05	14.02			99.19		123.84		698.61
Clay	B-36				70.30		30.97	112.88	453.96	145.68	77.55	891.64
Clayton	74	22.20		1,025.07	1,212.23	5.66		15.17	482.71	87.42	692.68	3,529.80
Clayton	158	14.50	10.65	1,539.29	991.10			88.32	332.77	.36	665.18	3,837.68
Clayton	166	9.25			8.99			1.70		2.13		12.83
Clayton	P-70	9.06	10.65	1,539.29	991.10	47.98		537.30	.38	680.17	10.01	3,905.18
Clayton	B-62							21.73	117.94	27.13		166.80

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconnaissance	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction	Total
Clayton	B-63							37.43	203.16	46.74		287.33
Clayton	B-85							2.76	14.92	3.43		21.10
Clayton	B-94				2.32			1.57	6.11	1.95		11.95
Clayton	B-166				88.35		1.09	75.75	319.40	94.58		579.20
Clayton	B-167				43.04			46.41	206.85	57.95		356.80
Clinton	15	17.68			1.25			60.50		203.55	256.28	636.30
Clinton	147	16.44	19.37	10.27	285.55			77.29		106.76	62.20	621.94
Clinton	P-125	17.50		95.29	1,066.72	17.03		69.20	254.82	318.15	74.91	1,961.10
Clinton	P-238	.21			24.80			10.00		12.48	1.25	90.88
Clinton	P-271							6.37		.77		5.10
Clinton	B				81.29			174.49	914.75	217.96		1,338.39
Clinton	T-508	4.14		716.73	300.78			12.25		271.56		1,339.82
Crawford	P-8	17.00			330.38		11.37	83.06	127.17	118.94	231.20	1,094.72
Crawford	P-181	.73		22.49	122.02			40.22	34.02	42.48		283.92
Crawford	P-209	3.50	13.07	542.93	325.44	48.24		222.74	11.24	278.10		1,641.76
Crawford	P-225	61.5			1.91			.36		.45		2.72
Crawford	B-65							68.18	331.75	85.13	23.60	528.66
Crawford	B-71						16.99	4.55	9.38	5.68	5.39	41.99
Crawford	B-76							22.35	56.77	27.90		109.67
Crawford	B-115				62.65			19.04	108.22	24.90		153.06
Dallas	12	16.80						9.96		12.43	69.73	92.12
Dallas	P-33	22.25		12.27	17.62			20.34	8.95	25.40	83.18	174.66
Dallas	P-109							48.44	13.52	42.50		75.31
Dallas	P-194		4.62		22.31	22.69	28.78	12.94		10.15	56.93	131.80
Dallas	P-195	10.85		5.88	605.44	28.74		140.32	68.95	175.19	70.04	1,094.56
Dallas	P-196	41.71		1,157.11	547.16	46.29	20.03	371.25	8.99	483.77	17.30	2,621.81
Dallas	P-251	8.00	22.04					2.79		3.49		26.32
Dallas	B				70.43			109.14	319.78	136.26		535.49
Davis	50	10.20			34.39			48.44	13.52	42.50		133.07
Davis	153	11.73		116.67	1,308.29		1.84	268.09	59.68	334.92	14.37	2,007.36
Davis	158	14.30	101.46	968.32	567.02	59.35		349.43		418.29		2,463.87
Davis	B-116				13.11		1.84	55.84	288.36	69.72		428.87
Davis	B-151							6.31	34.22	7.87		48.40
Decatur	8	9.83						4.81	2.69	6.01		44.60
Decatur	122	10.00		14.90	180.54			56.40	13.42	72.20	77.60	472.89
Decatur	B-24							3.82	20.74	4.77		29.33
Decatur	B-33							6.11	10.23	7.63		23.97
Delaware	4	12.60						2.21		2.76		20.48
Delaware	102	13.20			89.04		8.01	51.90	68.75	70.92		331.18
Delaware	P-159	12.62			14.12			15.41		13.66		194.83
Delaware	P-256	16.78	61.70	1,362.30	982.19	29.59	33.97	498.88		619.99	22.86	3,812.48
Delaware	B-136							7.09	35.49	8.86		51.44
Delaware	B							2.15	11.70	2.69		16.54
Des Moines	32	4.80	19.66	5.29	19.16		45.74	100.23		111.77	289.30	504.15
Des Moines	P-53	2.35		0.64	10.81			28.34		83.64	95.30	227.73
Des Moines	P-193	8.00	26.05	1,682.65	599.32			504.36	28.44	611.73	17.45	3,470.00
Des Moines	B							38.74	24.86	13.41		77.01
Dickinson	68	4.80			10.81			52.87	24.86	74.44	342.80	481.01
Dickinson	P-23	7.00	2.84	88.98	1,314.07			279.36		348.48	4.22	2,130.00
Dickinson	P-55	1.90						11.35		11.56		33.13
Dickinson	B							7.25	39.34	9.05		53.64
Dubuque	17	21.69		379.20	184.10	17.03		216.29		246.73	174.74	1,485.36
Dubuque	148	18.24	16.21	2,217.03	1,112.01			694.18	11.14	866.71		4,934.27
Dubuque	P-147	20.02	8.61	12.88	4.79			9.09		11.35	14.37	79.86
Dubuque	B-137							147.08	798.24	183.64		1,128.96
Dubuque	B-178				241.47			90.49	242.46	112.98		657.40
Dubuque	B							20.46	111.03	25.94		157.03
Emmet	49	3.94			26.93	11.37		10.32		9.17		67.93
Emmet	P-57	38.70	2.83					2.44		3.04		25.25
Fayette	59	36.85	2.41	359.52	259.49	38.88		172.09		220.48	306.99	1,317.17
Fayette	164	8.50	47.48	571.49	672.93	19.88		271.97		391.83		3,021.43
Fayette	168	13.13	5.10	1,326.23	237.70		4.72	349.39	1.46	436.22		2,452.82
Fayette	172	13.00	5.06	524.14	693.99		34.46	249.89	3.43	312.00		1,822.96
Fayette	P-143	8.50		399.64	497.22	17.03		190.20	26.88	237.47	9.58	1,400.07
Fayette	P-144	14.00	57.52	1,270.28	331.95	19.84	37.55	249.54	1.73	436.37	8.47	2,502.96
Fayette	P-145	1.76		70.58	111.78	45.43	1.91	40.62		30.71		333.82
Fayette	P-241	1.03	6.62	24.34	104.73			25.94		32.28		161.91
Fayette	B-189			68.39				133.77	699.35	154.84		947.74
Floyd	41	12.40		1.69	48.16			23.83		29.79		202.12
Floyd	157	8.50		193.95	237.90	48.24	62.65	126.20	.89	162.39	196.05	1,029.22
Floyd	P-73	5.40						.84		1.04		7.73
Floyd	P-132	8.50			1.56			.37		.47		5.23
Floyd	P-283	6.00	8.10					1.03		1.26		10.41
Floyd	B-176				0.76	7.45		20.48	98.99	35.56		162.34
Franklin	105	9.75		40.00	81.42			48.05	21.11	59.99	140.81	391.38
Franklin	171	12.00	18.15	865.70	1,287.89	17.03	11.47	443.07		546.22	8.47	3,197.80
Franklin	P-46	19.30			10.70			8.89		10.84	46.61	76.84
Franklin	P-190	10.87	10.95		17.97		1.82	12.12		13.14	49.77	107.77
Franklin	P-261	13.90		44.98				9.68		12.08		66.74
Franklin	B-56							35.93	183.85	44.86	14.37	279.01
Franklin	B							4.75	25.76	6.93		36.44
Fremont	17	18.50			6.26			44.52		55.58	300.01	409.09
Fremont	P-84	15.00			377.24			72.54	5.19	90.87		545.54
Fremont	B-1							32.09		33.53		233.06
Fremont	B-5							22.66	30.90	28.29	118.79	200.64
Greene	39	7.41		11.65	10.81		41.27	56.78		169.15	183.99	470.53
Greene	P-24	36.50		207.50	233.80		5.35	145.76	4.48	155.29	204.49	966.67
Greene	P-153	7.00		19.63	354.32		40.67	81.48		101.73	35.78	633.61

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconnaissance	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction	Total
Greene	P-252	3.76	9.25					6.95		8.68	40.45	65.36
Greene	B- 67							17.65	95.79	22.04		135.48
Grundy	19	14.11			174.76		13.42	49.27	20.05	62.93	73.43	393.86
Grundy	P- 48	19.50			25.73		4.37	20.66	3.04	31.87	93.50	179.17
Grundy	P-123	32.00	30.71	1,720.00	1,176.14	130.59	20.96	615.10	35.96	797.97	14.37	4,511.90
Grundy	P-163	8.21	4.63	9.54	19.70		9.03	11.54		14.15		95.49
Grundy	P-242	19.00					17.01	2.05		2.96		21.62
Grundy	B- 32							1.65	8.95	2.06		12.66
Grundy	B-102							9.13	49.53	11.40		70.06
Grundy	B-154							14.22	77.18	17.75		109.15
Grundy	B-172							26.64	144.58	33.26		204.48
Guthrie	31	20.00		15.00	4.35		20.81	27.43		34.25	146.15	247.99
Guthrie	145	18.25	24.48	1,998.39	1,644.21	198.67	15.46	774.09	48.54	967.80	80.02	5,740.56
Guthrie	179	6.75	9.06	780.69	647.08	96.69	13.07	309.01	56.15	385.81	1.29	2,298.85
Guthrie	P- 52	15.50		85.85	90.60		25.11	50.89		63.54		382.19
Guthrie	B- 12							1.91	4.77	2.38	7.19	16.25
Guthrie	B- 78				3.03	109.81	14.26	163.82	768.48	204.64		1,265.94
Guthrie	B							6.46	31.03	8.96		89.86
Hamilton	67	3.90			32.78			34.24		42.75	196.25	306.02
Hamilton	P- 17	6.50			6.84			2.76		3.44	10.21	23.25
Hamilton	P- 79	20.11	1.47	152.19	1,484.39	74.81	76.38	439.97	150.48	566.97	564.98	3,511.64
Hamilton	P-206	14.94			58.34	17.03	6.59	16.67		20.81	27.47	146.91
Hamilton	P-217	6.00	22.25					2.52		3.32		25.57
Hamilton	P-218	7.00	22.47					2.85		3.56		28.88
Hamilton	P-254	1.06	9.23					1.17		1.46		11.88
Hamilton	B- 9							7.18	32.02	8.97	8.08	57.15
Hamilton	B- 41				19.90		10.01	104.64	499.17	130.64	53.64	818.09
Hamilton	B-103							6.43	34.91	8.03		49.37
Hamilton	B- 11							3.79	14.01	4.73	8.47	31.00
Hancock	44	24.70		75.36	209.73	24.18	51.52	129.39		271.35	292.46	1,053.99
Jasper	B- 34				206.72	6.47	45.06	162.78	619.40	203.23	25.42	1,269.08
Jasper	B-150							9.46	51.33	11.81		72.60
Jasper	B-168				72.33		12.78	50.41	187.43	62.94	4.24	390.13
Jasper	B							2.38	12.93	2.97		18.28
Jefferson	3	19.78	43.38		16.41			26.12		28.13	91.91	305.96
Jefferson	120	6.90		31.90	373.57	11.37	89.81	105.21	86.64	125.39	52.16	748.05
Jefferson	P-220	21.40	32.07	1,481.46	2,184.36			744.23		924.70		5,386.84
Jefferson	B- 45							24.45	116.19	30.53	21.30	192.47
Jefferson	B-107		4.82					31.16	111.52	26.42		163.92
Johnson	9	10.68			7.65			19.63		46.07		163.63
Johnson	128	2.54						9.78		19.95		86.62
Johnson	P- 35	18.20						12.44		15.54	87.16	115.14
Johnson	P- 97	1.37						6.42		8.01		59.58
Johnson	P-207	18.50		1,991.51	2,817.55		10.20	966.70	12.43	1,206.96		7,005.35
Johnson	B							2.86	15.50	3.57		21.93
Johnson	C- 4					39.55	13.55	6.64		7.97		61.37
Johnson	T-519			295.79	782.98			83.64		79.46		438.59
Jones	25	20.20		2.76				36.88		3.50		43.38
Jones	163	21.90	27.61	82.12	2,980.44			221.81	174.12	276.94	264.52	1,746.27
Jones	B- 38							20.03	248.32	805.26	7.70	4,857.27
Jones	B							5.67		16.04		107.85
Keokuk	94	12.31		10.02	175.47		33.83	12.85	28.72	16.04	35.54	107.85
Keokuk	P-128	5.00	16.19	221.63	517.78	11.37	51.58	110.89	88.66	71.91	125.59	544.72
Keokuk	P-245	17.40	6.94	2,471.80	117.48	72.38		36.88		28.13		486.21
Hancock	139	24.50	144.77	1,756.88	1,228.80	49.48	17.71	581.30	.66	707.79	48.48	1,236.96
Hancock	P-178	4.5	4.75		39.29	11.33		647.84	33.48	808.84	52.13	4,739.93
Hancock	B				27.12			13.13		16.40		117.32
Hardin	P- 4	8.80	14.32	6.63	12.82		20.03	33.13		118.88		730.04
Hardin	P- 88	54.00		404.50	152.06	173.84	56.09	175.96		87.68	93.22	207.51
Harrison	14	15.60						3.01		3.76	21.07	27.84
Harrison	138	14.25	43.39	1,469.68	831.62		59.54	505.66		631.34		3,641.10
Harrison	P- 34	19.50		90.91	306.38	56.61	82.66	118.88		138.44	82.36	909.91
Harrison	B- 43							20.62	111.89	158.25		358.76
Harrison	B- 88				9.54	3.13		88.65	466.21	110.56		677.99
Harrison	B					5.3		61.14	331.25	76.33		469.25
Harrison	C- 3							14		18	1.00	1.32
Henry	56	20.90			37.55		48.24	53.18		66.74	163.99	407.93
Henry	151	7.00	20.77	39.26	1,297.37	48.24	4.86	284.39	15.90	337.09	19.76	2,071.64
Henry	B- 50				6.24			119.54	624.34	149.25		917.37
Howard	31	10.40			63.59			16.93		21.13		137.02
Howard	93	11.00			95.08			35.57	6.56	44.41	97.34	298.99
Howard	P-102	1.00			88.47	26.57	20.03	13.68		17.08		8.47
Howard	P-103		20.88	2,222.89	1,233.23	39.72	10.01	724.60		910.33	16.94	5,184.30
Howard	B- 82							16.40	87.05	20.00		677.99
Humboldt	8	1.85						90.50		193.66	485.64	789.53
Humboldt	117	40.83		160.84	225.83	46.11	66.87	287.48	44.40	558.18	1,033.26	2,422.97
Humboldt	P-104	6.00			3.37			1.10		1.37	3.20	9.04
Humboldt	B-199							1.19	5.17	1.19		7.31
Ia	80	19.50		24.88	119.91		16.89	53.54	4.24	66.53	158.32	444.73
Ia	P-191	15.29		15.50	405.21		83.70	128.16	87.86	160.01	150.71	1,031.15
Ia	P-203	9.83		11.24	8.26	17.03	23.81	24.08		22.99	66.01	173.42
Ia	P-213	17.75		21.47				5.01	2.15	6.26		84.89
Ia	B- 44							30.86	137.84	38.53	38.26	245.49
Ia	B- 92				7.82		20.63	319.61		92.06	76.13	589.99
Ia	B-106							49.26		2.17		2.17
Iowa	90	28.20		16.59	45.16			.28	1.54	.35		589.99
Iowa	P-129	13.00						79.26		61.50	245.63	434.33
Iowa	P-130	30.25	20.81	2,281.12	85.82			.66	3.58	.82		5.88
Iowa	B- 19				2.70			509.73		636.41		3,533.89
								18.97	76.01	23.69	31.21	152.58

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconstruction	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction	Total
Jackson	B-21	21.00	5.21	648.48	70.89		54.69	70.58	30.34	88.13	356.37	621.52
Jackson	B-143	12.40	67.22	2,153.73	1,746.21		20.03	525.92	22.37	621.67	11.60	4,698.00
Jackson	B-2	11.80	49.77	4.77	1,454.22		10.30	50.11	749.53	953.81	63.48	5,371.03
Jackson	B-59			3.89				3.56	19.33	15.07		492.37
Jackson	B-70			1.80				14.84	14.84	4.45		36.71
Jasper	B-64	21.90	1.21	1,200.69	1,125.22	6.47	11.18	24.33	98.46	30.37	5.23	194.47
Jasper	P-77	15.00	21.17	293.24	1,442.37	60.23	65.47	515.23	5.19	643.49	3.03	3,792.79
Jasper	B-89	25.00		84.37	1,425.94		10.21	355.47	24.85	483.52	8.08	2,724.68
Jasper	B-100	12.01		4.21	22.19		37.65	19.00	19.00	46.36		1,017.42
Jasper	B-236	22.30		17.47	34.84		61.45	12.42	39.29	15.50	36.26	542.93
Knox	B-147							8.38	10.46	10.46		60.65
Knox	B-148							15.49	19.34	19.34		118.92
Knox	B-149							11.30	11.30	11.30		60.79
Knox	B-150							13.55	13.55	13.55		74.99
Kossuth	B-111	31.31	5.55	4.30	39.54		10.53	20.19	51.60	51.60	297.13	1,017.42
Kossuth	B-110	11.26	4.63	4.39	305.17	1.40	31.33	56.55	3.22	51.60	31.00	1,065.05
Kossuth	P-6	17.42	16.19	5.37	638.05	11.37	119.85	164.90	9.51	211.55	81.70	459.05
Kossuth	P-175	16.50	24.90		23.26			7.57		9.45		1,334.79
Kossuth	P-211	21.75		13.13	4.97			4.97		6.20		65.18
Kossuth	B-59	1.80		1.35	21.59	11.37	20.63	4.97		6.20		45.44
Kossuth	B-135							46.14	238.16	87.60		360.53
Kossuth	C-7	8.90			173.83		1.64	3.84	19.75	4.79		30.02
Lee	B-66	4.00			2,260.05	85.71	10.39	144.85	6.98	293.61		1,017.42
Lee	B-103						20.65	89.27	42.37	1.02		529.43
Lincoln	B-22	15.00		26.95	11.09			35.07	19.69	38.77		254.63
Lincoln	B-221	17.00			11.21			2.13		2.65		15.99
Lincoln	B-257	4.7			1.22							15.99
Lincoln	B											15.99
Linn	B	23.40	4.63	5.80	862.87	11.37	14.42	392.84	55.30	131.23	107.34	380.23
Linn	B	10.26		1,193.54	128.15			315.37	27.03	481.48	2.77	2,778.97
Linn	B	11.00						28.48	192.38	31.95		2,105.00
Linn	B							84.85	52.26	105.94	281.72	712.32
Linn	B	23.15			191.66		35.79	6.00	70.02	16.11	1.45	99.03
Linn	B							12.90				

Jones	B-101	25.00	1.70	12.26	13.57		2.54	44.90	1.21	30		1.86
Jones	P-146	12.77	12.94	386.59	388.07	22.66	46.10	356.64	6.27	55.43	284.47	404.39
Jones	P-174	25.00	14.45	162.67	1,138.22	62.66	12.80	18.30	5.29	445.28	17.17	2,611.90
Jones	B-229	16.30	9.85		15.00			39.21		23.96	86.83	169.22
Jones	B-179			1.45			5.15	113.11		48.05		276.27
Jones	B-169	13.60	96.11	2,787.69	1,354.76	11.37	87.10	918.59	177.87	1,444.31	10.41	6,567.45
Madison	B-36	13.00			3.49			44.15		55.14	304.65	15.97
Madison	B-35							11.29		2.60		15.97
Madison	B-36				1.89		10.39	77.65	412.02	96.92		599.34
Madison	B-70	26.75		9.55	465		20.63	864.49	14.97	1,023.30	234.37	1,909.84
Madison	B-145	14.30	81.56	2,031.47	1,319.20			14.14	70.74	157.65		5,088.53
Madison	B-27			2.96				20.41	110.74	25.48		108.53
Madison	B-122	18.00			13.13			32.26	171.61	40.27		247.10
Madison	B-123	23.20						9.41	11.75	11.75		71.87
Madison	B-124	8.00						33.96	37.58	42.40		339.22
Marion	P-245	2.40						2.05		2.60		15.97
Marion	P-903							10.39		10.39		59.24
Marion	B-119							20.63		20.63		1,000.84
Marion	B-119							14.14		14.14		108.53
Marshall	P-23	5.93						47.46	9.19	47.46		12.99
Marshall	P-13	2.35						12.58		12.58		43.29
Marshall	P-900	13.50	45.97	804.78	336.65		3.48	100.74	4.30	155.75	353.59	1,212.99
Marshall	B-126							244.61	59.91	305.40		820.68
Marshall	B-126							281.80	74.80	356.60		1,477.10
Mills	P-17	13.00						4.07	30.35	34.42		237.81
Mills	B-11	8.00						3.41		3.41		12.99
Mills	B-11							33.35	71.74	4.26		94.84
Mills	B-11	15.88						33.35	71.74	4.26		94.84
Mills	B-128	21.21	72.88	1,726.08	1,426.31	11.37	17.39	64.83	75.27	83.69	39.20	269.54
Monroe	P-28	39.40	34.72	414.83	781.82	19.24	221.25	679.22	89	848.02	183.10	3,787.67
Monroe	P-983	24.65	6.59	628.48	9.85			37.16	57.05	60.56	35.15	4,911.58
Monroe	B-145							15.09		15.09		53.25
Monroe	B-145							224.71	601.93	311.21		2,844.59
Monroe	B-230	8.35						11.22	11.22	11.22		43.29
Monroe	B-230	8.35						69.47	11.76	86.21		307.75
Monroe	B-230	8.35						104.66	34.08	160.94		148.02
Monroe	B-28							208.25	308.25	308.25		1,157.87
Monroe	T-310	16.40						137.02	137.02	137.02		967.59
Montgomery	P-60	11.35						70.18		70.18		289.39
Montgomery	B-40	19.36						50.17	15.41	64.58		452.39
Montgomery	B-40	19.36						203.61	207.46	207.46		1,079.67
Muscatine	B	29.10		6.34	143.78	11.37	72.25	225.82				1,327.75

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconnaissance	Survey	Profile	Specifications	Conferences	Records	Bridge and culvert	Materials and tests	Construction †	Total
Muscatine	P-265	10.60	10.66	9.54	16.23	5.66		7.91		9.88		68.88
Muscatine	B-49							39.89	196.29	49.81	26.08	312.07
O'Brien	P-43	22.50	8.54		9.66		131.18	116.08		165.55	649.86	1,080.87
O'Brien	P-69	28.30	7.51	22.91	1,887.12	33.22	41.27	375.24	2.80	408.52	68.32	2,876.97
O'Brien	B-197			7.15			15.48	61.04	312.70	76.21		472.64
Osceola	P-15	11.00			4.17		16.48	36.98		66.02		328.97
Osceola	P-160	10.45	7.06	2.38	6.80	11.37	49.43	39.34		49.11	209.97	376.26
Osceola	P-197	15.00	10.17	770.37	516.31	5.66	33.46	272.43		340.14	21.58	1,970.12
Osceola	P-201	.52	4.63	5.75	52.04	17.03	3.88	15.07		18.82	14.19	131.41
Osceola	P-202	17.00	31.08	17.67	32.73		85.03	50.69		63.29	185.40	465.89
Osceola	B-87						20.63	13.82	52.94	17.25		115.64
Page	137	28.50	29.93	1,084.84	1,787.08		83.91	779.19	87.53	972.84		5,655.77
Page	178	15.83			117.21	5.66		24.18	8.95	30.19		186.19
Page	P-27	23.25			84.47			78.74	97.24	7.52	128.49	878.02
Page	P-264	10.50	8.10	967.29				209.15		291.13		1,445.67
Page	B							114.01	618.73	142.34		875.08
Palo Alto	100	11.05			80.13			18.46		215.34	285.33	682.68
Palo Alto	P-219	13.00	4.91	1,351.29	1,299.48			537.94		671.64		3,865.26
Plymouth	28	27.85		16.69	94.29	13.58		34.14	25.81	80.48	233.92	563.37
Plymouth	P-39	37.50		17.58	254.95		174.91	86.33	19.66	107.79	66.01	737.23
Plymouth	P-74	13.75			516.71	11.37		108.67	21.75	133.68	27.85	830.02
Plymouth	P-189	18.00		1,261.95	985.42	45.43		464.21	7.08	378.58	14.37	3,358.04
Plymouth	P-215	18.00	32.38	1,355.57	31.19			301.81	.66	378.82		2,098.43
Plymouth	B-35							48.25	250.74	60.25	14.37	373.61
Plymouth	B-81							27.06	136.68	33.78	13.12	210.64
Plymouth	B-105							6.63	32.72	7.53		46.26
Pocahontas	P-7	5.88			27.18			3.13	6.90	22.95	14.20	26.23
Pocahontas	P-20	10.75			37.18			91.62		196.41	423.10	796.87
Pocahontas	P-91	21.00		5.79	107.33			27.74		38.28	37.28	216.42
Pocahontas	89	7.22						38.24		78.63	220.21	337.08
Polk	104	6.57			423.48	11.16		18.54	57.39	77.07		153.00
Polk	132	12.54	42.74		7.40	69.39		108.81	135.85	92.75		301.30
Polk	180	7.71	5.62		32.04			10.01	17.45	21.79		147.78
Polk	P-1	1.20		5.06				26.70	29.95	37.40		268.15
Polk	P-3	4.25						6.95	84	1.05		8.84
Polk	P-40	29.25			7.94			40.75	56.02	116.31	275.88	496.90
Polk	P-59	3.50			15.94			6.81	11.39	22.84		34.85
Polk	P-72	18.14						30.55	3	4.61		38.85
Polk	P-115	3.75	7.20		172.20			59.64	66.82	70.95		446.96
Polk	P-148	16.03			13.18			2.50	100.00	3.12		18.80
Polk	P-244	6.95	39.35		768.29	27.85	20.83	158.26	9.95	197.80	12.71	1,333.74
Polk	P-258	.99		6.05	63.41	6.79	10.91	19.02		23.75	27.80	109.83
Polk	B		2.65		13.82			38.89	194.99	48.55		288.90
Pottawattamie	46	2.65						15.93		19.89		111.55
Pottawattamie	P-21	20.00		20.77	695.98	30.14	101.79	190.54	48.41	237.89	218.75	1,544.37
Pottawattamie	P-22	23.25	10.01	66.90	662.81	24.44	85.06	214.54	84.02	277.86	307.42	1,733.05
Pottawattamie	P-92	10.00	6.70	9.34	193.62			68.90	3.58	84.15	128.38	564.77
Pottawattamie	B-95				32.85			173.07	870.30	216.09	18.31	1,331.12
Pottawattamie	B-96				44.64			207.67	1,014.13	259.28	59.83	1,605.55
Pottawattamie	B-97				26.43			34.67	138.14	43.29	29.47	272.01
Pottawattamie	B							2.34	12.69	2.92		17.95
Pottawattamie	T-523							5.19		92.63		511.65
Poweshiek	P-174			1,730.91	1,321.33	68.08	55.26	639.42		708.34	41.87	4,655.21
Poweshiek	P-41	24.00			54.15			39.67		49.53	205.80	349.21
Poweshiek	P-247	8.25	4.62	384.47	572.70		14.29	193.70		241.85		1,411.63
Poweshiek	B-15							3.45		4.31		24.18
Poweshiek	B-134				9.69			18.79	92.02	35.46		143.91
Poweshiek	B-155				6.03		30.04	97.62	485.00	121.88	24.40	764.97
Poweshiek	B							10.39	56.40	12.97		79.76
Ringold	6	12.00			12.17		9.92	18.16		10.18		32.56
Ringold	123	12.00		6.57	380.05	11.37	20.06	102.07	83.22	127.43	71.40	802.17
Ringold	141	6.00	47.93	241.39	583.63		12.23	175.73	16.16	219.41	4.36	1,310.84
Ringold	142	5.90		503.02	283.70			104.59		216.95		1,168.32
Ringold	B-47							13.18	70.88	16.46	.85	101.37
Ringold	B-79				2.69		22.76	70.92	367.80	88.54		532.11
Ringold	B-124							3.83	20.80	4.78		29.41
Sac	P-10	7.15						5.82		1.02		5.73
Sac	P-12	13.17						5.01		29.01		34.02
Sac	P-106	18.00	24.55		9.12		45.50	43.25		71.62	194.44	387.48
Sac	P-210	6.31	42.22	460.54	289.24			198.97		217.64	53.34	1,271.05
Scott	54	8.46			3.48			90		1.13		1.69
Scott	55	19.13		232.84	729.09		25.74	213.76	11.10	285.13	113.08	1,610.74
Scott	114	17.24			8.61			72.06	10.03	338.36		528.75
Scott	302			873.26	338.60		22.69	259.03	9.32	335.73	4.64	1,848.51
Scott	P-50	26.95		748.71	278.49	90.95	28.80	277.92	75.38	361.73	215.05	2,077.09
Scott	P-124	14.00		14.66	780.30			140.10	1.43	174.91		1,051.40
Scott	P-204	6.00	16.19	953.26	809.82		37.52	379.61	15.85	473.96		2,745.91
Scott	B-18							90.73	466.78	113.28	7.27	698.06
Scott	B-74							30.79	166.72			235.79
Shelby	P-42	23.75		49.82	194.63		30.63	115.65	28.26	149.12	415.09	973.20
Shelby	P-154	25.00	29.03	1,350.43	609.83			409.89		511.77		2,910.95
Shelby	B-16							27.71	70.58	28.39		127.57
Shelby	B							12.40	67.30	13.45		95.18
Sioux	C-5		40.48					20.63	7.62	9.52		78.25
Sioux	28	24.40	6.65	2.11	6.11			29.77		37.17	183.01	274.67
Sioux	84	12.94	6.75		194.70			38.46	5.37	48.02	70.89	329.06
Sioux	P-26	2.19						9.91		12.38	69.43	91.27

SCHEDULE NO. 63—(Continued)

County	Project No.	Mile	Reconstruc- tion	Survey	Profile	Specifica- tions	Confer- ences	Records	Bridge and culvert	Materials and tests	Construc- tion	Total
Scott	P-67	3.00		2.12	5.41		1.35	6.88	8.95	8.59	25.09	58.39
Scott	P-83	33.30		80.04	261.73		9.36	164.50	8.51	205.50	266.72	1,294.45
Scott	P-198	27.45		72.45	848.87		11.78	331.02	48.52	413.29	14.40	2,389.07
Scott	P-223	15.30	14.75					9.58	48.52	119.29		250.06
Scott	B-22							9.58	39.55	9.84		60.40
Story	P-72	30.50		9.65	271.12	11.37	38.33	89.80	1.61	117.61	217.53	750.02
Story	P-162	43.80		35.08				5.57	8.46	6.45		46.73
Story	P-133	4.00						1.72		2.16		13.55
Story	P-221	21.00		906.70	115.46		30.05	190.05		163.59		940.01
Story	P-231	30.15			5.94	4.26		76.06		95.72	33.37	593.00
Story	B-123						31.90	48.58	400.35	95.72	20.27	603.00
Story	B-133							12.86	48.58	16.06		109.70
Tama		30.00		25.55	5.37			48.53	212.76	60.56		374.26
Tama	P-177	13.00		1,811.67				840.72	16.02	510.96		2,639.05
Tama	P-178	6.30		1,807.57				443.95		556.55		2,808.45
Tama	B-25			1,346.83				28.86		556.55		1,965.49
Tama	B-25			15.04	21.79		22.94	34.17	119.07	42.66	72.60	279.27
Tama	B-25			25.97				32.59	146.05	40.69		248.80
Taylor	P-19	19.25	8.10	591.72	885.35	8.32	9.76	322.54	4.05	402.70	152.83	2,095.19
Taylor	P-19	14.00	8.10	1,342.16	1,911.09	633.02		312.29	32.21	644.30	7.10	4,141.40
Taylor	B-121							94.52	286.84	103.87	48.32	654.38
Union	B-83	24.00	6.89	249.08	11.37		30.63	144.10	271.88	69.96	218.27	2,881.84
Union	B-82	11.00		1,231.68				425.05	135.53	465.27		2,881.84
Van Buren	P-165	15.30	41.63	707.41	1,074.70		4.97	883.90	60.43	447.80	60.12	2,711.08
Van Buren	B-75			408.64	154.81			198.03	778.70	289.00	142.55	1,065.45
Van Buren	B-122							141.70		176.92		1,010.03
Van Buren	B-122							2.31	12.53	2.88		17.72
Wapello	B-115	10.50	16.10	209.29	179.77			6.80	12.24	12.24		75.25
Wapello	B-115			211.20				140.96	623.17	131.24	9.89	1,081.42
Wapello	B-115			71.82				82.18	443.95	131.24	135.11	839.72
Wapello	B-115			683.51				100.00	443.95	131.24	135.11	1,393.81
Warren	P-176	1.50	0.84	1,056.51				411.81	559.94	476.02	99.49	2,882.66
Warren	P-176	1.50		1,314.52				141.70	5.01	176.92		1,010.03
Warren	P-222	1.77	10.69	214.83	256.02			2.31	12.53	2.88		17.72

Warren	B-40							36.37	197.38	45.41		279.19
Warren	B-69							5.95	32.84	7.66		46.48
Warren	B-110				1.10			7.16	33.61	8.94		54.81
Washington	P-253			26.26		48.25	37.02	34.00	184.54	42.45		290.99
Washington	P-253			2,680.15		2,191.15	30.90	1,521.01	152.01	84.76		7,083.10
Washington	B-39			1,045.14	40.15	34.15		240.84	126.36	1,276.20	4.70	3,683.39
Washington	B-39			40.15				21.74	27.14	62.43		1,177.45
Washington	B-58				1.16			35.82	45.97	28.02		179.32
Washington	B-58			1,437.65	635.70			39.52	199.83	59.21		1,977.00
Washington	B-58			1,016.70				533.63	125.76	626.26		3,255.94
Wayne	B-11			1,437.65	1,016.70			35.84	168.53	44.87	16.64	783.69
Wayne	B-164			2,300.80	10.50			99.10	277.91	123.72		4,231.31
Wayne	B-164			2.28				54.74	161.40	86.35		282.49
Wayne	P-182			999.39	109.26			131.65	181.40	181.40		911.71
Webster	P-212	12.15		29.75				36.70		45.82	231.48	330.75
Webster	P-25	16.90		9.74				28.37	110.34	81.19		212.90
Webster	P-108	7.00		32.28	363.61			99.07	155.65	155.65		7,200.98
Webster	P-108							5.35	9.97	1.07		15.39
Webster	P-183	9.00		4.93				5.28	1.07	3.08		15.90
Webster	P-184	15.95	4.63	1,094.75	696.30			1.17	16.84	1.17		1,117.91
Webster	B-8				29.75			83		1.06		7.91
Webster	B-8			3.26				375.14	468.37	468.37	3.91	2,674.91
Webster	P-57	17.47		9.74				29.33	36.87	36.87		221.65
Webster	P-220	22.00		39.58	10.41			12.29	18.92	18.92		111.49
Winnebago	P-88							12.59	16.25	16.25		101.20
Winnebago	P-171							18.40	1.43	1.43		4.58
Winnebago	P-171							60.82	309.35	75.94	85.79	472.99
Winnebago	B-73							8.10	10.12	10.12		42.23
Winnebago	B-73							26.73	144.29	45.40		261.34
Winnebago	B-73							64.30	359.77	64.30		531.69
Woodbury	P-75	54.35		24.16	154.37	56.76	112.61	39.17	36.42	80.28	173.45	353.21
Woodbury	P-126	8.00		569.60	47.87			132.84	10.68	220.66		1,031.55
Woodbury	P-145	14.00		292.74	1,395.31			397.84	1.21	490.61		2,891.93
Woodbury	P-185	6.50		695.66	1,204.55			185.00	44.00	359.27		2,176.12
Woodbury	P-185			14.95				44.00	8.58	8.58		31.51
Woodbury	P-187			7.32				2.84	3.51	3.51		11.39
Woodbury	B-136							18.53	25.13	25.13		417.17

SCHEDULE NO. 63—(Continued)

County	Project No.	Miles	Reconstru- ance	Survey	Profile	Specifica- tions	Confer- ences	Records	Bridges and culvert	Materials and tests	Construc- tion	Total
Worth	134	8.50			29.75		5.04	52.02	2.70	64.95	317.30	471.70
Worth	P-52	14.00			13.33		10.01	1.21		1.51		13.73
Worth	P-161	32.44		2.82	1.47.97		2.28	6.05		7.55	17.62	50.65
Worth	B-216	18.00	28.63	2,348.41		73.03	95.26	794.77		922.29	10.00	5,760.96
Worth	B-28							3.78	184.65	8.39		196.82
Wright	P-19	14.67					21.10	6.72	2.96	79.30	43.33	131.33
Wright	P-199	7.50	28.63		870.03	9.68		34.04		5.15	100.30	304.30
Wright	P-200	9.50	10.21	782.15		2.08	85.23	341.50		422.94	21.18	2,492.22
Wright	B-32							5.72	31.03			36.75
Wright	B-188							23.49	111.22	27.49	8.47	170.07
Totals		5,207.01	\$3,629.28	\$125,407.39	\$130,871.43	\$4,854.60	\$5,950.69	\$67,653.63	\$40,912.40	\$86,891.46	\$33,861.73	\$503,142.61

SCHEDULE NO. 64

STATEMENT OF PRIMARY ROAD FUND—DECEMBER 1, 1921—NOVEMBER 30, 1922.

RECEIPTS

December 1, 1921—Balance		\$ 700,967.58	\$ 5,959,518.49
December 15, 1921—Federal Aid			
December 15, 1921—State Funds		89,100.84	
January 1, 1922—Federal Aid		1,461,915.16	
February 1, 1922—State Funds		15,039.35	
March 1, 1922—State Funds		3,693,683.91	
April 12, 1922—State Funds		54,137.24	
April 12, 1922—State Funds		71,702.09	
April 27, 1922—State Funds		6,107.99	
May 15, 1922—State Funds		25,568.78	
June 1, 1922—State Funds		824,139.11	
July 3, 1922—State Funds		770,633.26	
August 4, 1922—State Funds		5,125.70	
August 17, 1922—State Funds		326.00	
August 29, 1922—State Funds		2,833.97	
September 5, 1922—State Funds		705,284.42	
October 5, 1922—State Funds		4,794.94	
November 16, 1922—State Funds		309,597.70	
			\$14,540,078.81

EXPENDITURES

November 30, 1922—Expended during year		\$11,359,868.98
November 30, 1922—Balance		\$ 3,280,209.83

SCHEDULE NO. 65

STATEMENT OF PRIMARY ROAD FUND, RECEIPTS AND EXPENDITURES BY COUNTIES, DECEMBER 1, 1921, TO NOVEMBER 30, 1922.

County	No. of Sq. Mi. in county	Balance Dec. 1, 1921	Receipts during period	Total	Expenditures during period	Balance Nov. 30, 1922
Adair	573	\$ 54,029.65	87,567.96	141,594.31	125,401.66	16,192.25
Adams	427	44,072.33	65,255.48	109,227.81	109,244.22	83.59
Allamakee	671	183,096.02	102,544.30	285,640.32	140,919.55	144,729.77
Appanoose	513	108,197.65	78,308.28	186,505.93	137,858.04	48,737.89
Audubon	443	149,156.37	67,700.04	216,856.41	305,892.36	2,934.85
Benton	712	*121,794.89	108,810.95	*12,984.83	89,390.31	*63,770.14
Black Hawk	566	56,116.92	86,497.59	142,614.81	76,724.67	65,890.14
Boone	578	*128,566.92	88,321.76	*40,245.16	112,758.99	*152,594.15
Bremer	484	118,393.14	66,325.22	184,628.26	170,611.24	13,997.13
Buchanan	597	329,232.91	89,620.59	399,880.60	398,312.89	*1,482.50
Bumby Vista	580	*40,829.18	88,627.42	47,808.31	36,739.19	11,069.14
Butler	577	138,830.39	88,178.96	226,329.35	201,291.57	25,237.78
Calhoun	571	*50,908.93	87,293.00	36,263.07	36,019.00	344.07
Carroll	572	64,983.74	87,414.85	152,398.59	156,515.52	*4,116.96
Cass	564	162,364.41	86,191.23	248,556.64	291,151.44	*42,594.80
Cedar	578	215,466.24	86,321.76	303,788.03	45,354.98	258,182.95
Cerro Gordo	575	*88,120.81	87,873.30	*147.51	30,067.01	*30,314.52
Cherokee	573	93,577.81	87,567.66	181,145.47	59,871.52	130,273.95
Chickasaw	497	*27,272.19	75,958.19	48,686.91	41,281.17	6,709.74
Clark	425	64,561.23	65,498.27	129,969.89	89,622.71	40,247.09
Clay	573	197,819.94	87,567.66	285,386.70	135,861.74	149,524.96
Clayton	700	200,243.45	159,730.27	359,973.72	320,135.47	118,818.25
Clinton	709	61,556.82	108,351.59	169,938.41	119,192.54	40,715.87
Crawford	715	266,129.99	109,568.51	375,369.50	152,568.05	222,881.45
Dallas	592	*25,322.96	90,471.29	65,148.33	86,809.43	*21,664.07
Davis	598	86,052.56	73,717.21	159,773.77	46,488.65	116,287.12
Decatur	583	43,849.29	81,454.74	125,304.03	88,006.00	37,297.97
Delaware	571	147,604.00	87,262.00	234,866.00	111,703.07	121,072.93
Des Moines	429	*91,050.37	65,561.12	*25,489.25	64,725.45	*90,184.70
Dickinson	411	*14,191.85	62,810.34	48,618.49	49,013.35	*994.89
Dubuque	616	81,139.43	94,139.43	147,141.41	89,678.73	89,462.66
Emmet	417	66,624.09	63,727.35	110,351.25	31,212.79	79,138.46
Fayette	724	129,245.09	110,648.94	249,894.02	265,237.05	*15,648.63
Floyd	495	*69,251.96	75,647.45	15,395.49	25,479.29	*10,083.71
Franklin	578	181,825.33	88,331.76	319,558.09	149,300.72	76,567.86

SCHEDULE NO. 65—(Continued)

County	No. of Sq. Mi. in county	Balance Dec. 1, 1921	Receipts during period	Total	Expenditures during period	Balance Nov. 30, 1922
Fremont	522	*95,334.00	79,778.68	*15,560.37	84,931.99	*100,492.38
Greene	526	*39,909.24	88,956.11	48,056.87	80,233.01	*32,165.14
Grundy	561	71,491.22	76,564.41	147,655.62	137,884.37	10,101.25
Guthrie	567	62,455.13	94,435.39	154,730.52	165,980.40	*12,259.28
Hamilton	579	195,013.26	196,028.17	391,041.43	387,732.32	8,733.32
Hancock	573	*127,338.16	87,567.50	*39,770.50	*39,013.82	*736.08
Hardin	569	73,776.78	89,956.34	160,727.12	149,296.21	11,430.91
Harrison	712	103,862.94	108,819.97	277,972.11	41,165.44	236,596.67
Henry	437	62,641.50	65,250.48	127,898.97	22,641.99	105,866.98
Howard	465	36,586.46	71,521.22	108,101.70	89,633.49	18,468.20
Humboldt	434	25,637.56	66,223.22	91,860.78	91,546.50	435.30
Ia	430	28,665.10	65,713.56	102,281.05	104,983.19	*2,302.14
Iowa	382	88,322.24	89,960.88	177,417.12	96,220.50	84,196.62
Jackson	649	113,723.57	59,182.22	212,807.79	142,245.17	70,662.62
Jasper	730	217,698.37	111,569.91	329,257.28	288,869.45	40,387.83
Jefferson	421	90,251.49	65,869.83	139,118.29	67,063.31	68,112.65
Johnson	611	22,951.35	95,274.50	116,226.45	79,674.62	36,551.83
Jones	369	109,223.00	86,968.34	247,284.34	160,678.20	86,606.14
Keokuk	578	114,898.28	38,331.76	200,236.04	38,968.39	164,361.65
Kossuth	974	175,759.95	148,849.76	324,609.71	246,759.30	*22,154.59
Lataha	345	95,984.57	83,288.58	178,273.15	172,729.23	5,543.92
Linn	717	*198,369.61	109,574.23	*85,315.41	66,736.68	*135,352.09
Louis	426	*9,536.06	65,102.64	25,566.58	58,013.88	*2,447.30
Lucas	432	*1,083.65	66,019.50	64,965.94	71,769.44	*6,783.50
Lyon	582	140,097.67	88,642.04	239,040.71	161,154.27	67,886.44
Madison	503	50,791.09	86,039.45	141,839.54	137,496.11	4,343.43
Mahaska	572	137,085.29	87,873.31	224,958.60	158,678.92	66,279.68
Marion	577	17,463.16	83,749.63	104,112.12	49,320.87	46,381.25
Marshall	673	*69,339.13	87,414.85	25,175.72	59,859.71	*34,083.09
Mills	447	*87,527.59	68,311.92	*69,113.67	74,626.95	*68,748.97
Mitchell	463	10,879.92	70,737.09	90,628.01	82,820.25	7,807.76
Monona	109	296,613.29	108,198.75	364,877.00	188,449.83	171,427.17
Monroe	433	39,366.01	69,172.39	102,538.40	59,701.09	42,837.31
Montgomery	434	*73,197.01	64,727.05	*8,309.96	23,392.53	*41,673.49
Muscatine	455	47,124.45	66,534.52	116,668.38	115,392.89	1,276.09
O'Brien	569	24,367.72	86,966.34	111,234.00	94,213.25	17,110.81
Osceola	395	50,658.41	60,395.12	117,023.14	89,039.88	26,983.26
Page	521	174,400.44	81,749.09	295,549.53	149,684.90	155,864.63
Palo Alto	572	*202,117.89	87,414.85	*114,702.94	19,051.65	*130,753.29
Plymouth	801	194,219.47	131,580.73	323,900.30	204,474.44	119,425.76
Pocahontas	589	*50,737.81	88,637.42	87,899.61	47,317.17	*9,417.56
Polk	596	12,519.23	91,082.58	103,599.81	38,737.18	44,861.63
Pottawattamie	958	249,744.47	146,894.39	395,146.06	460,548.08	*64,299.02
Rawlins	580	128,371.11	118,037.42	246,408.53	139,870.73	67,537.80
Poweshiek	549	87,035.94	82,524.49	169,560.43	129,112.90	40,447.47
Ringold	579	*26,964.77	88,036.11	61,071.34	75,468.29	*14,337.65
Scott	470	*15,646.13	71,836.85	30,180.72	34,299.34	24,961.48
Shelby	389	*19,989.25	50,012.82	70,023.44	48,769.79	21,213.96
Sioux	790	4,253.29	116,143.89	120,436.84	27,609.33	27,856.31
Story	567	56,312.34	85,609.62	115,863.65	137,009.48	7,283.53
Tama	730	178,965.74	110,032.67	288,998.41	115,978.72	178,021.69
Taylor	534	136,361.97	81,697.54	241,438.61	130,345.94	111,092.67
Union	437	45,267.11	66,236.45	110,227.59	71,168.58	39,059.01
Van Buren	499	197,200.99	74,882.25	188,876.53	78,492.30	104,716.63
Wapello	428	84,236.73	69,368.54	122,217.96	122,437.21	*1,245.63
Warren	571	189,732.22	82,262.08	286,954.22	198,557.96	88,436.26
Washington	659	142,069.01	95,438.11	227,827.14	128,115.78	99,411.38
Wayne	654	141,410.41	80,079.25	221,489.74	166,809.37	54,689.37
Webster	723	*44,112.89	110,491.21	66,367.22	70,697.82	*4,670.80
Winnebago	296	*22,279.23	65,076.42	37,697.23	53,162.56	4,333.63
Winnesieck	586	182,713.86	164,338.42	297,611.67	232,062.18	53,679.54
Woodbury	878	54,889.45	124,178.75	188,068.24	191,070.90	86,997.34
Worth	399	84,513.91	60,976.40	145,890.37	91,172.84	54,717.53
Wright	678	*3,779.27	88,321.76	84,532.49	78,154.79	6,387.70
Footings		\$7,006,950.29	\$8,860,569.34	\$14,935,273.78	\$11,259,898.96	\$1,473,271.91
Less overdrafts		1,738,596.10		353,236.50		1,138,162.56
TOTALS	56,147	\$5,009,518.40	\$8,580,569.34	\$14,540,078.83	\$11,259,898.96	\$2,280,209.83

*Overdraft.

SCHEDULE NO. 66

STATEMENT OF ANTICIPATION CERTIFICATE FUND RECEIPTS AND EXPENDITURES BY COUNTIES, DECEMBER 1, 1921, TO NOVEMBER 30, 1922.

County	Receipts during period	Total	Expenditures during period	Balance Nov. 30, 1922
Audubon	\$ 50,000.00	\$ 50,000.00	\$ 22,639.48	\$27,360.52
Benton	5,000.00	5,000.00	4,202.51	696.49
Boone	10,500.00	10,500.00	9,805.02	694.98
Buchanan	71,900.00	71,900.00	80,081.15	*8,181.15
Calhoun	20,666.84	20,666.84	12,247.75	8,419.09
Carroll	65,411.25	65,411.25	22,866.42	41,544.83
Chickasaw	63,889.00	63,889.00	100,473.92	*37,003.92
Dallas	40,077.78	40,077.78	47,243.28	*7,164.50
Des Moines	8,017.33	8,017.33	8,017.33	
Greene	4,002.00	4,002.00	2,021.10	480.91
Grundy	63,175.00	63,175.00	45,971.47	17,203.53
Harrison	75,700.00	75,700.00	85,864.38	*7,284.91
Howard	65,883.33	65,883.33	57,600.58	7,482.75
Howell	45,082.74	45,082.74	43,754.47	1,328.27
Humboldt	55,316.00	55,316.00	54,979.12	336.88
Ia	17,096.00	17,096.00	34,280.39	*17,184.39
Iowa	124,238.82	124,238.82	123,564.50	674.32
Kossuth	54,624.67	54,624.67	54,466.64	158.03
Lataha	23,000.00	23,000.00	19,500.45	3,499.55
Madison	19,045.82	19,045.82	18,728.65	317.18
Marshall	30,025.07	30,025.07	29,037.95	1,007.12
Mitchell	16,010.67	16,010.67	7,843.69	8,166.98
Montgomery	40,000.00	40,000.00	38,748.28	1,251.72
Muscatine	32,017.00	32,017.00	29,761.10	2,255.90
Pocahontas	47,500.00	47,500.00	47,413.67	86.43
Story	50,000.00	50,000.00	48,273.00	1,727.00
Whitney	50,000.00	50,000.00	36,783.81	13,216.19
Winnebago	50,615.20	50,615.20	50,152.48	462.72
Wright	*0,111.11	40,111.11	90,163.63	*20,162.43
TOTALS	\$1,230,050.64	\$1,230,050.64	\$1,178,441.37	\$52,609.27

*Overdraft.

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SCHEDULE NO. 67

STATEMENT OF SPECIAL ASSESSMENT FUND RECEIPTS AND EXPENDITURES BY COUNTIES, DECEMBER 1, 1921, TO NOVEMBER 30, 1922.

County	Project Number	Assist-ant District No.	Balance Dec. 1, 1921	Receipts During Period	Total	Expendi-tures During Period	Balance Nov. 30, 1922
Benton	58	2	\$ 2,335.17		\$ 2,335.17	\$ 2,335.17	
Buchanan	5	2			40,657.10	40,657.10	
Clinton	18	1	*157,500.07	\$ 201,310.26	43,818.59	43,818.59	*40,657.10
Clinton	147	2			68,128.94	68,128.94	
Des Moines	SES P-53	1	\$50,705.53	89,381.87	138,576.34	138,576.34	*68,128.94
Dickinson	88	1	13,840.71		13,840.71	13,840.71	
Floyd	P-63	2	*64,637.45	55,220.12	119,857.57	119,857.57	
Floyd	157	3			18,000.00	18,000.00	*13,000.00
Greene	29	1	13,569.59		13,569.59	13,569.59	
Hancock	94	2			49,883.94	49,883.94	
Hancock	94	6			25,000.00	25,000.00	
Johnson	9	1	1,130.58		1,130.58	1,130.58	
Kossuth	170	4		76,879.94	76,879.94	44,461.50	32,418.44
Marshall	23	1	4,707.00		4,707.00	4,707.00	
O'Brien	42	1	*194,011.05	558,342.35	64,351.30	64,351.30	4,707.00
Palo Alto	109	1	6,913.57		6,913.57	6,913.57	
Polk	P-1	4	17,066.35		17,066.35	17,066.35	
Polk	P-70	8	*29,246.40	52,689.68	23,443.28	23,443.28	
Polk	P-524	5			7,000.00	7,000.00	
Scott	114	4	1,931.41		1,931.41	1,931.41	*7,000.00
Scott	P-50	5		81,051.04	81,051.04	81,051.04	
Scott	55-B	6		38,465.17	38,465.17	50,000.00	8,465.17
Sioux	125	2			20,000.00	20,000.00	*20,000.00
Sioux	P-26	7	11,104.96		11,104.96	11,104.96	
Woodbury	P-45	2	*63,914.70	128,515.41	64,600.66	64,600.66	*59,900.00
Woodbury	2	3			35,000.00	35,000.00	
Woodbury	78	4	*8,605.25	35,816.07	29,121.42	29,121.42	
Woodbury	121	5			31,576.19	31,576.19	
Woodbury	P-187	6		7,000.00	7,000.00	6,980.45	19.55
TOTALS			*4502,177.51	\$ 1,941,575.96	\$ 529,598.45	\$ 703,054.81	*\$261,656.37

*Overdrawn.

SCHEDULE NO. 68

STATEMENT OF PRIMARY ROAD BOND FUND RECEIPTS AND EXPENDITURES BY COUNTIES, DECEMBER 1, 1921, TO NOVEMBER 30, 1922.

County	Balance Dec. 1, 1921	Receipts during period	Total	Expenditures during period	Balance Nov. 30, 1922
Black Hawk		\$ 401,775.00	\$ 401,775.00	\$ 229,721.41	\$ 172,053.59
Cerro Gordo	\$ 24,702.97		24,702.97	2,641.05	22,061.92
Clinton	90,078.57	402,900.00	493,000.00	345,000.00	148,000.00
Floyd		30,015.00	30,015.00	15,231.78	14,783.22
Hancock		803,183.00	803,183.00	539,185.00	264,000.00
O'Brien	138,141.00		138,141.00	104,667.13	33,473.87
Polk	*1,738.46	410,000.00	411,738.46	472,528.45	39,210.01
Scott	*439,452.68	1,965,000.00	2,404,452.68	499,109.08	1,905,343.60
Woodbury	54,738.93	494,225.00	549,000.00	421,749.34	127,250.66
TOTALS	*\$162,540.13	\$ 3,717,100.00	\$ 3,879,580.85	\$ 2,806,068.53	\$ 1,073,512.32

*Overdrawn.

SCHEDULE NO. 69
SUMMARY OF EXPENDITURES FOR ROAD AND BRIDGE CONSTRUCTION ON PRIMARY ROAD SYSTEM BY FUNDS, DECEMBER 1, 1921, TO NOVEMBER 30, 1922.

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Tota
Adair	F. A. 173	\$ 23,470.75						\$ 23,470.75
	P-25	145,135.29						145,135.29
	P-162	37,877.97						37,877.97
	B-39	19,363.12						19,363.12
	B-52	12,608.46						12,608.46
	B-64	13,466.38						13,466.38
	B-103	7,776.86						7,776.86
		\$ 296,989.87						\$ 296,989.87
Adams	F. A. 36	\$ 169,108.09						\$ 169,108.09
	F. A. 123	23,943.14						23,943.14
	B-109	21,459.51						21,459.51
		\$ 214,410.74						\$ 214,410.74
Allamakee	F. A. 161	\$ 1,782.66						\$ 1,782.66
	F. A. 170	11,389.69						11,389.69
	P-29	32,460.67						32,460.67
	P-113	42,963.28						42,963.28
	P-158	176.99						176.99
	B-66	7,469.20						7,469.20
	B-106	8,100.00						8,100.00
	B-161	4,091.50						4,091.50
	B-175	47,188.28						47,188.28
		\$ 138,838.00						\$ 138,838.00
Appanoose	F. A. 27	\$ 70,240.82						\$ 70,240.82
	P-76	67,439.86						67,439.86
	B-30	62,289.98						62,289.98
		\$ 199,970.78						\$ 199,970.78
Total		\$ 2,806,068.53						\$ 2,806,068.53

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Andubon	F. A.-52 B-60	\$ 158,521.91 69,922.40	\$ 22,639.48					\$ 181,161.39 69,922.40
Total		\$ 228,514.31	\$ 22,639.48					\$ 251,153.79
Benton	F. A.-38	\$ 431,363.60	\$ 4,203.51	\$ 110,882.89				\$ 546,450.00
Total		\$ 431,363.60	\$ 4,203.51	\$ 110,882.89				\$ 546,450.00
Black Hawk	F. A.-29 F. A.-62 P-51 P-164 P-225 B-77	\$ 93,136.26 25,962.40 15,215.13 37,647.01 14,188.91 6,071.15				\$ 87,714.15		\$ 180,850.41 250,713.81 15,215.13 37,647.01 14,188.91 6,071.15
Total		\$ 192,250.86			\$ 229,721.41	\$ 87,714.15		\$ 509,686.42
Boone	F. A.-63 P-58 P-61 P-134	\$ 185,818.37 137,387.86 9,472.57 50,180.89	\$ 4,336.70 341.72					\$ 185,818.37 141,724.56 9,714.29 50,497.49
Total		\$ 382,859.09	\$ 9,865.02					\$ 392,724.71
Bremer	F. A.-88 P-191 P-228 B-58 B-80	\$ 73,499.42 41,597.16 9,955.39 11,576.20 32,722.70						\$ 73,499.42 41,597.16 9,955.39 11,576.20 32,722.70
Total		\$ 169,390.87						\$ 169,390.87
Buchanan	F. A.-5 P-66 B-91	\$ 271,398.03 7,505.77 16,416.71	\$ 52,506.62 27,674.53	\$ 40,657.10		\$ 2,228.66	\$ 6,370.13	\$ 373,630.53 36,140.23 16,416.71
Total		\$ 295,350.44	\$ 80,018.15	\$ 40,657.10		\$ 2,228.66	\$ 6,370.13	\$ 424,587.47

Bonna Vista	F. A.-37 P-18 P-93 Int.	\$ 162,373.26 195,985.34 17,671.00 2,063.94						\$ 162,373.26 195,985.34 17,671.00 2,063.94
Total		\$ 232,693.78						\$ 232,693.78
Butler	F. A.-85 P-71 P-167 B-72 B-208	\$ 148,804.81 68,344.43 37,187.59 6,606.30 3,897.17						\$ 148,804.81 68,344.43 37,187.59 6,606.30 3,897.17
Total		\$ 264,829.30						\$ 264,829.30
Calhoun	F. A.-10 P-5 P-10 P-95 P-96 P-107 Int.	\$ 119,297.51 30,269.32 57,364.15 39,963.20 29,518.24 7,507.54 2,309.63	\$ 5,682.27 1,510.51 6,054.97					\$ 119,297.51 30,269.32 57,364.15 45,585.47 31,028.75 13,562.51 2,309.63
Total		\$ 266,969.59	\$ 13,247.75					\$ 280,217.34
Carroll	F. A.-99 F. A.-154 P-14 P-141 P-226 B-14 B-62 B-113 B-182	\$ 90,069.60 18,596.45 77,988.75 5,966.39 1,982.94 26,087.76 3,881.87 1,007.29 17,169.56	\$ 16,540.16 4,234.69					\$ 90,069.60 35,136.61 77,988.75 5,966.39 6,317.43 26,087.76 3,881.87 2,901.06 19,439.56
Total		\$ 242,700.61	\$ 23,898.42					\$ 266,599.03
Cass	F. A.-155 P-130 B-61 B-190	\$ 151,310.13 38,598.71 28,918.09 82,547.37						\$ 151,310.13 38,598.71 28,918.09 82,547.37
Total		\$ 301,374.30						\$ 301,374.30

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Cedar	F. A.-57	\$ 9,158.28						\$ 9,158.28
	P-114	4,537.39						4,537.39
	B-204	6,822.52						6,822.52
	B-205	3,777.14						3,777.14
Total		\$ 24,295.33						\$ 24,295.33
Cerro Gordo	F. A.-1	\$ 44,907.50				\$ 46,794.12		\$ 91,701.62
	F. A.-61	85,366.51		\$ 62,118.13	\$ 129,971.29			277,456.03
	F. A.-115	179,666.31		231,332.32	397,996.09			1,008,996.32
Total		\$ 300,940.32		\$ 293,450.45	\$ 727,038.08	\$ 46,794.12		\$ 1,378,122.97
Cherokee	F. A.-116	\$ 57,933.49						\$ 57,933.49
	P-98	46,833.07						46,833.07
	P-151	19,174.71						19,174.71
	P-214	816.35						816.35
	H-7	23,074.17						23,074.17
	B-170	10,524.62						10,524.62
	B-182	4,049.51						4,049.51
Total		\$ 162,405.36						\$ 162,405.36
Chickasaw	F. A.-35	\$ 101,290.79				\$ 178.00		\$ 101,468.79
	F. A.-76	133,188.02	\$ 12,705.01					145,893.03
	F. A.-177	955.75	51,480.37					52,436.12
	P-121		24,045.84					24,045.84
	B-160		12,238.70					12,238.70
	Int.	765.53						765.53
Total		\$ 235,600.09	\$ 100,473.92			\$ 178.00		\$ 336,252.01
Clarke	F. A.-33	\$ 92,240.97						\$ 92,240.97
	P-21	46,055.68						46,055.68
	B-83	16,040.33						16,040.33
Total		\$ 154,336.98						\$ 154,336.98

Clay	P-32	\$ 1,100.00						\$ 1,100.00
	P-35	54,036.47						54,036.47
	B-33	41,909.23						41,909.23
Total		\$ 97,105.70						\$ 97,105.70
Clayton	F. A.-74	\$ 158,176.47						\$ 158,176.47
	F. A.-156	34,512.23						34,512.23
	P-70	23,535.71						23,535.71
	B-62	17,340.62						17,340.62
	B-63	12,898.78						12,898.78
	B-85	9,891.45						9,891.45
	B-166	31,537.03						31,537.03
	B-167	3,970.80						3,970.80
Total		\$ 291,863.09						\$ 291,863.09
Clinton	F. A.-18	\$ 247,469.09		\$ 291,819.36	\$ 465,237.10			\$ 913,956.35
	F. A.-147	22.90		68,128.94	216,227.99			344,278.74
	F. A.-186				193.39			193.39
	P-123	36,012.14			22,073.11			58,085.25
	P-228				6,279.50			6,279.50
	*Bond	25,000.00						25,000.00
Total		\$ 308,445.03		\$ 299,448.30	\$ 770,001.00			\$ 1,347,894.23
Crawford	P-8	\$ 70,467.77						\$ 70,467.77
	P-181	5,902.43						5,902.43
	B-65	29,593.60						29,593.60
	B-71	4,077.70						4,077.70
Total		\$ 110,041.50						\$ 110,041.50
Dallas	F. A.-12	\$ 55,224.34		450.00				\$ 55,711.24
	P-23	139,565.99		4,742.89				144,338.88
	P-72	1,905.43						1,905.43
	P-109	54,031.18		2,609.40				56,640.58
	P-194	23,599.50						23,599.50
	P-195	13,628.03		26,407.00				40,035.03
	P-196			12,997.00				12,997.00
Total		\$ 287,104.49	\$ 47,243.28					\$ 334,347.77
Davis	F. A.-50	\$ 105,010.84						\$ 105,010.84
	F. A.-153	5,777.39						5,777.39
	B-116	12,462.36						12,462.36
Total		\$ 123,250.45						\$ 123,250.45

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Decatur	F. A.-8	\$ 140,884.47						\$ 140,884.47
	F. A.-122	31,982.89						31,982.89
	B-24	17,373.28						17,373.28
	B-33	20,498.88						20,498.88
	Total	\$ 210,739.52						\$ 210,739.52
Delaware	F. A.-4	\$ 65,244.20						\$ 65,244.20
	F. A.-108	66,820.13						66,820.13
	P-159	24,108.48						24,108.48
	P-236	1,246.33						1,246.33
	B-136	2,645.89						2,645.89
	C-8	12,654.21						12,654.21
Total	\$ 172,719.24						\$ 172,719.24	
Des Moines	F. A.-32	\$ 207,706.80		\$ 46,463.11				\$ 254,169.91
	P-53	95,406.63		22,818.76				118,225.39
	Total	\$ 303,113.43		\$ 69,281.87				\$ 372,395.30
Dickinson	F. A.-68	\$ 179,153.93		\$ 50,655.00				\$ 229,808.93
	P-23	2,790.00						2,790.00
	P-55	6,943.29						6,943.29
	Int.	447.50						447.50
Total	\$ 189,394.72		\$ 50,655.00				\$ 239,349.72	
Dubuque	F. A.-17	\$ 169,109.80						\$ 169,109.80
	P-147	16,053.84						16,053.84
	B-178	16.00						16.00
Total	\$ 185,179.64						\$ 185,179.64	
Emmet	F. A.-49	\$ 10,227.53						\$ 10,227.53
	P-57	81,169.61						81,169.61
Total	\$ 91,397.14						\$ 91,397.14	
Fayette	F. A.-59	\$ 228,306.29						\$ 228,306.29
	F. A.-164	32,208.77						32,208.77
	F. A.-173	57,004.28						57,004.28
	P-143	13,943.32						13,943.32
	P-144	90.88						90.88
	P-145	5,979.75						5,979.75
	B-159	7,965.59						7,965.59
	Total	\$ 365,498.88						\$ 365,498.88
Floyd	F. A.-41	\$ 249,570.17		\$ 140,921.00	\$ 275,682.17			\$ 666,173.34
	F. A.-157			13,000.00	63,891.24			76,891.24
	P-93	25.00		55,220.12	207,423.91			262,669.03
	P-13				5,156.89			5,156.89
	B-176	2,015.76						2,015.76
Total	\$ 251,616.93		\$ 209,141.12	\$ 590,153.21			\$ 1,050,911.26	
Franklin	F. A.-105	\$ 85,808.47						\$ 85,808.47
	F. A.-171	41,640.02						41,640.02
	P-46	51,796.06						51,796.06
	P-88	230.75						230.75
	P-190	23,692.61						23,692.61
	P-261	6,877.07						6,877.07
	B-56	8,086.92						8,086.92
Total	\$ 217,731.90						\$ 217,731.90	
Fremont	F. A.-77	\$ 198,848.33	\$ 1,834.08					\$ 200,682.41
	P-84	18,307.91						18,307.91
	B-1	117,513.52	147.41					117,660.93
	B-6	10,594.30	6,635.84					10,630.14
Total	\$ 345,264.06	\$ 8,617.33					\$ 353,281.39	
Greene	F. A.-39	\$ 244,702.92	\$ 286.80	\$ 70,244.86				\$ 315,334.58
	P-24	42,374.68						42,374.68
	P-252		3,116.59					3,116.59
	P-279		17.80					17.80
Total	\$ 287,077.60	\$ 3,521.19	\$ 70,244.86				\$ 360,843.65	
Grundy	F. A.-19	\$ 76,418.80	\$ 2.20					\$ 76,421.00
	P-48	66,944.56	15,288.53					82,233.09
	P-123	22,066.11	13,294.68					35,460.79
	P-163	21,708.60						21,708.60
	P-242	15,216.97	13,069.89					28,286.86
	B-32	33,064.78						33,064.78
	B-102	1,359.59						1,359.59
	B-172	10,829.51	3,516.17					14,345.68
Total	\$ 256,619.82	\$ 45,971.47					\$ 302,591.29	

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Guthrie	F. A.-51	\$ 176,451.95	\$ 2,806.99					\$ 179,258.94
	F. A.-145	37,543.72	49,081.35					87,255.70
	F. A.-179	315.00	3,467.09					3,782.09
	B-12	50,468.98						50,468.98
	B-78	15,767.02	27,129.50					42,896.52
Total		\$ 280,546.67	\$ 83,084.93					\$ 363,631.60
Hamilton	F. A.-67	\$ 73,355.91						\$ 73,355.91
	P-17	33,991.24						33,991.24
	P-79	71,883.23						71,883.23
	P-206	29,168.60						29,168.60
	P-254	5,269.44						5,269.44
	B-9	4,845.04						4,845.04
	B-41	39,922.32						39,922.32
	B-117	1,778.08						1,778.08
	B-187	2,102.77						2,102.77
Total		\$ 262,316.63						\$ 262,316.63
Hancock	F. A.-94	\$ 206,167.28		\$ 175,184.63	\$ 477,330.29			\$ 858,682.20
	F. A.-139	76,480.38			7,112.97			83,593.35
	P-178	15,746.39		4,820.66				20,567.05
Total		\$ 298,394.05		\$ 180,005.29	\$ 484,443.26			\$ 962,842.60
Hardin	P-4	\$ 43,799.77	\$ 1,086.30					\$ 44,886.07
	P-88	190,064.32	48,244.94					239,309.26
	P-212	132.12	8,289.31					8,421.43
	C-1	20,300.00					\$ 35,319.66	55,619.66
Total		\$ 255,216.21	\$ 57,600.55				\$ 35,319.66	\$ 348,136.42
Harrison	F. A.-14	\$ 104,900.31						\$ 104,900.31
	P-34	7,946.98						7,946.98
	C-3	15,460.54					\$ 17,980.95	33,447.49
Total		\$ 128,307.83					\$ 17,980.95	\$ 146,294.78

Henry	F. A.-56	\$ 97,769.56						\$ 97,769.56
	Total		\$ 97,769.56					\$ 97,769.56
Howard	F. A.-31	\$ 104,616.83	\$ 526.07					\$ 104,143.80
	F. A.-62	83,330.18	23,887.65					107,217.83
	P-102	1,274.53						1,274.53
	P-103	19,992.77	19,339.82					39,332.59
	B-82	9,502.29						9,502.29
Total		\$ 217,716.57	\$ 43,754.47					\$ 261,471.04
Humboldt	F. A.-48	\$ 104,730.13	\$ 81.84					\$ 104,811.97
	F. A.-117	94,202.42	53,068.67					147,271.09
	B-109		2,838.61					2,838.61
Total		\$ 198,932.55	\$ 54,979.12					\$ 253,911.67
Ia	F. A.-80	\$ 102,795.05						\$ 102,795.05
	P-101	39,749.90	\$ 20,493.99					60,243.89
	P-203	23,038.38	54.00					23,092.38
	B-44	28,110.56						28,110.56
	B-92	17,146.05	3,732.31					20,878.36
Total		\$ 210,829.94	\$ 24,280.30					\$ 235,110.24
Iowa	F. A.-90	\$ 118,128.75						\$ 118,128.75
	B-19	49,200.80						49,200.80
Total		\$ 167,329.55						\$ 167,329.55
Jackson	F. A.-21	\$ 125,004.31						\$ 125,004.31
	F. A.-174	133.18						133.18
	B-3	91,978.57						91,978.57
	B-70	29,070.54						29,070.54
Total		\$ 246,186.60						\$ 246,186.60
Jasper	F. A.-64	\$ 91,078.58						\$ 91,078.58
	P-77	82,849.05						82,849.05
	P-99	6,409.58						6,409.58
	P-150	57,046.06						57,046.06
	B-29	20,552.87						20,552.87
	B-34	32,216.83						32,216.83
	B-150	11,696.13						11,696.13
B-168	9,575.92						9,575.92	
Total		\$ 311,425.02						\$ 311,425.02

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Jefferson	F. A.-3	\$ 99,576.73						\$ 99,576.73
	F. A.-139	28,443.37						28,443.37
	P-229	966.91						966.91
	B-45	10,649.35						10,649.35
Total		\$ 139,636.36						\$ 139,636.36
Johnson	F. A.-9	\$ 47,845.22		\$ 14,967.00		\$ 59,396.77		\$ 122,178.99
	F. A.-128	101,047.15		28,422.13				129,469.28
	P-35	73,165.12						73,165.12
	P-97	17,285.12						17,285.12
Total		\$ 239,282.61		\$ 43,389.13		\$ 59,396.77		\$ 342,068.51
Jones	F. A.-86	\$ 161,471.39						\$ 161,471.39
	P-281	6,297.55						6,297.55
	B-33	88,148.43						88,148.43
Total		\$ 255,917.37						\$ 255,917.37
Keokuk	F. A.-34	\$ 112,903.38						\$ 112,903.38
	P-128	7,090.14						7,090.14
	B-148	6,176.48						6,176.48
Total		\$ 126,170.00						\$ 126,170.00
Kossuth	F. A.-66	\$ 232,891.87						\$ 232,891.87
	F. A.-111	55,516.59						55,516.59
	F. A.-149	113,743.21	\$ 130,159.15	\$ 44,461.59				278,368.05
	P-6	39,357.84	44.78					39,382.62
	P-270	224.09	3,337.99					3,562.08
	B-89	3,937.34						3,937.34
	B-138	5,123.51	22.58					5,146.09
Total		\$ 500,778.45	\$ 123,564.50	\$ 44,461.59				\$ 668,804.54

Lee	P-68	\$ 215,118.42						\$ 215,118.42
	B-149	6,244.65						6,244.65
	B-2	11,061.23						11,061.23
Total		\$ 232,424.30						\$ 232,424.30
Linn	F. A.-22	\$ 377,728.65		\$ 101,596.14		\$ 20,000.00		\$ 499,324.79
	F. A.-96	69,191.97						69,191.97
Total		\$ 446,919.72		\$ 101,596.14		\$ 20,000.00		\$ 568,515.86
Louisa	F. A.-53	\$ 152,178.60						\$ 152,178.60
	B-1	65,974.94						65,974.94
	Int.	569.99						569.99
Total		\$ 218,663.53						\$ 218,663.53
Lucas	F. A.-63	\$ 172,898.64	\$ 41,295.86					\$ 214,194.50
	B-8	32,682.32	18.75					32,701.07
	B-10	4,695.44	492.00					5,187.44
	B-101	2,448.77	12,660.03					15,108.80
Total		\$ 212,725.17	\$ 54,466.64					\$ 267,191.81
Lyon	F. A.-110	\$ 119,432.06						\$ 119,432.06
	P-85	31,062.32						31,062.32
	P-146	18,238.39						18,238.39
	P-174	39,243.19						39,243.19
	B-66	9,778.83						9,778.83
	B-84	9,763.93						9,763.93
	B-179	13,209.01						13,209.01
Total		\$ 240,717.75						\$ 240,717.75
Madison	F. A.-169	\$ 341.41	\$ 5,356.44					\$ 5,697.85
	P-39	189,693.29	951.25					190,644.54
	B-5	79,911.34						79,911.34
	B-180		13,282.76					13,282.76
Total		\$ 260,946.04	\$ 19,590.45					\$ 280,536.49
Mahaska	F. A.-70	\$ 113,649.25						\$ 113,649.25
	F. A.-146	25,366.31						25,366.31
	B-27	31,929.33						31,929.33
	B-122	12,885.10						12,885.10
	B-129	14,046.42						14,046.42
	B-139	2,015.00						2,015.00
Total		\$ 199,862.41						\$ 199,862.41

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Marion	F. A.-7	\$ 45,063.70				\$ 29,065.80		\$ 74,099.50
	F. A.-75	151,899.57						151,899.57
	B-119	9,596.65						9,596.65
Total		\$ 206,559.92				\$ 29,065.80		\$ 235,565.78
Marshall	F. A.-23	\$ 277,714.47	\$ 2,674.46	\$ 56,738.54				\$ 337,127.47
	P-13	24,104.47	14,133.55					38,237.72
	P-246	32.75	1,774.70					1,807.45
	B-54	19,737.26	149.24					19,886.50
Total		\$ 321,588.95	\$ 18,728.65	\$ 56,738.54				\$ 397,056.14
Mills	F. A.-15	\$ 206,291.28						\$ 206,291.28
	B-11	80,247.61						80,247.61
Total		\$ 286,538.89						\$ 286,538.89
Mitchell	F. A.-45	\$ 188,696.28						\$ 188,696.28
	P-138	9,495.77	\$ 20,067.05					29,562.82
	P-161	888.76						888.76
	Int.	112.07						112.07
Total		\$ 199,192.88	\$ 20,067.05					\$ 219,259.93
Monona	P-33	\$ 75,787.72						\$ 75,787.72
	B-48	110,965.49						110,965.49
Total		\$ 186,753.21						\$ 186,753.21
Monroe	F. A.-20	\$ 86,419.19						\$ 86,419.19
	P-78	27,563.89						27,563.89
	B-28	11,073.62						11,073.62
	B-211	1,155.00						1,155.00
Total		\$ 126,211.70						\$ 126,211.70

Montgomery	F. A.-16	\$ 218,549.93	\$ 187.33					\$ 218,737.26
	B-195		7,666.39					7,666.39
Total		\$ 218,549.93	\$ 7,853.69					\$ 226,403.62
Muscatine	F. A.-40	\$ 128,689.60						\$ 128,689.60
	F. A.-87	50,118.04	\$ 30,674.48					80,792.52
	B-49	29,502.41	8,073.80					37,576.21
Total		\$ 208,310.05	\$ 38,748.28					\$ 247,058.33
O'Brien	F. A.-43	\$ 197,397.92		\$ 258,342.35	\$ 716,555.44			\$ 1,172,295.71
	P-69	24,507.47						24,507.47
	B-197	6,376.06						6,376.06
	*Bond	50,000.00						50,000.00
Total		\$ 278,281.45		\$ 258,342.35	\$ 716,555.44			\$ 1,253,179.24
Osceola	P-15	\$ 98,450.38						\$ 98,450.38
	P-160	16,833.40						16,833.40
	P-197	10,025.46						10,025.46
	P-201	2,600.21						2,600.21
	P-302	35,417.78						35,417.78
	B-87	10,182.75						10,182.75
Total		\$ 173,509.98						\$ 173,509.98
PAGE	P-27	\$ 204,525.87						\$ 204,525.87
Total		\$ 204,525.87						\$ 204,525.87
Paio Alto	F. A.-109	\$ 424,690.30		\$ 109,332.55				\$ 534,022.85
	+Drain	1,100.00						1,100.00
Total		\$ 425,790.30		\$ 109,332.55				\$ 535,122.85
Plymouth	F. A.-35	\$ 124,074.96						\$ 124,074.96
	F. A.-181	176.04						176.04
	P-39	45,683.25						45,683.25
	P-74	35,491.73						35,491.73
	B-35	49,330.25						49,330.25
	B-81	32,607.96						32,607.96
	B-107	9,525.08						9,525.08
Total		\$ 296,758.70						\$ 296,758.70

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total	
Pocahontas	P-7	\$ 43,242.10						\$ 43,242.10	
	P-30	92,612.71	\$ 2,467.29					\$ 95,080.00	
	P-90	62,224.29	25,082.80					\$ 87,307.09	
	P-91	73,159.89	2,212.75					\$ 75,372.64	
Total	\$ 271,099.05	\$ 29,762.80						\$ 300,861.85	
Polk	F. A.-89	\$ 9,419.97		\$ 87,150.16	\$ 279,977.12			\$ 376,547.25	
	F. A.-104	128,520.90		78,725.08	168,496.31			\$ 375,742.29	
	F. A.-132	2,670.14			274,177.56			\$ 276,847.70	
	F. A.-180			17,066.26	967.05			\$ 18,033.31	
	P-1	10,290.91			46,943.48			\$ 57,234.39	
	P-2	8,421.58		52,893.68	167,969.76			\$ 229,285.02	
	P-59	10,213.19			56,215.91			\$ 66,429.10	
	P-72	15,422.44			16,606.62			\$ 32,029.06	
	P-115	14,532.25			22.00			\$ 14,554.25	
	P-122	69,014.00			91,114.00			\$ 160,128.00	
	P-155	831.02		7,000.00	22,720.43			\$ 30,551.45	
	Total	\$ 302,625.25		\$ 242,628.25	\$ 1,042,297.11				\$ 1,688,550.61
	Pottawattamie	F. A.-46	\$ 54,050.27						\$ 54,050.27
P-1		107,628.54						\$ 107,628.54	
P-22		107,425.27						\$ 107,425.27	
P-92		49,858.54						\$ 49,858.54	
Pottawattamie	B-96	74,806.99						\$ 74,806.99	
	B-96	82,174.94						\$ 82,174.94	
	B-97	41,703.72						\$ 41,703.72	
Total	\$ 465,817.28							\$ 465,817.28	
Poweshiek	F. A.-174	\$ 54,016.76						\$ 54,016.76	
	P-41	87,873.91						\$ 87,873.91	
	B-15	22,799.87						\$ 22,799.87	
	B-155	19,820.13						\$ 19,820.13	
Total	\$ 184,510.67							\$ 184,510.67	



Burying the Sod—Trench made first round trip of grader. Story County.



Burying the Sod—Turning the weeds and rubbish into the trench. Story County.



914
Preventing Side Ditch Erosion by Wooden Baffle Walls. Primary Road No. 16—Taylor County.



Perfect Earth Road Maintenance—Primary Road No. 3. Waubesa Trail. Page County.



Wire Mesh Distributes Strain When Car hits post on Standard Temporary Type of Guard Rail—Primary Road No. 8. Adams County.

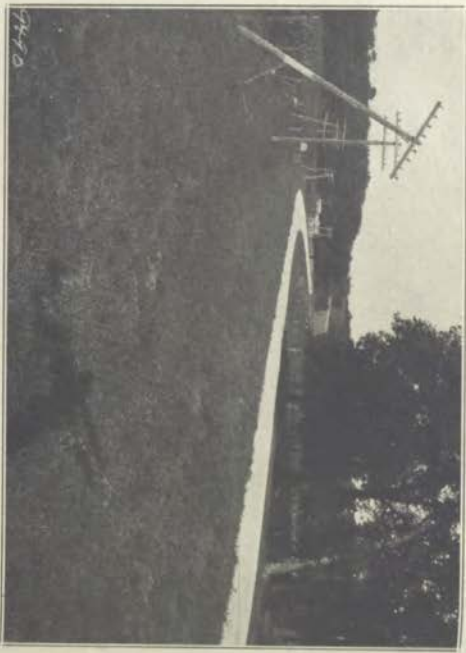


9955
Standard Permanent Guard Rail—Carlisle Road—Looking north from Avon overhead crossing. Polk County.

Earth Road Maintenance on Permanently Graded Earth Road, Monona County.



Concrete Pavement Approach to Eureka Hill Bridge and Dangor Hill—Lincoln Highway, Greene County.



Ringgold.....	F. A.-6	\$ 119,122.27					\$ 119,122.27
	F. A.-122	52,122.75					52,122.75
	B-47	12,067.83					12,067.83
	B-79	41,307.62					41,307.62
Total.....		\$ 224,609.27					\$ 224,609.27
Sac.....	P-10	\$ 36,636.59					\$ 36,636.59
	P-11	57,117.91					57,117.91
	P-12	70,705.65					70,705.65
	P-86	5,888.79					5,888.79
	P-106	67,292.17					67,292.17
	Int.	643.44					643.44
Total.....		\$ 238,284.55					\$ 238,284.55
Scott.....	F. A.-54	\$ 27,572.50			\$ 1,765.41		\$ 29,337.91
	F. A.-55	31,236.22	\$ 50,000.00		244,434.51		326,670.73
	F. A.-114	106,021.67	265,750.28		849,286.13		1,221,068.08
	F. A.-135	26.41	20,000.00		77,718.01		97,744.42
	F. A.-185				744.78		744.78
	P-50	5,456.69			225,355.63		230,812.32
	P-124				209.79		209.79
	P-204				7.50		7.50
	B-18	29,491.54			4,000.00		27,491.54
	Int.	639.76					639.76
Total.....		\$ 195,443.79	\$ 335,750.28	\$ 1,403,561.76			\$ 1,684,755.83
Shelby.....	P-42	\$ 223,013.12	\$ 42,552.22				\$ 265,565.34
	B-16	52,409.72	4,861.35				57,271.07
	Int.	279.54					279.54
Total.....		\$ 275,702.38	\$ 47,413.57				\$ 323,115.95
Sjoux.....	F. A.-28	\$ 99,379.33					\$ 99,379.33
	F. A.-84	114,361.09	\$ 29,621.58				143,992.67
	P-26	99,530.80	24,765.90				117,296.70
	P-47	10,851.80					10,851.80
	P-87	46,562.00					46,562.00
	P-223	53.88					53.88
	B-32	19,941.67					19,941.67
	B-181	1.75					1.75
Total.....		\$ 383,612.22	\$ 54,417.48				\$ 438,029.80

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Story	F. A.-72	\$ 93,201.72	\$ 16,612.55					\$ 109,814.27
	P-62	59,144.24						59,144.24
	P-133	13,067.51						12,087.51
	P-231		3,601.55					3,691.25
	P-232	16,706.12	9,304.59					26,190.73
	B-31	16,989.29						16,989.29
	B-133 B-135	14,241.74	11,468.43					25,710.17
		7,105.27					7,105.27	
Total		\$ 212,460.73	\$ 48,272.00					\$ 260,732.82
Tama	F. A.-47	\$ 156,544.52						\$ 156,544.52
	F. A.-176	89.61						89.61
	B-25	39,152.39						39,152.39
	B-54	210.63						210.63
Total		\$ 195,997.15						\$ 195,997.15
Taylor	F. A.-81	\$ 97,645.60						\$ 97,645.60
	F. A.-149	8,448.21						8,448.21
	B-17	15,584.55						15,584.55
	B-121	24,175.81						24,175.81
	B-213	14,289.07						14,289.07
Total		\$ 160,147.24						\$ 160,147.24
Union	F. A.-83	\$ 121,379.79						\$ 121,379.79
	B-42	31,551.44						31,551.44
Total		\$ 152,931.23						\$ 152,931.23
Van Buren	F. A.-69	\$ 90,188.83						\$ 90,188.83
	B-37	13,994.78						13,994.78
	B-75	13,410.80						13,410.80
	B-132	22,220.59						22,220.59
Total		\$ 138,785.00						\$ 138,785.00

Wapello	F. A.-45	\$ 115,782.24						\$ 115,782.24
	F. A.-159	36,454.41						36,454.41
	B-118	49,745.92						49,745.92
	C-2	16,289.71				\$ 58,912.29		75,152.00
Total		\$ 209,173.28				\$ 58,912.29		\$ 268,085.57
Warren	F. A.-11	\$ 89,128.42						\$ 89,128.42
	P-44	54,973.72						54,973.72
	P-222	2,616.07						2,616.07
	B-21	5,314.66						5,314.66
	B-10	18,994.02						18,994.02
	B-83	1,110.30						1,110.30
	B-99	31,067.15						31,067.15
	B-110	24.19						24.19
	Total		\$ 203,218.53					
Washington	F. A.-71	\$ 76,711.21						\$ 76,711.21
	F. A.-167	26,928.65						26,928.65
	B-39	26,465.64						26,465.64
	B-86	10,205.00						10,205.00
Total		\$ 140,310.50						\$ 140,310.50
Wayne	F. A.-91	\$ 161,370.34						\$ 161,370.34
	F. A.-150	47,107.53						47,107.53
	B-13	15,475.85						15,475.85
	B-104	30,060.08						30,060.08
	B-165	10,944.30						10,944.30
Total		\$ 205,018.12						\$ 205,018.12
Webster	F. A.-13	\$ 162,065.53						\$ 162,065.53
	P-25	88,840.30	\$ 448.24					89,288.54
	P-64	13,749.46	28,159.27					41,908.73
	P-108	16,944.34						16,944.34
	P-111	21,094.27						21,094.27
	P-184		8,176.30					8,176.30
	Int.	1,344.99						1,344.99
	Total		\$ 304,038.89	\$ 26,783.81				
Winnebago	F. A.-30	\$ 70,373.61						\$ 70,373.61
	P-2	107,666.89	\$ 597.64					108,104.53
	P-120	12,039.65	49,554.84					61,594.49
	Int.	534.79						534.79
Total		\$ 190,454.94	\$ 50,152.48					\$ 240,607.42

SCHEDULE NO. 69—(Continued)

County	Project No.	Primary Road Fund	Anticipation Certificate Fund	Special Assessment Certificate Fund	Primary Road Bond Fund	County Funds	City Funds	Total
Winneshiek	F. A.-28	\$ 162,482.61						\$ 162,482.61
	P-121	70,621.47						70,621.47
	B-55	58,098.41						58,098.41
	B-140	8,679.16						8,679.16
	B-162	13,531.44						13,531.44
Total		\$ 314,014.09						\$ 314,014.09
Woodbury	F. A.-2	\$ 124,915.13		\$ 35,000.00	\$ 138,480.42	\$ 54,511.13		\$ 392,906.68
	F. A.-78	8,577.70		35,816.07	127,730.21			167,124.98
	F. A.-136			31,576.19	159,972.02			191,548.81
	F. A.-162				29,327.55			29,327.55
	F-45	302,439.81		177,266.92	441,960.17			820,745.91
	F-187			6,280.45	39,430.44			45,710.89
Total		\$ 330,051.64		\$ 286,283.54	\$ 917,901.41	\$ 54,511.13		\$ 1,588,056.42
Worth	F. A.-124	\$ 86,062.57						\$ 86,062.57
	P-161	29,374.09						29,374.09
	P-210	13,885.77						13,885.77
	B-98	5,050.19						5,050.19
Total		\$ 139,972.53						\$ 139,972.53
Wright	F. A.-29	\$ 174,412.99	\$ 579.00					\$ 175,091.99
	P-19	59,527.23	19,334.00					78,861.50
	P-300	4,024.00	34,185.81					38,809.81
	B-26	30,308.65						30,308.65
	B-188		5,964.06					5,964.06
	Int.	339.45						339.45
Total		\$ 268,597.32	\$ 60,163.87					\$ 328,761.19
Grand Totals		\$ 22,292,402.98	\$ 1,178,441.87	\$ 2,826,453.36	\$ 6,842,642.69	\$ 279,786.68	\$ 138,480.68	\$ 34,508,228.10

* Bond redemption.
 † General drainage voucher.
 ‡ Includes \$20,000 donated by Cedar Rapids.

SCHEDULE NO. 70

CLASSIFICATION OF EXPENDITURES FOR ROAD AND BRIDGE CONSTRUCTION ON PRIMARY ROAD SYSTEM
 DECEMBER 1, 1917, TO NOVEMBER 30, 1922.

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering	Total
Adair	FA-173	\$ 18,682.97			\$ 1,285.41	\$ 641.32			\$ 2,866.85	\$ 23,470.75
	P-28	124,630.71			6,624.46	6,468.01			10,412.11	148,135.29
	P-162	24,612.72			210.91	782.54			2,271.80	27,877.97
	B-20							\$ 19,077.99	185.13	19,263.12
	B-23							26,494.95	1,003.77	27,498.72
	B-64							12,966.86		12,966.86
	B-163							7,762.56	14.00	7,776.56
Total		\$167,926.40			\$ 8,120.78	\$7,892.07		\$66,302.66	\$16,747.66	\$266,969.57
Adams	FA-26	\$154,058.73				\$6,621.97			\$8,427.39	\$169,108.09
	FA-152	18,835.59			\$2,525.49				2,462.06	23,843.14
	B-109							\$20,976.83	482.68	21,459.51
Total		\$172,914.32			\$2,525.49	\$6,621.97		\$20,976.83	\$11,372.13	\$214,439.74
Allamakee	FA-161				\$ 842.54				\$ 940.12	\$ 1,782.66
	FA-170	\$ 9,388.71							2,000.98	11,389.69
	P-29	23,750.79			3,627.50				3,082.53	30,460.67
	P-113	38,406.26			1,565.65				2,592.47	42,663.38
	P-169				168.06				8.93	176.99
	B-68							\$ 7,459.90		7,459.90
	B-99							3,050.53		3,050.53
	B-156							8,100.00		8,100.00
	B-161							4,319.24	372.26	4,691.50
	B-175							46,646.01	537.27	47,183.28
Total		\$73,544.76			\$6,203.75			\$69,375.68	\$9,834.41	\$188,888.90
Appanoose	FA-27	\$66,808.88				\$3,172.48			\$ 259.46	\$70,340.82
	P-76	61,788.24			\$1,418.50				4,232.24	67,439.98
	B-20							\$66,811.10	1,478.58	68,289.68
Total		\$128,597.12			\$1,418.50	\$3,172.48		\$66,811.10	\$5,971.58	\$199,970.78
Ashtabula	FA-52	\$168,340.31			\$3,895.16				\$8,925.52	\$181,161.39
	B-60							\$68,816.11	1,176.29	69,992.40
Total		\$168,340.31			\$3,895.16			\$68,816.11	\$10,101.81	\$251,153.79

SCHEDULE NO. 70—(Continued)

County	Project No.	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering.	Total
Benton	FA-58	\$125,985.87	\$399,041.81	\$8,662.24	\$3,801.17			\$10,068.91	\$546,450.00
Total		\$125,985.87	\$399,041.81	\$8,662.24	\$3,801.17			\$10,068.91	\$546,450.00
Black Hawk	FA-25	\$13,841.93	\$199,944.27	\$ 2,181.24				\$4,882.97	\$180,850.41
FA-62	92,355.21	128,620.23	26,424.49					8,013.89	268,713.81
P-51				14,464.23				810.00	15,215.13
P-104	26,095.52	\$373.27	5,435.86					2,615.63	27,647.01
B-203	13,771.77							4.27	14,185.11
B-77								9.25	6,091.15
Total		\$116,661.43	\$398,864.49	\$31,445.82			\$6,081.90	\$16,276.51	\$509,686.42
Boss	FA-65	\$46,896.92	\$105,731.16	\$21,750.54				\$11,489.74	\$185,818.37
P-6	49,266.82	61,250.22	21,890.30					3,217.22	131,714.56
B-72				7,273.57				4,603.57	55,497.40
P-134	16,289.83	37,326.72							
Total		\$112,783.38	\$199,286.10	\$62,879.70			\$21,393.83	\$392,784.71	\$607,254.61
Bremen	FA-88	\$57,468.17	\$111,661.55	\$11,661.55				\$4,110.70	\$271,661.97
P-223	31,013.59	\$9,915.87	6,721.14					5,827.13	41,867.16
B-88								79.52	9,965.39
B-80								23.00	11,076.20
Total		\$88,481.06	\$91,577.42	\$18,644.69			\$44,261.90	\$8,084.35	\$169,390.57
Buchanan	FA-5	\$35,334.71	\$320,517.41	\$9,014.88				\$9,163.53	\$373,030.53
P-66	21,240.75			9,856.85				2,042.59	35,140.23
B-91								15.75	16,116.71
Total		\$56,575.47	\$320,517.41	\$17,871.76			\$16,400.96	\$11,221.87	\$424,887.47
Buena Vista	FA-37	\$95,577.86	\$6,130.91	\$6,130.91				\$1,664.73	\$103,274.50
P-18	\$12,428.70	\$3,842.22	27,276.14					5,438.28	48,985.34
P-93	208.76	12,000.54	5,087.71					293.99	17,671.00
Int.									2,663.94
Total		\$12,727.46	\$171,430.62	\$38,474.75			\$2,663.94	\$7,397.00	\$232,693.78

County	Project No.	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering.	Total
Buster	FA-68	\$62,663.22	\$58,494.40	\$21,942.77	\$48.00			\$5,056.42	\$148,204.81
P-71	49,318.74	15,353.23	9,190.13					3,573.83	68,344.43
B-72				19,097.09				3,117.15	37,187.59
B-203	14,472.72							92.00	6,063.30
Total		\$117,462.68	\$73,847.63	\$50,433.74	\$48.00		\$10,189.97	\$12,659.05	\$264,830.30
Calhoun	FA-10	\$ 832.70	\$103,599.64	\$9,040.79				\$2,482.53	\$110,297.51
P-15	25,890.49	15,296.34	4,339.97					20.12	40,546.92
P-95	8,889.85	22,131.37	5,055.46					1,496.53	35,543.21
P-96	1,838.06	20,400.98	14,652.02					6,585.47	45,886.47
P-107	4,043.43	17,843.77	9,858.83					1,397.99	31,025.75
Int.			5,373.75	3,715.99				427.34	13,562.51
Total		\$44,233.63	\$184,536.15	\$41,165.71				\$8,072.22	\$290,317.34
Carroll	FA-99	\$58,238.12	\$1,895.44	\$1,895.44				\$5,223.04	\$69,039.60
P-14	49,318.74	4,332.36	4,795.73					4,373.84	59,136.61
P-141	78,621.10		5,960.59					3,568.01	77,869.75
P-226	5,430.36							6,317.43	11,747.79
B-14								787.07	26,087.76
B-13								3,831.87	18,161.06
B-122								188.64	2,961.06
Total		\$189,544.10	\$452.50	\$13,420.22			\$30,959.15	\$12,363.00	\$296,999.03
Cass	FA-133	\$199,755.24	\$2,678.72	\$6,789.72				\$4,772.17	\$191,310.13
P-61	24,622.85	2,679.39						1,822.64	28,098.71
B-109								1,007.27	3,777.14
Total		\$174,417.02		\$8,569.11			\$109,651.73	\$6,781.54	\$301,374.30
Cedar	FA-57	\$8,480.14	\$6,789.72	\$6,789.72				\$678.14	\$20,138.28
P-114	4,160.62							377.17	4,537.79
B-204								131.53	6,822.52
B-203								3,716.31	3,777.14
Total		\$12,640.76		\$ 6.00			\$10,407.30	\$1,247.87	\$24,795.33
Cerro Gordo	FA-1	\$ 7,476.88	\$ 4,110.19	\$ 4,110.19				\$ 415.00	\$ 12,112.26
FA-61	26,424.49	873,032.06	19,322.65	\$2,376.88				4,441.92	277,426.03
FA-115								16,054.56	1,005,965.32
Total		\$33,657.39	\$1,199,837.08	\$23,809.84	\$2,576.88			\$20,911.78	\$1,278,122.97

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering	Total
Cass	FA-116	\$52,505.80			\$1,045.55	\$1,200.57			\$2,091.47	\$52,833.69
	P-86	5,113.16	\$34,514.73		3,841.80	\$ 548.70			46,514.56	46,514.56
	P-151	16,089.49			783.37				2,300.85	19,174.71
	P-214		794.19						112.19	22,074.17
	B-170								148.97	4,040.51
B-152								245.70	4,040.51	
Total		\$75,699.45	\$37,218.92		\$5,630.62	\$1,950.57	\$36,915.04	\$7,011.76	\$102,405.26	
Chickasaw	FA-50	\$17,728.94	\$30,281.07		\$9,512.97	\$ 62.10	*\$11,316.40		\$9,697.31	\$101,468.79
	P-107	38,747.02	31,896.15		20,438.47	1,699.41			3,772.14	143,897.03
	FA-27				2,784.24				2	24,654.54
	P-131	20,280.34			3,031.30				16.10	22,238.70
	B-169									705.53
Ink.										
Total		\$189,966.07	\$73,137.35		\$43,333.37	\$1,722.51	\$12,071.90	\$12,222.60	\$12,385.28	\$356,342.01
Clarke	FA-33	\$81,966.87			\$1,386.35	\$3,792.50			\$5,065.55	\$92,240.97
	P-31	37,007.72			3,326.64	360.00			4,701.32	46,065.68
	B-83								848.48	16,040.33
Total		\$119,574.59			\$4,712.99	\$4,152.20		\$10,700.35	\$154,336.18	
Cay	P-22				\$1,100.00				\$ 1,100.00	\$ 1,100.00
	P-56	\$50,726.69			228.55				\$2,080.95	54,036.47
	B-56								2,031.12	41,969.23
Total		\$50,726.69			\$1,328.55			\$39,883.11	\$97,105.70	
Clayton	FA-74	\$136,124.25			\$11,756.54				\$10,295.65	\$188,176.47
	FA-56	31,830.91							2,091.32	34,512.23
	P-10	21,926.26							1,009.45	23,533.71
	B-63									\$17,346.02
	B-35									17,346.02
B-109									31.25	
B-167									22.75	
Total		\$189,871.45			\$11,756.54			\$73,583.66	\$14,031.43	\$291,663.09
Clinton	FA-18	\$174,385.77			\$16,209.49				\$19,960.68	\$193,956.35
	FA-147	19,437.95			70.00				7,141.07	244,279.74
	FA-186									58,193.55
	P-125	37,039.97			15,072.35				6,873.93	58,085.25
	P-238	352.50							321.50	25,000.00
A-count										
Total		\$222,221.20			\$31,319.75		\$25,000.00		\$23,889.57	\$1,347,894.23
Crawford	P-8	\$64,025.51			\$ 429.17				\$6,015.09	\$70,469.77
	P-81	3,267.07			1,983.95				152.10	29,503.66
	B-71								27.70	4,077.70
Total		\$67,622.58			\$4,413.12			\$6,167.19	\$104,213.47	
Dallas	FA-12	\$44,854.35			\$7,109.19	\$702.50			\$1,284.90	\$55,711.34
	P-33	89,749.15			26,493.65	394.80			4,403.44	144,333.88
	P-72	1,005.45							1,005.45	1,005.45
	P-109								1,512.97	56,699.67
	P-104	54,872.39							3,897.52	23,999.50
P-105	25,064.90			10,072.61					41,035.00	
P-195	10,253.91			2,347.49					12,497.00	
P-196									446.60	12,497.00
Total		\$173,853.04			\$46,322.94	\$1,007.80		\$11,752.68	\$33,347.77	\$310,041.50
Davis	FA-50	\$96,621.50			\$676.61	\$4,056.01			\$4,656.72	\$105,010.84
	FA-133	3,036.00							1,037.26	12,482.80
	B-110								671.23	12,482.80
Total		\$99,657.50			\$676.61	\$4,056.01		\$11,785.11	\$123,230.46	
Deostour	FA-8	\$127,719.43			\$606.16	\$5,601.94			\$9,277.94	\$140,884.47
	P-22	20,009.04				2,460.57			3,475.86	24,923.26
	B-24								17,373.28	17,373.28
B-23								337.25	20,498.88	
Total		\$147,728.47			\$606.16	\$8,062.51		\$7,753.17	\$172,719.24	
Delaware	FA-4	\$53,199.66			\$ 294.91	\$ 682.00			\$ 31.80	\$63,344.30
	FA-103	56,187.70			6,315.23				3,745.20	66,820.13
	P-159								1,094.47	34,105.48
	P-236									1,246.33
	B-109									2,645.99
C-8									12,054.31	
Total		\$114,347.36			\$33,850.92	\$13,377.37		\$2,646.89	\$172,719.24	

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and material	Engineering	Total
Des Moines	FA-32	\$26,162.58		\$202,656.74	\$17,183.00				\$7,837.39	\$254,169.91
	P-83	17,878.02		92,727.83	2,601.37				5,315.17	118,225.39
Total		\$44,040.60		\$295,384.57	\$19,784.37				\$13,152.56	\$372,395.30
Dickinson	FA-68	\$17,560.36		\$204,186.06	\$1,438.38				\$6,024.13	\$299,208.93
	P-23	2,750.00			2,750.00					2,750.00
	P-55	5,438.29			1,908.06					6,943.29
	Int.						\$447.60			447.60
Total		\$22,968.65		\$204,186.06	\$5,003.28		\$447.60		\$6,024.13	\$239,349.72
Dubuque	FA-17	\$130,042.11			\$35,657.67	\$3,716.80	\$447.50		\$9,695.22	\$169,109.80
	B-178				14,333.71				1,730.13	16,063.84
Total		\$130,042.11			\$50,991.38	\$3,716.80			\$11,425.35	\$185,179.94
Emmet	FA-49	\$1,299.50	\$ 764.32		\$ 7,896.04	\$66.80			\$100.87	\$10,227.33
	P-57	3,910.84	3,389.29		73,869.63				81,169.61	81,169.61
Total		\$5,210.34	\$4,153.67		\$81,765.66	\$66.80			\$100.87	\$91,397.14
Fayette	FA-59	\$109,023.14	\$56,976.16		\$51,234.00				\$10,470.90	\$228,306.20
	FA-104	50,715.54			6,122.83				1,405.23	52,208.77
	FA-172	49,113.66			388.33				1,337.80	51,044.28
	P-14	880.50	12,168.83						40.86	13,990.88
	P-144								30.86	30.86
	P-145	5,047.47			542.49				390.79	5,979.75
	B-189								7,965.59	7,965.59
Total		\$215,660.31	\$69,145.01		\$58,514.93			\$7,965.59	\$14,182.04	\$365,498.88
Floyd	FA-41	\$78,863.10		\$333,369.28	\$18,024.98	\$1,961.96			\$13,320.93	\$604,179.34
	FA-157	12,224.13		50,478.80	1,900.63				3,287.89	76,891.34
	P-63	34,532.95	\$107.14	211,638.40	5,813.90	673.36			5,882.88	292,668.03
	P-73									153.85
	B-176								\$1,889.91	\$1,889.91
Total		\$125,640.37	\$107.14	\$823,486.27	\$34,966.40	\$2,253.32		\$7,965.59	\$22,553.75	\$1,010,911.96

Franklin	FA-105	\$44,883.69	\$17,766.64		\$18,067.44				\$4,666.70	\$85,308.47
	FA-171	33,215.60			14,884.81	\$6,066.87			3,227.59	51,940.03
	P-68	34,832.73	15.60						2,169.92	37,002.65
	P-100	330.75							91.00	330.75
	B-36		22,903.08		6,696.82				789.53	22,992.61
Total		\$112,944.77	\$40,625.32		\$39,239.07	\$6,066.87		\$7,814.42	\$11,011.45	\$217,731.90
Fremont	FA-77	\$184,867.23			\$2,701.86	\$3,387.78			\$9,235.54	\$200,682.41
	P-51	17,990.23							317.69	18,307.91
	B-6								2,387.96	117,660.93
									1,182.34	16,680.14
Total		\$202,857.45			\$2,701.86	\$3,387.78		\$130,720.57	\$13,143.73	\$353,251.30
Greene	FA-39	\$58,821.15	\$25,695.41	\$16,857.30	\$2,845.28	\$1,887.67			\$10,354.77	\$115,234.38
	P-24	25,140.53	3,116.50		13,253.73				3,980.10	42,774.68
	P-252									3,117.63
	P-379								17.80	3,117.80
Total		\$83,961.68	\$28,811.91	\$16,827.20	\$15,002.13	\$1,887.67		\$14,332.67	\$16,462.57	\$200,543.56
Grundy	FA-19	\$47,942.88			\$23,463.22	\$1,387.67			\$3,015.99	\$75,812.00
	P-48	64,146.93			16,413.51				32,349.79	152,913.01
	P-123	24,866.43			9,272.82				1,821.84	35,961.09
	P-163	220.00			44.85				513.50	21,708.60
	P-32	137.89							189.10	29,886.68
	B-102								31.00	32,084.78
	B-172								462.35	14,388.08
Total		\$137,314.13	\$49,490.21		\$49,105.46	\$1,387.67		\$48,307.61	\$12,263.98	\$296,391.30
Guthrie	FA-51	\$142,123.63			\$19,479.46	\$11,067.69			\$5,967.16	\$179,258.94
	FA-145	75,044.96			6,147.38	337.10			7,315.00	89,004.49
	FA-179	3,467.09							315.00	3,782.09
	B-12								209.90	50,468.98
Total		\$220,635.68			\$24,208.04	\$12,054.79		\$12,922.35	\$13,750.54	\$362,631.60

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Gauged rail	Road and Cert. redemptions and interest	Bridges and culverts	Engineering	Total
Hamilton	FA-67	\$53,319.55	\$23,704.85		\$15,012.53				\$5,123.82	\$73,555.91
	B-17		3,103.21		8,531.07				2,452.32	33,991.34
	P-70	49,831.55	3,103.21		9,139.11				9,749.36	71,883.23
	P-200	26,929.69	485.00		190.80				48.77	29,168.00
	B-204	4,112.44							471.20	5,269.44
	B-7								2,105.97	39,563.94
	B-11								1,703.10	1,778.95
	B-187								36.55	2,102.77
Total		\$107,161.54	\$55,292.65		\$33,383.75			\$20,105.27	\$292,316.63	
Hancock	FA-94	\$113,842.44		\$704,324.35	\$27,601.92	\$484.00			\$13,039.49	\$858,683.20
	FA-219	49,704.44			13,449.00			\$5,229.04	83,593.35	139,576.83
	P-178	1,583.36		17,782.93	608.04			613.72	20,567.05	20,567.05
Total		\$164,310.24	\$15,210.87	\$722,107.28	\$41,608.96	\$484.00		\$18,901.25	\$902,842.00	
Hardin	P-68	\$14,149.55	\$19,514.43		\$10,125.31				\$1,098.78	\$44,886.07
	P-112	25,857.58	172,239.22		35,962.09			6,350.27	239,209.26	309,328.38
	C-1	1,300.00	7,891.46	\$54,319.86				6,530.00	8,421.46	65,019.56
	Total	\$29,007.13	\$109,745.21	\$54,319.86	\$46,085.40	\$27,003.29			\$5,890.61	\$307,769.56
Harrison	FA-14	\$65,015.17	\$227.87		\$2,075.50	\$575.05			\$5,006.72	\$104,900.31
	P-84	7,629.55		\$29,781.87					7,946.88	45,485.25
	C-3	3,665.62							33,447.49	33,447.49
	Total	\$196,807.34	\$227.87	\$29,781.87	\$2,075.50	\$875.05			\$6,227.15	\$146,294.78
Henry	FA-56	\$63,055.83			\$27,003.29	\$1,803.83			\$5,890.61	\$97,769.56
	Total	\$63,055.83			\$27,003.29	\$1,803.83			\$5,890.61	\$97,769.56
Howard	FA-31	\$20,607.54	\$61,099.82		\$17,003.29	\$1,803.83			\$5,890.61	\$104,143.80
	P-12	35,327.43	3		10,008.00	\$394.25			6,177.77	51,836.88
	P-103	29,451.17	4,284.64		6,772.09				40.87	36,549.77
	B-82								168.76	36,322.26
	Total	\$196,807.34	\$227.87	\$29,781.87	\$2,075.50	\$875.05			\$6,227.15	\$146,294.78
	Total	\$196,807.34	\$227.87	\$29,781.87	\$2,075.50	\$875.05			\$6,227.15	\$146,294.78

Humboldt	FA-48	\$22,608.42	\$1,072.08	\$75,961.51	\$2,660.32	\$213.32			\$2,865.72	\$104,901.97
	P-17	60,862.57	47,174.19		26,243.37	1,065.33			8,965.25	145,321.09
	B-199								140.63	2,838.61
Total	\$83,470.99	\$48,246.27	\$75,961.51	\$30,223.59	\$1,278.65			\$2,697.98	\$11,991.59	\$233,961.67
Ida	FA-80	\$69,298.08			\$3,798.22	\$1,547.56			\$5,053.19	\$102,796.05
	P-203	56,810.12							3,433.77	60,243.89
	B-44		\$32,746.88						351.60	25,092.58
	B-92								68,017.02	68,017.02
Total	\$149,360.20	\$22,746.88		\$3,798.22	\$1,547.56			\$48,647.00	\$9,190.38	\$235,130.24
Iowa	FA-90	\$33,713.27	\$82.72		\$10,927.36	\$2,219.88			\$10,351.42	\$118,128.75
	B-19								1,625.78	49,200.80
Total	\$33,713.27	\$82.72		\$10,927.36	\$2,219.88			\$11,977.20	\$12,977.20	\$177,329.55
Jackson	FA-21	\$103,341.21	\$1,318.37		\$730.51	\$6,707.18			\$12,887.04	\$125,004.31
	FA-144								133.18	133.18
	B-3								1,022.79	91,978.57
	B-70								28,519.54	28,519.54
Total	\$103,341.21	\$1,318.37		\$730.51	\$6,707.18			\$14,872.04	\$14,872.04	\$246,156.69
Jasper	FA-64	\$75,265.43			\$5,497.64	\$2,514.12			\$7,381.39	\$91,078.58
	P-77	54,265.96	16,008.02		4,424.35				8,003.02	82,803.03
	P-99	6,469.58							495.07	57,046.06
	P-190		56,550.99						0.65	20,552.87
	B-34								31,375.76	32,216.83
	B-120								11,099.13	11,099.13
	B-168								225.32	9,573.92
Total	\$136,290.67	\$72,557.01		\$10,121.99	\$2,514.12			\$22,970.51	\$16,941.32	\$311,455.03
Jefferson	FA-3	\$54,625.20			\$7,491.69	\$3,305.41			\$3,884.32	\$69,376.72
	FA-130	23,002.67			2,574.09				2,896.98	28,443.37
	P-229	178.57							1,063.53	1,242.10
	B-45								14.33	10,669.55
Total	\$107,706.44			\$10,205.62	\$3,320.41			\$10,633.00	\$7,789.89	\$139,663.35

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert redemption and interest	Bridges and culverts	Engineering	Total
Johnson	FA- 9	\$62,978.92		\$ 57,633.15	\$ 69.81				\$1,497.11	\$122,178.99
	FA-128	14,947.27		106,880.26	1,912.15				3,729.00	129,469.28
	P- 35	66,367.36		1,945.76	1,945.76				4,792.00	73,105.12
	P- 97	15,402.91			899.56		\$822.15		400.50	17,285.12
Total		\$159,696.46		\$164,513.41	\$4,527.28	\$822.15			\$12,479.21	\$342,038.51
Jones	FA- 86	\$143,712.70			\$8,085.92				\$9,672.77	\$161,471.39
	P-281		\$6,221.60						73.93	6,295.53
	B- 35							\$36,907.27	1,241.16	38,148.43
Total		\$143,712.70	\$6,221.60		\$8,085.92			\$36,907.27	\$10,987.86	\$205,917.57
Keokuk	FA- 34	\$98,798.05			\$1,260.66	\$7,824.39			\$5,020.25	\$112,903.39
	P-128	5,098.37			228.64				1,463.13	7,090.14
	B-148							\$5,718.36	458.12	6,176.48
Total		\$103,896.42			\$1,789.30	\$7,824.39		\$5,718.36	\$6,941.53	\$126,170.00
Kossuth	FA- 66	\$127,810.33	\$50,297.99		\$43,671.62	\$774.40			\$10,337.33	\$232,891.87
	FA-111	6,661.56	21,043.69		25,801.13				2,010.21	55,516.59
	FA-149	7,303.50		\$267,513.37	38.25				3,613.83	278,368.95
	F- 6	46,689.91	13,208.18		23,730.17	\$29.32			4,927.04	89,382.62
	P-270	3,118.50							443.58	3,562.08
	B- 89								\$3,846.25	3,846.25
	B-138								4,982.21	5,145.09
Total		\$191,484.00	\$84,547.86	\$267,513.37	\$69,241.17	\$1,603.72		\$8,828.56	\$21,588.86	\$668,804.54
Lee	P- 68	\$33,556.01	\$156,445.64		\$7,759.58	\$4,371.23			\$12,985.96	\$215,115.42
	P-149	3,908.16							2,336.49	6,244.65
	B- 22							\$11,061.23		11,061.23
Total		\$37,464.17	\$156,445.64		\$7,759.58	\$4,371.23		\$11,061.23	\$15,322.45	\$232,424.30
Linn	FA- 22	\$73,585.50		\$388,221.06	\$20,060.33	\$2,735.46			\$12,752.44	\$499,324.79
	FA- 96	53,147.34			8,950.40	1,373.53			5,719.80	69,191.07
Total		\$126,732.84		\$388,221.06	\$29,010.73	\$4,108.99			\$18,472.24	\$568,515.86
Linn	FA- 53	\$139,375.53			\$20,783.36	\$3,352.40			\$7,697.31	\$182,178.60
	B- 4								533.00	65,974.94
	Int.						\$509.99	\$65,441.94		66,951.93
	Total		\$139,375.53		\$20,783.36	\$3,352.40	\$509.99	\$65,441.94	\$8,230.31	\$218,661.53
Lucas	FA- 63	\$194,991.09			\$3,177.47	\$7,268.83			\$8,787.11	\$214,194.50
	B- 8							\$32,682.32	18.75	32,701.07
	B- 10							5,187.44		5,187.44
	B-101							14,792.40	216.40	15,108.80
Total		\$194,991.09		\$3,177.47	\$7,268.83		\$52,662.16	\$9,092.26	\$267,191.81	
Lyon	FA-110	\$105,026.75			\$9,744.96				\$4,660.27	\$119,432.08
	P- 85	27,183.11	\$562.50		1,216.30				2,090.41	31,052.32
	P-146	16,982.90			923.95				1,231.81	18,238.29
	P-174		38,547.40						695.79	39,243.19
	B- 66							\$9,778.83		9,778.83
	B- 84							9,739.91	24.02	9,763.93
	B-179							13,049.29	159.72	13,209.01
Total		\$148,292.76	\$39,109.90		\$11,884.94		\$52,568.03	\$8,862.12	\$240,717.75	
Madison	FA-169	\$ 3,268.93							\$ 2,428.92	\$ 5,697.85
	P- 36	171,835.56			\$1,782.01	\$6,356.24			10,640.70	190,644.51
	B- 5							\$79,911.34		79,911.34
	B-180							13,266.76	16.00	13,282.76
Total		\$175,104.49			\$1,782.01	\$6,356.24		\$93,178.10	\$13,085.62	\$289,536.46
Mahaska	FA- 70	\$79,578.55			\$21,312.47	\$2,874.12			\$9,584.11	\$113,649.25
	FA-140	17,408.75			6,025.00				1,932.56	25,366.31
	B- 27							\$31,889.58	30.75	31,920.33
	B-122							12,676.00	189.10	12,865.10
	B-129							13,748.10	298.32	14,046.42
	B-139							2,015.00		2,015.00
Total		\$96,987.30			\$27,337.47	\$2,874.12		\$60,328.68	\$12,334.84	\$199,862.41
Marion	FA- 7	\$73,303.74			\$760.82					\$74,064.56
	FA- 75	139,303.68			3,183.99	\$1,759.66			\$7,648.84	\$151,896.57
	B-119							\$9,596.65		9,596.65
Total		\$212,607.42			\$3,944.81	\$1,759.66		\$9,596.65	\$7,648.84	\$235,565.78

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering	Total
Marshall	FA-23	\$24,972.27		\$249,359.24	\$ 897.25	\$ 93.80	\$33,445.78		\$8,353.13	\$327,137.47
	FA-15	31,374.94			2,769.64	1,149.76			1,794.87	38,237.21
	FA-16				1,186.84				306.26	1,937.45
	B-54							\$19,577.14		19,883.50
Total	\$56,347.21		\$249,359.24	\$6,853.93	\$1,243.56	\$4,911.20	\$33,445.78	\$10,704.06	\$306,291.29	
Mills	FA-15	\$193,804.91			\$123.50	\$4,911.20		\$79,638.61	\$7,451.67	\$206,291.29
	B-11								80,247.61	80,247.61
Total	\$193,804.91				\$123.50	\$4,911.20		\$79,638.61	\$8,040.67	\$286,538.89
Mitchell	FA-45	\$77,444.05	\$57,299.26		\$37,119.19	\$27,106.84	\$88,905.00		\$7,211.24	\$188,608.28
	P-33S	6,669.58			18,808.27	3,840.73			2,073.57	29,333.72
	P-161				889.76				889.76	889.76
	Int.						112.07			112.07
Total	\$84,113.63	\$57,299.26		\$56,814.22	\$39,927.45	\$31,728.20	\$88,905.00	\$15,210.87	\$207,287.21	
Monona	P-28	\$63,917.51			\$2,934.00	\$2,728.80		\$109,568.53	\$6,207.41	\$175,787.72
	B-48								1,486.96	1,486.96
Total	\$63,917.51				\$2,934.00	\$2,728.80		\$109,568.53	\$7,694.37	\$186,783.21
Monroe	FA-20	\$63,793.18			\$899.17	\$2,106.84			\$8,419.19	\$84,119.19
	P-78	49,385.00			1,164.53	3,840.73			2,665.21	57,065.50
	B-25								17.75	17.75
	B-211								1,155.00	1,155.00
Total	\$113,178.18			\$1,774.00	\$5,947.57	\$6,047.57		\$2,682.96	\$129,213.61	
Montgomery	FA-16	\$296,637.16			\$497.45	\$2,333.85	\$294.70	\$7,656.39	\$8,654.07	\$218,737.23
	B-109								7,656.39	7,656.39
Total	\$296,637.16				\$497.45	\$2,333.85	\$294.70	\$7,656.39	\$8,654.07	\$226,393.62
Muscatine	FA-40	\$104,272.53			\$15,909.25	\$341.68			\$8,180.86	\$128,684.32
	FA-87	47,659.83			2,111.40				8,203.59	63,973.72
	B-49								2,133.55	2,133.55
	Total	\$151,932.36			\$17,020.65	\$341.68			\$10,384.45	\$194,689.13
Total	\$132,027.64	\$17,827.72	\$17,827.72	\$21,091.23	\$24,088.19	\$24,088.19		\$18,518.30	\$247,118.95	

O'Brien	FA-45	\$114,825.29			\$13,290.46				\$39,216.47	\$1,172,295.71
	P-107	16,732.12			3,613.60		\$50,000.00		2,371.96	21,721.14
	A-97									50,000.00
Total		\$131,557.41		\$1,018,733.19	\$23,904.06	\$2,055.78	\$50,000.00	\$6,003.00	\$41,588.43	\$1,253,179.84
Oceola	P-15	\$80,382.12			\$12,517.98	\$3,095.78			\$3,624.50	\$98,450.38
	P-169	8,254.06	\$16,124.11		1,276.05				709.20	18,823.46
	P-204	1,605.60	664.16						405.35	10,025.46
	B-87		34,361.78						1,056.06	2,600.21
Total	\$89,141.78	\$51,150.00		\$13,794.03	\$3,095.78			\$10,182.75	\$10,182.75	
Page	P-27	\$195,627.86							\$6,216.64	\$173,509.98
	Total	\$33,311.27	\$7,565.28	\$412,988.21	\$17,932.17	\$39,701.77			\$8,898.01	\$204,525.87
Palo Alto	FA-109	\$32,311.27			\$1,100.00		\$39,701.77		\$13,407.15	\$324,025.85
	x-admin									1,100.00
	Total	\$32,311.27			\$1,100.00		\$39,701.77		\$13,407.15	\$325,125.85
	Plymouth	FA-38	\$112,899.41			\$18,132.17	\$3,369.10			\$6,729.57
FA-81		42,174.03			3.95				171.11	42,349.10
P-39		32,357.90							3,452.26	45,833.25
B-35									3,233.83	35,491.73
Pocahontas	B-81									49,200.28
	B-105								22.90	32,007.39
	Total	\$187,031.34			\$18,136.14	\$3,369.10		\$91,310.22	\$13,407.20	\$296,758.70
	P-7	\$27,739.78			\$13,352.46				\$2,250.92	\$43,243.16
P-40	16,732.12			21,679.05					39,080.00	
P-91	3,554.78			28,765.34					3,771.22	
Total	\$71,549.67	\$146,451.74		\$9,934.19	\$11,381.80			\$2,939.19	\$75,492.14	
Total	\$71,549.67	\$146,451.74		\$9,934.19	\$11,381.80			\$13,407.95	\$301,433.85	

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. on interest	Bricks and subverts	Engineering	Total
Polk	FA-89	\$20,160.13		\$238,909.01	\$1,813.64	\$ 212.04			\$9,108.43	\$370,255.25
	FA-104	25,286.25		321,812.89	5,830.24	264.00			9,446.96	272,432.29
	FA-102	17,620.00		240,988.59	1,742.15				274,907.55	274,907.55
	FA-180			33,321.03	997.70				1,105.42	45,816.75
	P- 1	30,092.60				2,116.16			10,771.44	10,771.44
	P- 3	10,771.44		175,870.41	825.37				5,660.04	298,711.02
	P-40	44,239.04			2,105.00				2,105.00	11,313.10
	P-29	6,276.27		2,841.82					2,288.39	10,906.02
	P-115	13,654.93		2,603.30			3,006.84		252.00	14,554.75
	P-122		\$14,302.75						1,007.08	21,949.26
P-244	17,275.08		25,965.90					1,082.80	30,032.49	
P-258	1,350.00									
Total		\$307,758.05	\$1,141,891.08	\$28,651.75	\$5,989.04			\$40,327.31	\$1,488,330.94	
Pottawattamie	FA-46	\$49,651.89							\$1,090.74	\$54,090.37
	P- 21	36,662.33			\$1,703.00	\$2,837.74			45,898.44	
	P-22	101,307.42		360.50					5,819.35	107,487.27
	P- 65	45,342.25		1,160.70					3,244.49	51,908.54
	B-96								79,281.49	82,174.84
	B-97								41,109.01	41,161.73
	Total		\$232,354.09	\$1,254.20	\$1,837.74	\$1,881.03			\$193,642.05	\$22,779.20
Povonok	FA-174	\$43,271.09							\$3,843.92	\$54,014.76
	B-15	69,153.49			\$6,701.75	\$1,881.03			6,534.85	87,873.91
	B-14				10,264.14				1,357.44	22,799.87
	B-159								140.00	140.00
Total		\$112,564.58	\$16,965.89	\$1,881.03	\$16,965.89			\$40,635.70	\$12,725.86	\$184,780.66
Ringold	FA- 6	\$106,754.43							\$3,000.00	\$119,122.37
	B-47	47,093.80				1,026.00			4,025.95	52,122.75
	B-49								181.33	12,057.33
Total		\$153,848.23				\$1,026.00		\$11,876.00	40,211.71	41,307.02

Sec.	P-10	\$ 46.80	\$50,560.63						\$1,625.81	\$50,606.29	
	P-11	865.40	47,207.07						2,092.38	57,117.91	
	P-12	2,877.54	3,897.23						3,288.94	70,286.93	
	P-16								2,091.43	67,292.17	
	P-106	1,516.53	57,166.15							643.44	
	Total		\$5,206.27	\$101,622.98					\$643.44	\$10,215.02	\$238,284.55
Scott	FA-54	\$ 20,779.07							\$ 2,402.59	\$23,370.73	
	FA-55	75,687.94							13,831.43	89,519.73	
	FA-114	136,483.27		1,038,099.00	17,364.12	\$4,777.11			24,334.49	1,231,058.08	
	FA-133	14,994.03		78,126.14	2,001.43				2,682.82	97,744.42	
	P-150								144.78	144.78	
	P-151	25,397.69		191,553.34	4,066.66				6,269.79	230,317.32	
	P-124								7.50	7.50	
	P-204								1,982.62	27,461.54	
	B-18									639.76	
	Total		\$279,262.34	\$1,312,025.39	\$39,474.30	\$4,426.00	\$4,777.11		\$35,026.92	\$33,077.41	\$1,694,756.53
Shelby	P-42	\$310,293.98							\$12,023.37	\$326,165.34	
	B-16								1,295.64	\$7,271.07	
	Total		\$310,293.98						\$13,319.01	\$333,715.86	
Sioux	FA-28	\$68,322.65							\$7,426.58	\$99,379.33	
	FA-84	15,096.71							143,082.67	143,082.67	
	P-20	12,630.03							2,094.23	117,316.70	
	P- 53	37,870.10							10,000.00	10,000.00	
	P-223								3,920.34	46,920.00	
	B-22								83.88	83.88	
	B-151								197.63	197.63	
	FA-72	\$163,246.15							\$19,641.67	19,641.67	
	P-62	\$34,646.58							1.75	1.75	
	Total		\$234,371.79	\$42,025.99	\$234,371.79	\$8,631.11	\$3,487.54		\$19,743.74	\$19,739.44	\$438,009.50
Story	P-123	669.50							1,726.77	\$10,144.37	
	P-251	3,220.30							323.10	12,087.81	
	B-31								471.05	3,691.25	
	B-133								277.70	26,190.72	
	B-131								55,346.37	55,346.37	
	B-135								363.60	25,710.17	
Total		\$33,546.29	\$78,034.92					\$7,897.27	8.00	\$7,249.02	\$260,732.82

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering	Total	
Tama	FA- 47	\$130,374.15			\$15,172.43				\$10,997.94	\$156,544.52	
	FA-176								89.61	89.61	
	B- 25								1,312.11	39,152.39	
	B- 54								210.63	210.63	
Total		\$130,374.15			\$15,172.43			\$38,050.91	\$12,399.66	\$195,997.15	
Taylor	FA- 81	\$88,963.43			\$1,805.40	\$1,916.80			\$4,963.97	\$97,649.60	
	FA-140	7,833.33							614.88	8,448.21	
	B- 17								301.65	15,584.55	
	B-121								948.28	24,175.81	
B-213								144.23	14,289.07		
Total		\$96,796.76			\$1,805.40	\$1,916.80		\$52,755.27	\$6,873.01	\$160,147.24	
Union	FA- 53	\$106,121.54			\$3,550.56	\$5,696.45			\$6,011.24	\$121,379.79	
	B- 42								449.00	31,551.44	
Total		\$106,121.54			\$3,550.56	\$5,696.45		\$31,102.44	\$6,460.24	\$152,931.23	
Van Buren	FA- 60	\$60,708.51			\$23,301.63	\$1,389.22			\$4,789.47	\$90,188.83	
	B- 37								\$13,964.78	13,964.78	
	B- 76								12,410.80	12,410.80	
B-132								22,199.49	22,220.59		
Total		\$60,708.51			\$23,301.63	\$1,389.22		\$48,575.07	\$4,810.57	\$138,785.00	
Wapello	FA- 42	\$102,548.53				\$7,067.44			\$6,117.27	\$115,733.24	
	FA-159	28,593.05			\$3,242.14				4,619.22	36,454.71	
	B-118								730.30	40,745.92	
	C- 2				\$75,182.00					75,152.00	
Total		\$131,141.58			\$75,152.00	\$3,242.14		\$39,995.62	\$11,486.79	\$268,055.57	
Warren	FA- 11	\$71,356.48			\$3,726.59	\$6,056.60			\$7,988.75	\$89,128.42	
	P- 44	51,728.57							3,247.15	54,975.72	
	P-222	1,626.64			412.13				577.30	2,616.07	
	B- 21								\$5,314.66	5,314.66	
	B- 40								18,337.82	18,337.82	
	B- 83								1,110.30	1,110.30	
	B- 99								30,198.38	31,057.15	
	B-110								888.77	24.19	
	Total		\$124,709.69			\$4,138.72	\$6,056.60		\$54,961.16	\$13,352.36	\$203,218.53
	Washington	FA- 71	\$63,040.55			\$6,410.29				\$7,290.37	\$76,711.21
		FA-167	22,929.25			2,129.72				1,869.68	26,928.65
B- 39									\$26,451.39	26,465.64	
B- 86									9,968.50	10,205.00	
Total		\$85,969.80			\$8,540.01			\$36,444.89	\$9,358.80	\$140,310.50	
Wayne	FA- 91	\$90,111.32			\$3,006.92	\$2,765.53			\$5,486.57	\$101,370.34	
	FA-150	38,262.97			2,744.04	2,743.02			3,417.52	47,167.55	
	B- 13								\$15,475.85	15,475.85	
	B-184								28,378.46	30,060.08	
	B-165								10,514.93	10,944.30	
Total		\$128,374.29			\$5,750.96	\$5,508.55		\$54,369.24	\$11,015.08	\$205,018.12	
Webster	FA- 13	\$55,402.24	\$81,633.41		\$23,105.10	\$472.44			\$1,452.34	\$162,066.53	
	P- 25	57,458.81			28,297.71				3,532.02	89,288.54	
	P- 64	20,099.49			17,755.20				4,054.04	41,908.73	
	P-108	845.10			6,055.55				769.13	16,944.34	
	P-111	247.50	30,239.00						697.77	21,094.27	
	P-184	3,188.14			4,589.11				429.05	8,176.30	
	Int.								\$1,344.99	1,344.99	
	Total		\$137,241.28	\$111,140.97		\$79,772.67	\$472.44	\$1,344.99	\$10,844.35	\$340,822.70	
Winnebago	FA- 30	\$39,116.71	\$26,319.84		\$11,356.21	\$1,550.71			\$2,029.54	\$70,373.01	
	P- 2	11,266.58	72,945.07		17,941.90	2,708.14			3,242.84	108,104.53	
	P-120	19,890.17	21,813.31		16,652.91				3,238.10	61,594.49	
	Int.								\$534.79	534.79	
Total		\$60,273.46	\$121,078.22		\$45,951.02	\$4,258.85	\$534.79	\$8,510.48	\$240,606.82		

SCHEDULE NO. 70—(Continued)

County	Project No.	Grading	Graveling	Paving	Drainage	Guard rail	Bond and Cert. redemption and interest	Bridges and culverts	Engineering	Total
Winnechick	FA-08	\$129,666.66			\$13,734.34				\$9,083.61	\$162,483.61
	P-121	54,848.33			12,398.72	\$19.58			3,454.84	70,821.47
	B-55							\$58,383.66	304.75	58,688.41
	B-146							8,327.14	352.02	8,679.16
	B-162							13,127.00	404.44	13,531.44
Total		\$194,514.99			\$26,033.06	\$19.58		\$79,847.80	\$13,508.66	\$314,014.09
Woodbury	FA-2	\$174,754.87		\$150,125.55	\$ 783.15	\$19,124.98			\$ 8,118.13	\$352,906.65
	FA-78	37,239.05		124,632.80	2,715.00				2,637.73	167,124.65
	FA-136	24,826.72		165,465.47	117.00				3,139.62	191,548.81
	FA-162	27,551.31							1,776.24	29,327.55
	P-45	149,177.43				12,461.96			11,210.50	820,745.91
	P-187	1,787.22		24,595.47					1,028.20	27,410.89
Total		\$415,336.60		\$1,110,715.31	\$16,077.11	\$19,124.98			\$27,810.42	\$1,589,064.42
Worth	FA-134	\$46,225.44	\$18,409.99		\$15,195.39				\$6,232.75	\$86,063.57
	P-161				29,170.80				803.20	29,974.00
	P-215	13,673.95			5,013.65				2,198.17	18,885.77
	B-98							\$4,745.38	304.81	5,050.19
Total		\$59,899.39	\$18,409.99		\$47,379.84			\$4,745.38	\$9,538.93	\$139,973.33
Wright	FA-29	\$46,964.21	\$100,643.61		\$22,476.91				\$5,007.26	\$175,091.99
	P-19	43,315.05	16,129.64		13,075.86	\$1,423.97			4,917.37	78,861.89
	P-200	25,904.70	300.00		9,279.95				3,325.16	38,809.81
	B-26							\$26,393.65		26,393.65
	B-188 Int.						\$339.45	\$ 9,948.46	15.60	5,964.06
Total		\$116,183.96	\$117,073.25		\$44,832.72	\$1,423.97	\$339.45	\$32,342.11	\$13,265.39	\$325,460.85
Grand totals		\$12,608,779.03	\$2,796,030.35	\$12,239,427.68	\$2,135,469.66	\$247,398.40	\$188,894.28	\$3,107,181.33	\$1,235,046.67	\$34,558,228.10

- * Bond Redemption.
- † General Drainage Voucher.
- ‡ Machinery and Equipment.

SCHEDULE NO. 71

SHOWING TOTAL AND RELATIVE COST OF MAINTENANCE OF EARTH, GRAVEL AND PAVED ROADS BY COUNTIES. PRIMARY ROAD SYSTEM. JANUARY 1, 1922, TO NOVEMBER 30, 1922.

County	Earth roads			Gravel roads			Paved roads			Total cost earth, gravel and paving maintenance
	Number of miles	Total cost of maintenance	Average per mile	Number of miles	Total cost of maintenance	Average per mile	Number of miles	Total cost of maintenance	Average per mile	
Adair	56.5	\$12,335.18	\$ 218							\$12,335.18
Adams	33.1	7,887.50	235							7,887.50
Albany	84.5	16,863.76	200							16,863.76
Appanoose	57.2	11,347.74	198							11,347.74
Audubon	46.6	11,774.76	252							11,774.76
Benlon	80.6	25,017.62	310							25,017.62
Black Hawk	57.3	18,817.20	328	1	\$ 407.57	\$ 411	9.6	\$ 642.81	67	25,660.43
Bonne	13.5	3,824.91	290	8	35,643.09	554	11.1	317.08	29	38,467.60
Bremer	67.9	14,066.34	207	3.7	402.95	101				14,469.29
Buchanan	32.5	8,279.13	255				14.1	244.06	17	8,523.09
Buena Vista				66.6	22,427.32	337				22,427.32
Butler	40.7	10,438.21	257	29.5	3,637.18	123				14,075.39
Calhoun		992.71	*102	72.8	20,742.45	285				21,735.16
Carroll		11,000.77	203	33.1	24,992.19	754				35,992.96
Cass	73.5	13,819.93	188							13,819.93
Cedar	75.1	14,057.09	187				5	123.62	247	15,280.71
Cerro Gordo	15.1	4,487.22	297	5.5	10,984.00	1,997	33.2	3,597.16	108	19,068.38
Cherokee	61.9	6,507.72	107	14.8	3,595.84	243	5			10,103.56
Chickasaw	18.3	4,622.41	253	27.8	12,375.95	440				16,998.36
Clarke	45.0	14,738.88	327							14,738.88
Clay	6.3	689.73	110	47.3	33,315.91	704				34,005.64
Clayton	105.2	16,464.67	156							16,464.67
Clinton	30.7	14,884.62	295	7.8	443.55	57	31.4	4,137.50	132	19,465.97
Crawford	81.8	41,979.18	513							41,979.18
Dallas	29.8	8,347.07	280	58.6	21,622.13	360				29,969.20
Davis	47.4	15,965.28	337							15,965.28
DeCATUR	53.1	18,604.15	351							18,604.15
Delaware	31.4	5,836.75	186	15.4	11,305.45	734				17,142.20
Des Moines	28.6	11,617.57	406	2.0	†283.08		8.3	299.27	32	11,603.76
Dickinson				36.6	24,316.43	664				24,316.43
Dubucque				30.0	12,716.41	424				12,716.41
Emmet				41.8	21,049.67	507				21,049.67
Fayette	57.1	20,283.92	355	37.3	614.79	16				20,898.71
Floyd	42.1	13,362.47	319	9.2	1,732.86	182	16.0	2,102.34	131	17,197.67
Franklin	11.0	6,435.52	585	30.7	9,362.93	305				15,798.45
Prentiss	60.0	19,432.15	329							19,432.15

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SCHEDULE NO. 71—(Continued)

County	Earth roads			Gravel roads			Paved roads			Total cost earth, gravel and paving maintenance
	Number of miles	Total cost of maintenance	Average per mile	Number of miles	Total cost of maintenance	Average per mile	Number of miles	Total cost of maintenance	Average per mile	
Greene	34.7	9,800.32	283	31.2	32,496.34	1,041	7.5	1,905.20	174	43,594.86
Grundy	41.7	7,753.82	186	21.1	890.16	42				8,642.78
Guthrie	68.2	34,341.15	504	3.7	1,102.50	298				35,443.65
Hamilton	12.8	5,630.52	440	55.5	11,541.12	208				17,171.64
Hancock	24.4	5,796.02	237	10.0	1,395.42	139	24.3	1,113.37	46	8,304.81
Harrison	3.0	3,882.27	1,294	59.2	18,328.62	313				22,410.89
Henry	79.4	15,613.00	171							15,613.00
Howard	46.2	15,917.34	302							15,917.34
Humboldt	28.1	4,832.98	172	22.4	5,882.09	263				10,715.07
Ida	.7	3,355.57	*170	40.8	12,369.85	303				15,725.42
Iowa	39.6	8,258.70	208	9.8	2,120.68	217				10,379.38
Jackson	66.9	25,004.51	374							25,004.51
Jasper	43.3	19,330.70	446	6.2	2,395.97	386				21,714.67
Jefferson	37.3	17,421.55	467	50.3	6,600.99	131				24,022.54
Johnson	46.8	14,742.82	315							14,742.82
Jones	70.3	15,776.66	224				3.6	921.44	256	16,698.10
Keokuk	46.9	8,568.36	183	8.1	1,192.08	147				9,760.44
Kossuth	79.9	17,147.92	215							17,147.92
Lee	3.0	10,173.48	*185	78.2	13,845.25	180	11.0			23,716.71
Linn	71.4	18,364.77	257	13.2	8,576.02	650				29,940.79
Louis	78.2	24,707.97	310	12.6	6,411.72	509	8.4	2,555.23	304	33,674.82
Lucas	50.8	8,927.65	170				1.3	54.48	42	8,982.13
Lyon	56.5	15,961.03	336							15,961.03
Madiison	43.9	2,225.33	52	22.8	3,930.03	172				6,155.36
Mahaska	54.6	15,987.80	293							15,987.80
Marion	86.4	23,233.09	269							23,233.09
Marshall	93.3	22,655.51	238							22,655.51
Mills	42.8	11,240.89	263				6.0	514.07	86	11,754.96
Mitchell	49.9	14,027.57	281							14,027.57
Monroe	28.2	3,758.41	133	32.3	13,040.24	404				16,798.65
Montgomery	76.2	9,720.82	128							9,720.82
Muscatine	58.3	12,556.78	215							12,556.78
O'Brien	52.2	24,533.57	470							24,533.57
Osceola	71.0	15,810.79	223	9.0	754.31	84	9	30.44	34	16,595.54
Palo Alto	51.8	6,565.00	127				22.5	3,869.88	172	10,434.88
Plymouth	14.3	1,418.91	99	27.2	2,768.37	107				4,187.28
Pocahontas	39.2	17,324.33	296							17,324.33
Polk	28.5	4,007.89	141	9.4	988.00	165	11.0	518.78	47	5,509.67
Pottawattamie	118.9	24,104.03	203							24,104.03

Pocahontas		1,655.91	*166	65.3	25,947.89	398				27,603.80
Polk	19.2	5,943.36	294	38.2	16,397.93	463	36.6	7,630.15	209	29,571.44
Pottawattamie	140.7	40,174.78	349	1.3						40,174.78
Poweshiek	66.8	17,150.74	257							17,150.74
Ringgold	52.3	13,914.85	266							13,914.85
Sac	13.0	3,180.81	245	78.3	30,386.51	388				33,567.32
Scott	25.9	3,580.06	138	13.3	8,395.12	631	33.0	5,557.83	168	17,533.01
Shelby	30.5	11,732.76	232							11,732.76
Sioux	68.8	6,946.28	102				4.5	251.17	86	7,197.45
Story	70.1	2,346.19	*167	65.3	30,255.19	463				32,601.38
Tama	49.3	15,432.44	230							15,432.44
Taylor	51.8	11,662.64	236							11,662.64
Union	46.5	14,525.49	312							14,525.49
Van Buren	43.7	18,213.98	427							18,213.98
Vasello	83.4	26,246.26	315							26,246.26
Warren	87.2	31,500.00	361							31,500.00
Washington	61.8	11,112.44	180							11,112.44
Wayne	40.9	11,951.93	292	43.6	26,843.41	616				38,795.36
Webster	9.5	3,508.15	369	39.4	9,461.13	240				12,969.28
Winneshiek	81.6	15,977.47	196							15,977.47
Woodbury	94.4	26,702.95	283				29.7	2,806.50	88	29,399.45
Worth	38.1	4,484.28	118	21.9	5,743.98	262				10,228.26
Wright	28.6	13,143.62	460	30.6	13,792.36	451				26,935.98
Totals	4,722.9	\$1,276,374.96	\$270	1,558.0	\$587,983.42	\$377	334.4	\$39,409.96	\$718	\$1,903,858.34

* Average based on January 1, 1922, mileage.

† Minus quantity.

SCHEDULE NO. 73
SHOWING TOTAL COST OF ROAD AND BRIDGE MAINTENANCE AND AVERAGE COST PER MILE, PRIMARY ROAD SYSTEM, JANUARY 1, 1922, TO NOVEMBER 30, 1922.

County	Number of miles in system	Total cost maintenance earth, gravel and macadam roads	Bridge maintenance		Total cost of maintenance roads and bridges	Average cost of maintenance per ton-mile	Special case maintenance	Total expenditure January 1, 1922, to November 30, 1922	Total expenditure January December 1, 1921, to November 30, 1922
			Total cost	Average per mile					
Adair	86.5	\$12,355.18	\$132.90	3	\$13,488.08	\$221	\$2,026.52	\$14,514.60	\$16,142.48
Adams	70.2	8,632.78	209.10	6	8,841.88	231	215.70	9,057.58	10,470.46
Albion	84.5	16,823.76	475.77	8	17,299.53	250	201.80	17,501.33	19,584.58
Alcorn	37.9	11,297.74			11,297.74	207	244.94	11,542.68	12,068.43
Ashtabula	46.6	11,774.76			11,774.76	253	337.82	12,112.58	12,940.03
Benton	90.3	25,690.43			25,690.43	258	1,027.71	26,718.14	27,322.07
Black Hawk	78.4	19,841.85			19,841.85	254	773.03	20,614.88	23,083.52
Boone	71.8	14,460.29			14,460.29	202	7,210.22	21,670.51	41,818.69
Bremer	46.6	8,524.09			8,524.09	183	1,017.24	9,541.33	12,792.06
Buchanan	66.6	22,427.32			22,427.32	337	301.07	22,728.39	22,962.39
Buena Vista	70.2	14,075.39			14,075.39	200	1,225.39	15,300.78	30,741.87
Calhoun	72.9	21,395.58			21,395.58	260	1,225.39	22,620.97	25,916.07
Cass	74.0	13,943.55			13,943.55	510	1,417.52	15,361.07	35,483.54
Cedar	75.9	16,202.76			16,202.76	214	1,881.60	18,084.36	24,525.05
Cerro	83.9	19,068.38			19,068.38	355	250.00	19,318.38	21,229.05
Cherokee	77.2	19,103.69			19,103.69	355	250.00	19,353.69	21,229.05
Chickasaw	40.1	16,908.39			16,908.39	307	373.83	17,282.22	17,651.91
Clark	35.6	34,033.69			34,033.69	327	1,632.00	35,665.69	37,907.09
Clay	103.2	16,494.67			16,494.67	635	1,405.60	17,899.27	44,912.98
Clinton	86.9	19,765.97			19,765.97	196	991.84	20,757.81	22,139.99
Crawford	81.8	41,979.13	\$65.38	7	42,044.51	217	3,317.66	45,362.17	47,834.69
Dallas	87.4	15,969.26			15,969.26	323	1,578.66	17,547.92	31,817.56
Davis	53.1	18,031.15	\$4,520.32	83	22,551.47	337	1,035.13	23,586.60	26,888.33
Delaware	46.8	17,134.20			17,134.20	306	1,134.20	18,268.40	25,877.58
Des Moines	38.9	11,603.76			11,603.76	350	1,641.54	13,245.30	17,694.19
Dickinson	41.4	24,489.02			24,489.02	261	1,031.46	25,520.48	27,446.31
Dubuque	43.8	21,149.82			21,149.82	261	1,031.46	22,181.28	27,446.31
Dwight	41.4	21,943.62			21,943.62	245	1,630.87	23,574.49	48,101.54
Emmet	94.4	20,898.71			20,898.71	245	1,630.87	22,529.58	28,772.65
Evans	72.3	17,197.67			17,197.67	253	1,417.90	18,615.57	25,090.39
Franklin	41.7	18,798.45			18,798.45	379	1,617.90	20,416.35	25,798.45

Franklin	50.0	19,878.56	\$46.41	11	19,924.97	400	421.40	20,346.37	22,331.44
Greene	73.4	43,594.96			43,594.96	394	768.66	44,363.62	45,016.96
Grundy	62.8	8,632.78			8,632.78	432	1,010.48	9,643.26	11,371.97
Hamilton	64.3	17,171.63			17,171.63	251	2,092.00	19,263.63	20,727.30
Hamilton	65.7	8,304.81			8,304.81	143	49.00	8,353.81	10,031.80
Harrison	62.7	22,410.89			22,410.89	391	642.57	23,053.46	25,055.98
Harrison	79.4	13,613.60			13,613.60	171	1,612.61	15,226.21	20,035.46
Henry	48.2	12,917.24			12,917.24	312	310.93	13,228.17	17,187.42
Hood	41.5	15,725.43			15,725.43	279	1,087.59	16,813.02	17,887.90
Humboldt	49.4	10,417.88			10,417.88	213	1,047.88	11,465.76	19,882.54
Iowa	66.9	25,004.51			25,004.51	397	693.29	25,697.80	28,071.91
Jackson	49.6	21,714.67			21,714.67	448	2,847.06	24,561.73	24,444.90
Jasper	87.0	24,072.84			24,072.84	236	1,172.88	25,245.72	25,444.90
Jefferson	71.9	19,698.10			19,698.10	236	1,295.21	20,993.31	25,010.07
Jones	55.0	9,760.44			9,760.44	181	1,774.16	11,534.60	15,206.00
Keokuk	78.9	17,147.82			17,147.82	215	820.80	17,968.62	22,321.77
Keosauqua	80.2	23,716.71			23,716.71	290	1,188.00	24,904.71	26,094.09
Lake	84.6	25,900.79			25,900.79	266	1,188.00	27,088.79	30,095.20
Linn	52.1	10,417.88			10,417.88	344	3,384.07	13,801.95	15,075.20
Linn	52.1	8,982.13			8,982.13	172	961.89	9,944.02	11,913.81
Linn	56.5	18,961.03			18,961.03	352	442.99	19,404.02	20,313.97
Linn	63.7	6,135.26			6,135.26	947	1,609.90	7,745.16	11,843.92
Madison	54.6	15,987.89			15,987.89	293	603.09	16,590.98	18,033.65
Madison	54.6	22,035.51			22,035.51	379	1,238.03	23,273.54	25,046.71
Mahaska	48.8	11,754.98			11,754.98	241	1,298.40	13,053.38	16,046.71
Marshall	40.9	14,027.37			14,027.37	303	649.80	14,677.17	17,534.77
Mills	60.0	16,708.05			16,708.05	278	3,317.02	20,025.07	18,921.42
Monroe	76.2	9,720.82			9,720.82	122	1,094.47	10,815.29	17,704.31
Montgomery	65.2	24,526.12			24,526.12	475	739.23	25,265.35	27,454.33
Monroe	88.0	16,595.54			16,595.54	211	1,687.26	18,282.80	21,454.33
Muscatine	70.3	10,434.88			10,434.88	140	4,057.26	14,492.14	23,483.36
Osceola	41.6	4,182.28			4,182.28	200	20.90	4,203.18	12,445.12
Osceola	41.6	17,534.33			17,534.33	301	9,185.53	26,719.86	30,060.04
Page	69.2	9,693.23			9,693.23	263	109.01	9,802.24	16,835.62
Page	69.2	24,104.03			24,104.03	423	1,010.01	25,114.04	31,732.31
Pocahontas	65.3	27,603.80			27,603.80	335	5,988.67	33,592.47	34,660.53
Polk	61.0	29,571.44			29,571.44	344	3,384.07	32,955.51	41,349.30
Polk	61.0	69,174.16			69,174.16	314	3,384.07	72,558.23	89,271.17
Polk	61.0	15,150.16			15,150.16	280	383.42	15,533.58	17,445.91
Pottawattamie	91.3	33,267.22			33,267.22	367	644.00	33,911.22	40,925.96
Scott	72.2	17,833.01			17,833.01	349	2,071.42	19,904.43	22,897.46
Shelby	50.5	11,732.76			11,732.76	253	2,261.44	13,994.20	12,411.17

SCHEDULE NO. 72—(Continued)

County	Number of miles in system	Total cost maintenance earth, gravel and paved roads	Bridges maintenance		Total cost of maintenance roads and bridges	Average cost of maintenance per mile	Special case maintenance	Total expenditures January 1, 1922, to November 30, 1922	Total expenditures December 31, 1921, to November 30, 1922
			Total cost	Average per mile					
Sioux	73.3	7,197.45			7,197.45	98	818.05	8,015.50	10,590.45
Story	65.3	32,601.38			32,601.38	499	480.00	33,081.38	37,997.10
Tama	70.1	15,432.44			15,432.44	220	213.55	15,645.99	17,355.33
Taylor	59.2	11,892.14			11,892.14	297	11,872.71	11,872.71	17,577.34
Union	51.3	11,892.14			11,892.14	297	71.95	11,964.09	13,166.21
Van Buren	46.5	14,335.49	281.00	6	14,896.49	318		14,896.49	19,031.47
Wapello	42.7	18,213.98			18,213.98	426		18,213.98	22,826.53
Warren	83.4	20,246.26	608.68	8	20,944.94	323	1,536.22	28,481.16	36,739.12
Washington	87.2	31,500.00	16.00	1	31,516.00	362	1,202.52	32,719.12	39,871.20
Webster	41.5	32,135.34			32,135.34	459		32,135.34	45,166.21
Wells	81.6	12,099.23			12,099.23	265	2,019.58	12,999.28	15,166.21
Winnebago	48.9	15,977.47	1.75	1	15,979.22	196	675.55	16,654.80	17,839.48
Woodbury	124.1	29,339.45	45.00	1	29,384.45	237	1,070.19	30,424.64	34,043.99
Worth	60.0	10,228.26			10,228.26	170	170.42	10,398.68	11,392.12
Wright	39.2	26,833.98			26,833.98	455	834.75	27,770.73	32,259.50
Totals	6,615.2	\$1,903,838.34	\$18,250.87	3	\$1,922,089.21	\$291	\$63,188.07	\$2,015,283.28	\$2,444,664.54

SCHEDULE NO. 73

MEMORANDUM SHOWING TOTAL PRIMARY ROAD BONDS AUTHORIZED, ISSUED, PAID OFF, AND OUTSTANDING NOVEMBER 30, 1922.

County	Bonds authorized	Bonds issued	Bonds paid off	Bonds outstanding November 30, 1922
Black Hawk	\$1,500,000.00	\$ 400,000.00		\$ 400,000.00
Cerro Gordo	750,000.00	750,000.00	* \$ 50,000.00	700,000.00
Clay	800,000.00			
Clinton	1,800,000.00	825,000.00	65,000.00	760,000.00
Floyd	1,000,000.00	565,000.00		565,000.00
Greene	1,000,000.00			
Hancock	1,000,000.00	900,000.00		900,000.00
Kosuth	1,500,000.00			
Leon	1,125,000.00			
O'Brien	1,500,000.00	750,000.00		
Polk	2,000,000.00	1,049,000.00	* 150,000.00	899,000.00
Scott	2,000,000.00	2,000,000.00	* 845,000.00	1,485,000.00
Woodbury	2,500,000.00	950,000.00	280,000.00	670,000.00
Totals	\$18,475,000.00	\$7,789,000.00	\$1,190,000.00	\$6,599,000.00

* Refunded.

* \$50,000.00 issued but not sold.

* \$100,000.00 refunded.

* \$350,000.00 refunded.

PART TWO

**Summary of Annual
Reports of
County Engineers**

INDEX

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INTRODUCTION

This summary is prepared from the annual reports of the county engineers of the ninety-nine counties of Iowa and submitted in accordance with the provisions of Section 1527-s2, SS 1915.

The county engineers' reports include detailed statements of all county expenditures for road and bridge work, and also detailed reports of township expenditures in so far as county engineers were able to obtain data from township clerks.

Statements of expenditures are based on warrants issued by the county auditors for the year 1922. The county engineers obtain the information contained in their reports from the following sources:

(a) Total expenditures from county bridge, county motor vehicle road, and county road cash funds, from county auditor's warrant register; detailed classification of these expenditures from county engineer's claim register.

(b) Financial statement of the receipts and disbursements in above-named funds, from county treasurer's ledger.

(c) Statement of county's indebtedness from records of county auditor and county treasurer.

(d) Statement of classified expenditures from all township funds, and financial statements of receipts and disbursements in said funds, from annual reports of township clerks.

This report includes a general summary of the activities of the ninety-nine counties, and twenty-five summary tables showing in detail the expenditures for road work on the secondary system and all bridge work except the bridge construction and maintenance paid for out of primary road fund, and the present financial condition of the several counties.

TOTAL EXPENDITURES FROM SEVERAL FUNDS

	1918	1919	1920	1921	1922
County bridge fund.....	\$5,808,300.46	\$5,827,432.14	\$9,110,498.77	\$7,967,738.40	\$5,230,215.39
Primary road fund.....	75,853.12	440,068.50	5,198,839.94	12,094,440.95	11,174,438.33
Primary road bond fund.....			1,189,870.16	3,136,602.17	2,885,093.53
Primary road special assessments.....			235,668.23	1,993,609.40	702,757.40
Primary road anticipation.....					1,178,441.37
Primary road, city fund.....					118,489.03
County road cash fund.....	3,514,575.57	4,418,288.10	6,605,825.84	6,003,044.21	4,388,646.14
Motor vehicle road fund.....	1,215,931.72	1,330,384.10	594,782.16	100,868.65	39,707.17
Secondary road special Asses.....			36,229.66	22,976.11	50,274.09
Township funds.....	3,396,269.50	4,008,751.55	4,891,137.38	6,529,652.37	5,901,592.49
All other sources.....	84,822.24	129,214.03	192,256.09	192,665.24	72,719.66
Totals.....	\$14,095,752.61	\$16,154,078.45	\$28,024,945.25	\$38,741,627.83	\$31,552,374.62

Cash Balances January 1, 1923.

On January 1, 1923, there were cash balances on hand in the county and township road and bridge funds amounting to \$3,104,672.08 as follows:

County bridge fund.....	\$1,254,538.01
County road cash fund.....	424,132.47
County motor vehicle road fund.....	121,876.70
Total county balance.....	\$1,800,547.18
Township road, drag and drainage funds.....	1,304,124.90
Total.....	\$3,104,672.08

Indebtedness.

On January 1, 1923, there were outstanding bonds, for road and bridge work, amounting to \$22,166,135.83 as follows:

Bridge bonds outstanding.....	\$13,908,429.55
Road bonds outstanding.....	8,257,706.28
Total bonds outstanding.....	\$22,166,135.83

Bonds issued during 1922:

Bridge bonds.....	\$542,597.26
Road bonds.....	886,838.71
Total.....	\$1,429,435.97

Bonds retired during 1922:

Bridge bonds.....	\$469,827.25
Road bonds.....	171,174.75
Total.....	\$ 641,002.00

Net increase in bonds outstanding..... \$ 788,433.97

Summary of Financial Statement for Entire State

ANNUAL REPORT OF COUNTY ENGINEERS

JANUARY 1, 1922, TO JANUARY 1, 1923

Total Expenditures:

From January 1, 1922, to January 1, 1923, the counties and townships spent \$31,552,374.62 for road and bridge work on the 104,100 miles of road in the primary, county and township road systems. The total expenditure for both road and bridge work is an average of \$303.10 per mile on the total mileage above named. The total expenditure is \$7,189,252.91 or 22.7% less than the total expenditure reported for 1921. The expenditures are classified as follows:

Bridge work, on all roads.....	\$ 7,389,529.55
Road work on primary system.....	13,858,727.19
Road work on county system.....	4,255,371.21
Road work on township roads.....	6,048,746.67
Total.....	\$31,552,374.62

The expenditure for bridge work alone averaged \$70.98 per mile on the entire mileage of roads.

The expenditure for road work on the primary system averaged \$2,094.95 per mile. For road work on the county system an average of \$390.77 per mile and on the township road system \$69.85 per mile.

The following schedule compares expenditures for the past several years, according to purpose for which spent and according to the fund from which derived.

TOTAL EXPENDITURES FROM COUNTY FUNDS FOR ROAD AND BRIDGE WORK

	1918	1919	1920	1921	1922
Bridge work on both county and township roads.....	6,806,818.16	5,854,722.43	9,804,213.40	8,026,387.80	5,476,037.96
Bridge work on primary roads.....				1,278,965.02	1,910,492.49
Road work on primary roads.....		440,008.53	7,483,973.54	16,996,806.68	13,588,727.19
Road work on county roads.....	3,856,081.88	4,817,475.77	5,759,353.54	5,796,483.30	4,255,371.21
Road work on township roads.....	3,430,882.57	4,041,871.72	4,977,204.77	6,672,985.54	6,048,746.67
Totals.....	14,095,752.61	16,154,078.45	28,024,945.25	38,741,627.29	31,552,374.62

TOTAL INDEBTEDNESS FOR ROAD AND BRIDGE WORK

COUNTY BRIDGE FUND

	January 1, 1919	January 1, 1920	January 1, 1921	January 1, 1922	January 1, 1923
Outstanding bills.....	\$ 157,910.05	\$ 128,965.05	\$ 122,641.65	\$ 117,027.27	\$ 81,966.71
Outstanding warrants.....	2,081,701.72	1,194,273.45	2,680,018.52	1,242,997.97	745,541.84
Outstanding bonds.....	7,954,280.13	9,101,576.74	11,109,020.70	13,871,663.72	13,908,429.55
Total bridge indebtedness.....	\$10,193,891.90	\$11,225,115.24	\$13,911,680.87	\$15,231,688.96	\$14,735,938.10

COUNTY ROAD FUND

	January 1, 1919	January 1, 1920	January 1, 1921	January 1, 1922	January 1, 1923
Outstanding bills.....	\$ 114,530.96	\$ 81,914.93	\$ 108,603.33	\$ 152,431.32	\$ 89,900.69
Outstanding warrants.....	837,137.99	1,307,540.14	2,093,472.46	1,390,424.23	1,047,281.22
Outstanding bonds.....	2,054,020.95	2,665,551.08	4,667,737.60	7,470,473.10	8,257,708.28
Total road indebtedness.....	\$3,005,689.90	\$4,115,006.15	\$6,869,813.39	\$9,013,328.65	\$9,394,888.19
Total indebtedness.....	\$13,199,581.80	\$15,340,124.39	\$20,781,494.22	\$24,245,017.61	\$24,130,826.29

EQUIPMENT AND TOOLS ON HAND

Reports of county engineers show that the several counties owned equipment and tools for road and bridge work valued on January 1, 1923, at \$902,284.00. A summary of the principal items of equipment reported is as follows:

Items	Number	Estimated Value
Tractors	229	\$305,715.00
Trucks	90	69,180.00
Concrete Mixers	113	19,162.00
Pile Drivers	77	8,340.00
Blade Graders	585	165,934.00
Wheeled Scrapers	927	19,924.00
Slip Scrapers	1,338	6,443.00
Road Drags	4,003	38,630.00
Frenos	146	2,233.00
Road Maintainers	965	116,915.00
Plows	521	5,720.00
Camp Equipment	—	18,429.00
Small Tools and Miscellaneous.....	—	126,559.00
Total.....		\$902,284.00

A detailed statement of the inventory of equipment in each county is given in Summary Table No. 25, Parts 1 and 2.

This does not include equipment owned by townships which consists principally of blade graders, tractors, drags, wheeled scrapers, slip scrapers, plows, and small tools.

In addition to the above county owned equipment, the Iowa Highway Commission has furnished the counties of the state with war surplus equipment as follows:

Items	Number	Estimated Value
Tractors	30	\$ 93,000.00
Trucks	101	403,512.00
Trailers, Wagons, Carts, and Rolling Stock	—	32,503.39
Shop Machinery	—	21,120.17
General Supplies	—	13,926.87
Total War Surplus.....		\$564,062.43

SUMMARY OF BRIDGE WORK AND EXPENDITURES FOR ENTIRE STATE

For the Year 1922

The total expenditure for bridges and culverts in the state during 1922 was \$7,389,529.55 or \$1,915,822.56 less than the total expenditure for like purposes in 1921.

Below is a comparison of the classified expenditures for each of the past five years, including 1922, a comparison of permanent and temporary construction and a statement of the amounts for the various types of construction for the past four years. The amounts given were expended on work classified as shown.

Permanent bridges and culverts include only structures composed entirely of masonry or steel construction. If a part of the work is of a temporary nature, the structure is classified under the heading of temporary construction. Pipe culverts not provided with masonry bulkheads are classified as temporary construction.

Chapter 20, Acts of the Thirty-ninth General Assembly, permitting the paying for railway crossings, bridges and culverts on the primary road system from primary road funds, became effective March 10, 1921. Between March 10, 1921, and December 1, 1922, \$3,189,457.51 was expended from primary road funds for construction and maintenance of bridges and culverts on primary roads.

COMPARISON OF CLASSIFIED BRIDGE EXPENDITURES

AMOUNTS

Classification	1918	1919	1920	1921	1922	Total five year period
Permanent bridges and culverts—county	\$3,378,451.05	\$3,827,081.17	\$5,407,243.64	\$4,396,104.29	\$2,479,448.25	\$19,688,328.40
Bridges—primary	1,027,526.00	1,187,366.80	1,646,527.13	1,270,920.85	1,892,255.02	3,163,176.47
Temporary bridges and culverts	598,426.88	577,741.33	824,261.37	757,920.98	543,335.34	3,301,684.90
Repairs—county	1,027,526.00	1,187,366.80	1,646,527.13	1,345,071.79	1,171,671.41	6,378,163.11
Repairs—primary	598,426.88	577,741.33	824,261.37	757,920.98	543,335.34	3,301,684.90
Culverts purchased for townships	410,171.73	370,651.19	514,146.30	422,493.66	439,884.30	2,157,347.18
Equipment and unused material	650,984.96	391,728.43	654,932.24	345,155.53	368,632.03	2,440,893.19
Filling bridges and culverts	385,118.02	329,335.46	420,188.13	357,046.25	208,908.38	1,700,596.24
Special cases	158,139.52	170,819.05	307,454.57	402,394.59	267,187.35	1,306,163.08
Totals	\$6,808,818.16	\$6,854,722.43	\$9,804,213.40	\$9,305,352.11	\$7,389,529.56	\$40,162,635.46

PERCENTAGES

Classification	1918	1919	1920	1921	1922	Total five year period
Permanent bridges and culverts—county	52.60	55.83	55.13	47.23	33.55	49.00
Bridges—primary	15.08	17.32	16.79	13.66	25.61	7.36
Temporary bridges and culverts	8.78	8.43	8.41	8.14	7.35	8.23
Repairs—county	15.08	17.32	16.79	14.45	15.55	19.26
Repairs—primary	8.78	8.43	8.41	8.14	7.35	8.23
Culverts purchased for townships	6.02	5.41	5.24	4.54	5.95	6.37
Equipment and unused material	9.55	5.71	6.68	3.71	4.99	6.09
Filling bridges and culverts	5.55	4.81	4.29	3.84	2.83	4.23
Special cases	2.32	2.49	3.14	4.34	3.62	3.23
Totals	100.00	100.00	100.00	100.00	100.00	100.00

COMPARISON OF EXPENDITURES FOR PERMANENT AND TEMPORARY BRIDGE CONSTRUCTION

	1918		1919		1920	
	Expenditures	%	Expenditures	%	Expenditures	%
Permanent bridges and culverts—county	\$3,378,451.05	78.00	\$3,827,081.17	80.14	\$5,407,243.64	80.16
Permanent bridges and culverts—primary	1,027,526.00	13.05	1,187,366.80	12.11	1,646,527.13	12.22
Temporary bridges and culverts	598,426.88	8.95	577,741.33	7.73	824,261.37	7.62
Culvert materials furnished townships	410,171.73	8.95	370,651.19	7.73	514,146.30	7.62
Total	\$4,387,049.66	100.00	\$4,775,473.69	100.00	\$6,745,651.31	100.00

	1921		1922		Five year period	
	Expenditures	%	Expenditures	%	Expenditures	%
Permanent bridges and culverts—county	\$4,396,104.29	64.20	\$2,479,448.25	46.30	\$19,688,328.40	69.54
Permanent bridges and culverts—primary	1,270,920.85	18.50	1,892,255.02	35.34	3,163,176.47	11.18
Temporary bridges and culverts	757,920.98	11.07	543,335.34	10.15	3,301,684.90	11.66
Culvert materials furnished townships	422,493.66	6.17	439,884.30	8.21	2,157,347.18	7.62
Total	\$6,847,439.78	100.00	\$5,354,923.51	100.00	\$28,310,537.95	100.00

COMPARISON OF CLASSIFIED PERMANENT BRIDGE AND CULVERT CONSTRUCTION

No.	Type	1918	1919	1920
		Amount	Amount	Amount
1	Concrete culverts (Box, Cir., arch and pipe)	\$1,863,686.88	\$2,186,306.58	\$2,917,799.00
2	Masonry culverts	7,369.47	4,203.52	10,945.47
3	Headwalls and culverts lengthened	27,933.17	15,937.20	103,226.33
4	Concrete slab bridges	290,548.84	280,805.16	329,722.90
5	Concrete arch bridges	90,904.29	47,186.61	93,903.16
6	Concrete abutments	56,256.27	30,872.26	59,374.21
7	Concrete thru girders	33,240.83	*21,716.54	43,374.06
8	Concrete deck girders	227,477.16	195,526.27	183,390.21
9	Retaining walls	5,421.17	6,408.02	2,382.23
10	I-beam spans—concrete abutments	380,078.16	342,037.19	445,718.58
11	Steel girders—concrete abutments	4,003.29	13,133.56	35,716.45
12	Pony truss—concrete abutments	442,932.94	404,663.00	865,788.40
13	High steel trusses—concrete abutments	94,475.66	128,594.07	239,245.94
14	Deck trusses—concrete abutments		107.90	
15	Miscellaneous permanent construction			39,189.50
Total		\$3,466,018.13	\$3,637,488.18	\$5,407,343.64

COMPARISON OF CLASSIFIED TEMPORARY BRIDGE AND CULVERT CONSTRUCTION

No.	Type	1918	1919	1920
		Amount	Amount	Amount
1	Concrete pipe culverts	\$165,573.25	\$185,305.53	\$78,472.79
2	Corrugated pipe culverts	81,089.74	4,287.47	100,240.69
3	I-beam spans—piling abutments	33,644.96	25,946.57	39,027.72
4	Pony truss on piling—wood-floor	35,948.41	55,424.93	78,559.53
5	Wood pile bridges	355,142.69	328,953.12	472,648.53
6	Miscellaneous temporary bridges and culverts	17,762.05	51,410.90	55,512.01
Total		\$711,859.90	\$651,028.52	\$824,261.37
Grand total		\$4,178,877.93	\$4,288,516.70	\$6,231,605.01

COMPARISON OF CLASSIFIED PERMANENT BRIDGE AND CULVERT CONSTRUCTION (Cont'd)

No.	Type	1921	1922	Five year period
		Amount	Amount	Amount
1	Concrete culverts (Box, Cir., arch and pipe)	\$2,905,006.64	\$2,356,999.83	\$12,229,799.33
2	Masonry culverts			22,415.46
3	Headwalls and culverts lengthened	205,809.99	178,443.37	531,350.06
4	Concrete slab bridges	170,176.14	74,491.26	\$1,112,744.30
5	Concrete arch bridges	112,621.25	120,711.03	465,326.34
6	Concrete abutments	52,042.29	21,785.80	220,939.83
7	Concrete thru girders	30,845.98	4,519.46	130,696.87
8	Concrete deck girders	95,926.44	41,516.67	706,836.75
9	Retaining walls	8,269.13	3,374.76	25,855.31
10	I-beam spans—concrete abutments	530,547.23	428,260.48	2,129,641.64
11	Steel girders—concrete abutments	57,115.50	18,348.83	128,020.23
12	Pony truss—concrete abutments	1,064,207.23	725,311.53	3,323,832.40
13	High steel trusses—concrete abutments	390,881.33	389,909.17	\$1,232,786.2
14	Deck trusses—concrete abutments			197.90
15	Miscellaneous permanent construction	43,872.99	8,031.58	88,064.07
Total		\$5,667,025.14	\$4,371,703.67	\$22,548,478.96

COMPARISON OF CLASSIFIED TEMPORARY BRIDGE AND CULVERT CONSTRUCTION

No.	Type	1921	1922	Five year period
		Amount	Amount	Amount
1	Concrete pipe culverts	\$ 43,292.80	\$ 37,659.70	\$ 513,335.07
2	Corrugated pipe culverts	145,619.70	112,564.03	443,901.63
3	I-beam spans—piling abutments	78,674.11	42,900.50	219,895.56
4	Pony truss on piling—wood floor	72,827.49	71,084.07	233,944.53
5	Wood pile bridges	373,641.64	237,371.24	1,787,717.22
6	Miscellaneous temporary bridges and culverts	43,865.24	41,725.80	209,976.00
Total		\$757,920.98	\$543,335.34	\$3,488,406.01
Grand total		\$6,424,946.12	\$4,915,039.21	\$26,036,884.97

CULVERT MATERIAL PURCHASED FOR TOWNSHIPS

Operating under the law which provides that counties may furnish townships with the materials for temporary culverts, the 1,607 townships were furnished material in 1922 at a total cost to the counties of \$439,884.30.

A summary of the cost of material of various classes furnished in 1920, 1921 and 1922 is as follows:

	1920	1921	1922
Corrugated pipe	\$526,838.65	\$295,277.87	\$307,750.85
Concrete pipe	65,666.86	47,205.67	54,136.43
Lumber	72,719.36	68,405.14	56,989.67
Miscellaneous material	18,921.43	10,004.98	21,007.25
Total	\$514,146.30	\$422,493.66	\$439,884.30

SUMMARY OF ROAD WORK AND EXPENDITURES FOR ENTIRE STATE

January 1, 1922, to January 1, 1923

Primary and County Road Expenditures.

During the year 1922 the total expenditure for road work on the primary and county roads was \$18,114,098.40. A division of this expenditure by road systems and the average amount spent per mile of road is shown by the following table:

Road system	Number miles in system	Amount expended	Average per mile
Primary	6,615.30	\$13,858,727.19	\$2,094.93
County	10,889.77	4,255,371.21	390.77
Total	\$17,505.07	\$18,114,098.40	\$1,034.79

The above total expenditure on roads does not include items amounting to \$208,908.38 listed under bridge work for filling of bridges and culverts but paid out of county road cash fund.

The classification of work, amount and percentage of entire expenditure spent for construction, maintenance and special cases is shown below:

Road system	Construction		Maintenance		R. R. Cross. special cases	
	Amount	%	Amount	%	Amount	%
Primary	\$11,432,299.52	83	\$2,333,239.60	16	\$ 93,188.07	1
County	1,254,541.14	30	2,099,074.68	49	901,755.39	21
Total	\$12,686,840.66		\$4,432,314.28		\$994,943.46	

A total of 2,201.30 miles of primary and county roads were constructed during 1922, as follows:

Class of construction	Miles of primary system	Miles of county system	Total Number miles
Built to permanent grade	1,069.70	244.93	1,314.63
Gravel surfaced	432.00	353.27	785.27
Hard surfaced	101.40		101.40
Total	1,603.10	598.20	2,201.30

Condition of the primary and county road systems, January 1, 1923, was as follows:

Condition	Primary	County
Miles of earth road not built.....	2,961.80	8,458.92
Miles of earth road built to permanent grade.....	1,761.10	921.10
Miles surfaced with gravel.....	1,558.00	1,479.14
Miles paved.....	354.40	2.01
Total miles in system.....	6,615.30	10,869.77

The total expenditure for repairing and maintaining county roads was \$2,099,074.68, of which \$1,118,982.54 was spent for patrol maintenance including dragging, \$548,948.28 for gang maintenance, and \$431,143.86 for equipment and tools, or an average of \$192.75 per mile.

The comparative cost of maintenance of earth, gravel and paved roads of the primary and county systems for the years 1920, 1921 and 1922 is shown by the following table:

	Primary system		County system	
	Number of miles	Average cost per mile	Number of miles	Average cost per mile
Earth				
1920.....	5,760.00	\$224.47	9,703.58	\$254.84
1921.....	5,223.4	297.28	9,489.36	240.82
1922.....	4,722.9	370.00	9,408.02	190.00
Gravel				
1920.....	792.3	384.20	846.38	246.11
1921.....	1,156.6	480.83	1,189.78	238.40
1922.....	1,858.0	377.00	1,479.74	167.00
Paved				
1920.....	66.8	79.44	2.01	360.96
1921.....	236.0	89.28	2.01	137.60
1922.....	334.4	118.00	2.01	276.00

Township Road Work.

Reports from 1,315 of the 1,607 townships were received. Average expenditures for the 292 townships which did not report are included in tabulations in this report.

The 1,315 townships reporting show a total road expenditure of \$4,949,661.59, or an average of \$3,764.00 per township. In 1921 the average township expenditure was \$4,155.03. The township road work for 1922 is classified as follows:

Construction.....	\$1,169,696.62	19%
Maintenance.....	4,771,222.39	78%
Special cases.....	107,824.96	2%
Total.....	\$6,048,746.97	100%

The township expenditures reported are shown in detail in Summary Tables Nos. 3, 21 and 24.

SECONDARY ROAD DISTRICTS

Under the provisions of Section 47, Chapter 237, Thirty-eighth General Assembly, 643 secondary road districts have been petitioned for in 36 counties proposing the gravel surfacing of 2,744 miles of road, of which 1,249 is county and 1,495 is township.

Of the 643 districts petitioned for, 313 have been established, embracing 1,532 miles of road, of which 865 is county and 667 township. Contracts have been let for graveling 867 miles, 635 on the county and 232 on the township system.

Graveling has been completed on 815 miles, of which 589 were county and 226 township roads.

The average cost of gravel surfacing completed on secondary roads was \$2,269.00 per mile.

One-fourth the cost of graveling has been assessed against lands within the several districts. The average width of assessment districts was 1.79 miles and the assessment per acre is approximately 50 cents.

A more detailed showing as to the counties in which secondary roads have been improved under the district plan will be found in Summary Table No. 15.

SUMMARY TABLE NO. 1

Expenditures for Bridge and Road Work—County and Township Roads

County	Bridges and culverts	County road	Township roads	Total
Adair.....	\$71,415.93	25,537.10	60,154.12	157,108.15
Adams.....	45,912.73	24,804.94	31,415.29	102,133.06
Allamakee.....	64,405.65	43,222.83	26,825.66	134,454.14
Appanoose.....	42,144.70	45,870.56	41,873.05	129,888.31
Audubon.....	62,861.03	28,785.05	45,920.82	137,566.90
Benton.....	65,940.96	45,812.44	46,051.70	157,805.10
Black Hawk.....	50,505.37	77,027.34	49,368.45	176,901.17
Boone.....	92,002.03	47,785.26	89,907.62	229,794.91
Bremser.....	40,921.79	35,021.49	28,929.37	104,872.65
Buchanan.....	58,359.38	47,217.30	56,806.60	162,383.28
Burns Vista.....	18,304.59	45,291.28	63,699.28	127,295.15
Butler.....	73,722.00	33,631.35	46,477.23	153,830.58
Calhoun.....	27,636.47	64,972.13	58,884.91	151,493.51
Carmel.....	45,071.78	38,869.60	45,938.11	130,879.49
Cass.....	57,943.02	30,014.98	43,443.75	131,401.75
Cedar.....	15,831.43	23,198.56	73,706.17	112,736.16
Cerro Gordo.....	63,156.85	74,832.73	66,234.03	204,223.61
Cherokee.....	53,184.43	24,915.35	38,088.21	116,187.99
Chickasaw.....	40,417.24	31,626.29	45,706.18	117,749.71
Clark.....	41,390.39	25,001.48	32,201.97	98,593.75
Clay.....	31,666.78	58,172.77	68,500.87	158,339.40
Clayton.....	68,016.44	44,928.32	36,171.31	149,116.07
Clinton.....	78,690.79	44,012.23	77,359.31	199,062.33
Crawford.....	32,204.05	29,824.36	36,609.69	108,638.10
Dallas.....	96,012.99	85,644.99	142,912.51	324,570.49
Davis.....	52,354.70	25,473.25	46,886.96	124,694.91
Deauster.....	50,142.64	34,389.77	1,747.28	86,279.69
Delaware.....	40,459.07	53,438.49	63,706.37	157,603.93
Des Moines.....	24,248.55	22,319.70	41,240.37	87,808.62
Dickinson.....	39,653.27	16,833.29	45,686.71	96,143.27

SUMMARY TABLE NO. 1—Continued

County	Bridges and culverts	County road	Township roads	Total
Dubuque	60,871.27	57,405.54	31,945.44	150,222.25
Emmet	9,181.07	10,091.96	43,322.40	62,605.43
Fayette	100,419.74	46,757.49	216,701.11	363,878.34
Floyd	141,840.96	70,051.04	44,938.46	256,830.46
Franklin	35,604.19	46,998.17	70,794.24	153,396.60
Fremont	38,144.96	23,126.51	21,066.94	82,338.41
Greene	32,733.19	23,437.41	78,553.82	134,704.42
Grundy	49,485.07	16,084.71	46,337.29	111,907.56
Guthrie	53,253.03	36,701.12	59,603.11	149,557.26
Hamilton	45,928.66	56,005.45	51,695.13	153,629.24
Hancock	42,755.04	28,606.63	47,977.62	119,339.29
Hardin	78,274.25	85,838.69	39,397.03	203,509.97
Harrison	46,067.00	24,596.15	46,077.68	116,740.83
Henry	33,852.91	18,985.99	34,553.61	87,392.51
Howard	34,885.85	17,282.21	31,443.57	83,611.63
Humboldt	29,373.84	51,516.56	81,580.07	162,470.47
Ida	47,074.14	25,826.08	34,051.52	106,951.74
Iowa	53,457.72	36,323.88	57,415.24	147,196.84
Jackson	37,243.78	29,256.76	33,365.27	100,065.81
Jasper	137,990.17	56,620.26	44,682.06	239,292.49
Jefferson	45,493.56	32,899.16	53,838.44	132,231.16
Johnson	68,001.80	46,067.07	46,586.72	160,655.59
Jones	44,912.87	28,989.83	25,780.28	99,682.98
Keokuk	57,475.13	27,218.34	27,735.55	112,429.02
Kossuth	31,348.57	127,369.75	51,858.57	210,576.89
Lee	65,002.87	48,909.85	41,699.88	155,612.58
Linn	84,891.01	119,584.21	83,541.33	288,016.55
Louisia	22,691.09	13,037.90	36,149.62	71,878.61
Lucas	21,523.99	24,389.24	38,870.03	94,783.26
Lyon	45,065.99	24,159.70	37,839.72	107,065.41
Madison	65,325.90	35,060.04	50,520.15	150,906.09
Mahaska	62,509.20	27,601.15	68,824.58	158,934.93
Marion	29,354.19	25,030.63	59,928.97	114,313.79
Marshall	43,739.13	55,503.35	59,384.73	158,627.21
Mill	65,064.04	27,148.90	42,784.97	134,997.91
Mitchell	84,244.16	63,858.84	39,081.04	187,184.04
Monona	62,317.50	24,165.77	29,585.92	116,069.19
Monroe	22,229.36	16,081.41	29,702.80	68,004.57
Montgomery	90,365.81	21,457.88	35,621.33	147,345.02
Muscatine	20,754.03	42,487.53	39,969.01	103,240.57
O'Brien	51,352.62	25,216.63	49,320.89	125,890.14
Oceola	12,649.88	26,367.35	32,669.16	71,686.39
Page	151,473.77	38,474.34	37,271.05	227,219.16
Palo Alto	39,569.38	74,770.44	33,463.44	138,803.26
Plymouth	101,057.69	71,123.82	52,561.56	224,743.07
Pocahontas	35,001.63	40,105.73	55,423.40	130,530.76
Polk	108,881.26	121,242.16	51,206.60	281,330.12
Pottawattamie	87,600.61	99,522.03	36,051.44	243,174.08
Poweshiek	84,929.43	34,453.64	67,543.79	186,926.86
Ringgold	51,832.45	16,003.62	30,718.40	98,554.47
Sac	55,025.43	33,973.56	74,778.96	163,777.95
Scott	129,141.86	56,668.59	50,106.15	245,916.60
Shelby	73,706.96	29,166.36	81,790.21	184,663.53
Siox	56,067.07	28,605.02	49,198.20	134,467.29
Story	25,306.84	42,712.58	56,389.82	134,409.21
Tama	67,299.49	31,675.53	79,861.61	178,826.63
Taylor	41,376.22	29,306.07	40,340.85	111,023.14
Union	35,125.85	16,665.88	19,249.20	71,040.93
Van Buren	36,720.01	18,300.03	27,432.29	82,452.33
Wapello	16,709.84	22,004.17	45,096.64	83,806.65
Warren	62,943.77	46,448.23	46,568.57	155,960.57
Washington	55,022.31	58,616.84	46,263.31	159,902.46
Wayne	36,049.43	30,599.44	35,054.08	101,702.95
Webster	83,318.61	61,506.85	74,219.54	219,045.00
Winneshiek	9,330.40	18,801.21	56,834.76	84,966.37
Winneshiek	83,842.04	49,479.74	62,439.46	195,761.24
Woodbury	100,414.64	134,831.11	38,153.25	273,399.00
Worth	16,197.35	12,557.29	43,971.62	72,726.26
Wright	46,314.77	190,642.33	74,947.88	311,904.98
Total reported	\$5,479,037.06	\$4,255,371.21	\$4,049,661.59	\$14,684,069.86
Townships not reported, estimated			1,099,085.08	1,099,085.08
Grand total	\$5,479,037.06	\$4,255,371.21	\$5,048,746.67	\$15,783,154.94

SUMMARY TABLE NO. 2
Expenditures for Bridges, Culverts, Road Construction and Maintenance—County and Township Road System—Shown by Funds—Annual Report County Engineers

County	Bridges and Culverts				County Roads				Total	Grand total
	Bridge fund	Motor vehicle fund	Road Fund	All other sources	Motor vehicle fund	Bridge fund	Secondary road district allotments	All other sources		
Adair	\$53,370.54		\$11,765.25	\$6,281.14	\$71,416.93	\$22,290.10			\$23,537.10	\$96,954.03
Adams	45,912.73				45,912.73	24,894.94			24,894.94	70,717.67
Albany	64,405.98				64,405.98	42,222.83			42,222.83	106,628.81
Appanoose	62,561.03		2,096.64		64,657.67	28,875.05			28,875.05	91,436.08
Archer	64,848.11		1,092.85		65,940.96	45,012.44			45,012.44	110,953.40
Black Hawk	50,605.37				50,605.37	47,281.96			47,281.96	97,887.33
Bloom	91,811.18		190.85		92,002.03	46,892.99			46,892.99	138,797.29
Bremer	40,921.76				40,921.76	35,031.49			35,031.49	75,953.25
Buchanan	18,204.50				18,204.50	45,291.28			45,291.28	63,495.78
Burlington	73,752.60				73,752.60	33,631.41			33,631.41	107,384.15
Butler	27,636.47				27,636.47	64,972.13			64,972.13	92,608.60
Calhoun	45,071.76				45,071.76	38,869.60			38,869.60	83,941.36
Cass	17,458.47				17,458.47	30,014.65			30,014.65	47,473.12
Cedar	63,156.85				63,156.85	72,215.53			72,215.53	135,372.38
Cerro Gordo	48,923.08				48,923.08	54,909.35			54,909.35	103,832.43
Cherokee	40,417.24				40,417.24	26,431.58			26,431.58	66,848.82
Clark	32,890.80		10.00		32,900.80	24,829.20			24,829.20	57,730.00
Clatsop	62,807.19				62,807.19	44,928.53			44,928.53	107,735.72
Clay	75,029.69				75,029.69	44,012.23			44,012.23	119,041.92
Clinton	52,394.08				52,394.08	29,824.56			29,824.56	82,218.64
Crawford	96,486.57				96,486.57	81,891.90			81,891.90	178,378.47
Dallas	46,480.58			27.12	46,507.70	25,473.25			25,473.25	71,980.95
Decatur	40,459.07				40,459.07	52,341.87			52,341.87	92,800.94
Des Moines	24,248.55				24,248.55	22,319.70			22,319.70	46,568.25
Dickinson	33,653.23				33,653.23	16,833.39			16,833.39	50,486.62
Dubuque	60,498.76				60,498.76	56,715.15			56,715.15	117,213.91
Emmet	40,400.97				40,400.97	46,069.45			46,069.45	86,470.42
Fayette	95,007.06			4,311.83	100,418.89	46,069.45			46,069.45	146,488.34
Franklin	45,912.73				45,912.73	24,894.94			24,894.94	70,717.67
Fremont	38,144.96				38,144.96	23,126.51			23,126.51	61,271.47
Greene	32,733.19				32,733.19	23,437.41			23,437.41	56,170.60
Grundy	49,485.07				49,485.07	16,084.71			16,084.71	65,569.78
Guthrie	53,253.03				53,253.03	36,701.12			36,701.12	89,954.15
Hamilton	45,928.66				45,928.66	56,005.45			56,005.45	101,934.11
Hancock	42,755.04				42,755.04	28,606.63			28,606.63	71,361.67
Hardin	78,274.25				78,274.25	85,838.69			85,838.69	164,112.94
Harrison	46,067.00				46,067.00	24,596.15			24,596.15	70,663.15
Henry	33,852.91				33,852.91	18,985.99			18,985.99	52,838.90
Howard	34,885.85				34,885.85	17,282.21			17,282.21	52,168.06
Humboldt	29,373.84				29,373.84	51,516.56			51,516.56	80,890.40
Ida	47,074.14				47,074.14	25,826.08			25,826.08	72,890.22
Iowa	53,457.72				53,457.72	36,323.88			36,323.88	89,781.60
Jackson	37,243.78				37,243.78	29,256.76			29,256.76	66,500.54
Jasper	137,990.17				137,990.17	56,620.26			56,620.26	194,610.43
Jefferson	45,493.56				45,493.56	32,899.16			32,899.16	78,392.72
Johnson	68,001.80				68,001.80	46,067.07			46,067.07	114,068.87
Jones	44,912.87				44,912.87	28,989.83			28,989.83	73,902.70
Keokuk	57,475.13				57,475.13	27,218.34			27,218.34	84,693.47
Kossuth	31,348.57				31,348.57	127,369.75			127,369.75	158,718.32
Lee	65,002.87				65,002.87	48,909.85			48,909.85	113,912.72
Linn	84,891.01				84,891.01	119,584.21			119,584.21	204,475.22
Louisia	22,691.09				22,691.09	13,037.90			13,037.90	35,729.00
Lucas	21,523.99				21,523.99	24,389.24			24,389.24	45,913.23
Lyon	45,065.99				45,065.99	24,159.70			24,159.70	69,225.69
Madison	65,325.90				65,325.90	35,060.04			35,060.04	100,385.94
Mahaska	62,509.20				62,509.20	27,601.15			27,601.15	90,110.35
Marion	29,354.19				29,354.19	25,030.63			25,030.63	54,384.82
Marshall	43,739.13				43,739.13	55,503.35			55,503.35	99,242.48
Mill	65,064.04				65,064.04	27,148.90			27,148.90	92,212.94
Mitchell	84,244.16				84,244.16	63,858.84			63,858.84	148,103.00
Monona	62,317.50				62,317.50	24,165.77			24,165.77	86,483.27
Monroe	22,229.36				22,229.36	16,081.41			16,081.41	38,310.77
Montgomery	90,365.81				90,365.81	21,457.88			21,457.88	111,823.69
Muscatine	20,754.03				20,754.03	42,487.53			42,487.53	63,241.56
O'Brien	51,352.62				51,352.62	25,216.63			25,216.63	76,569.25
Oceola	12,649.88				12,649.88	26,367.35			26,367.35	39,017.23
Page	151,473.77				151,473.77	38,474.34			38,474.34	190,948.11
Palo Alto	39,569.3									

SUMMARY NO. 2—Continued

County	Bridges and Culverts					County Roads					Total	Grand total
	Bridge fund	Motor vehicle fund	Road Fund	All other sources	Total	County road cash	Motor vehicle fund	Bridge fund	Secondary road district special assessments	All other sources		
Floyd	131,333.91		10,607.05		141,940.96	70,051.54					70,051.54	211,892.50
Franklin	35,694.19				35,694.19	46,988.17					46,988.17	82,682.36
Fremont	38,144.96				38,144.96	23,126.51					23,126.51	61,271.47
Greene	32,730.19		3.00		32,733.19	14,878.44			8,558.97		23,437.41	56,170.60
Grundy	48,980.64		514.86		49,495.50	13,362.84				2,771.87	16,084.71	65,580.21
Guthrie	53,233.03				53,233.03	31,919.91				4,781.21	36,701.12	89,954.15
Hamilton	45,928.60				45,928.60	40,360.34					86,288.94	132,217.54
Hancock	42,749.04				42,749.04	28,906.63		15,645.11			44,551.74	87,300.78
Hardin	78,274.25				78,274.25	85,618.66	220.13				86,038.79	164,312.94
Harrison	46,067.00				46,067.00	24,509.15					24,509.15	70,576.15
Henry	33,852.91				33,852.91	18,985.99					18,985.99	52,838.90
Howard	34,885.85				34,885.85	17,282.21					17,282.21	52,168.06
Humboldt	29,513.59		60.25		29,573.84	51,516.86					51,516.86	80,990.40
Ida	47,074.14				47,074.14	25,828.08					25,828.08	72,902.22
Iowa	93,487.72				93,487.72	26,323.88					26,323.88	119,811.60
Jackson	37,243.78				37,243.78	22,256.76					22,256.76	59,500.54
Jasper	127,318.87		10,671.30		137,990.17	56,620.26					56,620.26	194,610.43
Jefferson	42,436.35		3,057.21		45,493.56	31,775.67	1,123.49				32,899.16	78,392.72
Johnson	67,948.13		154.64		68,102.77	42,640.36		3,436.71			46,077.07	114,180.84
Jones	44,152.12		750.75		44,912.87	25,019.90		3,369.93			28,389.83	73,302.70
Keokuk	57,455.07				57,455.07	21,218.34					21,218.34	78,673.41
Kossuth	31,348.57				31,348.57	127,369.78					127,369.78	158,718.35
Lee	61,627.98		3,374.89		65,002.87	48,909.85					48,909.85	113,912.72
Lincoln	73,509.23		11,381.78		84,891.01	119,097.79		456.42			119,554.21	204,445.22
Linn	22,691.09				22,691.09	11,727.81		1,310.09			13,037.90	35,728.99
Lucas	20,531.93		691.30		21,223.23	34,989.24					34,989.24	56,212.47
Lyon	45,065.99				45,065.99	24,159.70					24,159.70	69,225.69
Madison	60,900.40		4,425.50		65,325.90	27,511.95		7,548.09			35,060.04	100,385.94
Mahaska	60,047.93	2,461.27			62,509.20	27,601.15					27,601.15	90,110.35
Marion	26,283.01		3,071.18		29,354.19	25,030.63					25,030.63	54,384.82
Marshall	43,921.34		776.89		44,698.23	46,170.54		2,783.35		64.74	49,018.59	93,716.82
Mills	63,064.04				63,064.04	27,148.80				6,482.72	33,631.52	96,695.56
Mitchell	83,920.90		223.20		84,244.16	63,858.84					63,858.84	148,103.00
Monona	59,022.32		2,425.20		61,447.52	33,245.97		919.80			34,165.77	95,613.29
Monroe	85,251.23			3,198.30	88,449.53	16,854.72				226.69	17,081.41	105,530.94
Montgomery	86,251.23		4,114.59		90,365.82	19,287.94	2,160.94				21,448.88	111,814.70
Muscatine	10,690.44		1,063.59		11,754.03	42,473.23				14.28	42,487.51	54,231.54
O'Brien	51,332.62				51,332.62	25,216.63				268.80	25,485.43	76,818.05
Oceola	12,649.88				12,649.88	23,977.03	2,021.52				26,004.55	39,017.23
Page	138,067.36		13,378.21		151,445.57	38,474.34					38,474.34	189,919.91
Palo Alto	30,569.38				30,569.38	74,770.44					74,770.44	105,339.82
Plymouth	100,521.28		635.81		101,157.09	69,943.45		1,480.37			71,423.82	172,580.91
Pocahontas	33,907.23		1,094.40		35,001.63	40,030.73	75.00				40,105.73	75,107.36
Polk	103,731.46		5,149.90		108,881.36	121,242.16					121,242.16	230,123.52
Pottawattamie	87,600.61				87,600.61	99,522.03					99,522.03	187,122.64
Poweshiek	81,810.73		3,118.70		84,929.43	34,453.64					34,453.64	119,383.07
Ringgold	47,480.20		4,323.25		51,803.45	16,003.72					16,003.72	67,807.17
Sac	55,005.43		20.00		55,025.43	28,968.76			5,004.80		33,973.56	88,998.99
Scott	139,141.86				139,141.86	55,345.49				1,323.10	56,668.59	195,810.45
Shelby	70,234.76		3,473.20		73,707.96	29,196.39					29,196.39	102,873.32
Sioux	59,344.41		1,322.66		60,667.07	28,536.67					28,536.67	89,203.74
Story	24,869.04		437.80		25,306.84	42,712.33					42,712.33	68,019.17
Tama	67,299.49				67,299.49	31,675.53					31,675.53	98,975.02
Taylor	38,038.74		3,337.48		41,376.22	28,688.07				620.60	29,308.67	70,684.89
Union	35,618.84			607.01	36,225.85	16,502.78				1,163.10	17,665.88	54,891.73
Van Buren	36,720.01				36,720.01	18,390.03					18,390.03	55,110.04
Wapello	16,799.84				16,799.84	21,281.87					21,281.87	38,081.71
Warren	47,011.39		5,932.38		52,943.77	46,443.23				812.30	47,255.53	100,199.30
Washington	55,022.31				55,022.31	58,016.84					58,016.84	113,039.15
Wayne	38,049.43				38,049.43	30,509.44					30,509.44	68,558.87
Webster	83,318.61				83,318.61	61,506.85					61,506.85	144,825.46
Winnebago	9,230.49				9,230.49	18,801.21					18,801.21	28,131.70
Winneshiek	53,417.46	64.15	160.40		53,642.01	49,479.74					49,479.74	103,121.75
Woodbury	89,279.41		11,033.23		100,312.64	133,800.61		998.67		31.83	134,831.11	235,242.75
Worth	16,197.33				16,197.33	12,557.29					12,557.29	28,754.62
Wright	46,314.77				46,314.77	190,642.33					190,642.33	236,957.10
Total	\$5,296,002.09	\$8,781.31	\$109,918.20	\$14,335.40	\$5,479,037.00	\$4,130,571.24	\$30,926.86	\$24,213.20	\$21,601.88	\$37,758.93	\$4,255,271.21	\$9,734,408.27

SUMMARY TABLE NO. 3

Expenditures for Road Construction and Maintenance on Township Road System—Shown by Funds—Annual Report of County Engineers

10

County	Number townships in county	Number townships reporting	Township road fund	Township drag fund	Township drainage fund	County funds on township roads in secondary district	Secondary road district Special assessment funds	All other sources	Total
Adair	18	18	\$38,159.26	\$10,238.01	\$ 5,178.81	\$ 4,113.90		\$2,454.14	\$ 60,154.12
Adams	12	12	23,403.16	8,012.23					31,415.39
Allamakee	18	9	21,397.48	5,128.18					26,525.66
Appanoose	17	17	28,631.48	9,706.02	3,535.55				41,873.05
Audubon	12	12	34,534.30	11,279.94	116.96				45,930.93
Benton	20	13	35,458.17	10,069.16	384.37				46,051.70
Black Hawk	18	17	36,642.43	10,577.09	2,148.93				49,368.45
Boone	17	15	45,343.37	11,700.75	18,824.03	13,839.47			89,807.62
Bremer	14	7	21,030.56	5,330.82	2,667.99				28,929.37
Buchanan	16	13	39,589.42	10,355.96	6,561.22				56,506.60
Buena Vista	17	14	34,979.88	9,409.03	7,532.78	6,999.74	4,765.50		63,638.65
Butler	16	16	36,731.85	9,235.36	470.42				46,437.33
Calhoun	16	16	36,744.16	13,197.18	8,943.37				58,884.91
Carroll	16	12	32,869.60	8,738.94	7,299.57				48,908.11
Cass	10	13	31,274.76	9,062.16	2,206.83				43,443.75
Cedar	17	17	56,832.35	15,741.89	1,131.93				73,706.17
Cerro Gordo	16	15	36,547.17	9,897.09	19,789.77				66,234.03
Cherokee	16	13	29,938.83	8,149.68					38,088.21
Chickasaw	12	12	37,313.45	6,714.65	1,678.98				45,706.18
Clarke	12	12	22,867.07	9,394.90					32,261.97
Clay	16	11	33,073.35	5,048.77	13,273.87	17,154.88			68,550.87
Clayton	22	13	29,836.50	6,344.72					36,171.31
Clinton	20	18	60,613.71	14,589.78	2,135.82				77,339.31
Crawford	20	15	49,430.11	17,715.64	19,463.92				86,609.69
Dallas	16	16	78,045.71	15,500.76	16,243.72	16,561.16	16,561.16		142,912.51
Davis	15	15	36,742.07	10,098.89					46,840.96
Decatur	16	1	1,135.11	632.17					1,747.28
Delaware	16	15	43,721.69	9,967.29	77.39				53,706.37
Des Moines	13	13	29,734.04	11,495.33					41,249.37
Dickinson	12	11	32,338.30	4,450.80	15,530.43			3,536.18	51,855.71
Dubuque	17	11	39,028.26	5,917.18					44,945.44
Emmet	12	12	19,359.59	4,998.63	18,964.18				43,322.40
Fayette	20	19	57,734.01	11,739.87					69,473.88
Floyd	12	9	32,848.37	6,831.21	5,588.88				44,938.46
Franklin	10	14	46,136.42	7,533.38	17,104.44				70,774.24
Fremont	13	7	7,526.00	328.63					7,854.63
Groene	15	15	35,620.83	10,740.56	12,172.73				58,534.12
Grundy	14	14	35,747.40	9,008.46	1,831.43				46,587.29
Guthrie	16	16	39,190.75	14,299.93	6,112.43				59,603.11
Hamilton	16	14	25,147.82	11,322.22	15,225.09				51,695.13
Hancock	16	12	30,569.02	6,415.22	10,996.38				47,971.62
Hardin	11	11	34,686.08	7,785.16	6,815.79				49,287.03
Harrison	20	15	33,066.74	8,658.93	4,322.01				46,047.68
Henry	12	10	24,882.94	9,670.67					34,553.61
Howard	12	10	24,079.15	5,014.76	2,349.66				31,443.57
Humboldt	12	12	38,435.89	11,798.19	21,319.66	10,036.33			81,580.07
Iowa	12	10	27,492.23	5,884.17	24.90		651.12		34,051.32
Jackson	16	16	42,311.29	14,712.43	351.50				57,415.24
Jasper	19	10	32,412.64	9,732.01	2,337.41				44,482.06
Jefferson	12	12	40,793.55	11,390.38	1,714.51				53,838.44
Johnson	21	12	31,630.22	10,910.78	4,056.72				46,586.72
Jones	16	10	26,324.31	5,445.97					31,770.28
Keokuk	17	10	20,045.45	7,736.13					27,779.58
Kossuth	14	10	50,826.67	6,462.62	14,469.28				71,758.57
Lee	15	15	28,811.24	12,870.51	18.11				41,699.86
Linn	20	18	61,630.13	14,979.67	6,931.54				83,541.33
Louisa	12	10	24,353.31	10,815.40	750.91				36,149.62
Lucas	12	12	29,265.18	9,664.85					38,930.03
Lyon	18	15	31,536.17	6,315.55					37,851.72
Madison	16	13	37,884.43	12,633.72					50,518.15
Mahaska	18	18	44,064.88	14,834.67	9,925.03				68,824.58
Marion	15	11	39,884.27	16,181.01	3,890.69				59,928.97
Marshall	18	17	39,777.28	15,268.52	4,338.93				59,384.73
Mills	13	12	32,439.21	6,845.78	2,647.99			821.99	42,754.97
Mitchell	16	15	31,471.39	5,297.79	2,311.95				39,081.96
Monona	19	13	21,228.46	5,424.61	1,354.97			1,577.88	29,585.92
Monroe	12	10	18,953.74	6,022.23	4,744.83				29,720.80
Montgomery	12	12	26,643.61	8,877.72					35,521.33
Muscatine	14	14	26,867.23	9,435.71	5.90			3,691.07	39,299.91
O'Brien	16	16	39,595.50	7,098.32	2,627.07				49,320.89
Osceola	11	9	21,639.53	4,091.92	6,337.31				32,069.16
Page	16	12	25,459.93	10,768.09	1,043.03				37,271.05
Palo Alto	16	12	20,749.13	5,178.75	7,535.50				33,463.44
Plymouth	24	17	42,119.09	10,442.47					52,561.56
Pocahontas	18	17	24,561.13	11,232.28	19,629.99				55,423.40
Polk	19	12	35,379.81	7,837.74	887.63	7,013.08	677.28		44,695.52
Pottawattamie	28	17	49,862.92	6,288.16	161.06				56,313.14
Poweshock	16	14	48,169.26	12,226.58	7,147.95				67,543.79
Ringgold	16	5	22,880.48	7,857.92					30,738.40
Sac	16	16	45,562.16	12,631.28	10,768.34	4,558.19	1,458.99		74,778.96
Scott	15	15	40,337.04	9,722.42	26.69				50,106.15

SUMMARY TABLE NO. 3—Continued

County	Number townships in county	Number townships reporting	Township road fund	Township drainage fund	County funds on township roads in secondary district	Secretary road district Special assessment funds	All other sources	Total
Shelby	16	16	57,607.50	17,018.05	5,374.54		1,500.12	61,700.61
Sioux	23	23	58,812.25	10,329.95	43,482.30			49,182.25
Story	16	12	32,701.87	10,047.11	13,634.84			56,383.82
Tama	21	21	60,195.13	16,224.08	3,442.30			79,861.51
Taylor	17	15	31,840.45	8,500.40				40,340.85
Van Buren	12	8	14,600.68	4,648.52				19,249.20
Wadena	14	14	22,333.83	16,211.44				37,432.29
Wapello	14	14	35,333.21	10,550.06	3,326.91			49,209.17
Warren	15	9	35,000.83	11,131.23				46,132.06
Washington	16	7	25,748.77	8,333.78	41.25			35,054.08
Wayne	23	18	43,856.86	14,659.64	971.83			74,219.54
Webster	12	12	34,540.26	7,054.19	15,973.04			57,567.49
Winnebago	12	12	28,908.57	14,545.19				50,834.76
Woodbury	23	12	28,098.51	3,511.51			1,307.56	29,917.58
Worth	12	12	29,102.83	6,723.42	11,145.25			47,071.50
Wrath	16	15	33,465.15	8,214.41	32,016.43		1,348.89	74,141.86
Total reported	1,607	1,315	\$3,390,393.60	\$940,542.08	\$498,306.35	\$80,076.76	\$16,978.87	\$4,049,661.99
Not reported, estimated		292	752,549.00	208,850.08	110,600.48	17,779.88	3,746.36	1,099,085.08
Grand total	1,607	1,607	\$4,142,942.60	\$1,149,392.06	\$608,906.83	\$97,856.64	\$20,725.23	\$5,048,746.07

SUMMARY TABLE NO. 4
Expenditures for Bridges and Culverts—Primary, County and Township Roads, Classified—Annual Report of County Engineers

County	Permanent bridge and culverts	Temporary bridge and culverts	Repair work	Culvert made-permanent for township	Equipment and material	Filling bridge and culverts	Special uses	Total
Adair	31,770.27	2,200.83	7,751.22	9,690.48	8,228.98	11,149.35	615.90	71,416.95
Adams	9,140.51	12,469.50	8,188.25	5,012.37	5,545.40	2,391.74	2,227.87	45,912.73
Albany	1,816.31	2,200.80	3,715.51	47,132.87	1,670.00	1,608.49	1,458.05	64,408.98
Albion	12,509.92	35,017.20	2,672.12	8,514.65	2,705.58	2,154.00	1,458.05	62,561.03
Benton	37,855.21	3,004.98	15,742.41	4,686.10	1,926.98	1,092.85	1,932.43	65,940.96
Black Hawk	29,117.16	7,480.35	8,017.53	1,142.00	3,490.92	630.67	636.74	60,808.37
Bloom	67,164.72	2,750.28	9,634.95	1,346.40	3,647.98	6,421.41	1,035.98	92,002.03
Bremer	20,168.91	2,038.03	6,293.26	5,990.45	6,353.24		1,570.67	40,921.76
Buchanan	11,403.47	7,000.00	13,029.87	2,680.26	1,504.88	1,414.67	453.53	38,304.38
Buena Vista	32,899.13	8,859.10	14,628.16	3,763.90	8,418.12	3,580.95	2,088.18	73,722.40
Calhoun	7,619.33	9,074.60	3,632.05	1,112.30	6,198.29			27,636.47
Cass	17,476.31	1,832.73	8,615.19	5,740.45	4,322.04	1,427.46	5,907.28	45,071.76
Cedar	39,380.70	6,419.40	24,392.20	6,025.93	2,235.14	5,579.60	3,658.95	87,631.02
Cedar Rapids	4,198.17	331.84	11,895.61	1,897.07	31.15		3,926.00	15,951.43
Chariton	25,290.18	1,000.00	8,492.55	8,035.77	7,413.48	1,875.12	4,412.77	53,184.43
Cherokee	8,656.09	12,570.16	6,965.57	1,700.00	2,846.00	5,722.00	1,657.43	40,417.24
Chickasaw	8,923.86	6,143.35	11,239.71	3,907.83	2,481.38	6,917.27	2,769.87	41,380.39
Clark	25,772.22	1,413.96	1,486.34	4,842.18		155.06		31,096.76
Clay	54,129.12	832.06	3,470.05	2,382.62	3,622.00	822.00	1,282.60	65,016.44
Clayton	4,569.57	3,121.43	4,496.34	1,637.41	1,128.50		5,813.88	25,594.09
Crawford	61,612.62	3,121.43	24,035.29	6,913.43	7,128.50	2,599.53	5,813.88	96,313.95
Dallas	19,725.09	1,002.21	13,699.22	7,213.57	1,961.95	2,531.51	1,970.35	35,354.70
Decatur	1,788.51	2,765.51	30,696.75	4,725.54	5,462.67	4,067.25	3,272.72	50,142.64
DeKalb	21,060.85	3,457.93	8,332.29	4,161.19	6,310.50	1,882.99	2,698.01	40,459.07
Delaware	34,993.26	2,108.71	5,964.86	3,264.11	1,421.56	610.45	1,430.40	39,248.55
Dubuque	32,711.63	2,051.03	17,145.57	5,035.78	611.29	322.12	999.15	60,871.27
Emmet	1,372.90	1,427.03	3,462.28	869.56	397.91	7.50	2,082.05	8,191.67
Fayette	56,027.15	1,427.03	18,709.70	2,975.71	11,467.63	6,729.17	3,082.05	100,419.74
Floyd	105,372.43	10,511.29	8,060.93	1,711.20	3,044.80	10,473.65	1,615.56	141,840.96
Franklin	1,800.00	2,038.17	12,000.00	1,831.17	2,894.98		205.90	25,569.12
Grant	3,000.00	2,060.20	15,252.22	2,499.75	2,098.39	1,313.61	8,870.08	35,141.96

SUMMARY TABLE NO. 4—Continued

County	Permanent bridges and culverts	Temporary bridges and culverts	Repair work	Culvert material purchased for township	Equipment and unused material	Filling bridges and culverts	Special cases	Total
Greene	16,024.11	2,293.67	8,003.12	5,402.71	765.79	240.29	3.50	32,733.10
Grundy	36,317.41	4,230.06	3,159.59	2,040.00	2,400.00	549.86	783.58	47,000.61
Harrison	14,068.07	15,401.69	15,224.97	2,923.85	4,577.65	166.90	489.30	84,929.43
Hawkeye	27,927.70	4,973.51	5,373.15	4,965.00	3,232.35	100.00	1,592.30	53,223.03
Humboldt	62,622.24	1,231.70	4,134.18	4,134.18	36.45	216.94	664.00	42,755.04
Harrison	2,465.62	8,395.49	25,882.80	3,231.90	6,094.40	100.00	216.94	78,274.25
Henry	18,444.39	113.84	9,888.18	2,851.40	611.21	1,452.40	991.49	33,851.91
Howard	17,011.26	6,663.38	4,032.42	1,835.34	2,654.70	1,870.86	1,797.89	34,886.55
Humboldt	19,092.14	2,177.29	2,145.64	2,042.30	1,961.01	260.10	1,695.45	29,378.84
Iowa	13,072.93	6,676.97	12,697.73	6,187.99	7,963.88	605.62	130.00	47,074.14
Jackson	41,195.74	7,333.05	10,538.07	14,796.97	1,473.94	1,170.71	1,695.45	63,583.78
Jasper	79,636.96	3,441.11	23,394.44	6,529.19	8,296.19	13,877.02	3,632.00	143,030.16
Jefferson	17,418.08	2,350.85	5,564.35	6,955.89	8,805.22	3,057.31	1,701.05	45,495.16
Johnson	38,951.44	5,086.17	10,422.39	7,139.76	3,064.28	1,188.45	1,902.22	68,001.80
Keokuk	17,767.32	1,833.76	17,187.69	5,887.28	16.75	1,452.40	707.50	44,912.87
Kossuth	3,768.17	2,655.25	9,439.37	3,721.22	2,375.45	30.90	399.50	31,344.57
Lee	27,194.47	3,178.95	22,798.04	5,356.11	3,533.69	2,297.39	7,791.35	65,002.87
Linn	25,611.31	23,123.93	18,182.93	5,960.30	1,644.00	2,297.39	7,791.35	29,691.01
Louis	5,667.58	392.76	11,140.82	3,470.28	1,950.05	33.50	55.70	21,623.23
Linn	3,816.58	843.33	12,134.94	3,632.81	629.00	837.10	155.80	18,500.00
Linn	13,324.62	5,288.97	18,971.14	5,239.24	3,002.81	432.80	662.05	45,065.99
Mahaska	29,414.17	1,833.44	17,376.42	7,529.32	4,081.66	3,919.00	4,269.00	65,325.90
Marion	2,951.48	1,607.12	14,542.90	4,688.39	3,408.11	1,199.38	13,762.13	62,899.20
Marshall	28,372.00	4,571.05	2,424.39	4,531.17	4,733.40	3,711.45	222.15	29,358.19
Mill	23,290.16	7,927.15	20,595.61	8,026.65	5,224.47	1,416.48	1,732.29	63,044.13
Mississippi	58,228.06	497.42	15,201.59	8,026.65	7,471.29	390.39	1,122.07	84,344.16
Monroe	21,783.34	1,833.44	18,692.38	6,025.77	463.94	8,085.75	6,769.20	62,317.50
Montgomery	32,694.93	14,763.87	7,833.94	3,382.07	4,361.51	322.95	747.97	62,220.36
Muscatine	4,862.05	3,212.65	8,193.24	2,460.90	2,790.30	4,114.59	12,704.51	90,365.81
O'Brien	23,637.30	3,212.65	11,160.24	4,612.23	7,390.30	867.40	2,704.51	46,604.62
Osceola	3,870.08	6,837.74	534.35	1,221.08	7.85	9.40	149.88	15,149.88
Page	79,124.77	1,833.78	27,225.06	7,487.17	5,869.51	13,376.21	10,457.27	151,473.67
Polk	17,095.99	2,347.32	3,602.97	1,591.68	1,845.55	45.20	4,544.40	30,569.38
Plymouth	11,961.58	27,838.89	14,352.47	5,033.64	12,022.05	7,284.91	10,669.94	101,057.09
Pocahontas	11,961.58	7,838.89	41,132.47	2,519.66	1,479.67	1,050.30	6,253.92	35,001.63
Polk	69,102.69	3,588.04	18,534.48	9,405.35	2,338.40	5,149.90	672.50	108,881.36
Pottawattamie	8,312.46	32,086.40	13,350.89	5,394.29	24,224.28	1,032.00	2,600.29	87,000.61
Pottawattamie	46,621.98	1,000.00	17,568.15	8,094.95	190.87	3,801.85	8,841.63	84,929.43
Ringgold	8,463.61	4,622.00	19,193.96	2,674.73	6,091.33	4,232.35	794.47	51,832.45
Scott	113,584.97	1,982.16	4,568.68	3,228.41	1,720.91	3,229.33	4,820.00	136,563.93
Shelby	21,742.20	20,571.25	12,772.40	6,190.72	3,772.40	5,450.40	3,207.97	73,706.96
Story	17,510.72	9,197.60	17,169.51	4,093.84	6,848.50	829.35	1,026.55	56,667.07
Story	13,490.69	6,596.35	6,596.35	3,689.47	2,301.96	36.00	5,183.80	25,306.84
Tama	24,396.83	5,935.38	28,404.95	2,689.47	2,301.96	1,698.40	1,002.50	67,299.49
Taylor	19,055.68	2,463.19	5,253.68	3,911.53	5,112.71	3,337.48	1,251.99	41,376.22
Van Buren	11,615.80	1,125.00	747.82	2,800.00	3,906.30	672.00	4,514.63	36,720.05
Wapello	11,940.47	8,690.60	6,347.55	4,354.17	2,843.30	72.77	643.44	16,796.84
Warren	13,449.85	9,417.13	5,459.85	2,867.85	5,932.88	5,932.88	7,426.11	52,943.77
Washington	19,326.65	8,480.15	25,233.46	4,546.96	2,545.90	657.53	2,675.81	55,023.31
Wayne	11,812.49	1,490.18	6,542.38	5,856.68	3,005.10	3,005.10	9,072.45	36,046.43
Webster	38,123.52	11,166.60	26,341.30	9,055.27	2,491.31	2,329.76	4,033.50	89,118.61
Winneshiek	22,103.48	2,146.39	20,938.96	2,069.07	2,467.83	911.70	3,184.56	53,849.40
Woodbury	30,476.62	17,193.09	17,040.99	5,733.56	17,890.61	1,918.60	9,887.07	100,114.65
Worth	11,409.95	2,159.88	2,159.88	1,591.10	1,096.00	18.20	322.22	16,197.35
Wright	27,326.99	2,477.76	13,637.88	2,519.66	21.00	255.98	76.40	46,314.77
Total	\$2,479,448.25	\$543,335.34	\$1,171,671.41	\$499,884.30	\$368,032.03	\$208,968.38	\$297,157.35	\$5,479,037.06

SUMMARY TABLE NO. 5—PART II—Continued

County	Retain- ing walls	I-beam spans concrete abutments	Steel girders concrete abutments	Pony truss concrete abutments	High steel trusses concrete abutment	Miscella- neous permanent bridges and culverts	Total
Delaware		9,266.90					21,090.05
Des Moines		1,946.71					8,336.96
Dickinson		3,143.33		13,742.31		467.32	24,951.32
Dubuque					19,354.30		32,711.55
Emmet		306.38					1,272.30
Fayette	507.42				2,627.17	1,333.39	36,037.15
Floyd		305.44					106,372.43
Franklin		250.08		719.08			11,059.05
Fremons							3,400.35
Groene							16,024.11
Grundy		12,508.43		10,469.03			36,317.41
Guthrie							14,968.47
Hamilton				4,358.22			32,302.70
Hamrock		15,033.34					27,227.00
Hardin							62,622.34
Harrison		5,779.95		3,737.33			2,465.62
Henry							15,444.28
Howard		5,537.32					17,401.28
Humboldt					1,613.32		19,092.14
Ia		0,377.99		4,575.30			13,672.96
Iowa	1,338.85			7,766.65			41,810.12
Jackson	94.99						132.74
Jasper	40.00				211.30		78,536.66
Jefferson							17,418.98
Johnson					20,032.47	80.00	38,981.44
Jones		5,052.08		2,468.81		49.20	17,737.32
Kossuth				6,833.40			38,253.49
Knox							1,798.17
Kossuth							27,194.47
Lea							25,711.31
Linn			1,000.90				3,567.58
Louis		711.18					15,324.62
Lucas					7,417.60		22,614.92
Lyon					2,726.65		29,414.17
Madison							2,951.48
Mahaska		3,223.40				23.96	28,280.06
Marion							23,290.16
Marshall		4,839.07		40.60			31,783.34
Mills				12,688.52			1,944.43
Monroe		2,495.72		30,245.66			32,659.93
Monona					10,173.00		4,502.06
Montgomery						1,397.30	22,857.30
Muscatine		5,920.42					20,809.09
O'Brien		3,682.54		2,945.10			79,124.77
Oswego							17,463.56
Pago				27,882.57		666.96	14,911.27
Palo Alto					15,248.38		11,963.25
Plymouth		3,293.35					69,102.69
Pocahontas		4,472.65		5,613.80			8,212.46
Polk				15,042.50			43,321.58
Pottawattamie							8,463.61
Poweshak		15,396.03		4,281.17			41,406.41
Ringold							8,043.80
Saunders							3,443.60
Scott		7,067.94		8,043.80			22,697.54
Shelby		9,019.00					113,264.97
Sioux							21,742.26
Story		2,947.90		4,969.32		81.06	17,510.72
Tama							10,490.69
Taylor							24,396.83
Union		3,473.75					19,065.56
Van Buren				9,742.00			15,055.53
Wapello	229.63	9.00		14.31			11,015.00
Warren							1,940.47
Washington							15,449.35
Wayne							19,802.65
Webster				11,644.77			13,812.45
Winnebago		137.92					38,013.75
Winneshiek		4,853.15					1,877.83
Woodbury							22,303.48
Worth		7,003.01					30,475.32
Wright		9,094.28					11,439.85
Total	83,374.76	8222,928.17	818,345.63	8267,823.10	8164,305.82	85,264.43	\$2,479,448.23

SUMMARY TABLE NO. 6.

Classification of Temporary Bridge and Culvert Construction for Which Warrants Were Issued in 1922—Primary, County and Township Roads—Annual Report of County Engineers.

County	Con- crete pipe	Corro- gated pipe	I-beam span piling abutments	Pony trusses on piling wood floor	Wood trestle bridges	Wood truss bridges	Miscella- neous temporary bridges and culverts	Total
Adair	\$894.04				\$1,306.73			\$ 2,300.83
Adams	2,039.48							13,406.39
Alamogordo	2,365.40					\$11,367.11		2,853.40
Appanoose		\$ 70.16	646.65		\$ 7,416.27			10,809.81
Audubon		260.50	2,824.96	\$23,827.44	9,004.31			35,617.26
Benett		2,891.54					113.44	3,004.98
Black Hawk		2,819.55	9,000.00		1,634.80		25.60	7,480.35
Bonne		2,750.55						2,560.88
Brewer		976.63				1,958.40		2,035.03
Buchanan	580.80	4,677.85			1,759.00			21.30
Buena Vista	47.58							47.58
Butler								8,635.10
Cahoon	1,904.78		3,034.96	1,884.30				250.55
Carroll		1,810.23						72.80
Cass	4,273.32	2.23		1,495.86		321.71		6,419.49
Cedar								331.84
Cerro Gordo	331.84	2,612.78						3,291.88
Cherokee	10.90	1,739.65			10,966.71			163.80
Chickasaw		528.73		836.46				536.90
Clark		3,143.29						1,413.36
Clay	260.40	1,113.36						826.56
Clayton	5.50							330.99
Clinton		330.99						1,252.41
Crawford		1,252.41			1,916.85			2,450.83
Dallas	2,279.33							1,002.21
Davis	872.61							2,780.55
Deuster	603.47	2,127.08						3,457.03
Delaware		298.50			1,891.70	1,213.95		390.28
Des Moines		390.28						3,106.71
Dickinson	916.69	382.46	261.66		545.90			3,255.71
Dubuque		9,255.71						2,621.05
Emmet								2,021.09
Fayette		1,427.03						1,427.03
Floyd	90.00				9,730.40			691.89
Franklin		2,035.17						2,035.17
Fremons					5,662.20			3,662.20
Groene	1,717.88							375.79
Grundy		3,653.13			1,196.93			4,350.96
Guthrie					3,383.00	3,991.81		8,026.88
Hamilton		4,973.51						4,973.51
Hamrock		2,784.50			2,791.50			5,736.06
Hardin		979.27						291.70
Harrison		1,488.05	94.84		4,740.22			8,395.49
Henry								113.84
Howard		370.62			6,171.05			321.70
Humboldt		2,177.29						2,177.29
Ia	2,364.09	5,273.23		18,503.63	3,495.07			39.63
Iowa								22,098.70
Jackson	315.10	1,091.65	4,176.03	634.85	235.10			1,009.22
Jasper		3,421.50						7,351.95
Jefferson		401.86			873.59			3,441.11
Johnson		1,292.84			2,192.05			1,073.40
Jones		1,820.44			580.78			1,601.28
Kossuth								2,965.25
Kossuth		3,917.25			7,373.69			1,823.76
Lea		2,778.96						11,390.94
Lee		5,690.89		2,802.90	13,627.57			2,778.96
Linn		392.76						23,121.76
Louis								392.76
Lucas								392.76
Lyon		322.00			921.33			843.33
Madison	1,960.35				3,578.19			5,538.57
Mahaska		560.16						390.16
Marion		607.12			1,000.00			1,607.12
Marshall		982.36	1,921.22		1,637.74			29.73
Mills		632.80	540.30	1,763.43	4,921.12			267.90
Monroe								267.90
Monona		263.11						914.91
Montgomery	609.59	425.42	943.00					1,368.42
Montgomery		238.83	4,406.83		9,297.14			14,532.41

SUMMARY TABLE NO. 8

Bridge Equipment, Unused Material, Filling Bridges and Culverts and Special Cases—Annual Report of County Engineers

County	Equipment and Material		Filling bridges and culverts	Flight of way	Months and remaining old spans	Channel change	Miscellaneous	Total
	Equipment repaired & repairs	Material purchased and not used						
Adair	44,594.15	\$ 2,114.85	\$11,149.35	\$ 615.00	\$ 1,785.87		\$ 531.50	\$ 615.00
Adams	2,525.40	5,336.00	3,301.74	\$2.50			1,748.65	2,272.87
Alkames	1,875.00	1,678.80	1,462.55	33.50	337.00		286.00	1,748.65
Appanoose	1,671.00	1,392.66	2,096.64	337.50				1,650.00
Auburn	710.88	2,000.00	2,710.88	184.00				337.50
Benton		1,626.68	1,626.68	1,082.89				1,626.68
Berkeley		2,535.60	3,647.68	6,421.41				1,626.68
Bonneville		4,203.60	6,353.34					1,035.08
Bremmer	2,149.72		1,131.45	1,474.67				1,570.67
Buchanan	131.45	1,090.22	1,204.88	3,369.96				1,320.00
Buena Vista	1,428.56	6,123.01	6,123.01	3,369.96				1,570.67
Calhoun	2,175.23	1,799.39	4,322.54	1,427.46				2,088.18
Carroll	2,812.63	1,799.39	4,322.54	5,579.00				3,697.88
Cass	2,235.14		2,235.14	5,579.00				3,658.95
Castro	31.15	1,115.69	73.13	1,966.78				3,658.95
Cherokee	291.60	1,483.07	1,822.95	1,966.78				4,412.72
Chickasaw	510.00	2,505.00	3,015.00	5,722.60				1,857.45
Clark	439.81	2,81.87	2,481.38	5,917.27				2,769.57
Clay		1,171.86	1,171.86	152.06				1,565.10
Clinton	811.29	3,667.61	1,937.61	2,662.01				1,565.10
Crawford	410.00	6,718.50	7,128.50	5,859.81				394.88
Dallas	1,481.95	880.00	1,861.95	2,621.53				5,813.08
Davis	4,700.88	782.09	5,482.97	4,467.25				1,970.35
DeKalb	1,107.50	4,981.43	6,088.93	1,007.07				3,272.72
Delaware	99.50	1,825.13	1,924.63	610.45				2,685.01
Des Moines	3,025.68		3,025.68					331.41
Dickinson		1,171.86	1,171.86	94.99				277.24
Dubuque	811.29	3,667.61	1,937.61	122.12				171.34
Dubuque	811.29	3,667.61	1,937.61	122.12				171.34
Emmet	6,872.35	1,455.65	8,328.00	6,729.20				116.09
Franklin	500.63	2,464.17	2,964.80	10,473.55				3,016.26
Floyd	632.30	3,212.88	3,845.18	764.66				208.00
Franklin	1,128.68	2,839.71	3,968.39	1,815.87				208.00
Grant								8,185.28

Greene	765.70	2,400.00	3,165.70	240.28	3.50			3.50
Grundy	2,077.65	2,600.00	4,677.65	514.86	284.50			782.58
Guilford				166.00	75.00			480.30
Hamilton								1,002.30
Hancock	26.45	3,830.15	3,856.60	36.45	664.60			664.60
Harrison	4.40	6,092.00	6,096.40	30.80	197.70			195.10
Hartwick	1,515.50	1,138.20	2,653.70	509.00				371.49
Hempstead								1,688.45
Humboldt	2,711.75	5,252.13	7,963.88	605.62	130.00			1,320.00
Iowa	1,472.84	7,991.09	9,463.93	1,170.71	3,277.75			3,632.60
Jackson	965.76	8,988.85	9,954.61	187.02	15,894.75			16,084.65
Jasper	3,277.48	5,137.74	8,415.22	3,057.21	55.00			1,701.65
Jefferson	3,094.22	3,694.25	6,788.47	185.93	30.00			3,207.76
Jones	1,868.19	789.36	2,657.55	1,129.37	15.00			300.50
Kossuth								692.50
Knox	460.99	4,405.30	4,866.29	3,739.60	369.50			290.50
Lee								1,101.15
Linn	169.66	3,825.09	4,004.75	2,307.78	425.00			7,734.25
Louis	626.00	1,789.39	2,415.39	33.50	35.70			35.70
Louis	2,382.44	1,599.37	3,981.81	837.10	115.80			155.50
Lyon	668.35	2,741.54	3,409.89	432.80	602.00			602.00
Mackinac	1,503.59	3,297.38	4,800.97	1,071.18	3,762.50			4,299.00
Marion	783.40	4,964.17	5,747.57	1,433.43	90.00			15,282.15
Marshall								146.00
Mills	320.20	6,016.85	6,337.05	1,234.47	327.00			2,164.92
Mississippi	1,454.64	6,016.85	7,471.49	6,083.75	571.00			2,122.07
Monroe								6,709.20
Montgomery	828.00	3,075.70	3,903.70	1,046.60	311.74			12,741.97
Montgomery	828.00	3,075.70	3,903.70	1,046.60	311.74			12,741.97
Moore	566.32	6,404.04	6,970.36	4,114.35	10,229.30			1,291.00
Osborne	7.85	7,290.26	7,298.11	897.40	967.37			662.45
Page	4,544.91	1,831.60	6,376.51	13,276.31	13,252.58			3,759.89
Page	6.45	1,639.10	1,645.55	4,476.20	4,444.80			16,457.27
Polk	1,786.64	10,253.41	12,040.05	7,284.91	135.00			4,544.40
Polk	2,323.90	936.61	3,260.51	10,910.90	4,919.90			16,699.54
Polk	2,323.90	936.61	3,260.51	10,910.90	4,919.90			16,699.54
Pottawattamie	4,068.32	20,555.76	24,624.08	177.50	6,253.92			2,622.95
Pottawattamie	190.87	6,091.33	6,282.20	673.00	1,081.77			2,622.95
Ringgold	667.24	5,408.07	6,075.31	4,232.55	327.00			8,843.53
Scioto	1,265.54	6,608.07	7,873.61	1,781.61	784.47			784.47
Scott	4,940.55	6,778.50	11,719.05	275.00	1,128.20			4,864.16
Shellsburg	1,174.27	2,897.75	4,072.02	5,459.40	165.00			820.00
Shellsburg	1,174.27	2,897.75	4,072.02	5,459.40	165.00			820.00
Shellsburg	301.22	6,317.15	6,618.37	34.75	2,711.22			3,207.97
Shellsburg	301.22	6,317.15	6,618.37	34.75	2,711.22			1,026.55

SUMMARY TABLE NO. 8—Continued

County	Equipment and Material			Filling bridges and culverts	Special Cases				
	Equipment and repairs	Material purchased and not used	Total		Right of way	Moving and re-erecting old spans	Channel change	Miscellaneous	Total
Story				36.00	4,746.00		437.80		5,183.80
Tama	19.96	2,282.00	2,301.96	1,568.40	35.00		907.00	60.50	1,002.50
Taylor	1,034.29	4,078.42	5,112.71	3,338.47		1,251.99			1,251.99
Union	36.61	1,023.18	1,059.79	48.00	1,285.57	127.68			1,413.25
Van Buren	3,688.91	4,817.45	8,506.36	672.00	1,650.00	628.08	236.55	2,000.00	4,514.63
Wapello	1,757.19	786.11	2,543.30	72.77	12.00			631.44	693.44
Warren	650.31	1,617.54	2,267.85	5,932.38		7,363.11		63.00	7,426.11
Washington	1,345.90	1,200.00	2,545.90	657.53	1,652.88	735.32	100.00	187.61	2,675.81
Wayne	2,701.24	1,155.44	3,856.68	3,005.10	256.50	645.95			902.45
Webster	649.41		649.41	2,329.76	4,033.50				4,033.50
Winnebago		2,711.50	2,711.50	37.40					
Winnesick	877.85	1,590.03	2,467.88	911.70	748.38	12.45	882.51	1,841.22	3,184.56
Woodbury	3,517.12	14,063.59	17,580.61	1,918.80	14.00	4,619.17		5,233.90	9,887.07
Worth		696.00	696.00	18.20		141.35		180.87	322.22
Wright	21.00		21.00	255.08		76.40			76.40
Total	\$118,247.73	\$250,354.30	\$368,602.03	\$308,908.38	\$31,921.72	\$96,612.33	\$30,536.00	\$49,087.24	\$267,157.35

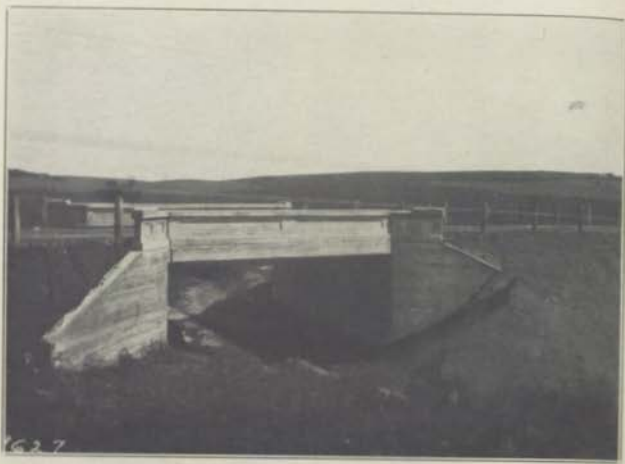
SUMMARY TABLE NO. 9

Comparison of Bridge and Culvert Construction, 1917, 1918, 1919, 1920, 1921, 1922—Annual Report of County Engineers

County	Jan. 1, 1917	Jan. 1, 1918	Jan. 1, 1919	Jan. 1, 1920	Jan. 1, 1921	Jan. 1, 1922	Total County funds
	to Jan. 1, 1918	to Jan. 1, 1919	to Jan. 1, 1920	to Jan. 1, 1921	to Jan. 1, 1922		
Adair	\$ 60,781.88	\$ 59,356.53	\$ 59,351.43	\$108,912.61	\$116,027.12	\$ 71,416.93	\$476,046.50
Adams	42,429.93	37,672.18	49,168.99	100,265.95	82,553.15	45,912.73	358,100.90
Allamakee	89,150.24	43,218.53	41,616.98	52,154.87	77,673.18	64,405.68	368,219.48
Appanoose	71,897.42	50,398.79	32,773.38	84,331.44	97,343.42	42,144.70	378,859.15
Audubon	85,581.09	59,231.63	67,584.30	67,499.10	39,302.97	62,561.03	371,760.12
Benton	106,838.92	106,331.64	110,775.58	178,583.49	146,471.25	65,940.96	712,921.84
Black Hawk	69,557.59	54,074.56	57,567.70	213,086.42	56,441.90	50,505.37	501,233.54
Boone	55,825.49	82,729.43	110,261.77	185,927.99	82,575.78	93,002.03	579,862.49
Bremer	48,545.79	41,018.54	70,242.30	64,135.41	79,490.56	40,921.76	342,334.38
Buchanan	69,430.21	37,468.87	58,820.89	87,307.30	43,002.37	58,359.38	354,409.22



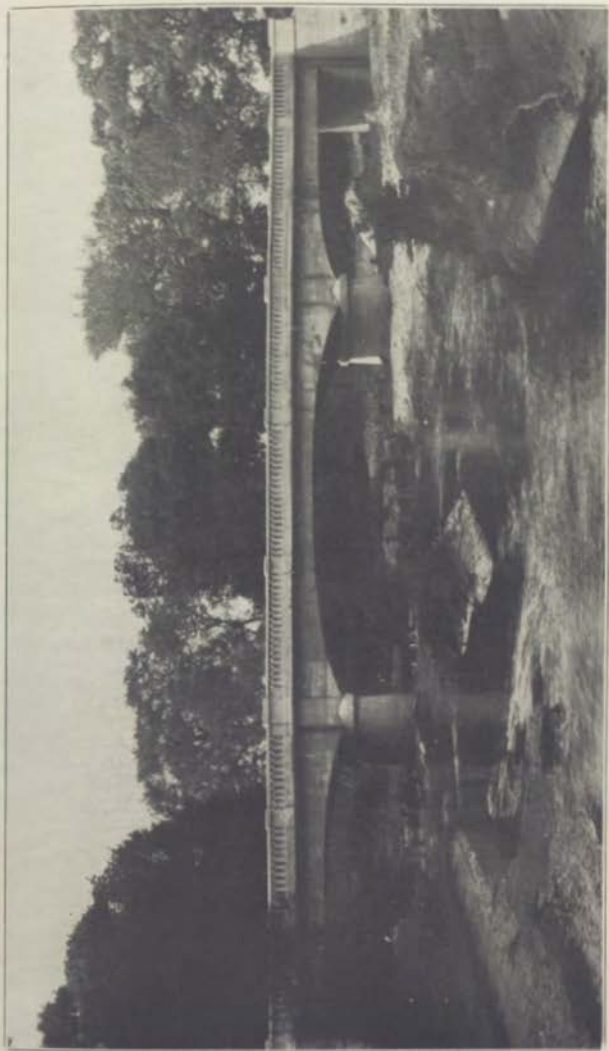
Overhead Highway Crossing over Chicago, Milwaukee & St. Paul railroad track—Primary Road No. 24. Sioux City-Smithland road. Woodbury County.



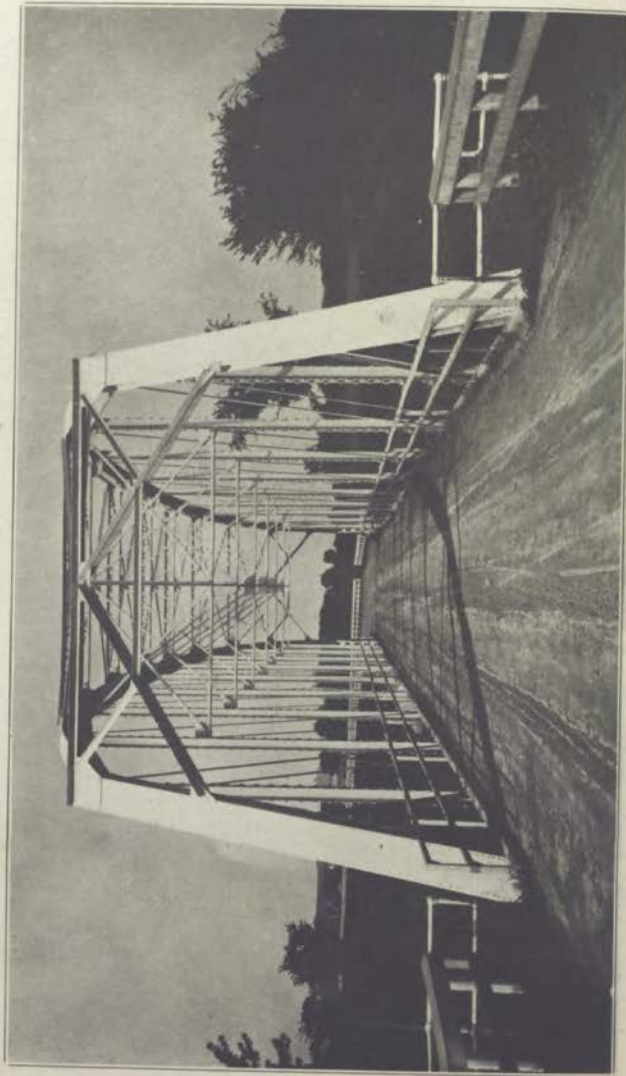
Standard Concrete and Encased I-Beam Bridge.



Standard Low Riveted Steel Truss with Concrete Floor.



Concrete Cantilever Girder Triple Span over Beaver Creek near Folk City, Folk County.



Curved Chord through steel truss over Little River.—Primary Road No. 1. Jefferson Highway, Decatur County.

Burns Vias	317,869.17	25,519.95	24,516.45	22,456.24	15,304.59	341,879.08
Burke	106,242.82	57,906.11	58,972.02	74,839.94	73,722.00	418,070.30
Butler	15,155.15	10,155.15	10,155.15	10,155.15	10,155.15	10,155.15
Carroll	83,106.01	69,203.79	64,696.39	62,580.99	45,071.75	469,338.39
Cass	80,796.02	29,853.58	107,938.51	200,329.56	87,643.02	639,915.95
Cherokee	67,178.47	67,178.47	76,080.62	153,065.05	15,607.43	434,056.95
Cherrin Guards	43,817.49	43,817.49	61,742.62	68,915.89	58,796.61	338,929.41
Chickasaw	36,512.99	36,512.99	34,082.46	52,533.28	46,417.84	146,897.37
Clark	103,412.99	60,842.70	33,229.12	94,660.29	64,273.57	41,380.30
Clayton	76,780.87	63,971.13	60,626.86	91,053.05	81,112.18	319,223.51
Columbia	212,694.79	31,838.65	89,334.24	67,292.29	98,531.49	437,962.53
Conners	67,695.19	76,646.08	51,628.37	136,252.25	75,990.79	459,702.25
Dallas	55,573.12	31,787.68	49,620.91	69,735.25	81,697.45	443,209.14
Decatur	37,011.45	50,141.05	111,194.16	105,813.81	141,639.20	436,719.32
DeKalb	44,829.07	36,808.01	50,626.71	113,622.83	53,574.15	415,880.28
Dickinson	83,807.68	41,965.84	81,251.72	39,852.47	47,618.00	333,911.99
Doolittle	107,007.30	84,119.99	50,433.45	94,467.04	71,988.28	203,444.71
Emmett	23,815.98	10,900.75	20,656.81	30,315.62	25,129.00	468,897.45
Fayette	104,411.45	60,321.75	77,682.56	139,025.42	102,471.52	128,306.32
Floyd	26,071.78	42,671.61	37,551.62	71,132.66	72,454.32	104,532.44
Forsyth	70,323.15	61,839.32	64,029.97	70,921.27	76,931.27	323,568.97
Franklin	42,738.36	40,399.59	49,029.19	132,327.01	101,181.89	111,181.89
Greene	45,128.70	60,793.56	137,233.68	264,599.19	32,723.19	83,261.71
Grundy	128,969.08	83,499.59	100,094.43	220,656.68	40,495.50	648,287.43
Guthrie	78,854.48	70,873.73	71,799.36	134,071.15	100,288.95	571,338.07
Hamilton	57,609.73	50,318.54	78,626.84	94,408.40	53,638.32	442,732.25
Hardee	78,127.99	104,932.01	150,629.70	173,841.71	191,833.01	279,385.07
Harrison	103,411.90	72,698.33	73,017.36	125,729.66	75,227.55	475,574.01
Henry	45,066.71	53,314.63	42,920.64	61,662.06	66,968.46	303,285.41
Hewsp	46,576.59	40,465.87	38,789.01	46,734.74	56,738.71	34,855.55
Humboldt	57,609.73	50,318.54	19,962.78	42,112.62	50,869.72	29,373.84
Ida	77,496.19	101,455.13	117,105.20	137,088.14	192,835.01	266,649.51
Jackson	107,667.67	66,698.55	39,245.01	42,429.08	63,070.36	37,243.78
Jasper	94,678.48	164,044.64	138,791.91	197,107.08	153,096.69	137,990.17
Jefferson	68,803.02	41,628.45	48,729.81	48,729.81	45,493.58	848,768.97
Johnson	47,519.69	50,318.54	66,275.11	57,703.10	65,001.87	315,387.09
Jones	55,265.55	62,607.19	45,552.12	80,275.11	77,703.10	415,348.21
Knox	63,580.68	67,620.42	71,494.03	84,414.04	82,638.93	433,877.71
Koehn	37,575.30	46,342.75	54,423.43	100,244.40	98,738.35	31,348.57
Lee	82,844.37	76,894.48	110,768.07	91,233.85	46,716.33	330,534.00
Linn	29,386.07	30,347.39	44,441.18	124,062.88	108,822.91	84,891.01
Louisa				79,041.40	31,382.66	247,791.29

SUMMARY TABLE NO. 11—Continued

County	Finished grade standard section		Gravel macadam and sand clay surfacing		Paving		Tiling and drainage amendments	Equipment and tools	Total expenditure
	Miles built	Total work-ratio inroad	Miles built	Total work-ratio inroad	Miles built	Total work-ratio inroad			
Greene	3.00	2,700.80	3.00	8,516.02			119.31	365.85	11,705.88
Grundy							2,461.85		2,461.85
Guthrie							4,781.21		4,781.21
Harrison							5,738.58		5,738.58
Hawkins							1,970.25		1,970.25
Hickman							12,282.66	2,072.66	14,355.32
Harrison							813.76		813.76
Henry							82.94		82.94
Hood							1,181.37	15.96	1,197.33
Humboldt							1,181.86	26.02	1,207.88
Jackson									180.00
Jasper	.25	320.00	2.25	2,175.10			31.02		2,800.12
Jessie							153.96		153.96
Johnson	1.10	6,478.40					156.02	600.00	7,234.42
Jones									156.02
Kossuth	10.00	37,297.03	28.25	33,083.90			971.25	62.91	92,269.09
Kossuth	1.25	13,303.03					34,380.46		47,683.49
Lake	.25	1,377.56					715.04		2,092.60
Laramie									2,293.90
Linn	5.50	5,981.43	8.00	2,223.25			1,021.76	88.75	9,317.19
Lyon									197.54
Madison							79.04		79.04
Madison							229.08	201.63	430.71
Marshall	5.75	8,529.61	13.83	19,389.40					28,447.72
Mill	9.00	8,286.47	9.00	22,155.40			839.18		30,981.05
Mitchell									1,029.92
Monroe							307.00	783.02	1,090.02
Montgomery	.22	500.08					1,029.29		1,529.37
Muscatine	6.00	9,680.27					2,067.80		11,748.07
O'Brien	6.70	11,482.24	.20	33.20			4,780.91		16,379.79
Osceola									1,029.92
Palo Alto	2.00	4,719.84	30.85	48,369.88			6,123.81	5,260.93	57,109.83

Plymouth	4.40	14,034.99					3,400.05		14,034.99
Polk	13.60	9,932.45	4.00	3,421.72			5,493.25		17,034.85
Pottawattamie	13.90	32,991.60	22.50	25,398.22					63,883.07
Pottawattamie									783.10
Poweshock	.25	733.10							733.10
Ringgold									20,225.42
Salt Lake	6.12	10,121.14	14.30	16,281.91			1,413.02		26,225.42
Shelby							3,955.50		14,039.64
Story	8.00	4,508.20	1.00	1,273.00					5,781.20
Story							13,453.02	127.15	18,250.31
Tama							671.17		671.17
Taylor									2,232.90
Union	.88	2,222.90					56.96		2,279.86
Van Buren									812.30
Wayne							812.30		812.30
Warren									
Washington									
Wayne	9.00	10,046.52	7.75	13,445.72			14,097.19		37,589.73
Wayne	3.40	12,280.29	1.00	963.00			3,690.55		17,934.24
Winneshago	15.02	31,009.25	3.00	5,573.13			4,980.83		41,563.25
Woodbury							1,383.82		6,958.95
Worth	28.33	70,423.45	27.25	54,591.40			26,492.50		161,607.38
Wright									
Total	244.03	\$495,453.14	353.27	\$475,648.09			\$262,333.94	\$18,260.97	\$1,354,541.14

SUMMARY TABLE NO. 12—Continued.

County	Miles county road system		Paired		Grass		Equipment and tools		Total cost maintenance	Average cost per mile
	Earth	Gravel	Earth	Gravel	Earth	Gravel	Earth	Gravel		
Taylor	142.30	11,382.49	3,621.86	5,432.32			548.32		15,332.87	113
Town	104.00	8,082.39	6,743.80	1,847.83			1,847.83		16,774.12	158
Van Buren	36.75	6,654.77	8,447.21	3,216.01			3,216.01		19,174.19	154
Wapello	145.70	11,843.72	4,632.20	5,134.40			5,134.40		17,009.37	100
Washington	110.00	9,222.11	13,235.74	16,337.97			16,337.97		21,432.30	228
Wayne	116.50	9,479.11	3,895.32	2,255.15			2,255.15		38,065.88	252
Webster	102.25	12,757.36	2,779.94	1,714.96			1,714.96		19,038.58	117
Winneshiek	119.75	7,411.87	2,301.64	266.15			266.15		20,104.33	177
Woodbury	199.25	9,439.23	67.43	4,716.96			4,716.96		12,410.13	154
Woodworth	79.24	10,841.99	205.98	167.30			167.30		29,588.16	198
Wright	124.45	15,837.54	5,101.31	389.05			389.05		2,301.84	32
Total	10,389.77	409,665.70	\$199,319.84	\$490,881.82	\$88,066.46	\$370,391.14	\$60,726.72	\$1,099.70	\$3,099,074.68	\$103

*\$31.97 for paving equipment and maintenance.
*\$20.56 for paving in Woodbury County.

*\$31.75 for paving maintenance.
*\$20.56 for paving maintenance.
*\$20.56 for paving maintenance.

SUMMARY TABLE NO. 13.

Showing Miscellaneous Items County Expenditures—Special Cases—Annual Report of County Engineer.

County	R. R. crossings improved		Gravel pit purchased		Right of way	Channel changes	Miscellaneous	Total special cases
	No.	Cost	No.	Cost				
Adair					\$ 2,193.81			\$ 2,193.81
Adams					8,845.30			8,875.50
Allamakee					7,753.15			7,833.15
Appanoose					12,911.85	\$ 1,027.41		13,958.86
Ashtabula					2,535.19	413.00	9,240.90	12,189.09
Benton							50.70	50.70
Black Hawk	10	\$ 5,734.83			3,906.20		19.73	9,660.78
Bonne					900.00		2,185.57	2,485.57
Bour					3,000.14		720.20	6,306.94
Buchanan	9	890.00			3,979.40		1,969.89	6,839.29
Buena Vista	1	45.00			835.33			880.33
Butler								
Calhoun	6	7,015.00					1,320.98	8,335.98
Cass					2,582.75		341.07	8,144.82
Cedar					890.31	2,377.17	686.29	3,953.68
Cerro Gordo	3	2,400.00			1,700.00		1,902.02	5,702.02
Charke					9,156.12		183.21	9,339.33
Chickasaw	3	1,508.35						1,508.35
Clarke					7,339.33			7,339.33
Clay	7	3,260.00			686.35	127.50	61.71	4,135.02
Clayton					10,369.50		67.50	10,437.00
Clinton					4,246.45		97.00	4,343.45
Crawford					10,285.44		131.35	10,416.79
Dallas	9	3,254.15			19,790.64			23,044.82
Davis					9,443.60			9,443.60
Decatur	1	\$ 527.80			2,284.71			2,812.51
Delaware					215.00			215.00
Des Moines					3,095.29	454.60	17.50	2,477.39
Dickinson	1	1,856.50			1,004.70		738.37	3,599.57
Dubuque					6,289.99		2,901.47	9,191.46
Emmet							33.22	33.22
Fayette	4	942.70			2,396.71	7.00	2,147.25	5,403.66
Floyd					2,770.00	33.40	13,715.29	16,518.69
Franklin	1	1,545.70			1,737.64		3,258.79	6,542.13
Fremont					108.75	1,126.37		1,235.12
Greene	1	180.03			190.00		18.32	298.35
Grundy					837.60		523.98	1,361.58
Guthrie					6,855.08			6,855.08
Hamilton	3	346.80			15,720.81	231.20	3,316.04	19,613.85
Hancock	5	2,350.00			3,299.94			5,649.94
Hardin					2,394.00		6,328.95	10,723.85
Harrison					13,091.51			13,091.51
Henry					667.57		1,167.72	1,835.34
Howard					321.40		329.14	641.54
Humboldt	1	566.70			388.09	421.02	757.16	2,132.97
Iowa					4,836.86	1,173.20		6,010.06
Jackson					180.93		75.60	256.53
Jasper					21,534.73	433.25	69.80	22,037.78
Jefferson					5,619.30			5,619.30
Johnson					5,904.24	494.63		6,398.87
Jones	1	1,000.00			6,135.03		191.62	7,326.65
Keokuk					3,612.00		559.80	4,171.80
Kossuth	22	17,088.75			3,741.00		1,311.04	22,140.79
Lar					7,044.50			7,044.50
Lea	1	600.00			4,133.10	12,119.51	27,151.67	44,084.28
Linn					1,056.55			2,369.84
Lucas	1	1,310.09			9,252.33			9,252.33
Lucas							3,316.50	3,316.50
Lyon	1	200.00						
Madison					12,986.73			12,986.73
Mahaska	2	1,516.35			7,746.03			9,262.38
Marion					1,075.40		131.35	1,206.75
Marshall	2	4,065.00			1,374.30		1,395.03	6,834.23
Mills					2,455.62		7,488.03	9,943.65
Mitchell					295.99		5,682.52	5,978.51
Monroe					18,366.08		41.30	18,407.38
Monroe					2,908.88		560.27	3,469.15
Montgomery					460.00		703.43	1,163.43
Muscataine	1	750.00			7,843.43		5,525.67	14,119.10

SUMMARY TABLE NO. 13—Continued.

County	R. R. crossings improved		Gravel pit purchased		Right of way	Channel changes	Miscellaneous	Total special cases
	No.	Cost	No.	Cost				
O'Brien					60.00	880.73	481.10	1,421.83
Osceola					564.25		2,428.53	3,292.78
Page					5,498.34	2,245.35	3,090.61	10,834.30
Palo Alto			3	5,022.50	777.90		5,800.40	35,023.96
Plymouth					28,457.85		6,566.71	3,446.33
Pocahontas			10	3,056.35	390.00		15,788.79	70,720.50
Polk			1	1,599.55	14,189.24		3,866.55	3,407.30
Pottawattamie					70,083.74		2,054.40	289.99
Poweshiek					1,713.40	98.76		20,021.84
Ringgold					3,407.30			866.38
Sac					120.00			1,811.74
Scott					20,021.84			2,056.68
Shelby					10,456.42	150.40		5,177.65
Sioux			1	2,404.20	4,101.34	602.04		11,522.30
Story					1,860.00			134.80
Tama					4,335.90	301.75	520.00	948.74
Taylor					11,522.30			10,342.50
Union					374.30			23,405.84
Van Buren	1	274.44			9,547.48			19,920.96
Wapello					23,627.54	1,778.30		15,423.43
Warren					19,920.96			3,140.00
Washington					15,423.43			157.60
Wayne					3,140.00			11,931.10
Webster					157.60			39,044.25
Winnebago			8	833.60	11,931.10			1,821.50
Winneshiek					39,044.25	419.18		800.00
Woodbury					1,821.50			
Worth			1	800.00				
Wright								
Total	8	\$3,975.48	117	\$72,148.08	\$629,775.05	\$27,448.74	\$168,372.04	\$901,755.39

SUMMARY TABLE NO. 14.

Progress and Condition Report—County Road System—Annual Report of County Engineers.

County	Construction completed 1922			Condition of county road system January 1, 1923				
	Built to permanent grade	Gravel, macadam or sand clay	Paved	Not built	Permanent grade not surfaced	Gravel, macadam or sand clay	Paved	Total miles in county system
Adair				108.40	1.00			109.40
Adams				105.25				105.25
Adair				96.50	11.00			107.50
Adair				114.50				114.50
Appanoose	.75			95.40	7.50			102.90
Ashtabula				151.25				151.25
Benton				110.00	.50	13.50		124.00
Black Hawk	5.75	7.50		64.25		49.00		113.25
Boone		2.50		4.00		5.00		60.50
Bremers		1.50		3.00		8.00		135.00
Buchanan	1.00			127.00		8.00		105.05
Buena Vista		9.00				97.05		136.50
Butler				127.00		9.50		102.05
Calhoun	8.25	18.55		13.40	32.20	57.05		113.50
Carroll				96.00	17.50			80.50
Cass				83.50			.50	84.00
Cedar				81.00	1.00	1.70		107.50
Cerro Gordo	1.00	16.75		60.25	26.25	24.00	.74	117.00
Charoake				74.00	33.50			77.50
Chickasaw	10.00	8.50		77.50	6.50	33.00		79.85
Clarke				79.55				6.50
Clay		27.00		9.00		94.50		30.30
Clayton				130.30				27.81
Clinton	.87	.87		93.55	27.81	6.64		63.58
Crawford				10.62				7.64
Dallas	3.27	5.00		48.90	7.64	39.25	.25	131.67
Davis				131.57				126.23
Decatur				126.23				2.50
Delaware	3.50	1.00		110.50	2.50	26.00		42.00
Des Moines				42.00	9.75			38.00
Dickinson				38.00		32.00		87.95
Dugueque	3.70	3.70		87.95		3.70		3.00
Emmet				3.00		58.80		114.49
Fayette				114.49	3.86			70.23
Floyd	5.81	8.11		70.23		26.55		89.00
Franklin				89.00	15.75	54.50		120.00
Fremont				120.00				33.50
Greene	2.00	3.00		91.75	10.00	26.75		120.50
Grundy				120.50	22.75	6.00		3.25
Guthrie				120.50	3.25			47.50
Hamilton				47.50	19.50	81.50		89.50
Hancock				89.50	11.50	11.60		58.41
Hardin	11.62	3.86		58.41	27.38	46.06		94.50
Harrison				94.50				98.00
Henry				98.00				65.18
Howard		2.25		65.18	4.75	6.75		4.30
Humboldt	21.50	20.75		4.30	31.70	28.00		80.00
Ia				80.00				103.55
Iowa				103.55	5.25			113.00
Jackson				113.00		2.00		2.25
Jasper	.25	2.25		120.40	13.50	3.75		93.00
Jefferson				93.00				105.21
Johnson	1.10			105.21	3.04			120.60
Jones				120.60		3.00		121.23
Keokuk				121.23	4.37			79.05
Kossuth	10.00	28.25		79.05	75.05	41.75		83.00
Lee				83.00		10.50		93.75
Linn	1.25			93.75	1.25	17.00		56
Louis	.56			61.19	7.81	1.50		96.00
Lucas				96.00				108.59
Lyon				108.59	8.65	8.00		118.00
Madison				118.00	.75			71.25
Mahaska				71.25	4.75			99.48
Marion				99.48	4.09	.00		115.27
Marshall	5.75	13.83		115.27	15.67	25.58		75.50
Mills				75.50				80.20
Mitchell		5.00		80.20		10.25		91.50
Monona				91.50	1.70			119.00
Monroe				119.00	3.00			

SUMMARY TABLE NO. 14—Continued.

County	Construction completed 1922			Condition of county road system January 1, 1923				Total miles in county system
	Built to permanent grade	Gravel, macadam or sand clay	Paved	Not built	Permanent grade not surfaced	Gravel, macadam or sand clay	Paved	
Montgomery				78.65	.85			77.50
Muscatine	22			39.25	26.25	8.04		73.55
O'Brien	6.00			101.10	12.90	9.00		123.00
Oswego	5.70	.20		74.30	28.60	1.20		103.50
Pape				128.71				128.71
Palo Alto	3.00	30.00		3.50	38.54	72.25		114.29
Plymouth	5.00			98.75	17.25			116.00
Pocahontas	1.00	3.25		20.10	8.85	90.20		119.15
Polk	13.90	22.60		62.30	11.80	66.70	.50	141.30
Pottawattamie				158.47				158.49
Poweshiek	25			89.75	1.25			91.00
Ringgold				141.35				141.35
Sac		10.34		4.50	1.62	53.20		58.72
Scott	6.12			54.97	20.36	15.40		90.73
Shelby				117.32	.83			118.15
Sioux	2.88	.50		155.12	12.63	7.50		175.25
Story		2.00		47.75	14.00	7.25		129.00
Tama				131.25	8.75			140.00
Taylor	.88			141.62	.88			142.50
Union				104.00				104.00
Van Buren				98.75				98.75
Wapello				109.35	1.00			110.35
Warren				95.75				95.75
Washington				109.50	.50			110.00
Wayne				113.50	3.00			116.50
Webster	9.00	7.75		80.25	4.50	17.50		102.25
Wintehago		1.00		71.50	23.25	4.00		98.75
Winneshiek	3.40			116.35	5.40			119.75
Woodbury	16.02			68.25	30.44	.85		99.25
Worth		2.00		67.24	12.00			79.24
Wright	38.33	27.25		10.60	69.35	44.50		124.45
Total	213.63	305.81		8,490.92	921.10	1,475.74	2.01	10,889.77

SUMMARY ROAD NO. 15.
Showing Secondary Road District Petitioned for, Established, Mileage Graveled and Average Cost, January 1, 1923
Annual Report of County Engineers.

County	Sec. Road Dist. Pet. for	Total mileage to be improved		Total mileage gravelled		Mileage gravelled contracted		Mileage gravelled completed		Ave. width Ave. 4 Dist. MI.	Ave. cost per mile work completed	Average assessment per acre								
		County	Township	Co.	Twp.	Co.	Twp.	Co.	Twp.			1st	2nd	3rd	4th	5th	6th			
Black Hawk	4	34.00		34.00		34.00		6.00	17.00	6.00	17.00	3.00	84,875.00	81.35	40.56	80.51	40.45	40.26	40.37	
Boone	52	55.80	113.75	32	70.75	63.25	10.00	40.50	17.00	1.00	2,268.00	2.06	1,411.00	2.06	1,411.00	40.53	28.18	40.16	40.10	
Buchanan	3	.50	10.00	3	10.00	60.00		21.50	5.00	5.00	5.00	5.00	1,632.34	5.55	43.43	34.27	33.10	33.10	33.10	
Bureau Vista	45		112.00	20	60.00	47.00	2.00	47.00	2.00	2.00	2,990.00	.87	60.00	.87	60.00	43.34	21.17	40.18	40.18	
Calhoun	40	25.00	80.75	9	47.00								1,638.00	40.49	43.34	34.27	33.10	33.10	33.10	
Cherokee	6	35.00	2.00	1	25.50	97.00	138.00	23.50	45.00	1.00	2,000.00	.68	53.20	.68	53.20	32.30	32.30	32.30	32.30	
Cherry Grubs	91	97.00	268.00	59	97.00	20.80	68.90	17.50	68.90	1.00	1,736.00	.79	86.62	.79	86.62	32.32	32.32	32.32	32.32	
Clarke	64	38.50	192.00	26	20.80	14.25	1.00	9.75	1.00	3.00	3,980.00	.66	50.80	.66	50.80	40.50	40.50	40.50	40.50	
Dallas	13	14.25	1.00	1	14.25	1.00	9.75	1.00	9.75	1.00	2,000.00	.70	28.20	.70	28.20	32.30	32.30	32.30	32.30	
Delaware	14	60.00	83.25	7	25.50	14.30	8.25	8.25	8.25				1,200.00	1.00	1,200.00	1.00	1,200.00	1.00	1,200.00	
Des Moines	14	60.00	83.25	7	25.50	14.30	8.25	8.25	8.25				1,200.00	1.00	1,200.00	1.00	1,200.00	1.00	1,200.00	
Dickinson	25	1.25	315.50	1	315.50								1,400.00	.75	43.20	.75	43.20	47.29	47.29	47.29
Dubuque	14	62.50	14.50	9	47.80	47.80	2.00	50.25	2.00	3.00	3,533.53	1.00	55.70	1.00	55.70	50.30	50.30	50.30	50.30	
Franklin	22	84.75	45.25	8	47.80	47.80	2.00	50.25	2.00	3.00	3,533.53	1.00	55.70	1.00	55.70	50.30	50.30	50.30	50.30	
Franklin	11	6.00	35.00	10	4.00	35.00		4.00	6.00	4.00	6.00	6.00	1,500.00	.75	65.00	.75	65.00	70.50	70.50	70.50
Grant	1												1,500.00	.75	65.00	.75	65.00	70.50	70.50	70.50
Grundy	1												1,500.00	.75	65.00	.75	65.00	70.50	70.50	70.50
Hancock	5	18.20		1	18.20			3.00	3.00	3.00	3,533.53	1.00	55.70	1.00	55.70	50.30	50.30	50.30	50.30	
Harold	6		11.75	3	10.40								885.00	1.00	885.00	1.00	885.00	75.45	75.45	75.45
Hemlock	5		20.60	3	10.40								1,000.00	1.00	1,000.00	1.00	1,000.00	70.70	70.70	70.70
Humboldt	26	40.00	90.00	9	34.25	9.25		28.25	9.25	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Kossuth	4	16.25	3.25	4	16.25	3.25		11.00	3.25	3.00	3,000.00	1.00	3,000.00	1.00	3,000.00	1.36	1.36	1.36	1.36	
Madison	3	35.25	11.00	2	18.50	10.75		9.00	9.00	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Marion	9	37.00	33.00	3	14.50	10.75		9.00	9.00	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Maquoketa	9	28.00	33.00	3	14.50	10.75		9.00	9.00	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
O'Brien	9	27.00	33.00	3	14.50	10.75		9.00	9.00	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Oswego	4	28.00	23.50	3	14.50	10.75		9.00	9.00	9.00	9.00	9.00	1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Palo Alto	27	93.25	23.50	17	72.25	3.00		72.25	3.00	7.25	7.25	7.25	2,000.00	1.00	2,000.00	1.00	2,000.00	1.36	1.36	1.36
Pella	31	51.25	58.75	12	40.50	53.75		40.50	5.00	5.00	5.00	5.00	2,000.00	1.00	2,000.00	1.00	2,000.00	1.36	1.36	1.36
Pottawattamie	1		6.00										1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Lincoln	1		6.00										1,500.00	1.00	1,500.00	1.00	1,500.00	1.36	1.36	1.36
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00	14.10		53.00	14.10	14.10	14.10	14.10	1,448.00	.75	45.00	.75	45.00	30.15	30.15	30.15
Linn	38	53.00	95.90	16	53.00</															

SUMMARY TABLE NO. 16

Showing Number and Value of Gravel Pits Owned by Counties
January 1, 1923—Annual Report of County Engineers

County	Number	Value
Adair		
Adams	1	\$ 2,000.00
Allamakee		
Appanoose		
Audubon	1	150.00
Benton	24	5,700.00
Black Hawk		
Bonne	12	5,800.00
Bremser	24	4,772.40
Buchanan	16	1,100.00
Buena Vista	12	2,800.00
Butler	29	22,500.00
Calhoun		
Carroll		
Cass		
Cedar	12	3,500.00
Cerro Gordo		
Cherokee		
Chickasaw	25	12,000.00
Clarke		
Clay	39	22,624.50
Clayton		
Clinton	2	1,400.00
Crawford		
Dallas	42	5,000.00
Davis		
Decatur		
Delaware	11	2,500.00
Des Moines		
Dickinson		
Dubuque		
Emmet	6	10,200.00
Fayette	4	942.75
Floyd	8	2,825.00
Franklin	21	15,000.00
Fremont		
Greene	4	600.00
Grundy	1	2,000.00
Guthrie		
Hamilton	1	600.00
Hancock	9	2,800.00
Hardin	7	1,000.00
Harrison		
Henry		
Howard	9	4,079.20
Humboldt	4	3,200.00
Ia		
Iowa		
Jackson	1	50.00
Jasper		
Jefferson		
Johnson		
Jones	2	850.00
Keokuk		
Kossuth	40	15,917.75
Lee		
Linn	7	3,500.00
Louis		
Lucas		
Lyon	4	1,500.00
Machona		
Mahaska	1	1,000.00
Marion		
Marshall	4	600.00
Mills		
Mitchell	6	5,077.90
Monona		
Monroe		
Montgomery		
Muscatine	2	2,000.00
O'Brien	3	825.00
Osceola	6	9,280.00

SUMMARY TABLE NO. 16—Continued

County	Number	Value
Pago		
Palo Alto	4	2,000.00
Plymouth		
Pocahontas	24	9,100.00
Polk	3	1,500.00
Pottawattamie		
Poweshook		
Ringgold		
Sa	2	500.00
Scott	1	3,000.00
Shelby		
Soss	1	2,400.00
Story	5	1,000.00
Tama		
Taylor		
Union		
Van Buren		
Wapello		
Warren		
Washington		
Wayne		
Webster	8	833.00
Winneshiek	1	500.00
Woodbury	1	500.00
Worth	7	7,000.00
Wright	1	250.00
Total	460	\$207,431.65

SUMMARY TABLE NO.17

Showing Total and Relative Cost of Maintenance of Earth, Gravel and Paved Roads by Counties—County Road System
—Annual Report of County Engineers

County	Earth			Gravel			Paved			Total cost maintenance earth, gravel and paved roads
	Number of miles	Cost of maintenance	Average cost per mile	Number of miles	Cost of maintenance	Average cost per mile	Number of miles	Cost of maintenance	Average cost per mile	
Adair	109.40	\$22,795.54	\$209							\$22,795.54
Adams	103.25	15,829.44	150							15,829.44
Alkamese	107.50	34,369.58	320							34,369.58
Appanoose	115.25	22,202.28	193							22,202.28
Audubon	96.90	16,685.96	172							16,685.96
Benton	151.25	44,961.74	295							44,961.74
Black Hawk	110.50	32,120.54	290	13.50	\$ 1,737.71	\$129				33,857.95
Bonne	64.25	13,937.35	217	49.00	10,454.98	397				33,392.33
Bruner	55.50	12,270.46	221	5.00	1,475.89	295				13,746.35
Buchanan	135.00	36,269.87	169							36,269.87
Buena Vista	8.00	1,470.12	184	97.05	27,543.66	284				29,013.78
Butler	127.00	29,726.10	234	9.50	967.00	102				30,693.10
Calhoun	45.60	2,810.86	222	87.05	10,966.71	192				13,777.57
Carroll	113.50	29,558.22	262							29,558.22
Cass	83.50	22,430.89	268				50			22,430.89
Cedar	82.90	16,661.37	201	1.70	6,024.99	251		\$66.25	\$ 90	16,661.37
Cerro Gordo	86.80	21,949.88	253	24.00	6,024.99	251	74			28,041.12
Cherokee	107.50	14,902.33	139							14,902.33
Chickasaw	84.60	8,372.54	182	33.00	3,146.88	95				11,519.73
Clarke	79.85	17,662.15	226							17,662.15
Clay	15.50	5,744.73	370	94.50	10,288.75	109				16,033.48
Clayton	130.30	33,266.52	255							33,266.52
Clinton	121.36	28,233.83	233	6.64						28,233.83
Crawford	75.90	16,354.02	219							16,354.02
Dallas	56.94	15,322.47	280	39.28	15,629.99	388		25		31,452.36
Davis	131.67	16,029.65	122							16,029.65
Decatur	126.23	31,202.26	247							31,202.26
Delaware	113.00	14,785.26	131	26.00	10,684.04	411				25,469.30
Des Moines	47.75	19,742.31	413							19,742.31
Dickinson	38.60	4,845.85	125	82.00	6,394.38	328				11,241.03
Dubuque	83.95	17,150.47	204	7.70	8,821.50	146				25,071.97
Emmet	4.75	397.26	84	58.90	8,014.73	137				8,412.01
Fayette	118.35	40,033.97	338							40,033.97
Floyd	70.23	24,130.72	344	26.55	3,722.17	140				27,872.89
Franklin	104.75	11,601.90	111	54.30	9,959.21	183				21,560.71
Fremont	120.00	21,891.39	182							21,891.39
Greene	43.50	7,434.63	171	26.75	3,906.55	146				11,342.18
Grundy	112.50	18,329.47	163	6.00	241.33	40				12,067.80
Guthrie	123.45	24,817.63	201	3.00	247.20	82				25,064.83
Hamilton	67.00	3,928.97	99	81.50	15,296.86	187				19,185.83
Hancock	101.00	12,927.28	128	11.60	323.83	28				12,251.11
Hardin	85.79	13,088.67	132	46.66	7,056.36	191				20,145.03
Harrison	94.50	10,680.88	113							10,680.88
Henry	96.00	17,067.71	175							17,067.71
Howard	69.93	11,382.00	163	6.75	920.55	136				12,302.55
Humboldt	36.00	5,490.90	151	58.60	2,179.76	372				7,630.66
Ida	80.00	19,816.02	248							19,816.02
Iowa	108.60	26,323.88	242							26,323.88
Jackson	111.00	20,035.29	177	2.00	1,784.94	892				31,820.23
Jasper	133.90	31,414.99	234	3.78	317.37	84				31,732.36
Jefferson	93.00	27,095.90	291							27,095.90
Johnson	108.25	32,456.08	300	.70						32,456.08
Jones	139.60	20,484.11	147	3.00	1,023.08	341				21,507.16
Keokuk	125.00	17,045.94	136							17,045.94
Kossuth	154.10	10,385.73	67	41.75	2,574.17	616				12,959.90
Lee	83.00	27,035.59	325	10.50	14,829.76	141				41,865.35
Linn	95.00	32,480.06	342	17.00	5,346.40	197				37,826.46
Lousa	69.00	8,375.36	121	1.50						8,375.36
Lucas	96.00	15,736.91	164							15,736.91
Lyon	117.34	10,820.92	92	8.00	503.09	63				11,329.01
Madison	118.75	22,073.31	186							22,073.31
Mahaska	76.00	18,141.23	239							18,141.23
Marion	103.57	23,144.22	223	.06						23,144.22
Marshall	130.94	17,572.15	134	25.58	2,530.25	104				20,222.40
Mills	75.50	17,265.18	225							17,265.18
Mitchell	80.20	20,100.10	251	10.25	6,789.18	662				26,889.28
Monona	93.50	5,528.39	59							5,528.39
Muskegon	122.00	12,612.26	103							12,612.26
Montgomery	77.50	19,234.53	248							19,234.53
Muscatine	65.51	24,307.20	370	8.04	2,372.89	320				26,780.09
O'Brien	114.00	11,954.17	99	9.00	799.66	74				12,753.83
Osceola	102.30	6,668.30	65	1.20	25.89	215				6,694.75
Page	128.71	22,279.11	173							22,279.11
Palo Alto	42.04	3,256.91	77	72.25	8,563.60	118				11,820.51
Plymouth	116.00	22,075.27	190							22,075.27
Pocahontas	28.95	3,185.03	108	90.20	16,480.20	183				19,624.53
Polk	74.10	25,097.81	339	96.70	16,190.62	243				41,570.20
Pottawattamie	108.47	28,801.83	182				.50	281.97	594	28,801.83
Poweshiek	91.00	29,833.99	328							29,833.99
Ringgold	141.35	12,596.32	89							12,596.32
Sac	5.52	1,913.38	347	33.20	11,544.36	217				13,458.14
Scott	75.33	11,295.68	150	13.40	11,291.43	738				22,587.11

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SUMMARY TABLE NO. 17—Continued

County	Earth		Average cost per mile	Gravel		Average cost per mile	Paved		Total cost maintenance and paved roads
	Number of miles	Cost of maintenance		Number of miles	Cost of maintenance		Number of miles	Cost of maintenance	
Shelby	118.15	17,594.16	149	7.50	372.81	50		17,966.97	
Sioux	167.25	13,411.60	80	77.25	15,352.21	150		13,784.40	
Story	61.75	7,023.15	115					21,373.56	
Tama	140.00	25,826.71	184					35,826.71	
Taylor	142.50	15,655.87	109					15,652.87	
Union	104.00	16,474.32	175					16,474.32	
Van Buren	110.35	10,639.37	99					10,939.37	
Warren	65.75	21,042.39	229					21,042.39	
Washington	110.00	38,696.88	352					38,696.88	
Wayne	116.50	12,626.88	117					13,626.88	
Webster	94.25	9,623.97	101					12,944.33	
Wentworth	119.73	18,410.15	154					18,410.15	
Winnebago	98.67	29,284.15	297					29,588.16	
Woodbury	67.24	1,630.11	289					2,801.84	
Worth	79.95	15,070.26	233					26,035.07	
Total	9,468.02	\$1,788,831.71	190	\$1,479.74	\$309,688.19		2.01	\$2,099,074.68	

SUMMARY TABLE NO. 18

Amount of Bridge and Road Work Planned by and Constructed Under Supervision of County Engineers During 1922—Annual Report of County Engineers

County	Bridges		Roads		Number miles county and township roads			
	Planned	Construction	Planned	Construction	Surveyed	Platted	Grade line approved Dis. Engr.	Profiles approved commission
Adair	\$55,170.13	\$71,416.93	\$10,547.75	\$25,537.10	2.80	2.30		
Adams	21,080.24	30,735.35	2,000.00	15,829.44	4.00	4.00		
Allamakee	16,500.00	37,000.00						
Appanoose	1,675.00	42,144.70	7,709.45	48,900.00				
Audubon	20,240.00	51,339.30						
Benton	58,513.42	64,848.11						
Black Hawk	41,365.77	45,254.08	33,000.00	63,000.00	13.00	9.00	6.00	6.00
Boone	31,426.00	85,971.67	18,000.00	45,309.69	23.75	17.75	6.25	6.25
Bremser	29,344.35	27,407.30	4,727.18	32,213.15	1.00	1.00		
Buchanan	30,000.00	50,000.00	3,888.04	15,000.00	5.00			
Buena Vista	12,719.95	60,000.00		20,000.00	2.00			
Calhoun	7,259.95	20,325.88	7,580.00	57,712.93	6.00	5.00	2.00	
Carroll	18,943.00	45,071.76	2,600.00	38,969.60	3.00	3.00	3.00	
Cedar	1,325.00	18,304.59		29,300.00				
Cerro Gordo	34,050.90	50,192.63		61,089.59	8.00			
Cherokee	29,605.00	40,000.00	10,200.00	20,000.00	8.00	8.50		
Chickasaw	10,966.71	40,417.24	28,000.00	16,581.52	12.00	8.00	8.00	8.00
Clarke	10,325.00	25,000.00		12,815.96				
Clay	35,015.00	26,672.52		54,172.77				
Clayton	30,565.54	65,016.44	6,679.50	15,000.00	.60	.60	.60	.60
Clinton	39,714.38	60,000.00	44,690.00	19,884.00	7.00	7.00	4.24	
Clarford	2,795.01	37,892.00	30,000.00	47,400.00	6.00	6.00		
Dallas	30,320.00	79,840.00	81,436.00	87,500.00	47.50	73.80	42.00	6.00
Davies	10,534.62	47,887.45		20,496.90				
Decatur	2,130.21	38,130.49		31,730.00				
Delaware	26,150.00	24,623.20		36,959.04				
Des Moines	5,284.00	17,030.68		25,657.28				
Dickinson	6,480.00	33,853.23		16,833.23				
Dubuque	37,573.00	60,871.27	13,000.00	57,405.54	1.20	.50		
Emmet	3,837.00	6,786.21	25,000.00	2,488.33	10.25	10.25	7.25	7.25
Fayette	29,450.00	58,000.00		46,787.49	2.60	2.60		
Floyd	23,071.30	131,533.91	16,000.00	70,091.34	19.90	7.00	5.25	5.25
Franklin	7,972.00	8,855.90					3.00	5.25
Fremont	7,075.48	38,144.96		23,156.51				
Greene	15,842.00	32,733.19	7,700.00	56,329.83	4.00	4.00	6.00	4.00
Grundy	22,443.00	41,218.19		12,943.88	45.00			
Hamilton	14,788.57	45,876.57		25,392.73				
Hancock	24,985.00	36,000.00		50,000.00				
Hannock	4,026.00	42,755.04	3,000.00	42,000.00	2.00	2.00		
Hardin	36,575.07	78,274.25	15,000.00	85,838.69	15.61	4.34	2.10	
Harrison	2,860.00	38,944.00		22,202.77				
Henry	15,795.00	18,983.20		18,983.20				
Howard	17,195.00	34,885.85	4,322.16	17,282.21				
Humboldt	3,510.00	29,373.84	20,900.00	51,516.56	15.50	15.50	9.75	9.75
Ia	13,437.00	62,623.56		27,000.00				
Iowa	21,302.00	76,016.50		26,328.88				
Jackson		20,000.00		9,000.00				
Jasper	73,971.64	137,960.17		56,620.26	3.00			
Jefferson	11,237.57	25,334.19		46,993.24				
Johnson	14,040.30	68,001.80	7,800.00	46,097.07	1.10	1.10	1.10	
Jones	20,343.84	37,630.17		21,665.18				
Keokuk		49,514.53		17,045.84				
Keosauqua	15,187.76	30,000.00	20,500.00	127,000.00	19.50	16.80	6.80	6.50
Lee	24,954.00	65,002.87		48,909.85				
Linn	18,645.60	84,891.01		78,519.93				
Louis	11,130.00	22,691.00	3,000.00	33,000.00	1.25	.80		
Luttrell	3,100.00	15,851.52		15,736.91				
Lyon	5,622.50	35,795.94	12,623.00	16,381.93	13.50	8.00	8.00	8.00
Madison	25,475.00	34,200.00		27,900.00	2.00			
Mahaska	27,789.27	62,599.20		27,601.15				
Marion		1,817.60		25,030.53				
Marshall	31,818.25	38,662.47	28,245.09	59,961.80	5.75	5.75	5.75	5.75
Mills	30,043.38	65,064.04		27,148.80				
Mitchell	41,462.00	55,577.71	2,500.00	26,822.44	1.00	1.00	1.00	
Monona	20,097.74	48,800.00	1,800.00	7,000.00	6.00	1.00	1.00	1.00

SUMMARY TABLE NO. 20
Financial Statement—Annual Report of County Engineers

County	County bridge fund				County motor vehicle fund				
	Balance or overdraft Jan. 1, 1922	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923
Adair	\$ 4,205.11	\$ 95,053.53	\$ 99,258.64	\$ 80,998.02	\$ 18,259.72	\$ 119.37	\$ 119.37		\$ 119.37
Adams	\$ 3,151.50	\$ 26,609.71	\$ 29,761.21	\$ 20,957.00	\$ 165.45				
Albany	\$ 20,232.94	\$ 61,997.05	\$ 82,230.00	\$ 62,038.69	\$ 20,294.58				
Albion	\$ 9,952.77	\$ 42,296.06	\$ 52,248.83	\$ 45,349.29	\$ 11,094.00				
Appanoose	\$ 780.57	\$ 40,817.56	\$ 41,598.13	\$ 37,133.37	\$ 4,464.76				
Ashtabula	\$ 15,322.15	\$ 40,409.91	\$ 55,732.06	\$ 40,390.56	\$ 5,341.50				
Black Hawk	\$ 27,832.29	\$ 85,154.51	\$ 112,986.80	\$ 91,656.58	\$ 21,329.22				
Bloomer	\$ 1,297.53	\$ 65,245.47	\$ 66,543.00	\$ 56,549.09	\$ 16,994.24				
Buchanan	\$ 1,252.18	\$ 25,246.72	\$ 26,498.90	\$ 22,072.67	\$ 4,426.23				
Burlington	\$ 25,085.68	\$ 79,288.12	\$ 104,373.80	\$ 94,171.34	\$ 10,199.56				
Butler	\$ 6,634.56	\$ 78,027.11	\$ 84,661.67	\$ 67,348.09	\$ 31,015.41				
Calhoun	\$ 6,535.30	\$ 73,878.92	\$ 80,414.22	\$ 65,323.62	\$ 10,097.60				
Cass	\$ 6,029.05	\$ 44,131.94	\$ 50,160.99	\$ 34,037.67	\$ 16,127.32				
Cedar	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Cherokee	\$ 13,153.54	\$ 66,244.54	\$ 79,398.08	\$ 63,866.26	\$ 16,533.82				
Chickasaw	\$ 669.32	\$ 73,951.99	\$ 74,621.21	\$ 67,741.59	\$ 6,882.61				
Chicksee	\$ 4,786.18	\$ 33,299.32	\$ 38,085.50	\$ 28,339.46	\$ 9,746.04				
Clark	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Clatsop	\$ 20,919.57	\$ 49,010.82	\$ 69,930.39	\$ 49,816.78	\$ 20,113.61				
Clinton	\$ 8,041.68	\$ 95,708.10	\$ 103,749.78	\$ 92,023.87	\$ 11,725.91				
Crawford	\$ 28,944.13	\$ 107,980.47	\$ 136,924.60	\$ 83,903.23	\$ 53,023.23				
Dallas	\$ 2,854.51	\$ 104,359.20	\$ 107,213.71	\$ 95,710.19	\$ 8,503.62				
Davenport	\$ 2,725.74	\$ 54,861.53	\$ 57,587.27	\$ 45,009.55	\$ 12,577.72				
DeWitt	\$ 1,052.19	\$ 46,027.46	\$ 47,079.65	\$ 40,523.88	\$ 6,555.77				
DeWain	\$ 10,055.11	\$ 32,470.54	\$ 42,525.65	\$ 34,405.66	\$ 8,119.99				
Des Moines	\$ 39,711.94	\$ 20,204.09	\$ 59,916.03	\$ 36,514.82	\$ 23,401.21				
Dickinson	\$ 6,029.05	\$ 59,239.05	\$ 65,268.10	\$ 49,125.82	\$ 16,142.28				
Dodge	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Doyne	\$ 1,240.60	\$ 61,375.11	\$ 62,615.71	\$ 46,044.98	\$ 16,570.73				
Floyd	\$ 828.84	\$ 72,471.70	\$ 73,300.54	\$ 70,604.97	\$ 2,695.57				
Franklin	\$ 6,290.39	\$ 55,073.11	\$ 61,363.50	\$ 38,338.58	\$ 23,024.92				
Fremont	\$ 15,057.76	\$ 55,137.31	\$ 70,195.07	\$ 37,065.14	\$ 33,629.93				
Greene	\$ 21,977.31	\$ 43,807.10	\$ 65,784.41	\$ 55,784.31	\$ 10,000.10				
Grundy	\$ 56,166.63	\$ 20,974.42	\$ 77,141.05	\$ 46,381.52	\$ 30,766.53				
Hamilton	\$ 7,349.52	\$ 20,965.24	\$ 28,314.76	\$ 24,397.83	\$ 3,916.93				
Harrison	\$ 10,727.57	\$ 41,659.11	\$ 52,386.68	\$ 43,293.11	\$ 9,093.57				
Hawock	\$ 2,556.20	\$ 112,147.42	\$ 114,703.62	\$ 40,649.04	\$ 1,006.36				
Harrison	\$ 25,716.94	\$ 70,000.10	\$ 95,717.04	\$ 64,981.30	\$ 30,735.74				
Henry	\$ 1,027.18	\$ 41,844.12	\$ 42,871.30	\$ 35,755.60	\$ 7,115.70				
Hood	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Humboldt	\$ 7,512.61	\$ 52,474.52	\$ 60,000.00	\$ 47,539.52	\$ 12,460.48				
Ia.	\$ 13,385.61	\$ 44,150.21	\$ 57,535.82	\$ 47,309.58	\$ 10,226.24				
Iowa	\$ 8,885.18	\$ 76,848.64	\$ 85,733.82	\$ 64,581.70	\$ 21,152.12				
Jackson	\$ 33,105.15	\$ 72,034.29	\$ 105,139.44	\$ 45,378.09	\$ 59,761.35				
Jackson	\$ 6,178.83	\$ 17,781.78	\$ 24,960.61	\$ 17,154.27	\$ 7,806.34				
Jefferson	\$ 16,568.27	\$ 62,048.26	\$ 78,616.53	\$ 78,018.30	\$ 6,598.23				
Jones	\$ 15,613.63	\$ 67,090.53	\$ 82,704.16	\$ 47,868.68	\$ 34,835.48				
Keokuk	\$ 12,565.19	\$ 67,478.80	\$ 80,043.99	\$ 62,626.76	\$ 17,410.23				
Keosauqua	\$ 6,192.10	\$ 84,126.00	\$ 90,318.10	\$ 53,385.99	\$ 36,932.11				
Kimberly	\$ 6,533.42	\$ 69,678.52	\$ 76,211.94	\$ 61,452.83	\$ 14,759.11				
Linn	\$ 16,565.07	\$ 33,645.97	\$ 50,211.04	\$ 30,340.03	\$ 19,871.01				
Linn	\$ 8,829.26	\$ 39,112.02	\$ 47,941.28	\$ 35,505.79	\$ 12,435.49				
Lyon	\$ 11,821.26	\$ 52,104.05	\$ 63,925.31	\$ 45,212.30	\$ 18,713.01				
Mahaska	\$ 11,223.00	\$ 67,118.82	\$ 78,341.82	\$ 52,983.23	\$ 25,358.59				
Marion	\$ 6,552.72	\$ 76,110.26	\$ 82,662.98	\$ 70,084.04	\$ 12,578.94				
Marshall	\$ 6,281.31	\$ 48,129.69	\$ 54,411.00	\$ 32,932.53	\$ 21,478.47				
Mills	\$ 6,137.29	\$ 58,075.14	\$ 64,212.43	\$ 45,340.85	\$ 18,871.58				
Mitchell	\$ 3,535.40	\$ 39,049.45	\$ 42,584.85	\$ 32,949.50	\$ 9,635.35				
Monroe	\$ 20,972.30	\$ 65,294.58	\$ 86,266.88	\$ 68,219.10	\$ 18,047.78				
Montgomery	\$ 20,969.99	\$ 57,236.27	\$ 78,206.26	\$ 67,996.85	\$ 10,209.41				
Muscatine	\$ 11,309.70	\$ 40,250.41	\$ 51,560.11	\$ 38,746.12	\$ 12,813.99				
Page	\$ 25,926.80	\$ 45,229.14	\$ 71,155.94	\$ 51,109.18	\$ 20,046.76				
Palo Alto	\$ 1,929.20	\$ 90,506.30	\$ 92,435.50	\$ 73,241.35	\$ 19,194.15				
Pocahontas	\$ 6,560.56	\$ 50,176.83	\$ 56,737.39	\$ 46,348.78	\$ 10,388.61				
Polk	\$ 1,825.24	\$ 50,545.55	\$ 52,370.79	\$ 33,544.35	\$ 18,826.44				
Polk	\$ 6,424.14	\$ 52,156.99	\$ 58,581.13	\$ 49,976.49	\$ 8,604.64				
Polk	\$ 13,000.15	\$ 83,878.81	\$ 96,878.96	\$ 76,728.07	\$ 20,150.89				
Forestburg	\$ 6,764.41	\$ 46,487.60	\$ 53,252.01	\$ 47,708.74	\$ 5,543.27				
Ringgold	\$ 7,425.75	\$ 81,232.26	\$ 88,658.01	\$ 71,070.36	\$ 17,587.65				
Sac	\$ 1,077.22	\$ 73,380.41	\$ 74,457.63	\$ 73,715.17	\$ 72,242.46				
Scott	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Shelby	\$ 1,250.75	\$ 66,144.24	\$ 67,395.00	\$ 43,889.87	\$ 23,505.13				
Shelby	\$ 21,384.23	\$ 49,065.37	\$ 70,449.60	\$ 55,412.76	\$ 15,036.84				
Sioux	\$ 21,977.31	\$ 43,807.10	\$ 65,784.41	\$ 55,784.31	\$ 6,000.10				
Sioux	\$ 56,166.63	\$ 20,974.42	\$ 77,141.05	\$ 46,381.52	\$ 30,766.53				
Sioux	\$ 7,349.52	\$ 20,965.24	\$ 28,314.76	\$ 24,397.83	\$ 3,916.93				
Sioux	\$ 10,727.57	\$ 41,659.11	\$ 52,386.68	\$ 43,293.11	\$ 9,093.57				
Sioux	\$ 2,556.20	\$ 112,147.42	\$ 114,703.62	\$ 40,649.04	\$ 1,006.36				
Sioux	\$ 25,716.94	\$ 70,000.10	\$ 95,717.04	\$ 64,981.30	\$ 30,735.74				
Sioux	\$ 1,027.18	\$ 41,844.12	\$ 42,871.30	\$ 35,755.60	\$ 7,115.70				
Sioux	\$ 7,512.61	\$ 52,474.52	\$ 60,000.00	\$ 47,539.52	\$ 12,460.48				
Sioux	\$ 13,385.61	\$ 44,150.21	\$ 57,535.82	\$ 47,309.58	\$ 10,226.24				
Sioux	\$ 8,885.18	\$ 76,848.64	\$ 85,733.82	\$ 64,581.70	\$ 21,152.12				
Sioux	\$ 33,105.15	\$ 72,034.29	\$ 105,139.44	\$ 45,378.09	\$ 59,761.35				
Sioux	\$ 6,178.83	\$ 17,781.78	\$ 24,960.61	\$ 17,154.27	\$ 7,806.34				
Sioux	\$ 16,568.27	\$ 62,048.26	\$ 78,616.53	\$ 78,018.30	\$ 6,598.23				
Sioux	\$ 15,613.63	\$ 67,090.53	\$ 82,704.16	\$ 47,868.68	\$ 34,835.48				
Sioux	\$ 12,565.19	\$ 67,478.80	\$ 80,043.99	\$ 62,626.76	\$ 17,410.23				
Sioux	\$ 6,192.10	\$ 84,126.00	\$ 90,318.10	\$ 53,385.99	\$ 36,932.11				
Sioux	\$ 6,533.42	\$ 69,678.52	\$ 76,211.94	\$ 61,452.83	\$ 14,759.11				
Sioux	\$ 16,565.07	\$ 33,645.97	\$ 50,211.04	\$ 30,340.03	\$ 19,871.01				
Sioux	\$ 8,829.26	\$ 39,112.02	\$ 47,941.28	\$ 35,505.79	\$ 12,435.49				
Sioux	\$ 11,821.26	\$ 52,104.05	\$ 63,925.31	\$ 45,212.30	\$ 18,713.01				
Sioux	\$ 11,223.00	\$ 67,118.82	\$ 78,341.82	\$ 52,983.23	\$ 25,358.59				
Sioux	\$ 6,552.72	\$ 76,110.26	\$ 82,662.98	\$ 70,084.04	\$ 12,578.94				
Sioux	\$ 6,281.31	\$ 48,129.69	\$ 54,411.00	\$ 32,932.53	\$ 21,478.47				
Sioux	\$ 6,137.29	\$ 58,075.14	\$ 64,212.43	\$ 45,340.85	\$ 18,871.58				
Sioux	\$ 3,535.40	\$ 39,049.45	\$ 42,584.85	\$ 32,949.50	\$ 9,635.35				
Sioux	\$ 20,972.30	\$ 65,294.58	\$ 86,266.88	\$ 68,219.10	\$ 18,047.78				
Sioux	\$ 20,969.99	\$ 57,236.27	\$ 78,206.26	\$ 67,996.85	\$ 10,209.41				
Sioux	\$ 11,309.70	\$ 40,250.41	\$ 51,560.11	\$ 38,746.12	\$ 12,813.99				
Sioux	\$ 25,926.80	\$ 45,229.14	\$ 71,155.94	\$ 51,109.18	\$ 20,046.76				
Sioux	\$ 1,929.20	\$ 90,506.30	\$ 92,435.50	\$ 73,241.35	\$ 19,194.15				
Sioux	\$ 6,560.56	\$ 50,176.83	\$ 56,737.39	\$ 46,348.78	\$ 10,388.61				
Sioux	\$ 1,825.24	\$ 50,545.55	\$ 52,370.79	\$ 33,544.35	\$ 18,826.44				
Sioux	\$ 6,424.14	\$ 52,1							

SUMMARY TABLE NO. 20—Continued

County	County bridge fund				County motor vehicle fund				
	Balance or overdraft Jan. 1, 1922	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923
Story	4,763.45	40,210.22	44,973.75	25,156.43	10,847.22	4,205.54	32,500.63	35,215.17	2,239.76
Tama	2,533.85	66,788.00	69,321.85	60,300.10	29,465.10	2,720.27		35,975.41	
Taylor	1,441.79	41,115.74	42,557.53	40,208.31	3,352.22			2,150.27	
Van Buren	7,715.00	43,304.80	51,019.80	33,249.00	15,770.80	*3.12		*3.12	
Wapello	8,206.72	40,678.09	48,884.81	40,060.03	8,819.64				
Warren	6,239.17	69,396.94	75,636.11	69,517.27	10,333.84				
Washington	1,892.25	54,834.44	56,726.69	52,942.54	3,784.15				
Wayne	4,222.45	61,533.08	67,855.53	63,478.83	*15,023.45				
Winnebago	36,656.44	30,676.31	67,332.75	10,159.17	57,173.58	4,402.24		81.76	
Woodbury	*265.70	72,582.68	71,653.98	70,472.78	1,181.20	94.60		94.60	
Woodworth	12,317.99	80,143.69	92,461.68	92,196.44	2,265.24				
Worth	1,073.40	109,007.61	110,081.01	135,435.03	27,345.34	44,807.05	65,226.09	68,123.55	41,920.20
Wright	2,149.42	189,091.61	191,241.03	135,435.03	55,806.00				
Footings	\$1,004,089.14	\$6,292,282.40	\$7,296,371.54	\$5,969,562.78	\$1,426,808.76	\$178,346.90	\$415,126.04	\$592,431.90	\$121,992.61
Less overdrifts	\$172,840.75				\$173,501.12	1,044.16		3.12	99.01
Totals	\$831,248.39	\$6,292,282.40	\$7,296,371.54	\$5,969,562.78	\$1,253,308.01	\$177,300.74	\$415,126.04	\$592,428.75	\$121,876.70

*Overdrifts.

SUMMARY TABLE NO. 21
Financial Statement—Annual Report of County Engineers

County	County road cash fund				Township road, drag and drainage funds				
	Balance or overdraft Jan. 1, 1922	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923	Receipts 1922	Total	Disbursements 1922	Balance or overdraft Jan. 1, 1923
Adair	\$12,146.51	\$9,820.65	\$11,167.26	\$100,744.84	\$45,726.22	\$9,123.20	\$58,025.91	\$52,108.09	\$12,153.65
Adams	6,788.11	37,615.10	44,403.21	35,778.31	7,626.70	23,666.20	31,292.90	31,183.79	5,204.20
Albany	*7,522.91	53,132.15	60,655.06	55,023.61	3,159.83	45,863.01	49,022.84	45,335.71	3,687.13
Appanoose	*10,894.75	35,001.65	45,896.40	42,085.53	5,079.73	39,043.12	44,122.85	40,844.45	3,278.40
Ashtabula	84,364.97	38,842.69	72,207.66	45,085.53	5,000.82	49,709.55	54,715.37	45,050.03	9,764.44
Benton	33,917.09	81,495.90	82,299.82	75,361.29	2,314.14	54,295.70	56,609.84	47,009.37	9,600.47
Boonville	15,591.94	130,790.58	122,741.63	124,867.45	7,097.28	83,111.62	90,208.90	79,288.15	10,920.75
Brockton	*17,460.72	82,313.44	94,774.16	70,058.19	3,844.37	30,983.19	30,207.96	28,093.17	2,114.79
Buchanan	7,451.18	59,008.64	61,565.91	51,565.91	7,360.37	37,447.49	64,787.86	56,056.60	8,731.26
Bureau	*6,275.74	72,673.05	66,097.94	78,383.09	6,645.40	71,166.24	77,811.83	67,306.90	10,504.93
Buena Vista	42,994.85	35,754.40	28,285.71	28,285.71	2,862.00	81,517.47	54,500.10	46,639.33	7,870.77
Butler	*6,260.48	51,591.88	57,852.36	51,591.88	4,794.01	20,543.79	25,337.80	25,337.80	9,949.99
Calhoun	*12,264.88	51,579.08	59,843.96	51,579.08	2,791.51	47,668.79	57,266.92	43,443.75	13,823.17
Cass	7,203.65	48,813.25	56,017.00	59,738.70	6,701.13	47,078.57	84,853.07	73,700.17	11,146.90
Cedar	7,883.84	81,846.70	80,400.54	48,873.25	6,495.00	72,425.77	80,634.05	66,634.03	14,000.02
Cerro Gordo	1,191.60	80,399.10	80,591.10	78,303.89	7,774.30	77,078.57	84,539.07	78,184.16	6,354.91
Chariton	3,522.91	42,951.14	46,474.05	29,693.17	1,117.88	41,650.38	42,768.26	35,011.54	7,756.72
Cherokee	3,956.97	49,261.26	45,304.29	45,304.29	4,175.33	20,894.72	25,070.05	23,192.76	1,877.29
Chickasaw	14,679.55	33,284.26	47,963.81	51,678.38	2,567.47	39,894.72	42,462.19	31,952.75	10,509.44
Clarke	30,347.23	83,004.60	114,351.82	96,931.30	30,257.77	65,053.98	95,301.75	81,009.55	14,292.20
Clay	7,723.17	66,008.69	73,731.86	65,009.30	4,064.58	41,139.23	45,203.90	36,171.31	9,032.59
Clinton	15,087.53	97,396.05	112,483.58	95,445.65	2,215.35	73,313.64	78,528.99	78,184.16	4,344.83
Crawford	8,815.22	75,101.22	83,916.44	79,379.23	2,374.17	96,073.08	95,447.21	89,009.09	6,438.12
Decatur	3,091.34	40,565.23	44,656.57	44,567.25	3,072.18	14,064.93	17,137.80	14,540.98	2,596.82
DeKalb	3,054.29	39,512.59	42,566.87	39,512.59	1,559.84	3,053.12	2,184.96	1,747.28	4,417.66
Delaware	2,265.26	45,332.95	48,598.24	39,833.64	2,030.84	26,016.47	60,049.41	55,679.43	4,369.98
Des Moines	15,266.92	21,151.29	36,418.21	2,625.01	8,545.93	45,843.78	46,962.25	46,962.25	8,271.53
Dickinson	1,744.31	59,358.43	61,102.74	59,358.43	2,947.42	35,213.72	38,161.14	37,112.03	1,049.11
Dubuque	7,450.35	28,356.11	35,806.46	32,355.11	4,929.67	49,272.79	64,023.23	41,018.07	12,995.16
Emmet	*22,905.54	74,405.45	90,629.65	80,629.65	8,066.19	48,994.46	69,893.88	69,893.88	8,385.56
Fayette	6,615.01	17,405.45	24,020.46	*15,224.30	4,999.13	6,000.26	52,160.79	44,877.81	7,282.98
Floyd	22,905.54	142,470.89	119,565.45	122,755.77	*15,224.30	48,994.46	69,893.88	69,893.88	8,385.56
Franklin	95,954.94	97,121.89	96,655.94	96,655.94	*171.29	13,309.54	32,312.54	24,846.00	7,466.54
Frederick	1,377.36	43,259.21	44,636.57	40,446.19	4,126.04	25,610.28	25,995.72	20,322.44	5,673.28

SUMMARY TABLE NO. 21—Continued

County	County road cash fund			Township road, drag and drainage funds			Balance or over/short Jan. 1, 1922
	Balance or over/short Jan. 1, 1922	Receipts 1922	Total	Disbursements 1922	Total	Disbursements 1922	
Greene	8,684.40	33,135.00	41,819.40	35,252.59	5,566.80	58,537.39	37,969.49
Grundy	7,817.67	36,700.61	44,518.28	48,455.16	8,166.83	52,360.86	14,140.40
Guinea	*8,538.00	21,484.72	29,962.72	30,088.32	*7,141.60	70,942.31	17,365.60
Hamilton	7,892.40	71,687.66	79,580.06	66,709.89	12,680.17	47,972.65	4,524.96
Hancock	2,133.18	70,058.42	72,191.60	71,744.31	5,447.29	47,972.65	1,617.00
Harrison	27,322.25	30,000.00	57,322.25	54,596.15	2,726.10	58,894.13	16,147.10
Henry	4,289.85	37,967.88	42,257.73	35,478.44	6,779.29	46,387.55	15,593.55
Howard	2,624.45	37,834.39	40,458.84	40,253.70	*4,194.56	36,974.89	3,483.28
Humboldt	24,815.90	194,289.00	219,104.90	122,932.47	7,867.50	31,443.37	4,032.28
Iowa	45,849.94	47,419.49	93,269.43	85,066.56	3,002.89	47,493.48	14,148.00
Jackson	12,164.54	53,296.31	65,460.85	40,943.46	1,871.55	67,331.07	9,916.46
Jasper	*11,231.48	80,033.67	91,265.15	74,758.78	*5,597.22	44,823.72	8,889.70
Jefferson	5,029.20	41,142.25	46,171.45	43,027.90	3,143.55	44,796.35	2,804.44
Johnson	8,139.32	41,033.22	49,172.54	47,084.10	2,088.44	31,905.15	12,100.44
Jones	1,199.42	29,547.07	30,746.49	27,684.10	3,062.39	31,905.15	6,914.51
Kearney	*5,088.13	49,725.05	54,813.18	47,019.70	*7,793.48	31,905.15	3,401.83
Kossuth	13,398.42	197,073.04	211,399.46	195,299.52	16,099.94	34,072.98	33,719.63
Lee	2,789.44	132,194.63	134,974.07	138,137.10	*3,162.63	42,823.72	14,729.21
Linn	2,194.42	34,917.07	37,111.49	35,321.55	1,789.94	31,905.15	6,914.51
Lodwick	1,669.71	42,129.54	43,799.25	42,528.63	2,270.62	31,905.15	6,914.51
Lyon	11,660.30	67,114.40	78,774.70	70,733.03	8,041.66	40,180.23	17,126.41
Madison	7,241.97	48,013.49	55,255.46	50,885.17	4,370.29	38,934.19	16,324.69
Malhaska	2,099.19	44,118.94	46,218.13	44,846.87	1,371.26	31,905.15	1,886.02
Marechal	10,537.93	44,118.94	54,656.87	48,910.31	5,746.56	31,905.15	1,886.02
Marietta	*1,669.71	42,129.54	43,799.25	42,528.63	2,270.62	31,905.15	6,914.51
McCall	*1,669.71	42,129.54	43,799.25	42,528.63	2,270.62	31,905.15	6,914.51
Mitchell	*1,252.22	116,129.54	117,381.76	121,455.37	*4,073.61	44,792.43	11,088.41
Monroe	*9,332.53	37,817.53	47,150.06	34,290.01	3,135.04	39,081.04	13,699.87
Montgomery	*9,332.53	32,743.98	42,076.51	23,148.20	2,927.47	31,905.15	1,886.02
Moore	7,219.30	36,132.36	43,351.66	38,407.69	4,943.97	28,603.77	3,412.28
Muscatine	17,544.90	43,525.14	61,070.04	41,397.27	20,021.90	104,306.80	54,030.91
O'Brien	*1,933.54	100,251.57	102,185.11	33,792.37	9,802.54	32,699.16	22,794.47
Osceola	27,750.17	109,315.03	137,065.20	111,110.31	26,154.89	40,947.18	14,701.38
Page	16,640.67	75,216.33	91,867.00	86,204.78	5,662.22	46,561.23	47,263.96
Pawnee	12,317.96	182,798.78	195,116.74	189,558.52	5,558.22	47,084.10	43,912.87
Polk	39,206.00	66,079.26	105,285.26	84,237.12	21,048.14	66,961.04	16,290.39
Pottawattamie	14,000.45	35,443.96	49,444.41	45,082.61	4,361.80	77,232.09	69,827.93
Preble	10,098.08	92,019.69	102,117.77	78,694.59	24,423.18	30,225.33	20,718.40
Scott	3,446.00	30,669.84	34,115.84	33,173.19	993.65	38,739.66	21,281.74
Shellsburg	2,000.70	29,664.81	31,665.51	40,992.12	*8,329.61	82,817.15	10,855.79
Sioux	*10,456.02	35,132.10	45,588.12	47,537.78	6,389.20	64,288.46	46,566.51
Story	6,104.24	87,827.71	93,931.95	87,468.26	6,463.69	67,489.22	56,437.17
Tama	4,083.05	38,626.42	42,709.47	35,119.55	7,589.92	11,245.31	40,340.65
Taylor	*2,490.05	38,963.24	41,453.29	38,482.23	*2,971.06	31,226.61	2,496.24
Union	95.14	16,899.74	17,094.88	19,617.67	*2,522.79	1,388.55	27,032.29
Van Buren	16,251.40	69,094.71	85,346.11	82,241.43	13,104.68	4,820.71	44,077.10
Wapello	10,697.57	70,664.83	81,362.40	78,910.90	*2,451.50	45,879.03	46,170.34
Washington	11,142.75	33,466.72	44,609.47	41,295.63	3,313.84	50,216.77	7,742.91
Wayne	15,209.40	33,466.72	48,676.12	45,115.13	3,560.99	50,216.77	3,009.90
Webster	3,899.29	130,826.92	134,726.21	141,296.87	*8,569.66	55,074.51	56,582.99
Winnebago	*211.02	61,098.52	61,309.54	36,726.12	2,583.42	66,313.37	15,071.00
Winneshiek	*740.07	49,800.08	50,540.15	48,552.88	*1,987.27	62,409.70	56,538.70
Worth	148,035.40	132,833.92	280,869.32	189,341.95	*91,526.38	42,739.23	31,845.67
Wright	*13,101.33	25,735.25	38,836.58	22,557.29	1,929.55	43,971.62	7,500.00
Wright	2,723.84	289,216.51	291,940.35	222,226.14	9,713.21	79,968.19	25,242.94
Footings	\$460,292.16	\$6,597,029.57	\$6,957,321.73	\$6,351,332.05	\$86,989.68	\$6,132,009.49	\$1,304,600.48
Less over/shorts	*202,436.21			*241,919.69			*505.48
Totals	\$357,855.95	\$6,394,593.37	\$6,955,321.52	\$6,109,412.36	\$86,989.68	\$6,132,009.49	\$1,304,600.48

*Over/shorts.

SUMMARY TABLE NO. 22
Bonded Indebtedness of Counties—Annual Report of County Engineers

County	Bridges		County roads	
	Bonds issued Jan. 1, 1923	Bonds outstanding 1922	Bonds issued 1922	Bonds outstanding Jan. 1, 1923
Adair	\$ 44,000.00	21,229.48		\$23,270.50
Adams	119,000.00			11,000.00
Adair	119,000.00			81,000.00
Adair	54,830.33	7,419.72		14,732.65
Adair	57,000.00			5,000.00
Adair	245,000.00			14,400.00
Adair	237,000.00			104,354.83
Adair	29,159.45	10,000.00		604.05
Adair	32,600.00			32,800.00
Adair	300,000.00			298,500.00
Adair	80,200.00			61,500.00
Adair	135,000.00			17,000.00
Adair	135,000.00			222,000.00
Adair	214,000.00			320,000.00
Adair	211,000.00			32,000.00
Adair	72,000.00			72,000.00
Adair	91,350.00			57,037.27
Adair	604,968.06			72,011.92
Adair	111,322.15			88,254.02
Adair	221,470.43			287,029.57
Adair	41,000.00			41,000.00
Adair	80,000.00			344,000.00
Adair	5,000.00			22,000.00
Adair	164,000.00			164,000.00
Adair	175,300.00			60,000.00
Adair	56,000.00			32,667.81
Adair				36,400.00
Adair				7,000.00
Adair	268,000.00			218,500.00
Adair	157,000.00			150,000.00
Adair	42,413.17			17,458.49
Adair	340,500.00			172,813.26
Adair				287,000.00
Adair				22,500.00
Adair				73,137.93
Adair				91,000.00
Adair				215,500.00
Adair				14,000.00
Adair				110,000.00
Adair				132,000.00
Adair				62,500.00
Adair				36,000.00
Adair				21,500.00
Adair				274,029.57
Adair				14,000.00
Adair				81,000.00
Adair				15,000.00
Adair				4,000.00
Adair				60,000.00
Adair				29,832.19
Adair				36,400.00
Adair				7,000.00
Adair				218,500.00
Adair				17,458.49
Adair				73,137.93
Adair				91,000.00
Adair				287,000.00
Adair				22,500.00
Adair				73,137.93
Adair				91,000.00
Adair				215,500.00
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Adair				132,000.00
Adair				62,500.00
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Adair				29,832.19
Adair				36,400.00
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Adair				110,000.00
Adair				132,000.00
Adair				62,500.00
Adair				36,000.00
Adair				21,500.00
Adair				274,029

SUMMARY TABLE NO. 22—Continued

County	Bridges				County roads			
	Bonds outstanding Jan. 1, 1922	Bonds issued 1922	Bonds paid 1922	Bonds outstanding Jan. 1, 1923	Bonds issued 1922	Bonds paid 1922	Bonds outstanding Jan. 1, 1923	
Story	30,000.00			30,000.00			283,000.00	
Tama	225,408.51			225,408.51			20,031.49	
Taylor	142,000.00		5,000.00	147,000.00		280.70	20,031.41	
Union	142,000.00		5,000.00	147,000.00			8,000.00	
Van Buren	292,500.00		5,000.00	297,500.00			82,000.00	
Wapello	42,500.00	20,000.00		62,500.00			10,000.00	
Warren	42,500.00	4,000.00		46,500.00			10,000.00	
Washington	27,138.99	5,000.00		32,138.99			30,350.91	
Waver							40,000.00	
Wells						20,000.00	210,000.00	
Winnebago	227,000.00	18,000.00	10,000.00	217,000.00			60,000.00	
Winnock		18,000.00	8,000.00	126,000.00			60,000.00	
Worth	87,000.00	30,000.00	6,000.00	111,000.00			203,622.98	
Wright							138,290.45	
Total	\$13,835,659.54	\$42,597.26	\$469,327.25	\$13,908,429.55	\$7,542,042.32	\$886,839.71	\$171,174.75	

\$85,297,706.28

SUMMARY TABLE NO. 23

Total Indebtedness of Counties for County Roads and Bridges Jan. 1, 1923—Annual Report of County Engineers

County	Bridges				Road				Total	
	Outstand- ing tax bills	Warrants issued and stamped	Warrants outstanding not stamped	Roads outstanding	Total	Outstand- ing tax bills	Warrants issued and stamped	Warrants outstanding not stamped		Roads outstanding
Adair	\$ 240.13		\$ 68.79	\$ 67,229.48	\$ 67,536.40	\$ 1,283.94		\$ 76.40	\$ 23,270.50	\$ 24,620.84
Adams			22.25	85,000.00	110,374.21			1,000.53	11,000.00	11,000.53
Allamakee		\$25,357.96		114,000.00	114,000.00				64,408.61	80,486.14
Appanoose			300.00	87,000.00	62,259.24			100.00	9,400.00	350.00
Ashtabula	400.00	16,200.75		87,000.00	103,800.75	250.00			1,805.00	1,805.00
Black Hawk	3,570.15	9,649.12		129,000.00	158,570.15	1,995.60			23,080.54	25,075.75
Boone	5,100.00		161.90	229,407.86	231,759.76	3,210.00	34,261.55	3,252.11	15,000.00	18,252.20
Bremser	57.10			37,093.60	37,158.70	679.50			30,000.00	48,746.84
Buchanan			1,438.01	30,000.00	31,438.01			18,746.84	290,000.00	290,000.00
Burlington				297,500.00	297,500.00				27,000.00	27,000.00
Butler				58,750.00	58,750.00	2,322.57			227,000.00	235,752.57
Calhoun				120,000.00	120,000.00	41,253.70			120,419.75	120,419.75
Carroll	5,000.00		3,803.15	211,000.00	219,803.15	3,000.00		3,803.15	52,000.00	58,803.15
Cedar	1,172.81	340.41	12.00	75,000.00	77,299.41			689.09	27,000.00	27,688.50
Cedar Rapids				64,000.00	64,000.00				77,000.00	77,000.00
Cherokee			74.90	404,888.08	405,028.98	124.43	29,426.05	646.43	72,000.00	72,646.43
Chickasaw	1,600.00		428.00	164,500.00	165,428.00	300.00		75.00	375.00	375.00
Clark			1,751.17	111,137.18	114,428.35	300.00		382.42	88,234.07	89,616.49
Clay			3,972.45	221,470.43	221,470.43				274,029.57	274,029.57
Clinton	9,000.00		81,000.00	81,000.00	81,000.00	7,000.00		1,000.00	22,250.00	23,250.00
Crawford	2,000.00		2,100.00	640,000.00	644,100.00	6,000.00	3,693.04	1,800.00	340,000.00	341,803.04
Dallas		19,749.14		189,159.23	201,344.01			64,876.10	7,219.64	72,095.74
DeWitt	5,232.00		489.50	164,000.00	169,805.50	1,583.00		252.20	1,885.20	1,711,940.70
Dubuque				175,000.00	175,000.00				62,000.00	62,000.00
Dubuque			14.07	56,000.00	56,000.00			2,106.26	30,400.00	32,506.26
Dickinson				255,000.00	255,000.00				218,000.00	256,075.00
Dubuque	489.00		15.83	151,000.00	151,484.83	725.00		2,854.16	221,322.22	221,322.22
Emmet			443.50	172,803.55	173,247.05	1,000.00		30.22	120,000.00	121,037.22
Euclid	500.00		1,399.28	231,000.00	232,899.28	1,782.00		6,286.45	339,000.00	345,286.45
Franklin		70,323.49		40,000.00	40,000.00				330,000.00	370,000.00
Fremont	500.00		180.00	327,000.00	327,680.00	300.00	5,165.10	150.00	38,000.00	43,615.10

SUMMARY TABLE NO. 25—Continued

County	Outstand- ing bills		Warrants issued and stamped		Bridges		Total		Road		Bonds outstand- ing		Total		County road and bridge indefinites	Total
	1,000.00	1,000.00	1,000.00	1,000.00	Warrants outstanding not stamped	Warrants issued and stamped	Outstand- ing bills	Total	Warrants outstanding not stamped	Warrants issued and stamped	2,000.00	3,000.00	Total			
Greene	1,000.00	2,000.00	2,440.48	337,000.00	338,000.00	476.48	6,928.65	338,000.00	4,181.84	6,928.65	55,000.00	66,556.87	408,106.03			
Grenady	2,500.00	300,078.20	256,916.91	256,916.91	305,698.87	375.00	21,637.09	305,698.87	7,841.84	21,637.09	97,346.15	97,346.15	403,037.09			
Guthrie	2,000.00	72,000.00	286.72	72,000.00	72,286.72	500.00	32,000.00	72,286.72	180.30	32,000.00	46,083.09	46,083.09	431,546.03			
Hamilton	2,000.00	25,000.00			25,000.00	1,000.00		25,000.00			199,294.10	232,294.10	472,996.32			
Harrison	3,000.00	106.78			332,368.47	200.00		332,368.47			35,299.32	35,299.32	207,650.00			
Henry					27,200.00	178.81		27,200.00	2,062.28		17,803.00	19,541.64	157,643.32			
Howard					47,000.00			47,000.00			37,000.00	37,000.00	156,000.00			
Howells					141,000.00			141,000.00			58,185.00	58,185.00	314,293.85			
Iowa					256,078.85			256,078.85			185,000.00	185,000.00	170,000.00			
Jackson					170,000.00			170,000.00			3,965.34	3,965.34	463,256.23			
Jarvis	1,400.00	10,511.41			276,311.41	600.00		276,311.41	1,344.81		185,000.00	186,944.81	185,000.00			
Jasper	2,300.00	1,030.23			21,500.00	5,000.00		21,500.00	7,802.64		11,355.00	19,357.64	170,000.00			
Johnson	1,800.00	4,433.32			45,800.32	10,000.00		45,800.32	7,802.64		11,355.00	20,327.64	75,237.96			
Jones					163,000.00	6,000.00		163,000.00	117.30		396,000.00	402,117.30	864,075.00			
Kossuth	2,000.00	1,200.00	17,541.61	1,200.00	24,800.00	2,000.00	7,497.01	24,800.00	5,000.00	7,497.01	9,207.10	32,891.11	15,000.00			
Lake	1,200.00	1,000.00	5,035.00	5,035.00	7,834.01	2,000.00	35,797.01	7,834.01	5,000.00	35,797.01	102,655.43	75,970.50	75,970.50			
Larson	992.00	27,013.51			188,100.00	215,115.51		34,460.40	1,879.01	34,460.40	41,000.00	67,348.41	282,403.92			
Levan	1,400.00	2,741.17			84,456.98	480.40		84,456.98	300.06		15,343.02	16,023.42	104,361.57			
Linn	2,300.00	6,867.22			35,228.25	83.30		35,228.25			39,957.38	39,941.14	100,463.37			
Linn	2,000.00	8,867.22			302,448.58	500.00		302,448.58	2,669.77		293,017.94	293,017.94	195,961.94			
Madison	2,000.00				405,000.00	405,000.00		405,000.00			295,000.00	285,000.00	790,000.00			
Mack					212,000.00	314,979.00		314,979.00			187,000.00	211,871.77	526,531.37			
Marshall					64,444.00	75,173.52		75,173.52			217,556.00	217,556.00	292,819.60			
Mills					17,000.00	17,150.00		17,150.00			140,100.00	157,000.29	170,000.00			
Monona					357,635.00	383,437.00		383,437.00	400.00		107,034.70	107,034.70	471,031.70			
Montgomery					58,432.96	59,076.00		59,076.00			21,842.63	35,515.66	44,091.78			
Muscatine					98,483.75	98,794.80		98,794.80			20,291.25	21,693.25	202,398.00			
O'Brien					165,700.00	165,700.00		165,700.00			180,000.00	180,000.00	166,200.00			
Osceola					137,800.00	139,391.43		139,391.43			180,000.00	180,000.00	166,200.00			
Polk	1,320.00	441.43			137,800.00	146.25		137,800.00	689.45		220,200.00	248,709.45	495,394.45			

Plymouth	1,000.00	27,660.45	5,035.45	149,000.00	160,000.00	1,000.00	78,134.84	160,000.00	10,200.12	78,134.84	298,000.00	372,134.84	17,744.37
Polk	1,000.00	30,680.00		282,000.00	610,800.44	1,000.00	27,053.37	610,800.44		27,053.37	717,825.00	746,783.37	1,337,674.01
Polk		13,114.00		638,350.00	699,000.00		19,860.00	699,000.00		19,860.00	75,000.00	174,860.00	583,920.00
Polk		2,116.00		201,420.00	195,135.39		12,633.40	195,135.39		12,633.40	33,010.01	45,643.41	143,774.51
Polk		145.28		169,200.00	169,345.38		1,827.46	169,345.38		1,827.46	64,800.00	66,564.56	235,959.84
Scott		3,591.59		101,000.00	201,000.00		4,464.35	201,000.00		4,464.35	20,960.29	222,463.94	222,463.94
Shelby		39,344.41		95,000.00	134,344.41			134,344.41			285,862.00	285,862.00	138,708.76
Sioux				30,000.00	30,000.00		2,668.50	30,000.00		2,668.50	303,000.00	305,668.50	316,471.00
Story				223,468.51	223,468.51		167.40	223,468.51		167.40	20,355.11	20,355.11	243,500.00
Taylor				34,444.50	41,783.42		31,833.84	41,783.42		31,833.84	62,820.14	62,820.14	94,603.56
Union				138,000.00	138,000.00			138,000.00			5,000.00	5,000.00	143,000.00
Van Buren				288,300.00	296,728.34		1,032.05	296,728.34		1,032.05	82,000.00	83,032.05	370,777.40
Wapello				27,000.00	68,184.41		9,348.63	68,184.41		9,348.63	16,000.00	25,348.63	93,433.04
Washington				27,000.00	68,184.41		654.30	68,184.41		654.30	20,354.71	20,354.71	45,400.70
Wayne				22,138.99	22,138.99			22,138.99			66,000.00	66,000.00	210,000.00
Wenona				117,000.00	146,544.32		1,326.70	146,544.32		1,326.70	210,000.00	210,000.00	210,000.00
Winneshiek				138,000.00	141,911.96		68,633.82	141,911.96		68,633.82	60,000.00	140,633.82	282,561.78
Woodbury				111,000.00	111,000.00		78,910.14	111,000.00		78,910.14	1,000.00	1,000.00	1,000.00
Worth				113,065.10	113,065.10		89,900.00	113,065.10		89,900.00	841,913.43	417,823.57	895,823.57
Wright				851,966.71	852,364.61		852,364.61	852,364.61		852,364.61	85,257,706.25	89,394,888.19	824,130,826.29

SUMMARY TABLE NO. 24

SUMMARY TABLE NO. 24—Continued

Classification of Township Road Work—Annual Report of County Engineers

County	Number of townships in county	Number of townships reporting	Construction	Maintenance	Special cases (railroad crossings)	Total
Adair	18	18	\$14,399.46	\$45,734.66		\$60,134.12
Adams	12	12		31,415.39		31,415.39
Allamakee	18	9		26,525.66		26,525.66
Appanoose	17	17		41,873.05		41,873.05
Audubon	12	12	8,125.00	39,795.84		47,920.84
Benton	20	13		46,051.70		46,051.70
Black Hawk	18	17	6,465.97	49,292.48		55,758.45
Boone	17	15	33,751.30	47,904.30	\$ 8,252.02	89,907.62
Bremser	7	7	3,009.37	25,929.37		28,938.74
Bushanan	16	13	13,246.68	43,260.02		56,506.70
Buena Vista	17	14	33,454.35	30,232.28		63,686.63
Butler	16	16	2,344.89	43,750.37	481.47	46,576.73
Calhoun	16	16	22,056.31	36,828.60		58,884.91
Carroll	16	12	7,299.87	40,608.54	1,000.00	48,908.41
Cass	16	13	3,306.83	41,236.92		44,543.75
Cedar	17	17	411.65	73,294.52		73,706.17
Cerro Gordo	16	13	19,789.77	66,234.03		86,023.80
Charoake	16	13		38,088.21		38,088.21
Chickasaw	12	12	28,901.53	6,714.65		35,616.18
Clark	12	12	5,227.06	26,974.91		32,201.97
Clay	16	11	55,616.04	12,934.83		68,550.87
Clayton	22	13		36,171.31		36,171.31
Clinton	20	18	77,339.31	77,339.31		154,678.62
Crawford	20	15	56,609.69	89,529.49		146,139.18
Dallas	16	16	98,187.04	49,725.47		147,912.51
Davis	15	15	46,840.96	46,840.96		93,681.92
Deaatur	16	16	1,747.28	1,747.28		3,494.56
Delaware	16	15	53,214.43	53,214.43		106,428.86
Des Moines	13	13	4,820.73	33,561.89	2,866.75	41,249.37
Dickinson	12	11	21,677.04	4,387.06	10,791.61	36,855.71
Dubuque	17	11		31,945.44		31,945.44
Emmet	12	12	20,647.23	22,675.17		43,322.40
Essex	20	16		69,493.88		69,493.88
Fayette	16	16		44,938.46		44,938.46
Floyd	9	9	771.82	44,166.64		44,938.46
Franklin	16	14	6,247.97	64,546.27		70,794.24
Fremont	15	7		21,066.94		21,066.94
Greene	15	7	12,172.73	66,361.09		78,533.82
Grundy	14	14	14,933.14	31,455.15		46,388.29
Guthrie	17	16	16,102.45	41,765.74	1,733.92	59,602.11
Hamilton	16	14	22,742.60	26,301.73	2,650.80	51,695.13
Hancock	16	12	12,376.42	35,661.20		47,977.62
Hardin	15	11	8,863.49	30,567.03		39,430.52
Harrison	20	15		46,077.68		46,077.68
Henry	12	10		34,533.61		34,533.61
Howard	12	10	3,383.79	28,109.78		31,493.57
Humboldt	12	11	60,731.88	11,798.19		72,530.07
Ia.	12	10	6,415.23	27,636.19		34,051.42
Iowa	16	16	10,280.49	47,134.75		57,415.24
Jackson	18	14		53,565.27		53,565.27
Jasper	10	10	7,148.44	37,533.62		44,682.06
Jefferson	12	12	4,731.29	49,107.15		53,838.44
Johnson	21	12	5,567.67	41,019.05		46,586.72
Jones	10	10	3,435.51	23,344.77		26,780.28
Keokuk	17	10	23,377.94	4,401.61		27,779.55
Keosauqua	16	16	20,223.57	31,635.00		51,858.57
Lee	15	15		41,699.86		41,699.86
Linn	20	18	26,564.74	35,713.80	21,262.79	83,541.33
Louisa	12	10	162.00	35,987.62		36,149.62
Lyon	12	12		38,870.03		38,870.03
Madison	18	18	4,997.82	32,901.90		37,899.72
Maehaska	16	16		50,520.15		50,520.15
Marion	18	18	9,873.24	54,841.44	4,109.90	68,824.58
Marshall	15	11		59,928.97		59,928.97
Mills	13	12		50,903.92		50,903.92
Mitchell	13	12	20,019.91	15,114.77	7,620.33	42,754.97
Monona	16	15		39,081.04		39,081.04
Monroe	19	13	3,190.23	22,622.84	2,933.85	28,746.92
Montgomery	12	10		29,702.80		29,702.80
Muscatine	12	12	4,804.96	30,715.90		35,520.86
Muehlenberg	14	14	3,149.41	34,950.53	1,949.07	39,968.01
O'Brien	16	16	10,257.02	17,254.55	1,809.32	29,320.89

County	Number of townships in county	Number of townships reporting	Construction	Maintenance	Special cases (railroad crossings)	Total
Osceola	11	8	9,137.56	23,531.60		32,669.16
Paga	16	12	7,377.89	27,769.38	2,123.78	37,271.05
Palo Alto	16	12	8,921.97	24,317.72	23.76	33,463.44
Plymouth	24	17		51,561.56		51,561.56
Pocahontas	18	17	23,590.04	31,824.36		55,414.40
Polk	19	12	6,665.33	44,641.27		51,306.60
Pottawattamie	28	17		56,051.44		56,051.44
Poweshiek	16	14	3,945.50	63,598.29		67,543.79
Ringgold	16	5		30,718.40		30,718.40
Sac	16	16	24,879.70	50,099.26		74,978.96
Scott	15	15	9,716.14	40,390.01		50,106.15
Shall	16	16	5,931.13	68,694.42	7,164.66	81,790.21
Sioux	23	22	2,763.00	46,432.20		49,195.20
Story	16	12	22,253.32	34,130.50		56,383.82
Tama	21	21		79,361.51		79,361.51
Union	17	15	5,621.34	34,689.51		40,310.85
Taylor	12	5		19,349.20		19,349.20
Van Buren	14	13		27,432.29		27,432.29
Wapello	14	14	3,383.41	41,712.23		45,095.64
Washington	16	13		46,568.57		46,568.57
Warren	15	9	2,883.15	43,880.18		46,763.33
Wayne	16	7		35,054.08		35,054.08
Webster	23	18	14,973.04	58,842.21	404.29	74,219.54
Winneshago	12	12	15,261.31	41,473.45		56,734.76
Winnebago	20	17		62,439.46		62,439.46
Woodbury	22	12	5,910.23	28,935.45	1,307.58	36,153.25
Worth	12	12	8,180.31	35,791.31		43,971.62
Wright	16	15	32,016.43	41,682.65	1,948.89	74,947.88
Total reported	1,607	1,315	\$957,158.66	\$3,904,369.15	\$88,233.78	\$4,949,661.59
Not reported, estimated		292	212,340.98	866,933.84	19,590.25	1,099,085.05
Grand total	1,607	1,607	\$1,169,699.62	\$4,771,222.99	\$107,824.03	\$6,048,746.67

SUMMARY TABLE NO. 25, PART I

Inventory of Equipment and Machinery Showing Estimated Value January 1, 1923—Owned by County—Annual Report of County Engineers

County	Tractors estimated		Trucks estimated		Concrete mixers estimated		Pile drivers estimated		Blade graders estimated		Wheeled scrapers estimated		Slip scrapers estimated	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Adair	1	\$1,000	3	\$ 300	4	\$ 700	1	\$265	4	\$ 800	6	\$ 500	16	\$ 68
Adams			1	150	1	60			1	560	8	180	6	40
Allamakee			2	250	1	300	1	100	6	880	8	50	15	100
Appanoose	3	9,800					1	100	13	2,730	10	200		
Audubon			1	800					3	780	5	80	12	70
Benton	9	8,550	8	3,200					6	3,400	11	210	25	25
Black Hawk	2	800	9	3,700					9	300	8	70	13	90
Boone	2	1,800			1	75	2	150	4	1,350			2	4
Bremser	1	900	1	900	1	575	1	175	2	800	10	80	14	70
Buchanan	3	6,500							15	2,150	9	275	22	125
Buena Vista	2	2,900							3	300	8	50	10	30
Butler	5	3,325	2	1,100	3	1,000	2	150	5	1,025	32	1,850	27	200
Calhoun	3	3,000									20	600	12	100
Carroll											11	2,676	5	204
Cass											1	100		
Cedar	3	750									8	650	6	63
Cerro Gordo	1	1,350			3	625			13	1,800	12	200	4	25
Charoake									15	4,410	4	105	20	85
Chickasaw	1	1,000			4	600	2	500	21	3,200	22	740	35	205
Clark	1	1,000	1	200	1	100	1	75	5	1,200	15	250	5	30
Clay									1	540	1	30	6	25
Clayton	6	6,800	1	1,800					3	1,900	18	200	23	125
Clinton	2	3,600							20	4,600				
Crawford	1	4,500							1	350	1	1,800		
Dallas	4	8,600	7	11,600	4	335	1	75	5	2,200	6	170	7	100
Davis	4	3,800	7	9,300	4	275	1	20	1	600	6	50	6	100
Deaatur	1	4,500	4	5,500	2	100			1	60	11	95	30	160

SUMMARY TABLE NO. 25, PART I—Continued

County	Tractors estimated		Trucks estimated		Concrete mixers estimated		Pile drivers estimated		Blade graders estimated		Wheeled scrapers estimated		Slip scrapers estimated		
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
Delaware	2	3,700					1	150	3	2,200	12	300	24	150	
Des Moines	1	2,500			2	200			1	800	5	40	9	30	
Dickinson	2	2,140							1	800	5	100			
Dubuque	3	3,900			1	300			2	1,500	2	125			
Emmet	2	2,000	6	2,500	5	1,850	2	450	3	400	4	50			
Fayette	6	9,050	1	2,400	3	380	1	250	4	855	23	590	23	140	
Floyd	3	550			1	400	3	150	1	135	26	300	22	85	
Franklin					2	250			1	300	8	200	15	40	
Fremont			1	400	1	10	1	200	1	1,200	16	80	2	5	
Greene	3	2,000							2	450	6	500			
Grundy	4	2,100	2	300					3	1,400	3	78	6	54	
Guthrie	2	1,000							7	2,500					
Hancock					1	180	2	320	12	330	12	140	8	35	
Hardin	5	4,500			3	250	1	60	5	2,500	9	350	6	40	
Harrison					1	50			1	1,000	3	75	7	21	
Henry	2	2,600			2	500			20	3,335	9	1,050			
Howard	1	4,000					1	175	3	2,300	5	50	8	20	
Humboldt	1	300					2	2	2	450					
Ia	3	4,300	2	1,400	3	325	2	120	6	2,175	10	90	18	45	
Iowa	10	550			1	100			90	7	5,350				
Jackson	3	4,800					2	400	3	700					
Jasper	6	6,900					6	2,500	4	160	5	40			
Jefferson	5	9,500			2	200	1	100	2	825					
Johnson	2	3,400			1	100	1	150	6	2,100	16	310	10	50	
Jones	2	5,500					3	850	3	850			12	48	
Keokuk	3	3,200					1	10	4	600	20	400	20	75	
Kossuth	4	1,850							1	20	4	20	4	20	
Lee	3	2,000	2	900	1	25	11	2,200	18	400	38	73			
Linn									7	3,500	12	180	21	50	
Louisia	1	6,000	1	1,000	1	450	2	100	4	1,750	6	200	6	25	
Lyon					2	700	1	1	1	250	5	175	19	55	
Madison	3	6,800	3	200	3	200	1	200	4	2,000	10	200	8	40	
Mahaska	9	9,100	1	800	1	125	1	100	5	1,800	12	200	8	40	
Marion	3	5,500	5	6,500			7	1,000	15	500	32	100			
Marshall	2	1,500	2	1,350	3	205	1	45	15	3,445	15	200	15	50	
Mills	1	400							6	2,800	6	100	35	200	
Mitchell	2	3,580	1	1,750	5	500			11	1,925	13	350	23	38	
Monona	3	5,100							3	1,400	3	30	9	36	
Monroe	4	2,500					1	100	3	950	10	200	39	310	
Montgomery					3	450			100	9	225	30	120	120	
Muscatine	6	8,600	1	600			1	350	9	3,700			13	110	
O'Brien	3	2,350	2	1,100	1	125			100	4	1,700	8	100	6	24
Oceola									5	2,600	4	40	5	30	
Page	3	7,500					2	350	18	3,475	40	600	20	89	
Palo Alto	3	1,000			2	50				50	8	125	13	50	
Plymouth	2	5,500	3	3,250	1	250			300	7	3,400	7	175	38	300
Pocahontas	4	2,600			1	175	5	50	175	15	225	14	64		
Polk	3	4,000			4	500	2	50	3	3,500	20	300	24	90	
Pottawattamie					6	400	4	400	4	800	12	10	90	190	
Poweshiek	4	8,500			3	100			100	7	1,450	21	350	13	75
Ringgold			1	900	2	300	1	15	2	800	15	100	10	75	
Ross	2	800							300	1	4	12	12	30	
Scott	3	2,000	4	1,100	2	150	1	50	12	1,300	12	75	9	35	
Shelby	3	5,200	2	800	1	600	1	100	6	1,600					
Sioux	4	0,000	1	800	1	450			10	1,650	7	250	8	50	
Story	3	5,900	1	250			1	75	15	6,700	1	10	6	20	
Tama	3	7,300							12	6,150	13	250	36	25	
Taylor	1	850			2	850	1	60	2	1,700	16	300	4	30	
Union					2	450			9	1,350	27	300	37	145	
Van Buren	2	3,000			2	550	1	150	4	850			2	10	
Wapello									10	800			21	170	
Warren			3	850	3	75			30	11	1,500	6	200	16	80
Washington	4	10,200			1	172			100	15	6,800	6	400	14	183
Wayne	2	2,600	1	1,000	1	50			125	8	1,525	24	350	5	40
Weber	6	3,900	1	450			1	25	13	850			20	90	
Winnebago	1	1,500							7	900	2	75	2	15	
Winneshiek	2	3,500							2	2,225	2	400			
Worth	1	1,800			1	50	1	25	5	500			14	20	
Wright	2	2,000	-1	200	2	300			5	900	12	150	12	50	
Total	229	\$305,715	90	\$69,180	113	\$19,162	77	\$8,340	585	\$105,034	927	\$19,924	1338	6,443	

SUMMARY TABLE NO. 25, PART II
Inventory of Machinery and Equipment Showing Estimated Value January 1, 1923 Owned by Counties—Annual Report of County Engineers

County	Drags estimated		Frames estimated		Mauls estimated		Flows estimated		Camp outfit value	Small tools estimated value	Total estimated value
	No.	Value	No.	Value	No.	Value	No.	Value			
Adair	65	\$ 600	8250		1	100	16	\$140		\$4,787	\$10,490
Adams	20	200	100		3	50	3	20		1,630	1,630
Albany	28	200			6	250	12	150		3,050	3,050
Appanoose	36	450	2	50	3	600	4	40		15,100	15,100
Auburn	64	480	1	50	1	1,400	2	100		2,950	2,950
Benton	41	1,400	30		1	1,215	3	15		400	17,315
Berkeley	25	75			15	1,110	3	6		3,405	3,405
Boss	28	432	55		15	1,650	14	240		88	5,800
Buchanan	42	450	5	75	5	1,665	14	90		603	12,098
Bureau	24	150	4	75	9	2,965	1	15		1,638	1,638
Boona Vista	23	200	15	25	22	2,400	11	200		12,100	12,100
Calhoun	20	100	3	35	23	4,000	1	200		1,800	3,500
Cass	14	120	4	65	4	1,350	1	20		1,325	1,325
Case					4	450	3	44		1,450	1,450
Cedar	41	277	2	40	3	600	3	44		2,254	2,254
Cerro Gordo	31	350			3	600	10	100		800	800
Cherokee	25	150	2	30	3	750	8	100		5,280	5,280
Chickasaw	43	180			2	750	5	50		2,290	2,290
Clarke	42	250	10		10	1,200	10	40		3,275	3,275
Clayton	39	770			28	1,800	1	100		550	3,255
Clay	101	300	1	100	15	1,800	6	13		617	14,242
Clemson	40	320			4	1,000	5	60		975	975
Crawford	63	400	5	45	10	1,100	10	100		1,345	26,023
Dallas	53	600			8	925	8	123		2,085	14,100
Davies	90	520	7	150	9	2,325	13	250		1,090	13,660
Decatur	30	300			19	2,325	13	250		2,990	12,350
Des Moines	90	290	27	250	14	1,855	10	100		500	3,500
Diakon	30	500			17	1,675	1	10		5,170	11,465
Emmet	15	150			17	1,675	3	40		880	3,265
Franklin	32	108			27	2,410	3	45		2,650	25,816
Fayette	23	307			20	2,000	10	135		3,265	27,020
Floyd	37	307			21	1,705	2	25		10,358	10,358
Fremont	49	1,210			27	2,410	3	40		1,380	4,182

SUMMARY TABLE NO. 25, PART II—Continued

County	Drags estimated		Fresnos estimated		Maintainers estimated		Plows estimated		Camp outfits value	Small tools and miscel. estimated value	Total estimated value
	No.	Value	No.	Value	No.	Value	No.	Value			
Greene	26	150			18	1,575				1,355	4,955
Grundy	36	160								180	4,240
Guthrie	29	93			27	3,030	7	140	400	2,317	9,912
Hamilton	50	500			9	1,300			200	500	6,000
Hancock	44	480			13	720	4	70	70	70	2,025
Hardin	48	305	1	15	8	1,315			320	3,865	13,130
Harrison					15	950	1	10		91	2,517
Henry	89	400			5	318			50	2,370	9,643
Howard	14	75			9	1,075	1	10	150	730	8,585
Humboldt	21	525			4	1,300	1	15		2,000	4,590
Ida	52	190	12	245	15	2,015			560	715	12,180
Iowa	9	70			19	2,385	5	40		85	18,555
Jackson	11	125			7	800			35	1,200	7,290
Jasper	87	1,080	1	10	14	1,720	3	20	340	570	13,340
Jefferson					3	400				1,450	12,175
Johnson	41	410			13	1,210	5	50	150	1,418	9,348
Jones	42	350			14	1,530	5	30		200	8,508
Keokuk	91	540			6	975	6	60		100	5,960
Kossuth	45	300	2	40	25	3,408					5,628
Lee	63	600	1	40			11	200		1,285	7,725
Linn	48	466	2	20	20	3,375	6	65		55	7,711
Louis	44	600	2	33	5	525			150	1,755	12,588
Lucas	71	665	12	170	11	690	15	155			2,300
Lyon	25	395			2	325	3	15	250	1,750	5,460
Madison	60	800	2	35			3	35	150	910	11,530
Mahaska	62	700	3	40	19	2,625	4	65	100	1,810	17,505
Marion	70	400			12	625	16	150	1,700	735	17,210
Marshall	58	859	1	9	6	1,194	10	75	133	1,700	10,805
Mills					25	2,525	3	50		875	6,950
Mitchell					12	1,225				4,865	14,133
Monona	34	300			12	2,200	2	15	100	611	9,792
Monroe	46	725	2	40	14	2,225	10	150		430	7,420
Montgomery	50	100			23	1,810			60	1,810	4,675
Muscatine	35	300	1	8	9	2,950	9	150	350	2,630	19,748
O'Brien	26	260			9	1,725	4	60		4,647	12,191
Osceola					24	1,400				560	4,560
Page	51	550			5	1,115	15	255		1,010	14,944
Palo Alto	6	50	2	10	12	1,175	2	25		90	2,625
Plymouth	51	760	8	160	25	3,485	5	75	1,825	430	19,900
Pocahontas	27	428	1	8	22	1,260	8	70	135	1,080	6,470
Polk	32	120			29	1,500	9	30		1,550	11,640
Pottawattomie	41	75			54	1,200	5	20	525	100	2,930
Poweshiek	88	950			9	1,280	11	110	435	290	13,575
Ringgold					9	325	11	150		475	3,140
Sac	82	800			7	575	3	30		625	2,887
Scott	40	230			4	1,850	2	12		5,515	12,317
Shelby	31	400			5	625			400	590	10,315
Sioux	31	500	6	40	2	550	7	70	450	2,000	12,810
Story	43	535			4	375	7	30	150	45	12,090
Tama	73	940	11	200			10	170		600	3,845
Taylor	90	1,445	6	150					150	150	5,446
Union	50	400			2	525	11	175		635	7,230
Van Buren	52	800			4	800	4	40	450	2,095	8,415
Wapello	48	595			1	200	17	170		100	1,935
Warren	87	600					6	50		634	3,819
Washington					2	2,300	6	50	800	650	21,640
Wayne	51	270	3	10			22	235	100	500	6,710
Webster	30	400			3	1,240	6	60	40	1,872	8,917
Winneshiek	26	200			5	1,235	2	16		100	4,131
Woodbury	35	280			4	1,120	5	55	438	1,130	9,148
Woodworth	23	227	3	40	4	1,025	3	37	20	741	4,585
Worth	16	150			8	450	1	3	35	1,298	5,536
Wright					1	400	6	100	75		6,263
Total	4,003	\$38,630	146	\$2,223	665	\$116,915	521	\$5,720	\$18,429	\$126,559	\$902,284

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