

Council Chamber, Ann Arbor, Mich.,
Nov. 15, 1915. Regular session.

Meeting called to order by the president. Present: Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Mark-ey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Absent: Ald. Heusel, 1. Minutes of previous meeting approved.

Communications.

From Water Works Department—
Nov. 15, 1915.

To the Honorable Common Council of the city of Ann Arbor, Mich.: Gentlemen—This department wishes to submit, for your consideration the dangerous condition this city will be in, if the coming season is dry. With the present system of piping we are able, outside of sprinkling season, to supply all with water except where there is a one inch or inch and one-quarter pipe supplying fifteen or twenty consumers, as for example, East William street, where such conditions exist. There are three blocks of this size of pipe under the most expensive pavement in the city. When the street was paved, no care was taken to relay large pipe as is the practice now. This past summer has been favorable. We have had no trouble to furnish plenty of water for all purposes. Over six hundred new consumers and the following extensions of mains:

- 384 feet of 16 inch.
- 4,440 feet of 12 inch.
- 1,344 feet of 10 inch.
- 16,219 feet of 6 inch.
- 2,015 feet of 3-4 to 1 inch

have been added to the plant since the city took possession, which means a much larger supply of water must be furnished.

The small pipe mentioned above, was laid where there was no possibility of any additional consumers.

When the plant was taken over by the city, water consumers in the south and east sections were without water from two to four hours per day, from June to October, and with a dry season, the conditions would be worse. To overcome this situation, this department was considering laying a large main from the number one pumping station along North Main street, east, and up Thayer or Ingalls street to the south end of the city. Water to be pumped direct into said main. All water to be filtered with one or more modern filters, such as are used in all large cities.

About this time the Steere farm agitation came up, and we have been waiting developments. The outlook seems to be a lengthy legal fight, and as this means further time, we wish you as well as the public to know the true conditions. Further, if this next season is a dry one, it means that a great part of the city will be without water at times, as well as no fire protection in certain sections. We have reached a point where, owing to small mains, we are pumping at a loss of between twenty-five and thirty per cent, which is a dangerous point, and we cannot increase the supply of water through the present mains.

We therefore ask that money be allowed for the construction of a large main from Station One to the southeast section of the city as well as money for modern filters.

This department will furnish the estimated cost of the necessary improvements upon request.

Respectfully submitted, Water Works Department of the City of Ann Arbor, by Geo. S. Vandawarker, Manager.

Moved by Ald. G. Lutz that communication be referred to water committee, to report at next meeting. Adopted.

Moved by Ald. Manwaring, that the City Attorney be added to committee on water works department report. Adopted.

Petitions.

Ann Arbor, Mich., Nov. 8th, 1915.

To the Honorable, the Common Council of the City of Ann Arbor: Gentlemen—We, the undersigned, being ten or more freeholders of the City of Ann Arbor, respectfully petition your honorable body to close a certain street, known as Edward street, in D. Hiscock's Second addition to the City of Ann Arbor, said street running from West Summit street north to a street known as Charles street, heretofore closed.

This street has never been used by the city as a street, and is of no value to the City of Ann Arbor as a street, and the purpose of this petition is to have said street closed and have the title to the land vest according to the provisions of the charter of the City of Ann Arbor, and your petitioners will ever pray, etc.

A. R. Gfell, R. F. Zachman, Geo. H. Blum, Adolph Kern, Herman A. Kern, Matilda Fields, Nelson Imus,

Otto Zemke, Mrs. Anna Krumrei,
August Steinke.

By Ald. Fiegel:

Resolved, That this Common Council hereby determine the proposed closing of Edward Street to be advisable, therefore be it

Resolved, that the Common Council give written notice of the proposed closing of Edward street, to all persons interested, and that this Council meet at 7 o'clock p. m., on night of Dec. 6th, 1915, to consider the matter in accordance with the provisions of Sec. 127 of the charter of the City of Ann Arbor.

Adopted by unanimous vote of those present, 14.

Petition of Emil Golz, et al, for sanitary sewer on Fifth st., south of Madison st., received, and referred to Sewer committee.

Petition of Emil Golz, et al, for water main on Fifth st., south of Madison st., received and referred to Water Commissioners.

Moved by Ald. Manwaring, that the matter of allowing Mr. Freeme Stark to place a telephone box in the street near Michigan Central railroad station be referred to Street committee. Adopted.

Deeds were presented for Park property, as voted by the people Sept. 16th, 1915.

Moved by Ald. G. Lutz, That deeds be accepted and Clerk draw warrants for amounts due on same.

Adopted by unanimous vote of those present, 14.

Committee Reports.

FINANCE REPORT

Fire Fund

Chas. J. Andrews, salary	\$ 50.00
Eugene Williams, salary	38.50
Geo Hoelzle, salary	38.50
Ralph Edwards, salary	38.50
Henry McLaren, salary	36.50
Jacob Gwinner, salary	36.50
Arthur Clark, salary	35.00
Harley Wise, salary	35.00
Martin Noll, salary	35.00
Geo. Isbel, salary	35.00
Frank Markey, salary	35.00
Thomas Shamp, salary	35.00
Clyde Carpenter, salary	35.00
Harold Darling, salary	35.00
Herman Kruse, salary	35.00
Ed. Kleinschmidt, salary	35.00
Emil Damman, salary	30.00
Edward Kapp, salary	30.00
James Sumner, salary	30.00
Nelson Hoppe, salary	30.00
Theodore Higgins, salary	30.00
Chas. Carroll, salary	23.00
Frank Kapp, salary	23.00
Al McNamara, salary	4.00

Total salaries for 1/2 month of

November\$788.50

Police Fund

Frank Pardon, salary	\$ 41.66
Thomas O'Brien, salary	40.00
Wm. Blackburn, salary	35.00
Wm. J. Aprill, salary	35.00
Gustave Meyer, salary	35.00
Ruben Armbruster, salary	35.00
Ed. Blumhardt, salary	35.00
Frank Keihl, salary	35.00
Emanue. Sodt, salary	32.50
Earl Walker, salary	32.50
Marlend Howard, salary	32.50

Total salaries for 1/2 month of November\$389.16

Frank Pardon, detective services paid\$ 10.00

Police fund total\$399.16

Contingent Fund

M. C. Ryan, salary\$ 30.00

Engineer Dept.

R. A. Dodge, labor	\$ 11.55
Emanuel Holzappel, labor	3.25
H. A. Miles, labor	17.50
Tom O'Neill, labor	26.00
Horace H. Person, labor	42.00
C. F. Seymour, labor	20.40
C. W. Smedberg, labor	42.00
Martin Wash, labor	3.25
F. E. Williams, labor	16.80

Total Engineer dept.\$182.75

Washtenaw Gas Co., city hall\$ 3.85

Doubleday-Hunt-Dolan Co., supplies 35.00

Eberbach Pharmacy, supplies 1.50

George Wahr, supplies95

D. F. Woodward, supplies, etc.... 4.60

The Michigan Daily, printing.... 4.14

Rohde's Livery, livery 2.00

C. H. Brock, livery 6.00

Thos. Hanselmann, auto for committees 8.00

Thos. Hession, curbing 24.98

Total supplies, etc.\$ 91.02

Contingent fund total\$303.77

Stere Farm

A. F. Freeman, services\$263.68

Building Sidewalk Fund

Thos. Hession, walks built\$123.62

C. M. Thompson & Son, walks built 20.93

Total\$144.55

Water Works Fund

W. H. Willsher, services\$ 37.50

Joel West, services 37.50

Leslie Bush, services 37.50

Robert Stoll, services 30.00

Fred Schwikert, services 30.00

John Ford, services 30.00

J. Schwikert, services 32.50

Henry Linde, services 32.50

John Wood, services 30.00

A. E. Hawkes, services 37.50

Cliff Shetterly, services 41.66

Louise Malloy, services 25.00

Raymond Spokes, services 10.00

Total services for 1/2 month of November\$411.66

F. Rhodenbecker, labor\$ 30.00

Joe Glazier, labor 30.00

L. Hazelschwerdt, labor 29.18

R. Rhodenbecker, labor	12.50
H. Koernke, labor	27.00
Geo. Mast, labor	27.00
J. Nimz, labor	26.25
Chris. Larmee, labor	26.25
Aug. Molkentine, labor	27.00
H. Norgord, labor	14.50
Fred Luepke, labor	24.00
P. Carey, labor	15.75

Total labor	\$289.43
Schumacher Hardware Co., sup- plies	\$ 18.85
Schuracher & Backhaus, supplies	4.80
Roe Stephens Mfg. Co., supplies...	56.70
James B. Clow & Sons, supplies...	28.74
Christian Schlenker, supplies.....	1.20
Electro Bleaching Gas Co., supplies	50.89
The Laidlaw Dunn Gordon Co., supplies	29.40
Standard Oil Co., supplies	6.93
The Garlock Packing Co., supplies	12.70
The Machine Specialty Co., supplies	3.60
L. E. Wenzel, supplies	191.13
Crané Co., supplies	46.69
Ohio & Mich. Coal Co., supplies...	54.70
Washtenaw Electric Shop, supplies	1.73
Gus. J. Vogel, supplies	1.25
Mich. Central R. R. Co., freight...	88.95
James W. Robison, livery.....	2.00
John R. Miner, insurance	9.60
Archie Miller, services	22.24
Water Works Dept., expenses	24.24

Total supplies, etc.	\$656.34
Water Works fund total.....	\$1,357.43

Park Fund

Mort Bowen, labor	\$ 8.07
J. W. O'Brien, labor	10.00
W. J. Randel, labor	8.00
Dana Wilbee, labor	6.53

Total labor	\$ 32.60
Michigan Central R. R. Co., freight	1.07

Park fund total	\$ 33.67
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Street Fund

Douglas Bycraft, labor	\$ 23.75
Wm. Clark labor	30.00
Emanuel Holzapfel, labor	21.75
Matt Koch, labor	24.00
Fred Kraus, labor	9.00
Geo. J. Mack, labor	24.00
James Mason, labor	36.00
W. H. Romig, labor	24.00
Geo. J. Schaible, labor	24.11
Eugene Schlanderer, labor	24.00
A. G. Schneeberger, labor	24.11
Adam Seyfried, labor	24.00
Jacob F. Staebler, labor	24.00
Fred Ulrich, labor	36.17
Martin Walsh, labor	23.75
John Wendland, labor	24.00
Robert Barnard, team	22.50
Jacob Becks, team	36.00
Max Bethke, team	54.00
Rod. Biddle, team	36.00
J. B. Elfring, team	16.20
Ed. Grams, team	36.00
John J. Gutekunst, team	11.00
Fred G. Hanselman, team	54.00
Wm. Henderson, team	36.00
John Herrst, Sr., team	6.00
John Huber, team	34.20
J. A. Kapp, team	36.00

Mrs. H. Marquardt, team	29.70
John Miller, team	49.50
Robert Miller, team	40.63
Carl Rehberg, team	93.75
Orin Schafer, team	36.00
George Schaible, team	40.83
Walter Schneider, team	22.50
Mrs. Joe Schwab, team	29.00
W. H. Seeley, team	49.50
O. D. Taft, team	36.00
M. M. Wheelock, team	13.50
Claud Young, team	54.00

Total labor	\$1,269.45
Thos. Hession, extensions	\$ 4.00

Street fund total	\$1,273.45
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Recapitulation

Contingent fund	\$ 303.77
Fire fund	788.50
Police fund	399.16
Steere Farm fund	263.68
Building Sidewalk fund	144.55
Water Works fund	1,357.43
Park fund	33.67
Street fund	1,273.45

Total	\$4,564.21
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Ann Arbor, Mich., Nov. 15, 1915.

To the Finance committee of the Common Council: Gentlemen—I have examined the foregoing accounts against the city of Ann Arbor, and I hereby certify that they are correct to the best of my knowledge. ROSS GRANGER, City Clerk.

To the Honorable, the Common Council: Gentlemen—Your Finance committee has reviewed the foregoing report. We recommend that same be approved and that warrants be ordered drawn for the foregoing accounts.

GEO. LUTZ, ALBERT FIEGEL, Finance Committee.

Ald. G. Lutz moved the adoption of the report, which was adopted by unanimous vote of those present, 14.

Engineer's Estimate.

(From Board of Public Works.)

To the Board of Public Works, Ann Arbor, Michigan: Sirs—I present the following final estimate for furnishing labor and material for the construction of the reinforced concrete pavement on Geddes ave., from Oxford road to Oswego st., and recommend payment of the amount now due to Messrs. Barnes & O'Neil, the contractors.

1614 cu. yds. grading at 45c	\$726.30
1840 lin. ft. of curbing at 28c	515.20
1595.3 lin. ft. drain tile at 6c	95.72
3272.7 sq. yds. reinforced concrete paving at \$1.14..	3730.88
134.5 lin. ft. headers at 70c	94.15

Total	\$5162.25
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Extra for increased thickness
of expansion joint

10.50

Extra for man one day
spreading dirt on Cam-

bride rd. and Medalion st.	2.25
Total	\$5175.00
Less for time of men setting castings..	13.12
Less for 56 ft. mesh reinforcing at 5c.	2.80
Less for water used in construction ..	46.19

62.11

Balance	\$5112.89
Less amount of previous estimates	4098.60

Amount now due contractor \$1014.29 Respectfully submitted, Manley Os-good, City Engineer.

Moved by Mr. Reule, that estimate of Barnes & O'Neil be recommended to Council for payment. Adopted by Board.

(Action of Council.)

Moved by Ald. G. Lutz, that recommendation of the Board be concurred in, and the City Clerk instructed to draw warrant for amount due.

Adopted by unanimous vote of those present, 14.

Ordinance Committee.

Ald. Sink presented an ordinance entitled, "An ordinance to Amend an Ordinance entitled, 'An Ordinance Relative to Porters, Runners and Drivers and to Regulate Hacks and Drays,'" passed March 16th, 1896; Approved March 17th, 1896; Amended August 20th, 1900; which was given its third reading November 1st, 1915.

An Ordinance to Amend an Ordinance entitled, "An Ordinance Relative to Porters, Runners and Drivers and to Regulate Hacks and Drays," passed March 16th, 1896; approved March 17th, 1896; amended August 20th, 1900.

The Common Council of the City of Ann Arbor Ordain:

Section 1. That section two of an ordinance entitled "An Ordinance Relative to Porters, Runners and Drivers, and to regulate Hacks and Drays;" Passed March 16th, 1896; approved March 17th, 1896, be and the same is hereby amended to read as follows:

Section 2. Every person licensed to use any cart, truck, wagon, or other vehicle for the transportation of any property, for hire, within the limits of the City of Ann Arbor, shall be allowed to charge the following

rates of prices for such transportation, and no more:

For the moving and carting of furniture, for a truck, dray or other vehicle, team and two men, one dollar and twenty-five cents per hour, the time to be computed from the time the dray or truck leaves the office or warehouse until its return and forty cents per hour for each extra man demanded; ninety cents per hour for dray or truck, team and one man; for moving of upright piano, first floor to first floor, in load, one dollar each; for moving of upright piano, first floor to first floor, not in load, two dollars.

The following charges may be made for general draying: For a truck or dray, team and two men, one dollar per hour; thirty cents per hour for each extra man required; seventy-five cents per hour for dray or truck, team and one man.

The following charges may be made for general team work. Sixty cents per hour for wagon, team and one man; thirty cents per hour for each extra man.

The charges for any of the above work done with a dray or truck drawn with one horse shall be three-fourths of the amount charged for a dray or truck drawn by two horses.

The charges for motor vehicles shall be the same as for two horse drawn vehicles.

The charge for conveying any single box or trunk, except fragile articles, not exceeding in weight one hundred fifty pounds, 1st floor to 1st floor to any part of the city shall be twenty-five cents.

And no greater sum shall be demanded and received, unless by previous agreement by the parties interested, but not to make an unreasonable or exorbitant charge for moving any such property or thing.

Every person driving, or having in charge, any dray, cart, or other vehicle for the transportation of property for hire, shall keep and immediately produce, upon request, a correct copy of this section of this ordinance, to be furnished, upon application, by the City Clerk.

Any person who shall make and collect any overcharge on the above rates shall forfeit and pay a fine of not to exceed five dollars and costs of prosecution for a first offense, and not exceeding twenty-five dollars and costs of prosecution for a second of-

fense, and in default of payment of any such fine the offender may be confined in the Washtenaw County jail for a period not to exceed ninety days.

Section 2. All ordinances and parts of ordinances heretofore passed by the City of Ann Arbor in conflict with this amendment or any provision of the same are hereby repealed.

This ordinance shall take effect and be in force on and after ten days from legal publication.

The Chair put the question, "Shall this ordinance pass?"

Passed by following vote: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

Ald. Sink presented an ordinance entitled, "An Ordinance to Amend an Ordinance, entitled 'An Ordinance to Regulate and Control the Driving of Automobiles, Motor Vehicles and Other Vehicles Within the City of Ann Arbor.'" Passed August 21st, 1911; Approved August 23rd, 1911; which was given its third reading as follows:

An ordinance to Amend an Ordinance entitled, "An ordinance to regulate and control the Driving of Automobiles, Motor Vehicles and other Vehicles within the City of Ann Arbor." Passed August 21st, 1911. Approved August 23rd, 1911.

The Common Council of the City of Ann Arbor Ordain:

Sec. 1. That sections two and three of an Ordinance entitled, "An Ordinance to Regulate and Control the Driving of Automobiles, Motor Vehicles and other Vehicles Within the City of Ann Arbor," passed August 21st, 1911, approved August 23rd, 1911, be and the same is hereby amended to read as follows:

Sec. 2. The owner, operator, driver or person in charge of any cart, dray, wagon, hackney coach, omnibus, automobile, motor cycle, motor vehicle, carriage or other vehicle, except street cars, used, propelled or driven upon any street, alley or public place of the corporation shall conform to and observe the following rules of the road:

1. All vehicles shall be driven in a careful manner, and with due regard for the safety and convenience of other vehicles and of pedestrians.

2. Every vehicle shall keep on the right side of the road or street, except when necessary to turn to the

left in crossing or in overtaking another vehicle.

3. Vehicles going in opposite directions shall pass each other on the right.

4. Every vehicle overtaking another vehicle shall keep to the left of the overtaken vehicle in passing.

5. Vehicles turning to the left into another street, shall pass to the right of and beyond the center of street intersection before turning, and in congested districts where traffic policemen are stationed at street intersections, an approaching automobile or vehicle must signal such officer and not enter such intersection until receiving proper signal from said officer.

6. No vehicle shall be driven through a procession, except with the permission of a police officer.

7. Every driver of a vehicle, when such vehicle is approaching a street car stopping for the purpose of taking on or discharging passengers, shall give some signal plainly visible or audible to such passenger, and shall keep such vehicle at least six feet from the running board or lower step of such car; and if, either by reason of the presence of vehicles at the place where such car is stopping, or by reason of the narrowness of the street, it is not possible to preserve such distance of six feet from such running board or lower step, the driver of said vehicle shall stop the same until such car shall have taken on or discharged its passengers and again started. Provided that a portion of each street hereinafter named where street cars are required to stop to receive or discharge passengers described as a strip of the street six feet in width and lying outside and adjacent to and parallel with the outer car rail and running from the hither lot line sixty feet from the street intersection shall be deemed a safety zone, and it shall be a violation of the provisions of this ordinance to drive into said safety zones while persons are waiting for passage on any street car or alighting therefrom. The above mentioned safety zones shall be established at the following places: At the corner of Main and Huron streets, corner of Main and Washington streets, corner of Liberty and Main streets, corner of Main and William streets, and at the corner of William and State streets and such other places as the Common Council may from time to time by resolution designate.

8. No vehicle shall stand or stop

within any street intersection so as to obstruct the free passage of vehicles and pedestrians.

9. No vehicle shall stop at any cross walk or sidewalk in such manner as to obstruct the free passage of pedestrians on such crosswalk or sidewalk, or for a longer period than is necessary to permit persons to alight from or to enter said vehicle.

10. No vehicle shall stop on any street, except within two feet of the curb, or in any such way as to obstruct free passage on the street, provided that this rule shall not apply when a driver of a vehicle is compelled to stop by reason of rule 7 of this section.

11. No vehicle shall cross any thoroughfare or make any turn thereon at a greater speed than one-half the legal speed limit upon such thoroughfare.

12. Automobiles crossing any thoroughfare shall signal approaching vehicles and the vehicle nearest the approaching street intersection shall have the right of way wherever a traffic officer is not stationed; otherwise rule 5 must be strictly observed.

13. Vehicles moving slowly shall keep as near as may be convenient to the curb on the right allowing more swiftly moving vehicles free passage on their left.

14. Drivers of motor vehicles before turning, stopping or changing their course, shall make sure that such movement can be made with safety.

15. Vehicles crossing from one side of the street to the other in the congested district, shall do so by turning to the left so as to head in the same direction as the traffic on that side of the street toward which the crossing is made.

16. No vehicle shall stop in the congested district with its left side to the curb, and no automobile shall stop anywhere in the city with its left side to the curb.

17. No vehicle shall remain backed up to the curb in the congested district unless it is actually loading or unloading, and in such case no longer than the actual loading or unloading requires.

18. All automobiles shall carry the proper number of lamps, and shall during the period from one hour after sunset to one hour before sunrise display the number and kinds of lights required by state law. Automobile drivers may aid themselves in this rule by observing the general rule of lighting street lamps.

19. Automobiles leaving any public garage or alley, must stop before crossing the sidewalk line, and give proper signal, and the utmost care shall be used in entering same. Signals in such cases may be used freely.

20. The horse or horses attached to a vehicle backed up to the curb in the congested district shall be turned at right angles to the vehicle, and in the direction in which the traffic upon that side of the street is moving.

21. No person while under the influence of liquor shall drive any kind of a vehicle upon the streets, highways or public places of the city.

22. The Chief of Police may from time to time prohibit the parking of motor vehicles or other vehicles in any district where such parking will interfere with traffic or the public safety, and no vehicle shall be parked at any time within twenty-five feet of any fire hydrant.

Sec. 3. Lights on automobiles or motor vehicles being operated or standing upon said streets must be kept burning in front and rear during the time the city lights on the streets are lighted, and each of such automobiles or motor vehicles shall carry the state license exposed in front and rear, as required by the state law. Provided that every motor vehicle equipped with and using electric light or lights upon any of the public streets of this city shall be provided and equipped with some practical and efficient device or devices whereby the forward light or lights of such vehicle shall be dimmed or lessened to such an extent that such electric light or lights or the reflection therefrom through such forward light or lights will not interfere with the sight of nor temporarily blind the vision of any pedestrian or the driver of any approaching vehicle, and it shall be the duty of each and every driver or chauffeur of such motor vehicle or other vehicle equipped with and using electric light or lights of the vehicle being driven by him and cause such light or lights to be dimmed and lessened so as not to interfere with the sight or temporarily blind the vision of any pedestrian or the driver of any approaching vehicle.

Sec. 2. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Sec. 3. This ordinance shall take effect and be in force from and after ten days from legal publication.

Moved by Ald. Manwaring, that rule 11 of section 2 be amended by striking out the words "one-half the legal speed limit upon such thoroughfare" and inserting therefore the words "ten miles per hour"; said rule when amended to read:

11. No vehicle shall cross any thoroughfare or make any turn thereon at a greater speed than ten miles per hour.

Amendment adopted by following vote: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

The Chair put the question, "Shall this ordinance pass as amended?"

Passed by following vote: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

Ald. Sink presented an ordinance entitled, "An ordinance to Amend an Ordinance entitled, 'An Ordinance Relative to Fire Limits and Fires,'" which was given its second reading, passed to and given its third reading by unanimous vote of those present,

An Ordinance to Amend an Ordinance Entitled, "An Ordinance Relative to Fire Limits and Fires," passed October 7, 1895; approved October 12, 1895; amended June 4, 1900; amended March 19, 1906; amended December 3, 1906; amended April 10, 1913, amended August 17, 1914.

The Common Council of the City of Ann Arbor ordain:

Section 1. That Section one (1) of an ordinance entitled, "An ordinance relative to Fire Limits and Fires" passed October 7, 1895; approved October 12, 1895; amended June 4, 1900; amended March 19, 1906; amended December 3, 1906; amended April 10, 1913; amended August 17, 1914, be and the same is hereby amended to read as follows:

Section 1. No person, firm or corporation shall hereafter place, enlarge or erect any building or other structure on any lot or part of lot fronting on any of the following streets or parts of streets, to-wit:

On Main street between Kingsley and William streets; On Huron street between First street and Fifth avenue; On Washington street between the Ann Arbor Railroad and State street; On Liberty street between the

Ann Arbor Railroad and State street; On Catherine street between Ashley street and Fifth avenue; On Ann street between Ashley street and Fifth avenue; On Fourth avenue between Kingsley street and Liberty street; On the west side of Fifth avenue between Kingsley and Liberty streets; On Ashley street between Catherine and William streets; On State street, between William and Huron streets; On William street between State street and the Ann Arbor Railroad; On Maynard street between William and Liberty streets; On Detroit street between Fourth avenue and Depot street; on the block bounded as follows, to-wit: On the north by Fuller street, on the south by Kingsley street, on the east by North State street, and on the west by Elizabeth street; On North University avenue between South State street and East University avenue; On East University avenue from North University avenue to South University avenue; On South University avenue from Forest avenue to State street; On Church street from South University to Washtenaw avenue; On Forest avenue from South University avenue to Washtenaw avenue; On Church street; and on the west side of Thayer street from Washington street to North University avenue in this City, unless such building or structure shall be constructed of stone, reinforced concrete brick or with party or fire walls of the same material.

This ordinance shall take effect and be in force on and after ten days from legal publication.

The Chair put the question, "Shall this ordinance pass?"

Passed by following vote: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

Ald. Sink presented an ordinance entitled, "An Ordinance to Prevent the Operation of Dangerous and Defective Street Cars and to Secure Peace and Safety in the Streets," which was given its first reading by title and referred to the Ordinance committee by following vote: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

Fire Committee.

To the Council: Gentlemen—Your fire committee and Board of Fire Commissioners have had the following matters under consideration and recommend:

1st. That Engine House No. 2 be abandoned.

2nd. That Engine House No. 1 be repaired as follows: three large doors and one small door to be new, chimney to be rebuilt from roof up and entire new heating plant be established. Respectfully submitted, Wm. F. Flynn

Albert S. Lutz, Frank E. Heck, Fire Committee.

Moved by Ald. G. Lutz, that proposition No. 1 be accepted and adopted Adopted by unanimous vote of those present, 14.

Moved by Ald. Flynn, that proposition No. 2 be referred to the Board of Public Works to furnish Council with plans and specifications as recommended. Adopted.

Officer's Reports.

City Treasurer's Report.

CITY FUNDS—Treasurer's Report For Month Ending, October, 1915.

Money Received—
County fund—
Chas. J. Andrews,
city scales.....\$ 6.90
C. Kensler, Milk license... 1.00
Dray and taxi license..... 5.50
Peddlers license 84.00
Fees on taxes collected.... 13.67
Int. on bank balance..... 110.21

Total\$ 221.18

Cemetery fund—

Burial permits 16.00

Dog License fund—

Dog license sold 60.75

Fire fund—

Bonds sold to Detroit Trust Co. to apply 720.00

Police fund—

Frank Pardon, chief,
city fees\$23.25

Frank Pardon, chief,
city fines 37.00

Total 60.25

Street fund—

Cement for building culvert for driveway 7.00

Park fund—

Rent of mower\$ 2.50

Shrubbery campaign 125.00

Total 127.50

Sidewalk Bldg. fund—

Walks built by city 469.52

Water Works fund—

Rec'd. from Mgr. Vandawalker.. 11,387.30

Sprinkling Dist. No. 11—

Taxes collected 998.54

Sprinkling Dist. No. 12—

Taxes collected 445.84

Sprinkling Dist. No. 14—
Taxes collected 429.94

Total\$14,943.92

Warrants paid\$14,823.16

Balance\$ 120.76

Oct. 1 on hand\$54,209.38

Nov. 1 on hand\$54,330.14

Condition of City Funds on the First

Day of November, 1915:

Warrants paid—

Contingent fund\$ 3,439.71

City Cemetery fund 54.25

Dog License fund 5.50

Fire Department fund 1,668.58

Poor fund 77.88

Police fund 834.96

Street fund 1,854.31

Park fund 396.06

Street Light fund 1,494.95

Sidewalk fund 4.11

Bridge Culvert and Crosswalk fund 500.77

Water Works fund 3,865.68

Sprinkling District No. 11..... 224.60

Sprinkling District No. 12..... 129.20

Sprinkling District No. 14..... 107.60

Entertainment fund 165.00

Total\$14,823.16

On Hand—

Contingent fund\$ 7,346.36

City Cemetery fund 545.34

Dog License fund 378.26

State Dog Tax fund 100.00

Fire Department fund 9,299.09

Poor fund 1,791.20

Police fund 6,313.81

Street fund 3,167.39

Water fund 4,584.95

Park fund 1,306.76

Street Light fund 9,048.66

Sidewalk fund 48.50

Bridge Culvert and Crosswalk fund 14,365.28

Water Works fund 27,537.88

Steere Farm fund 450.31

Detention Hospital fund 40.00

Rejected Tax fund 117.53

Sprinkling District No. 15..... 27.11

Entertainment fund 520.00

Total\$86,987.73

Overdrawn\$32,657.59

On hand Nov. 1, 1915\$54,301.14

Overdrawn—

Sidewalk Building fund\$ 654.06

Uncollected City Tax fund 25,094.85

Delinquent Tax fund 5,746.72

Sprinkling District No. 11..... 472.37

Sprinkling District No. 12..... 391.01

Sprinkling District No. 13..... 66.86

Sprinkling District No. 14..... 231.72

Total\$32,657.59

Warrants Outstanding—

Contingent fund\$ 193.12

Fire Department fund 56.04

Street fund 6.40

Park fund 13.95

Water Works fund 29.24

Total\$ 298.75

SEWER FUNDS—Treasurer's Report for
 Month Ending October, 1915.

Money Received—
 Tax Acc. Sewer Dist. No. 53—
 Taxes collected\$ 21.03
 Tax Acc. Sewer Dist. No. 55—
 Taxes collected 132.34
 Tax Acc. Sewer Dist. No. 56—
 Taxes collected 177.37
 Tax Acc. Sewer Dist. No. 58—
 Taxes collected 67.71
 Tax Acc. Sewer Dist. No. 60—
 Taxes collected 75.58
 Tax Acc. Sewer Dist. No. 61—
 Taxes collected 33.55

Total\$ 507.58
 Warrants paid 34.29
 Balance\$ 473.29
 Oct. 1 Overdrawn\$ 8,268.04
 Nov. 1 Overdrawn\$ 7,794.75

Condition of the Sewer Funds on the
 First Day of November, 1915:

Warrants Paid—
 Labor Acc. Lateral Sewer No. 64, \$ 54.29
 Total\$ 34.29

On Hand—
 Tax Acc. Lateral Sewer No. 27..\$ 13.06
 Tax Acc. Lateral Sewer No. 35.. 276.47
 Tax Acc. Lateral Sewer No. 41.. 132.55
 Tax Acc. Lateral Sewer No. 42.. 223.79
 Tax Acc. Lateral Sewer No. 44.. 208.85
 Tax Acc. Lateral Sewer No. 45.. 250.62
 Tax Acc. Lateral Sewer No. 46.. 497.60
 Tax Acc. Lateral Sewer No. 47.. 521.77
 Tax Acc. Lateral Sewer No. 48.. 227.73
 Tax Acc. Lateral Sewer No. 49.. 4.55
 Tax Acc. Lateral Sewer No. 57.. 34.53
 Tax Acc. Lateral Sewer No. 58.. 143.51
 Tax Acc. Lateral Sewer No. 60.. 72.42
 Tax Acc. Lateral Sewer No. 62.. 66.54
 Labor Acc. Lateral Sewer No. 49, 43.18
 Labor Acc. Lateral Sewer No. 51, 301.12
 Labor Acc. Lateral Sewer No. 52, 55.28
 Labor Acc. Lateral Sewer No. 53, 889.15
 Labor Acc. Lateral Sewer No. 56, 91.26
 Labor Acc. Lateral Sewer No. 63, 570.69
 Labor Acc. Lateral Sewer No. 65, 11.88
 Labor Acc. Lateral Sewer No. 66, 19.10
 Labor Acc. Lateral Sewer No. 67, 29.16

Total\$ 4,684.81
 Overdrawn\$12,479.56

On hand Nov. 1, 1915\$ 7,794.75

Overdrawn—
 Tax Acc. Lateral Sewer No. 32..\$ 909.69
 Tax Acc. Lateral Sewer No. 33.. 58.68
 Tax Acc. Lateral Sewer No. 34.. 1,299.21
 Tax Acc. Lateral Sewer No. 36.. 245.07
 Tax Acc. Lateral Sewer No. 37.. 127.23
 Tax Acc. Lateral Sewer No. 38.. 157.41
 Tax Acc. Lateral Sewer No. 39.. 475.31
 Tax Acc. Lateral Sewer No. 40.. 494.41
 Tax Acc. Lateral Sewer No. 43.. 53.22
 Tax Acc. Lateral Sewer No. 50.. 285.55
 Tax Acc. Lateral Sewer No. 51.. 233.31
 Tax Acc. Lateral Sewer No. 52.. 23.14
 Tax Acc. Lateral Sewer No. 53.. 866.85
 Tax Acc. Lateral Sewer No. 54.. 43.88
 Tax Acc. Lateral Sewer No. 55.. 185.31
 Tax Acc. Lateral Sewer No. 56.. 1,231.50

Tax Acc. Lateral Sewer No. 59.. 104.83
 Tax Acc. Lateral Sewer No. 61.. 664.57
 Tax Acc. Lateral Sewer No. 63.. 132.23
 Tax Acc. Lateral Sewer No. 64.. 185.17
 Tax Acc. Lateral Sewer No. 65.. 64.15
 Tax Acc. Lateral Sewer No. 66.. 103.16
 Tax Acc. Lateral Sewer No. 67.. 157.49
 Labor Acc. Lateral Sewer No. 42, 170.03
 Labor Acc. Lateral Sewer No. 43, 161.63
 Labor Acc. Lateral Sewer No. 44, 204.26
 Labor Acc. Lateral Sewer No. 45, 247.32
 Labor Acc. Lateral Sewer No. 46, 538.53
 Labor Acc. Lateral Sewer No. 47, 532.71
 Labor Acc. Lateral Sewer No. 48, 199.27
 Labor Acc. Lateral Sewer No. 50, 98.35
 Labor Acc. Lateral Sewer No. 54, 270.88
 Labor Acc. Lateral Sewer No. 55, 423.08
 Labor Acc. Lateral Sewer No. 57, 247.37
 Labor Acc. Lateral Sewer No. 58, 166.85
 Labor Acc. Lateral Sewer No. 59, 164.92
 Labor Acc. Lateral Sewer No. 60, 68.57
 Labor Acc. Lateral Sewer No. 61, 733.82
 Labor Acc. Lateral Sewer No. 62, 150.60

Total\$12,479.56

PAVING FUNDS—Treasurer's Report for
 Month Ending October, 1915.

Money Received—
 Tax Acc. Pav. Dist. No. 12—
 Taxes collected\$ 26.51
 Tax Acc. Pav. Dist. No. 15—
 Taxes collected 51.34
 Tax Acc. Pav. Dist. No. 27—
 Taxes collected 4.07
 Tax Acc. Pav. Dist. No. 28—
 Taxes collected 8.04
 Tax Acc. Pav. Dist. No. 29—
 Taxes collected 166.38
 Labor Acc. Pav. Dist. No. 33—
 Bonds sold and interest 339.25
 Labor Acc. Pav. Dist. No. 34—
 Bonds sold and interest..... 503.33

Total\$ 1,098.92
 Warrants paid\$17,352.78

Balance\$16,253.86
 Oct. 1 on hand\$30,615.45

Nov. 1 on hand\$14,361.59
 Condition of Paving Funds on the First
 Day of November, 1915:

Warrants Paid—
 Labor Acc. Pavement No. 32.... 1,472.81
 Labor Acc. Pavement No. 33.... 3,040.87
 Labor Acc. Pavement No. 34.... 11,859.00
 Labor Acc. Pavement No. 35.... 980.10

Total\$17,352.78

On Hand—
 Tax Acc. Pavement No. 5.....\$ 1,079.01
 Tax Acc. Pavement No. 6..... 76.20
 Tax Acc. Pavement No. 7..... .05
 Tax Acc. Pavement No. 8..... 641.09
 Tax Acc. Pavement No. 11..... 789.70
 Tax Acc. Pavement No. 13..... 296.99
 Tax Acc. Pavement No. 14..... 329.35
 Tax Acc. Pavement No. 15..... 449.12
 Tax Acc. Pavement No. 16..... 140.50
 Tax Acc. Pavement No. 17..... 318.01
 Tax Acc. Pavement No. 18..... 1,364.27
 Tax Acc. Pavement No. 19..... 823.23
 Tax Acc. Pavement No. 21..... 1,165.71
 Tax Acc. Pavement No. 22..... 254.21
 Tax Acc. Pavement No. 23..... 948.87

Tax Acc. Pavement No. 24.....	262.47
Tax Acc. Pavement No. 25.....	23.57
Tax Acc. Pavement No. 27.....	1,483.66
Tax Acc. Pavement No. 28.....	2,367.72
Tax Acc. Pavement No. 29.....	1,943.41
Tax Acc. Pavement No. 30.....	441.88
Labor Acc. Pavement No. 20....	254.34
Labor Acc. Pavement No. 34....	3,603.57
Labor Acc. Pavement No. 35....	2,374.18

Total	\$21,431.11
Overdrawn	\$ 7,069.52

On hand Nov. 1, 1915.....	\$14,361.59
Overdrawn—	
Tax Acc. Pavement No. 9.....	\$ 1,444.56
Tax Acc. Pavement No. 10.....	2,063.39
Tax Acc. Pavement No. 12.....	116.53
Tax Acc. Pavement No. 20.....	425.13
Tax Acc. Pavement No. 26.....	40.52
Labor Acc. Pavement No. 30....	265.89
Labor Acc. Pavement No. 31....	126.15
Labor Acc. Pavement No. 32....	1,042.92
Labor Acc. Pavement No. 33....	1,544.43

Total	\$ 7,069.52
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Recapitulation

City funds on hand	\$54,330.14
Paving funds on hand	14,361.59

Total	\$68,691.73
Sewer funds overdrawn	\$ 7,794.75

Balance	\$60,896.98
Bank balance	\$60,666.77
Cash on hand	230.21

Total	\$60,896.98
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Respectfully submitted: GEO. W. SWEET,
City Treasurer.

Ann Arbor, Mich., Nov. 5, 1915.

To the Honorable Common Council, City of Ann Arbor, Michigan: Gentlemen—This is to certify that Mr. George W. Sweet, City Treasurer, of Ann Arbor, Michigan, had on deposit in the Commercial department of the Farmers & Mechanics Bank on October 30th, 1915, the sum of sixty thousand, six hundred sixty-six and 77-100 dollars (\$60,666.77).

Very truly yours, Farmers & Mechanics Bank, by W. A. BEGOLE, Asst. Cashier.

Street Commissioner's Report

Ann Arbor, Mich., Nov. 2, 1915.

Hon. Board of Public Works, Evert H. Scott, President: Gentlemen—The following is a report of the work done by the street department during the month of October, 1915:

Sept. 30-Oct. 13; Oct. 14-27—	
Cleaning paved streets, labor....	\$308.16
Cleaning leaves from paved streets, labor	119.62
Mowing weeds from streets and lawn extensions in the several wards, labor	11.56
Grading with scraper and street drag, labor and teams.....	14.34
(Geddes, Ferdon, S. Ingalls, Hill, W. Washington, etc.)	
Grading, graveling and patching dirt streets, labor.....	185.97
(Graveling: streets in Spooner-Scott sub-division, Lincoln between Hill and Cambridge road,	

Monroe east of State, 4th st. between Liberty and Jefferson, S. Main between Packard and Madison, W. Kingsley; filling holes: Cambridge road and Lincoln, 4th at Liberty; grading gutters: west side Michigan north of Wells and filling Wells west of Lincoln, White between Arch and McKinley; clearing up alley north of William, west of Main; filling intersection Detroit at Division street.)	
Grading for sidewalks, labor.....	71.51
(Sth between Huron and Washington; Washington between 9th and Crest ave.; east side Olivia north of Wells; lawn extension Cambridge road; White between McKinley and Dewey; Martin place; fill Washington west of 14th; Granger ave. west of Packard street.)	
Repairs pavements, labor	45.87
(State between Liberty and William; (Gas Co., etc.) Packard at school house; (Water dept.) 3 cuts, intersection Madison, Division and Packard; (Raab and R. and Gas Co.) 2 cuts, Packard west of Mary and Mary st; (Water dept.) 2 cuts, Packard at McKinley; cut on Oswego st.; west side State north of Monroe; (Water dept.) Washington between 4th ave. and Main; (Gas Co. and Riser) cut 5th ave. north of Packard).	
City Engineer department acct., labor	51.50
(Work on storm and sanitary sewers, etc.)	
Graveling and grading Jackson avenue and Dexter road, labor	503.61
Repairs and cleaning inlets and gutter boxes, laying tile, etc., labor	33.90
(Tile across Catherine between Ingalls and Glenn and inlet; repairs box Ashley and Kingsley; repairs and laying tile Island boulevard and Wall st. at Maiden lane; draining spring in alley south of Depot west of Detroit st.; top of box Beakes and 4th avenue.)	
Miscellaneous work and repairs and work at city yard, labor....	8.11
(Handling empty cement sacks, \$2.34; unloading car cement, \$5.77)	
Repairs stone gutter and filling washouts, Broadway, labor.....	9.50
Cleaning gutters on dirt streets, labor	418.61
(Spring, Fountain, Cherry, Felch, Chapin, Hiscock, Summit, Greenwood, Vaughn, Broadway, east end Geddes ave., Cambridge road at Forest, Thayer, Ingalls and 12th, south of campus; S. and N. Thayer, S. and N. Ingalls, E. Kingsley, Cornwell place, Elm, Walnut, Linden, Geddes, Belser, Volland, 14th, Observatory, E. Washington, E. Huron, E. Ann, E. Catherine, Oxford road, Wash-	

tenaw east of Oxford road, Ferdon road, Norway, S. Main, John K. ave., 1st south of Moseley.) Sidewalk extensions, crosswalks, cement storm water culverts, etc, labor	167.99
(Relaying crosswalk across Ann east side 1st and extensions S. E. and N. E. corners; gutter box and extension S. W. corner Prospect and E. University; gutter box S. W. corner Michigan and Wells and lowering crosswalk; gutter box N. E. corner Forest and Hill and raising crosswalk across Hill west side Forest; relaying old cobble crosswalk with brick across 12th north side Monroe and extension S. E. corner; extension S. W. corner 12th and Hill; relaying crosswalks east and west sides Lincoln across Cambridge road and north and south sides Cambridge road across Lincoln and one extension S. W. corner, 2 extensions N. E. corner and 2 extensions S. E. corner Cambridge road and Lincoln; repairs crosswalk and extension alley north side Cambridge road west of Lincoln; raising crosswalk across Mack road east side Wilmot and raising gutter Mack road from Wilmot south; extension S. W. corner Geddes and Walnut; crosswalk, extension and 2 gutter boxes across 14th south side Belser; cement culvert across Belser east side 14th; crosswalk and extension across Kellog west side Pontiac street.) Grading intersect. Cambridge road and Lincoln. labor	10.90
Graveling and filling (spreading fill from contract paving), labor (Onondaga and Medallion sts.) Grading for sidewalks (spreading fill from contract paving), labor (1st north of Hiscock; lawn extensions: Cambridge road corner Lincoln and Linden streets.)	2.00
Total	\$1,967.60
West Ann street paving No. 32, labor account	92.39
Total	\$2,059.99
Respectfully submitted, A. J. PAUL, Street Commissioner.	

Quarterly Report of Waterworks Department

From Aug. 1, 1915, to Oct. 31, 1915—	
Cash on hand Oct. 31, 1915	\$ 546.96
Cash on Dep. City Treas. Oct. 31, 1915	27,688.63
Expense Stat. 1, salaries and supplies	1,553.01
Expense Sta. 2, salaries and supplies	600.35
Fuel Stat. 1.	1,011.68
Fuel Sta. 2	506.68
Expense office, salaries and supplies	833 80

Expense general	1,191.58
Expense, construction.....	4,230.70
Expense, service taps.....	814.76
Expense, construction No. 1	2,813.76
Expense, construction No. 2	2.94
Expense, repair mains	24.25
Expense, repair house connections	38.25
Expense, repair Sta. 1.....	14.82
Expense, repair Stat. 2....	13.50
Refunds and tranfers when paid in advance	334.89
Meter per cent setting and cost of	35.70
Insurance	46.00
Interest paid on bonds	8,720 00
Power Stat. 1.....	299.50
Misc. charges, large taps..	78.21

Total\$51,399.37

RECAPITULATION—

Water rates flat,	\$10,580.71
Water rates, meter	5,185.31
Water rates, mason	350.54
Making taps	1,244.96
Meter rentals	5.10
Turning water off and on..	14.75
Bills payable	1,690.93
Mis. revenue, large taps....	78.21
Cash on hand Aug. 1, 1915.	557.18
Cash Dep. City Treas.....	31,691.68

Total\$51 399.37

Respectfully submitted, Water Works Department of the city of Ann Arbor, by Geo. S. Vandawarker, Manager.

City Engineer's Report on Steere Farm (See pages 485 to 508)

Reports of City Treasurer, City Clerk and Street Commissioner for month of October, and quarterly report of Water Works Department, received and ordered to take usual course.

Moved by Ald. Markey, that City Engineer's report be received and published with the Council proceedings. Adopted by unanimous vote of those present, 14.

Board of Review.

Council Chamber, Ann Arbor, Mich., Nov. 15, 1915.

To the Common Council: Gentlemen—The undersigned, City Clerk, begs leave to submit the following as the proceedings of the Board of Review, having under consideration of the several sidewalks constructed by the Board of Public Works in the City of Ann Arbor, at the expense of the building sidewalk fund.

The Council sitting as such Board of

Review, in pursuance to its order and appointment for that purpose met at the Council Chamber on Monday, November 15th, 1915, at 7 o'clock p. m., and due proof of publication of the notice of the meeting filed. The roll call of the aldermen being called and a quorum being present as follows: Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14.

The certificate of the Board of Public Works being presented the Council entered upon the consideration of same.

Ann Arbor, Mich., Oct. 18, 1915.

To the Common Council from the Board of Public Works: Gentlemen—We submit to your honorable body the report of all sidewalks built by this board, and charged to the property owners, as per your order. The amount placed after each description being the actual cost of the walk with ten per cent added, this being the amount which is a lien upon the property as per section 13 of an ordinance relative to sidewalks.

Sidewalks built by city, cost of same and ten per cent added to be assessed against the property along which said walks have been constructed.

Tar Walks.

Property of:

Dorothy R. Hella, east side of Baldwin ave. between Wells st. and Cambridge road, 50 ft front.....\$16.66

Estate of J. Kajuska, south side of Madison st. between 5th and 7th sts, 218 ft. 11 1-2 inches frontage, \$72.98

Farmers' & Mechanics' Bank, south side of Madison st. between 5th and 7th sts, 132 ft. frontage.....\$44.00 (Beginning 515 east side of Madison street, west to 7th st.)

J. H. Thompson, north side of Hill st. between 4th and 5th aves., 66 ft. frontage\$22.00

Estate of F. L. Parker, north side of Hill st. between 4th and 5th aves., 46 ft. 6 inches frontage.....\$15.49

Harold P. and Charlott Breitenbach, west side of Cambridge road between Hill st. and Washtenaw ave., 198 ft. frontage\$66.00

F. I. Cornwell, east side of Olivia ave. between Minerva road and Cambridge road, 43.32 ft frontage..\$14.44

Cement Walks.

Elizabeth R. Wehnes, west side of Fifth ave. between Liberty and Wil-

liam sts., 44 ft. frontage.....\$24.20
(The south 44 feet of the north 132 feet of the east half of the old jail square, B. 3 S., R. 5 E.)

Emily B. Moore, west side of Fifth ave. between Liberty and William sts., 44 ft. frontage.....\$24.20

(The south 44 feet of the north 88 feet of the east one-half of the old jail square, B. 3 S., R. 5 E.)

J. G. Pray, north side of Minerva road between Forest and Olivia aves., 40 ft. frontage.....\$22.00
(Lot 32 Wood & Brooks' sub-div.)

Mary E. Russell, north side of Huron st. between Glen ave. and 14th st, 85 ft 11 in. frontage.....\$47.25

Davidson & Wainwright, south side of Kingsley st., between Division and Detroit sts., 132 ft. frontage....\$72.60

Siegfried Rosenthaler, west side of State st. between Liberty and William sts., 22 ft frontage.....\$64.74

Mary B. Warner, west side of State st. between Liberty and Williams sts., 21.5 ft. frontage.....\$38.67

Gottlob Cook, lot 36, west side of Crest ave. south of Washington st., 48.9 ft. frontage.....\$26.89

Alton D. Dewitt, west side of 14th st., between Huron and Ann sts., 44 ft. frontage\$24.20

Annie R. Bennett, west side of 14th st. between Huron and Ann sts., 44 ft. frontage.....\$24.20

Mary E. Scully, west side of 14th st. between Huron and Ann sts., 44 ft. frontage\$24.20

Mary E. Scully, west side of 14th st. between Huron and Ann sts., 45.17 ft. frontage\$24.84

Mary E. Scully, north side of Huron st. between Glen ave. and 14th st., 90.14 ft. frontage.....\$49.57

I hereby certify that the foregoing is correct.

ROSS GRANGER,

Clerk.

By Ald. Sherk: Whereas, the certificate of the Board of Public Works for the construction at the expense of the building sidewalk fund of the several sidewalks therein mentioned having been duly certified to us, and this day having been appointed and assigned for the purpose of reviewing the same, and all persons appearing having been heard, and the said certificate having been duly considered and the review thereof completed, therefore be it

Resolved, that the City Clerk is ordered to report the proceedings of the Board of Review on said certificate

to the Common Council at its next regular meeting.

Resolved, further, that said special assessment be and the same is hereby fixed and determined as presented and amended by fixing Elizabeth R. Wehnes' assessment at \$12.10 in place of \$24.20.

Adopted as follows: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

The Board adjourned.

ROSS GRANGER,
City Clerk.

(Council Action.)

By Ald. Koernke, Resolved, and it is hereby ordered that the several sums of money set down in the certificate of the Board of Public Works, relative to the construction of sidewalks at the expense of the building sidewalk fund, as amended, be and the same are hereby levied and assessed against the several parcels of land in the said certificate mentioned, each sum of money against the particular parcel of land as in the said certificate stated, and the City Assessor is hereby ordered and required to make the said several assessments pursuant to law.

Resolved, further, that the City Clerk is hereby required to certify this order of assessment to the City Assessor pursuant to law.

Adopted as follows: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

Resolutions.

By Ald. G. Lutz: Whereas, the City Treasurer of the City of Ann Arbor has sold to the Detroit Trust Company of the City of Detroit, Michigan, the following bonds at their par value; Five Thousand Nine Hundred Dollars worth of Park bonds, bearing interest at the rate of 4 1-2 per cent, and Fifteen Thousand Dollars worth of Fire Department bonds, bearing interest at the rate of 4 1-2 per cent, and

Whereas, we, the Common Council of the City of Ann Arbor, believe this sale is the best that can be made at this time, therefore be it

Resolved, that the Common Council does hereby ratify and confirm the sale of the above mentioned bonds to the Detroit Trust Company at the par value thereof, so made by the City Treasurer.

Adopted as follows: Yeas, Ald. Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, Pres. Wurster, 14. Nays, none.

By Ald. Fiegel: Resolved, that the matter of establishing building code for the City of Ann Arbor be referred to Ordinance committee. Adopted.

By Ald. Freeman: Resolved, that an arc light be substituted for the Tungsten light at the intersection of South Thayer st., and East Washington st.

Adopted by unanimous vote of those present, 14.

The Council adjourned.

ROSS GRANGER,
Clerk.

STEERE FARM PUMPING TEST

Engineer's Complete Report on Operations and Results

November 11, 1915.

To the Honorable Common Council, Ann Arbor, Michigan:

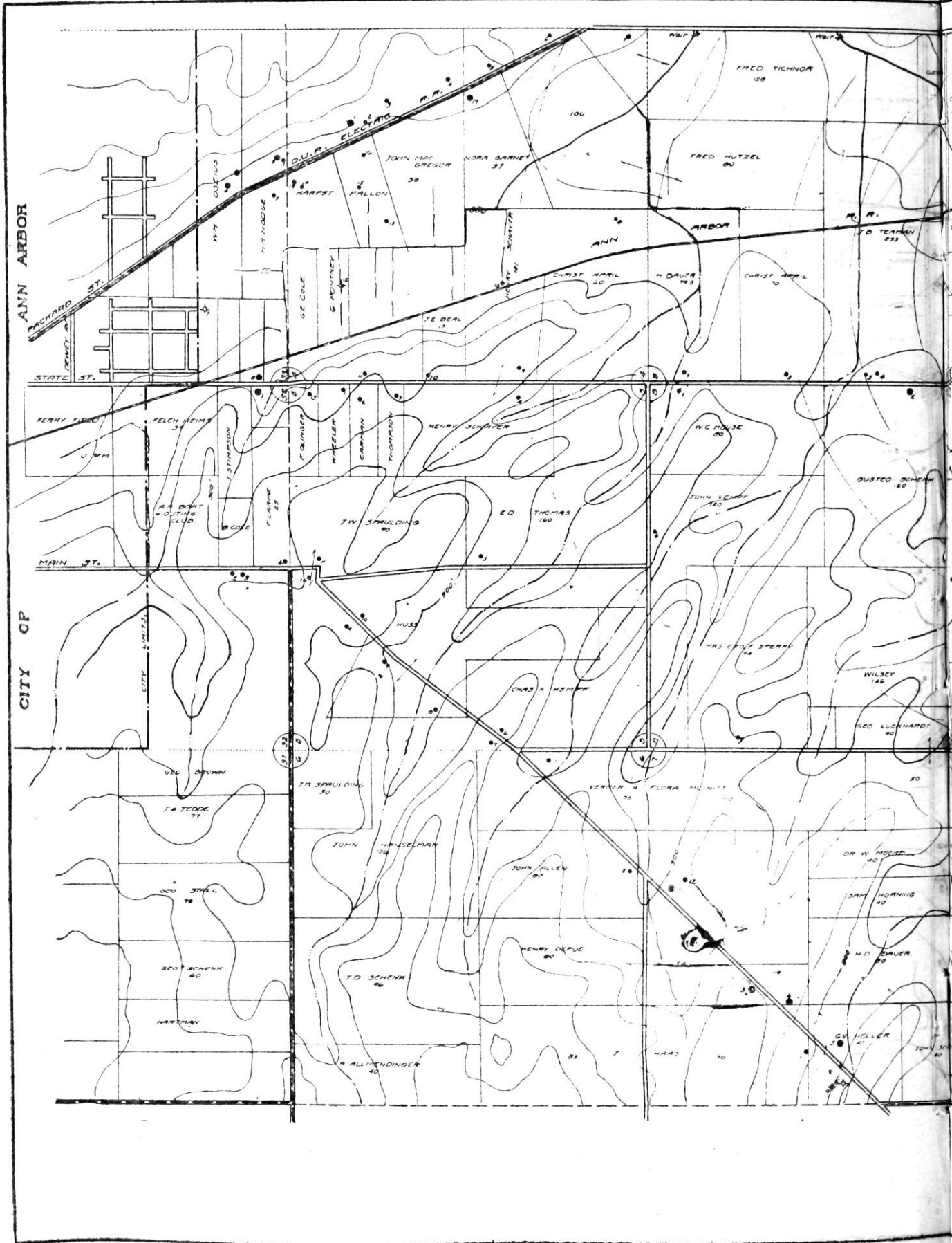
Sirs—I submit the following report of the work done at the Steere farm in accordance with your instruction of Feb. 1, 1915:

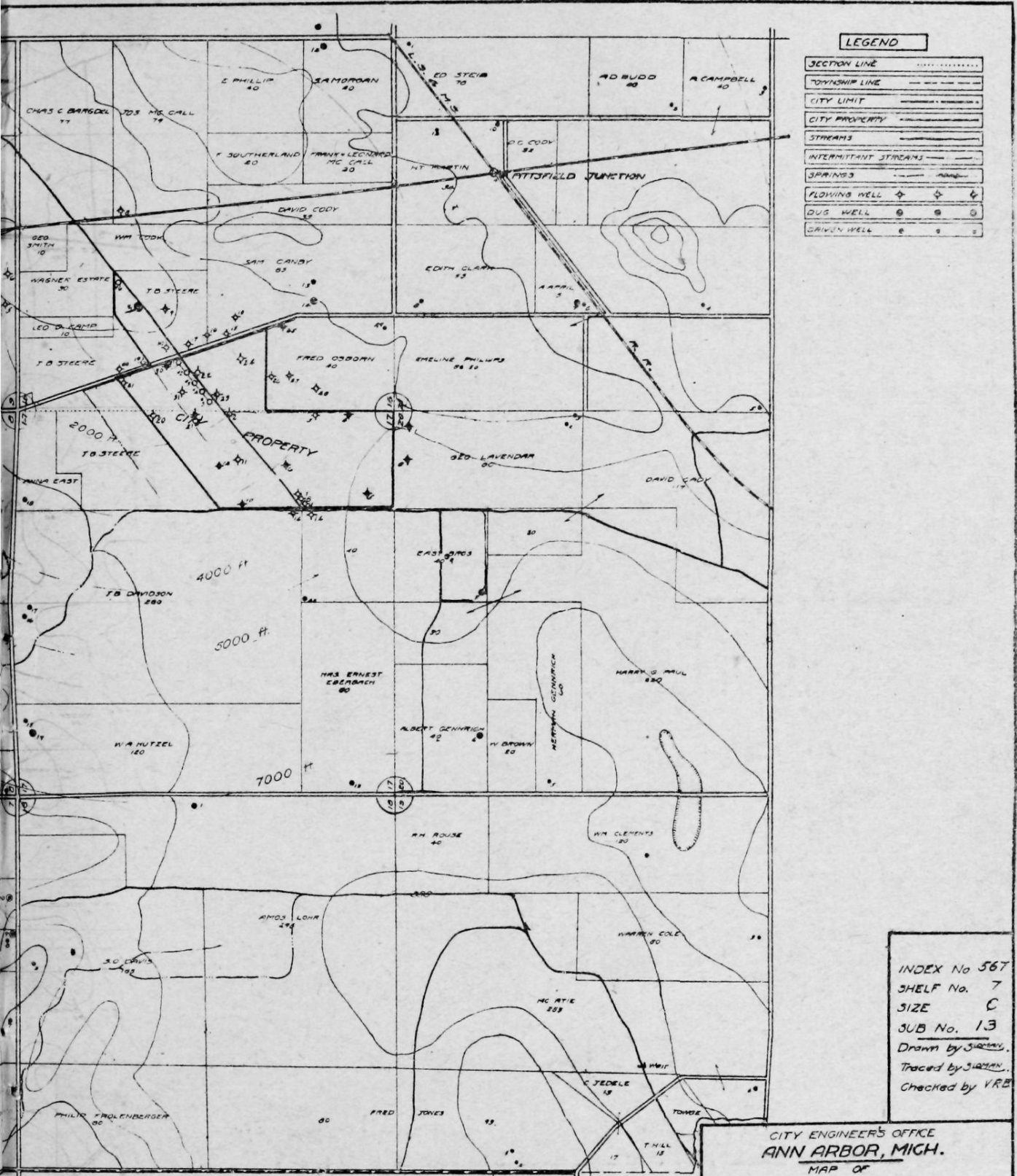
A well of sixteen (16) feet inside diameter was constructed at this location and pumping at a rate between three million and four million gallons per twenty-four hours continued practically continuously, twenty-four hours per day, for a period of forty-eight (48) days. The rate of pumping for the first eight of these forty-eight days was between three million gallons and three million four-hundred thousand gallons per day while the rate of pumping for the

last forty days was from three million seven hundred thousand gallons to four million gallons per day. During the entire test, the elevation of the water in the sixteen-foot well was always the same when the water was being pumped out at any given rate.

This test was made under adverse conditions, due to the settling of the sixteen-foot well, and following seasons that brought about the most unfavorable conditions of ground water flow.

Wells on other parts of the city's property and on adjoining and nearby farms were affected, due to this pumping of the large well, by a lowering of the water level varying from nothing to about four and one-half feet. Due to said pumping, however, the lowering of water in wells on



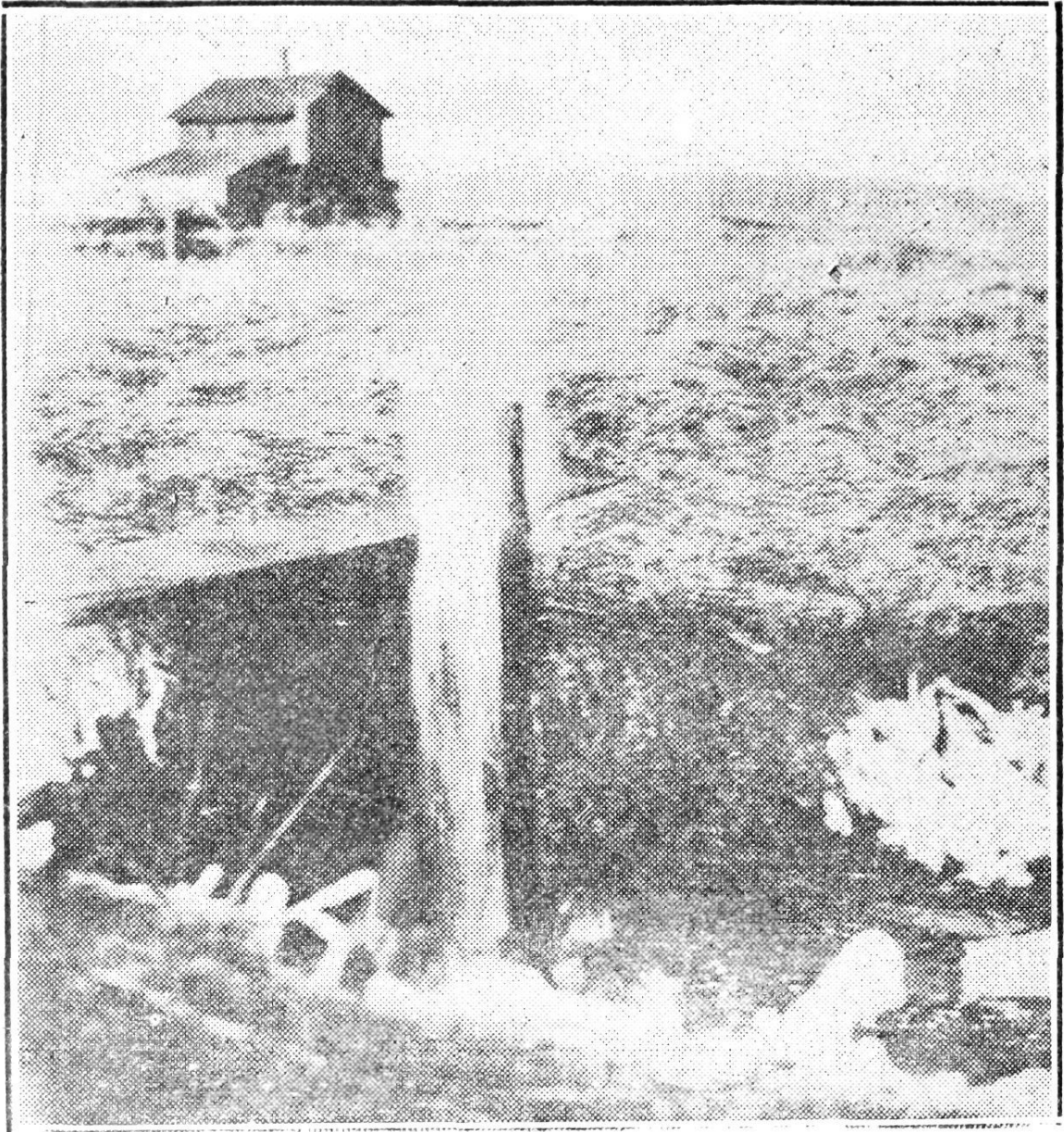


LEGEND

SECTION LINE
TOWNSHIP LINE	-----
CITY LIMIT	-----
CITY PROPERTY	-----
STREAMS	-----
INTERMITTENT STREAMS	-----
SPRINGS	-----
FLOWING WELL	⊕ ⊕ ⊕
DUG WELL	⊙ ⊙ ⊙
DRIVEN WELL	⊖ ⊖ ⊖

INDEX No 567
 SHELF No. 7
 SIZE C
 SUB No. 13
 Drawn by *S. J. ...*
 Traced by *S. J. ...*
 Checked by *V.R.B.*

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
 MAP OF
 THAT PART OF PITTSFIELD AND
 ANN ARBOR TOWNSHIPS
 INCLUDING
STEERE FARM VICINITY,
 NORTH TO CITY LIMITS
 Manley Oggood, City Engineer.
 1915-2-6
 One Sheet Scale: 1" = 800'



Flowing well after loosening gravel and sand at bottom of pipe Before loosening same, the water just trickled over the top of this pipe.

property not belonging to the city of Ann Arbor in no case exceeded two feet.

All of the above is presented in detail and more fully explained in the following, which is

Very respectfully submitted,
MANLEY OSGOOD,
 City Engineer.

Preliminary Work.

A map of the country south of the city of Ann Arbor, including some fourteen square miles with the Steere farm near the center, was prepared in my office and corrected by field observations. On this map were located all wells south of the city limits, the Packard street road and the South Main street or "Saline road"; to a distance one mile south of the southerly boundary of the city's property, two miles west of the westerly boundary of the city's property and one mile east of the South State street road which runs through the Steere farm. The observations were extended further to the north and west of the Steere farm than to the south and east of same because from previous records and the United States Geological Survey maps the direction of ground water flow in this territory had been determined to be approximately from northwest to southeast. This map is Plate 1 accompanying this report.

A system of levels was very carefully extended over the territory in which these wells had been located and the elevation recorded of some point at each well from which measurements were made down, or up in the case of flowing wells, to the elevation at which water stood. Underground water acts exactly as does water on the surface of the earth inasmuch as if in a standing pool it is at all points at the same elevation and if moving or flowing between the gravel particles the water level is higher at any one point than at a second point further down the stream. The elevations of the water in various wells throughout the district mapped were marked, on the map, and the underground water into which the city's wells are driven determined to be a broad stream of water actually flowing underground between the particles of gravel and sand in a direction from northwest to southeast. The elevations of water in wells located in this district were afterwards observed during and subsequent to the pumping test to see if

same were affected by the pumping.

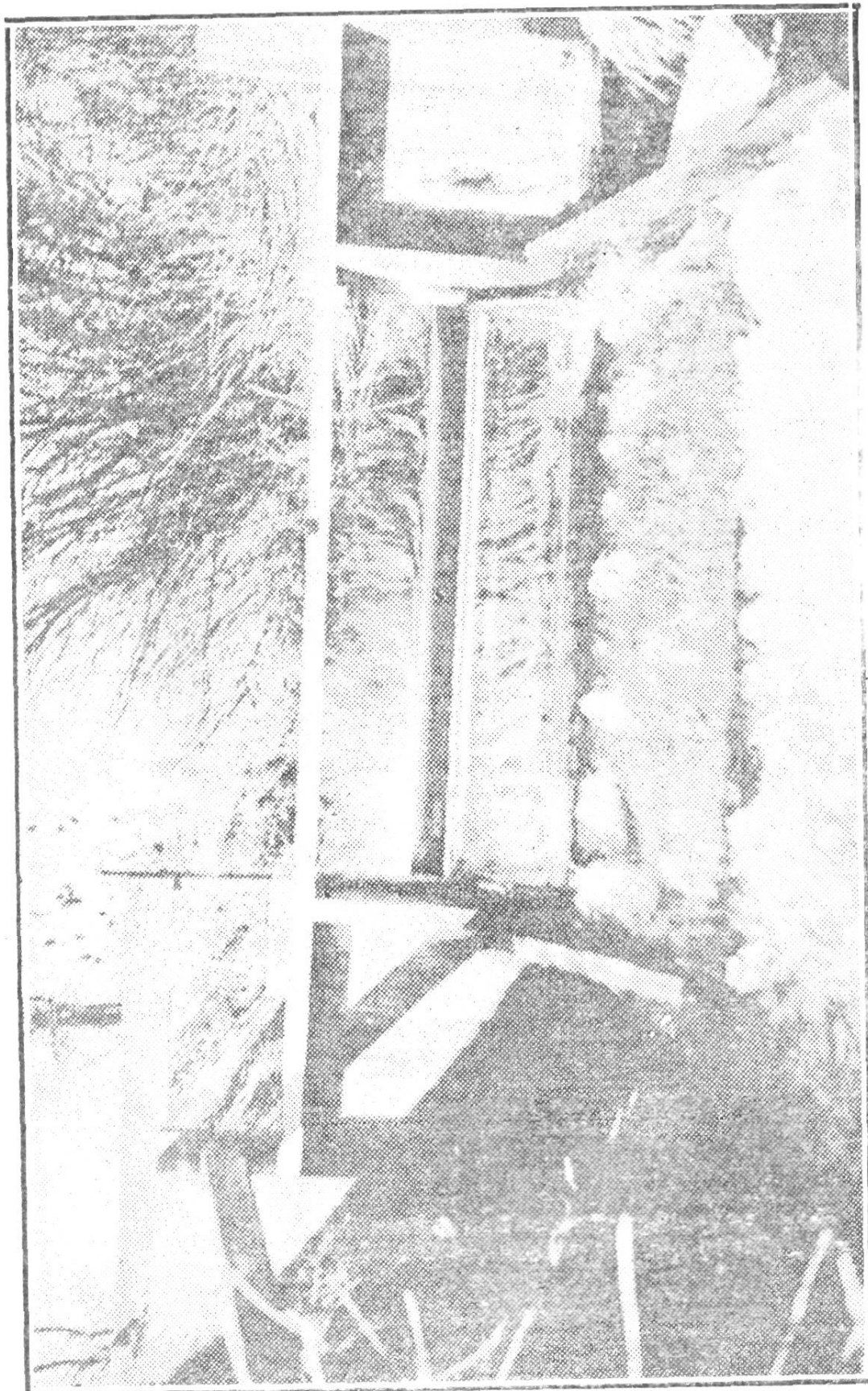
In the district of flowing wells, the discharge from a large number of wells was very materially increased, in some cases the increase in flow being several hundred percent, by cleaning the sand from the bottom of the pipes and loosening the gravel below same. This was done to insure the water rising to its static level rapidly enough to permit of correctly measuring the elevation of same.

With their source in this district of flowing wells, three small streams never go dry. In order that we might know the total amount of water thus discharged freely over the surface of the ground, measuring weirs were installed in each one of these three streams. At times when the ground was so frozen that there was no runoff from rain and snow and all water flowing in these streams or ditches could come only from an underground source which furnished water above the freezing temperature, the discharge from these three streams was measured and on only one occasion found to aggregate less than three million gallons per day. On that one occasion the aggregate discharge was two million three hundred thousand gallons per day.

Construction and Pumping at 16-Foot Well.

The construction of the 16-foot well at the Steere farm was actively started on March 20th and proceeded without any incident of note until on May 13th, the day on which the last of the adhering clay had been removed from the inside of the well. About 1:00 p. m. it was noticed that some settlement of the well curb had begun and by 1:20 p. m. so rapid had been this settlement that on the northeast side it had lowered about 20 inches and on the southwest side it had lowered about 12 or 15 inches.

The well curb and sheeting settled as a unit, seeming to sheer its way down through the supporting clay. No visible slip of earth occurred until the next day. Pumping was started shortly before 6:30 p. m. and the settlement increased again, but slowed down as soon as the pumping was stopped. A couple of inches settlement was observed during the next few days, but none took place after the pumping test was started, and on the third day of July the total settlement was measured and found to be as follows:



Weir in ditch about one mile below discharge from sixteen-foot well.

North side3.17 feet
 South side2.95 feet
 East side3.58 feet
 West side2.60 feet

The unstable nature of the blue clay upon which the curb rested is thought to be the cause of this accident. The water gravel was reached on the 9th and the time from the 9th to the 13th was spent in removing the clay which adhered to the sheet piling. On the east side at the point where the suction pipe was to be placed the gravel was dredged out about a foot below the bottom of the sheeting, and from later measurements it appeared that the whole bottom had been lowered about four inches below the bottom of the sheet piling. The size of the clam shell used precluded any possibility of dredging to the exact grade which had been established as at the bottom of the sheeting. Some of the gravel from the outside probably ran into the well and the clay, being exposed to the water by breakage of the

hard pan and by water getting up between the clay and the sheeting, became plastic and the weight above fed it down into the water rushing into the well. This clay came in a finely divided condition, making the water very roily. The weakened clay column supporting the well stood until enough of it had been removed below so as to throw most of the load on the cohesive force of the clay at the surface of the cylinder enveloping the outer edge of the curb and the slip was the result.

The amount of clay removed by this method was considerable as may be seen on inspection of the ditch through which the water flowed from the well. The flume had to be frequently cleaned during the first of the pumping test because of the deposits from this source.

The water flowing from the well before pumping was measured by a weir in the ditch leading from the well. The following table was computed from the gauge readings:

Discharge of 16-foot Well Before Pumping.

Date.	Discharge in gal. per day	Remarks.
4-26-15	660,000	Water at elevation 818.6 in 16-foot well, the discharge from 12" pipe after section was removed.
4-27-15	660,000	
4-28-15	663,000	
5-6-15	599,000	Water in well at 819.3. Discharge from 12" pipe.
5-7-15	601,000	
5-8-15	604,000	
5-9-15	825,000	Water at elevation 819.0. Gravel reached.
5-10-15	845,000	
5-16-15	660,000	Largely leakage from around well.
5-18-15	657,000	

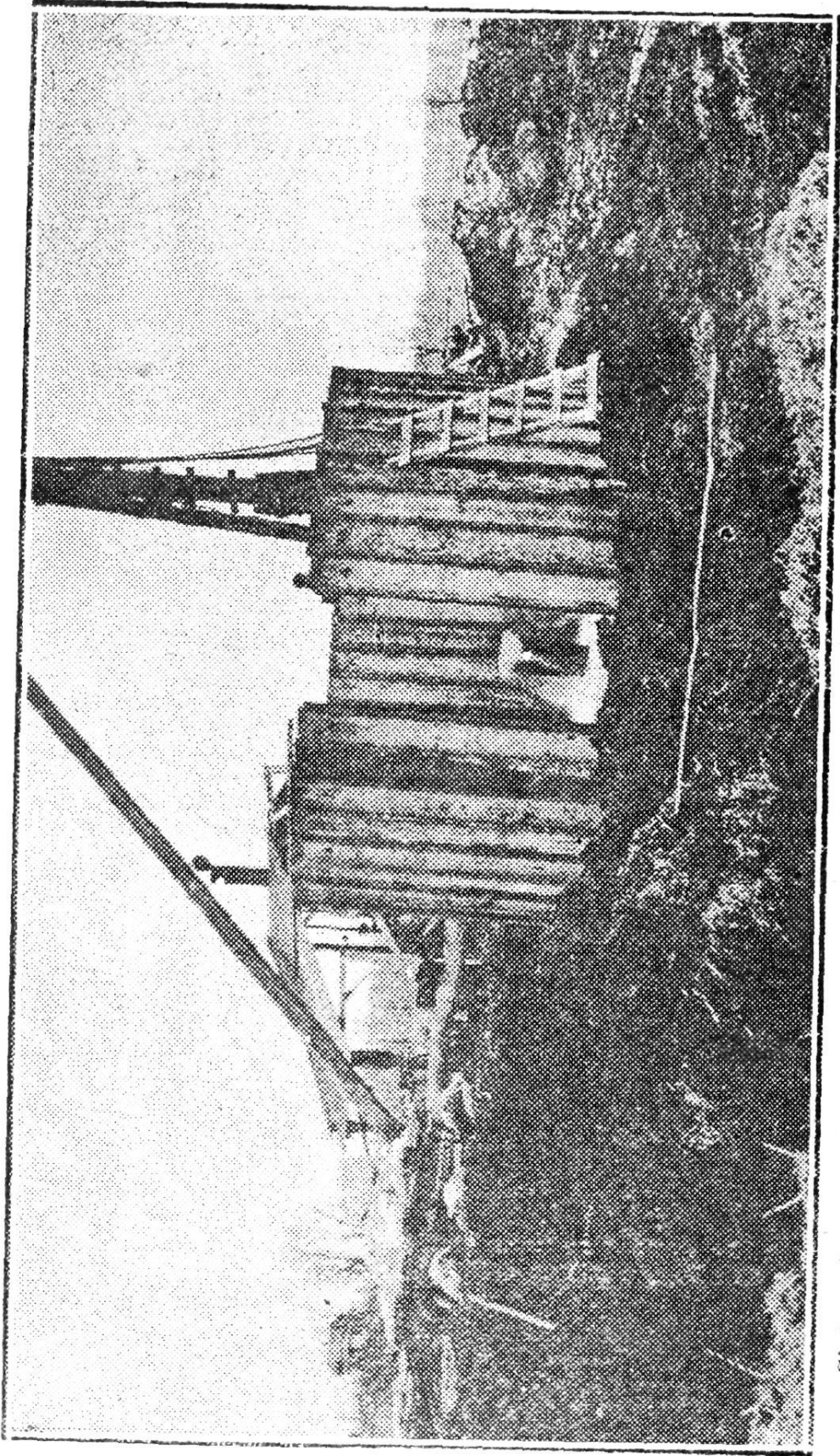
The pumping test was started at 10:30 a. m. on May 19th and continued until 4:30 p. m. on the 8th day of July. The pumping was continuous except for the stops listed below.

Time Lost During Pumping Test.

Date.	Duration.	Reason for stop.
5-19	0 h. 20 m.	Pump lost priming.
5-24	0 h. 20 m.	Packing glands of pump.
5-26	4 h. 43 m.	Placing gauges in well and flume.
5-27	1 h. 30 m.	Setting gauge and grinding valves.
6-9	4 h. 45 m.	Cooling water pump on engine broke. Had to go to Monroe for new parts.
6-10	17 h. 45 m.	
6-16	7 h. 00 m.	Putting on new cooling water case and grinding valves on engine.
6-24	8 h. 30 m.	Overhauling magneto on engine.

The total number of hours lost in the run of 1,206 hours was 44 hours and 53 minutes, or 3.72 percent of the time of the entire test.

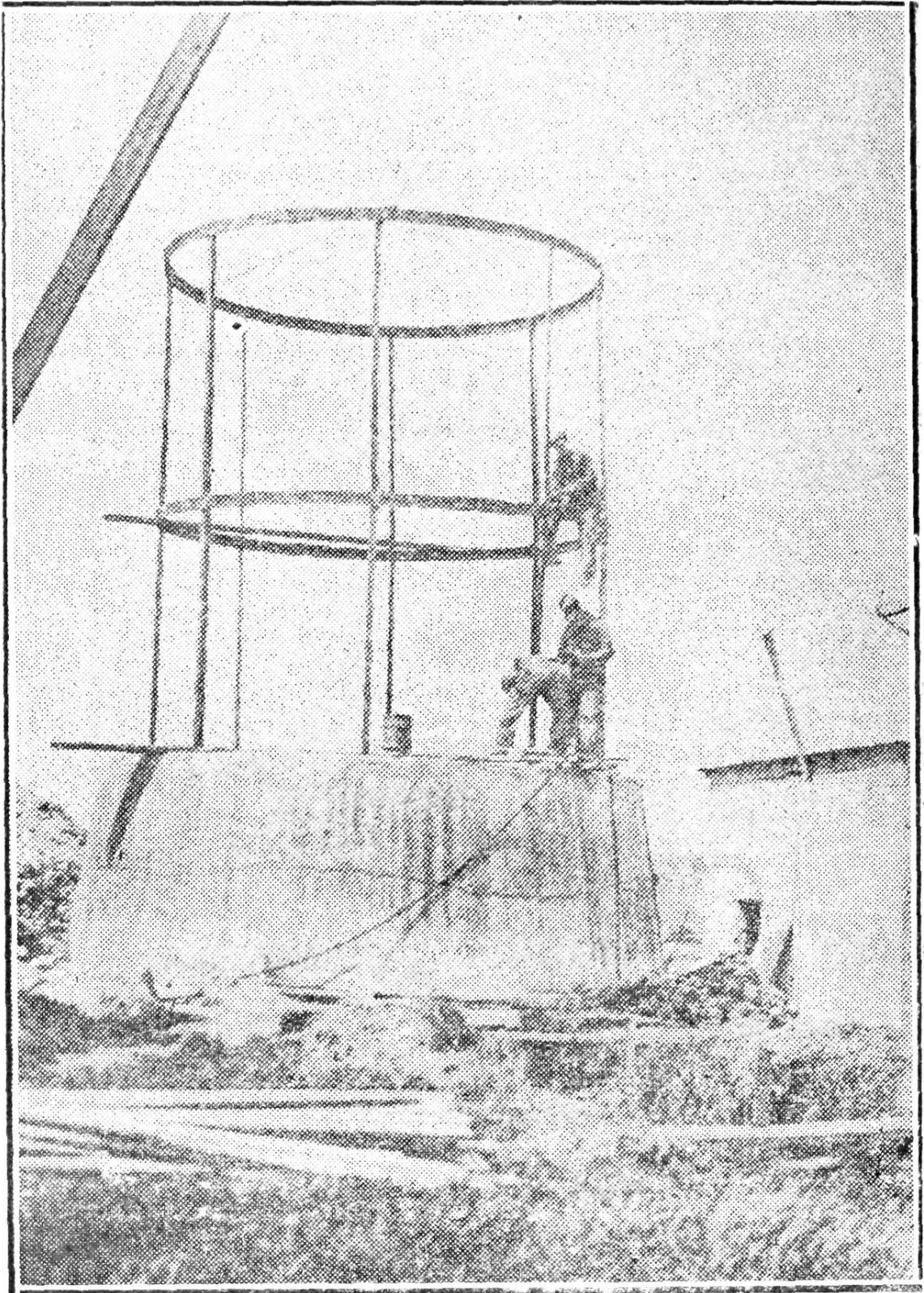
The daily discharges together with the level of the water in the well throughout the pumping are given in the following table:



Sixteen-foot well under construction. Steel sheet piling all driven and ready for concrete casing.



Sixteen foot well under construction. Excavating clay from inside of well casing.. Concrete in place but forms not yet removed.

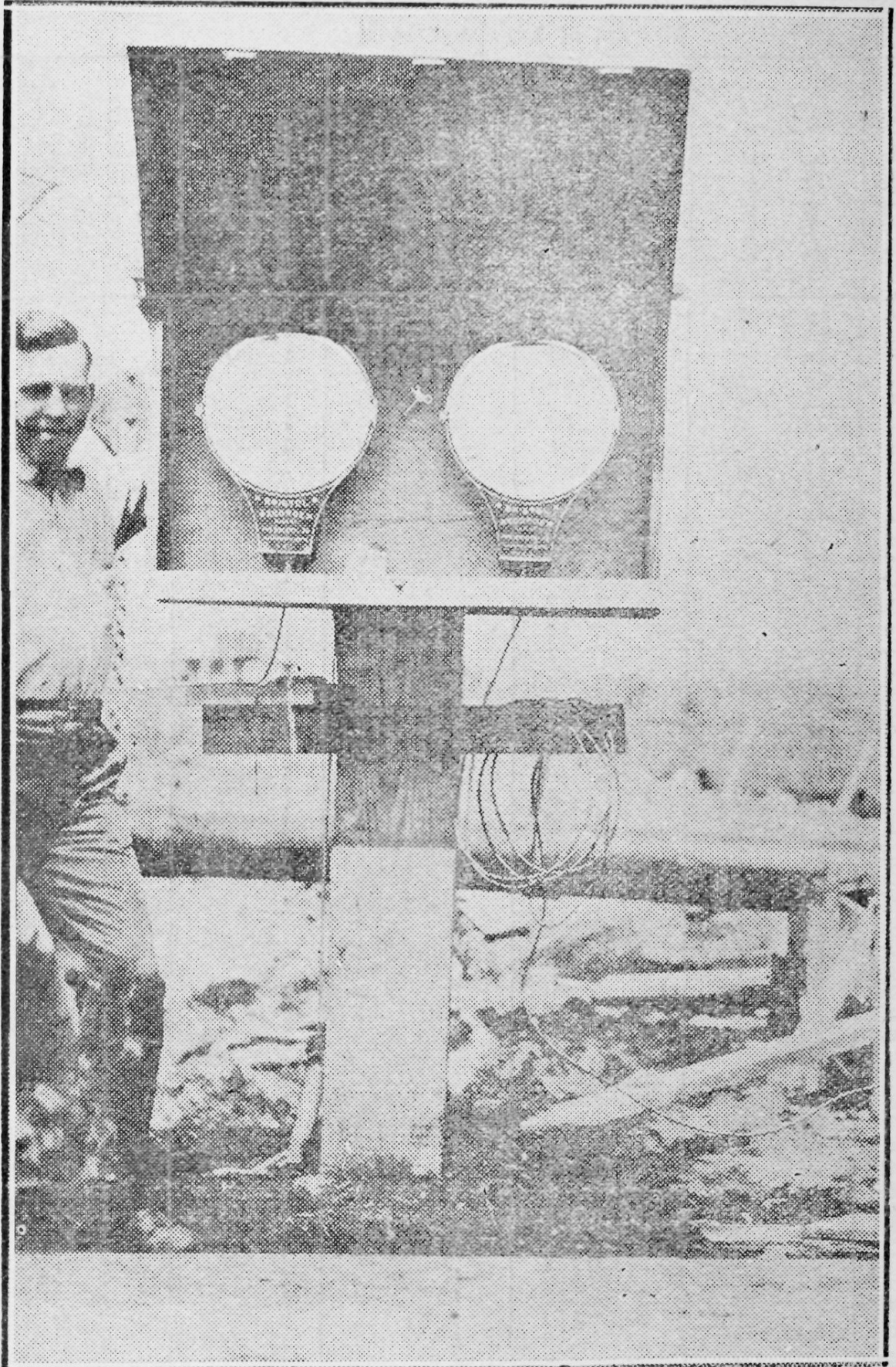


Sixteen-foot well under construction. Shows completed concrete ring and installation of angle iron bracing on inside of casing.

Record of Pumping 16-foot Well.

Date.	Time of hrs. min.	Actual amount pumped gallons.	Rate in gal. per day.	Average rate in gallons per hour.	Depth of water in well below average ground level about 16-ft. well.
5-19	12 10	1,502,600	3,000,000	125,000	
5-20	24 00	3,008,700	3,008,700	125,300	
5-21	24 00	3,372,000	3,372,000	140,500	
5-22	24 00	3,348,000	3,348,000	139,500	
5-23	24 00	3,333,000	3,333,000	139,000	
5-24	24 00	3,335,200	3,335,200	139,800	
5-25	24 00	3,305,000	3,305,000	137,700	
5-26	19 17	2,595,000	3,250,000	136,600	
5-27	22 30	3,449,300	3,680,000	153,300	16.1'
5-28	24 00	3,714,000	3,714,000	154,900	16.9'
5-29	24 00	3,646,500	3,646,500	152,000	16.6'
5-30	24 00	3,807,500	3,807,500	158,800	18.9'
5-31	24 00	3,835,300	3,835,500	159,500	19.0'
6-1	24 00	3,822,000	3,822,000	159,300	19.1'
6-2	24 00	3,791,000	3,791,000	158,000	18.9'
6-3	24 00	3,805,800	3,805,800	158,900	19.0'
6-4	24 00	3,803,500	3,803,500	158,700	19.0'
6-5	24 00	3,788,500	3,788,500	158,000	19.0'
6-6	24 00	3,765,300	3,765,300	157,100	18.7'
6-7	24 00	3,760,000	3,760,000	156,700	18.9'
6-8	24 00	3,744,400	3,744,400	157,200	19.0'
6-9	19 15	3,001,400	3,740,000	155,800	18.8'
6-10	6 15	1,062,000	4,070,000	169,700	18.8'
6-11	24 00	3,923,500	3,923,500	163,800	17.3'
6-12	24 00	3,843,500	3,843,500	167,200	18.7'
6-13	24 00	3,851,800	3,851,800	167,500	18.7'
6-14	24 00	3,766,300	3,766,300	157,000	19.7'
6-15	24 00	3,834,300	3,834,300	159,700	18.9'
6-16	17 00	2,770,500	3,901,000	162,600	18.9'
6-17	24 00	3,890,000	3,890,000	162,000	18.5'
6-18	24 00	3,824,000	3,824,000	162,000	18.7'
6-19	24 00	3,799,900	3,799,900	159,400	18.8'
6-20	24 00	3,842,400	3,842,400	160,000	19.1'
6-21	24 00	3,786,500	3,786,500	157,800	19.1'
6-22	24 00	3,822,000	3,822,000	159,200	18.8'
6-23	24 00	3,857,300	3,857,300	160,700	18.9'
6-24	15 30	2,559,500	3,960,000	165,000	18.9'
6-25	24 00	3,908,900	3,908,900	162,900	18.9'
6-26	24 00	3,764,700	3,764,700	157,000	19.3'
6-27	24 00	3,794,900	3,794,900	158,100	18.8'
6-28	24 00	3,780,700	3,780,700	157,500	19.0'
6-29	24 00	3,783,200	3,783,200	157,600	18.9'
6-30	24 00	3,728,300	3,728,300	155,400	18.9'
7-1	24 00	3,689,400	3,689,400	153,800	19.0'
7-2	24 00	3,706,800	3,706,800	154,400	19.1'
7-3	24 00	3,669,200	3,669,200	153,000	19.2'
7-4	24 00	3,712,100	3,712,100	153,000	18.9'
7-5	17 30	2,638,500	3,720,000	154,500	19.1'
7-6	7 00	873,000	2,990,000	155,100	19.3'
7-7	17 00	2,051,200	2,890,000	124,500	15.3'
7-8	16 30	1,769,000	2,530,000	120,300	14.3'
		585,100	2,500,000	105,300	14.2'
		1,394,600	2,005,000	104,100	12.2'
			2,030,000	84,500	11.7'
					9.2'
					8.5'

Gauge
not
insalled.



Shows two Bristol Recording Water Level Gauges installed at 16-foot well; one to record elevation of water in well and one to record depth of water over measuring weir.

In addition to the usual hand operated hook gauge installed for accurately measuring the depth of water over the weir, three automatic recording gauges were installed; two Bristol recording water level gauges, and one Stevens float gauge. One Bristol gauge with a range from 0 to 20 feet was used to record the elevation of water in the 16-foot well and one with a range from 0 to 12 inches was placed to record the fluctuation of water level over the measuring weir. The Stevens water level recorder was used to give a continuous record of the fluctuations of the water surface in the second eight-inch well, west of the State street road. Charts from all of these gauges are on file in my office.

Plate II gives a graphic record of the pumping rates and height of water in the well and a capacity curve taken from the record of the last week of pumping. The gauge recording the water level in the well was not installed until the 26th of May so there was no record of water level available before this date. It will be noticed from the curve of pumping rates that any increase in pumping rate causes a decrease of the depth of water in the well. That is, a definite amount of water was produced for a definite height of water surface in the well. The exceptions noted were caused by a cessation of pumping. When pumping was stopped the water level in the well and also in the water gravel would raise and some time was required to once more gain a stable condition. On the 29th of June clay was banked up on the outside of the well to shut off the leakage after pumping should be stopped. While doing this a large bucketfull (approximately one cubic yard, or a layer nearly two inches deep over the entire bottom of the well) was accidentally dropped into the well. This accounts for the decrease in both water height and pumping rate shown for the next few days. The well up to this time had shown very little variation of water level for the same amount of pumping, a rate of 3,791,500 gallons per day on the 2d of June drawing the water in the well 18.9 feet below the ground and a rate of 3,795,000 gallons per day on the 27th of June drawing the water in the well 19.0 feet below the ground.

During the pumping, the water level close on the outside of the well

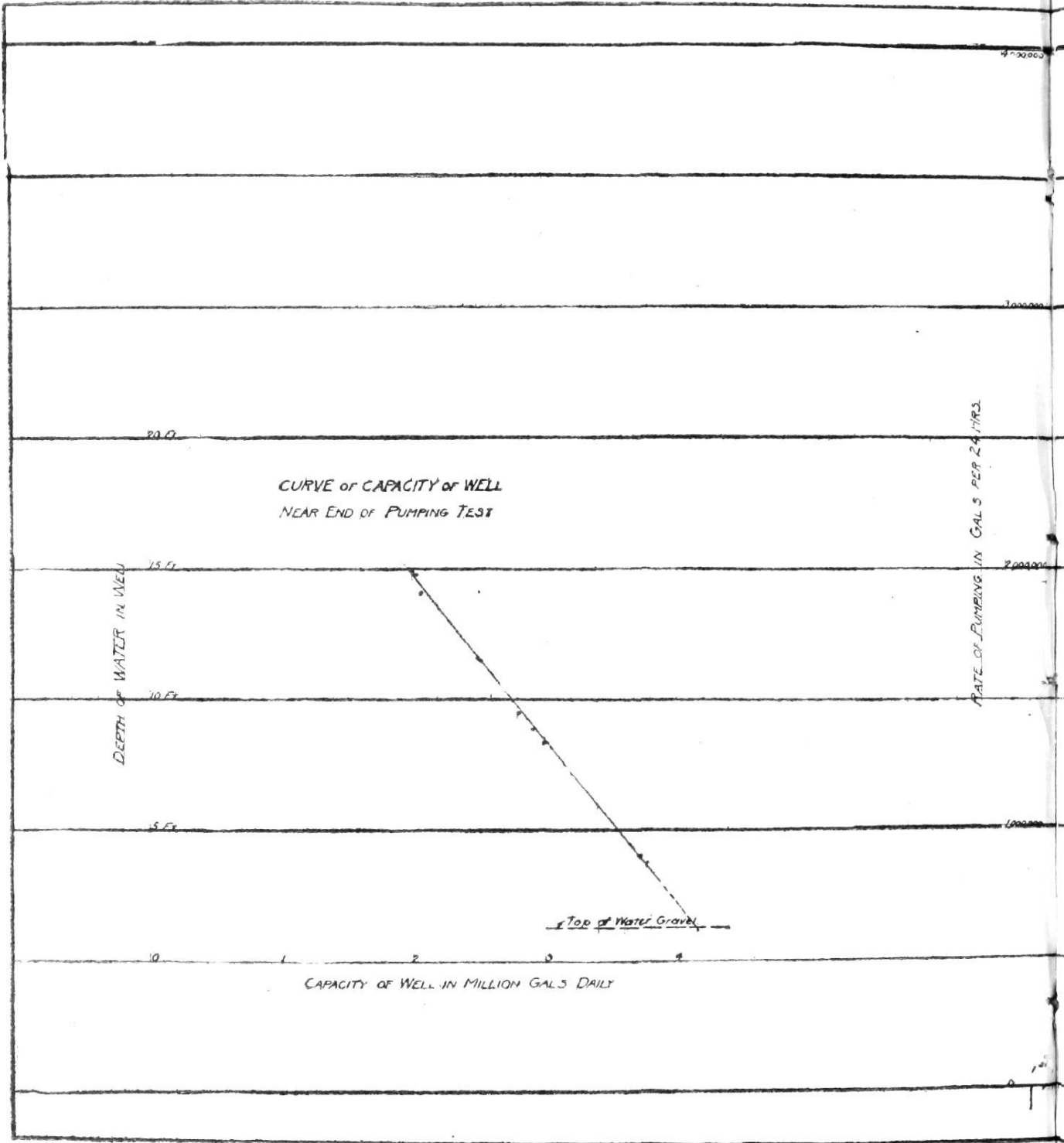
was approximately ten feet above the level of the water inside the well. This was clearly shown by continual leakage into the well between sections of the sheet piling at distances ten feet above the level of the water inside the well. This difference of water level inside and outside the well casing was caused by drawing so large a volume of water through the gravel in the restricted area underneath the sheet piling. The settling of this well casing from 2.6 to 3.6 feet left a cylindrical area, between the bottom of this sheeting and the hardpan underneath the water gravel, sixteen feet in diameter and only from 3.4 to 4.4 feet high. Between the gravel particles in this restricted area it was necessary to draw all of the water pumped from the well. The large amount of resistance to drawing so great an amount of water through so small an area caused the difference in water level inside and outside the well casing. The capacity curve shown on Plate II shows the height of the water **inside the well casing** for given pumping rates. This curve is, within the limits plotted, a straight line, and it seems reasonable to assume that for a short distance farther along the curve there is no deviation from this line. Producing the line to the elevation of the top of the water gravel we see that the well would at that elevation produce 4,150,000 gallons per day. To get 4,000,000 gallons per day the water level inside the well would be drawn down to about 2.25 feet above the water gravel or about 21.1 feet below the ground level.

The weir formerly placed in the ditch into which the pump was discharged was about one mile down the stream from the sixteen-foot well. Measurements taken at this weir during the pumping showed conclusively that all of the water pumped from the well passed this point.

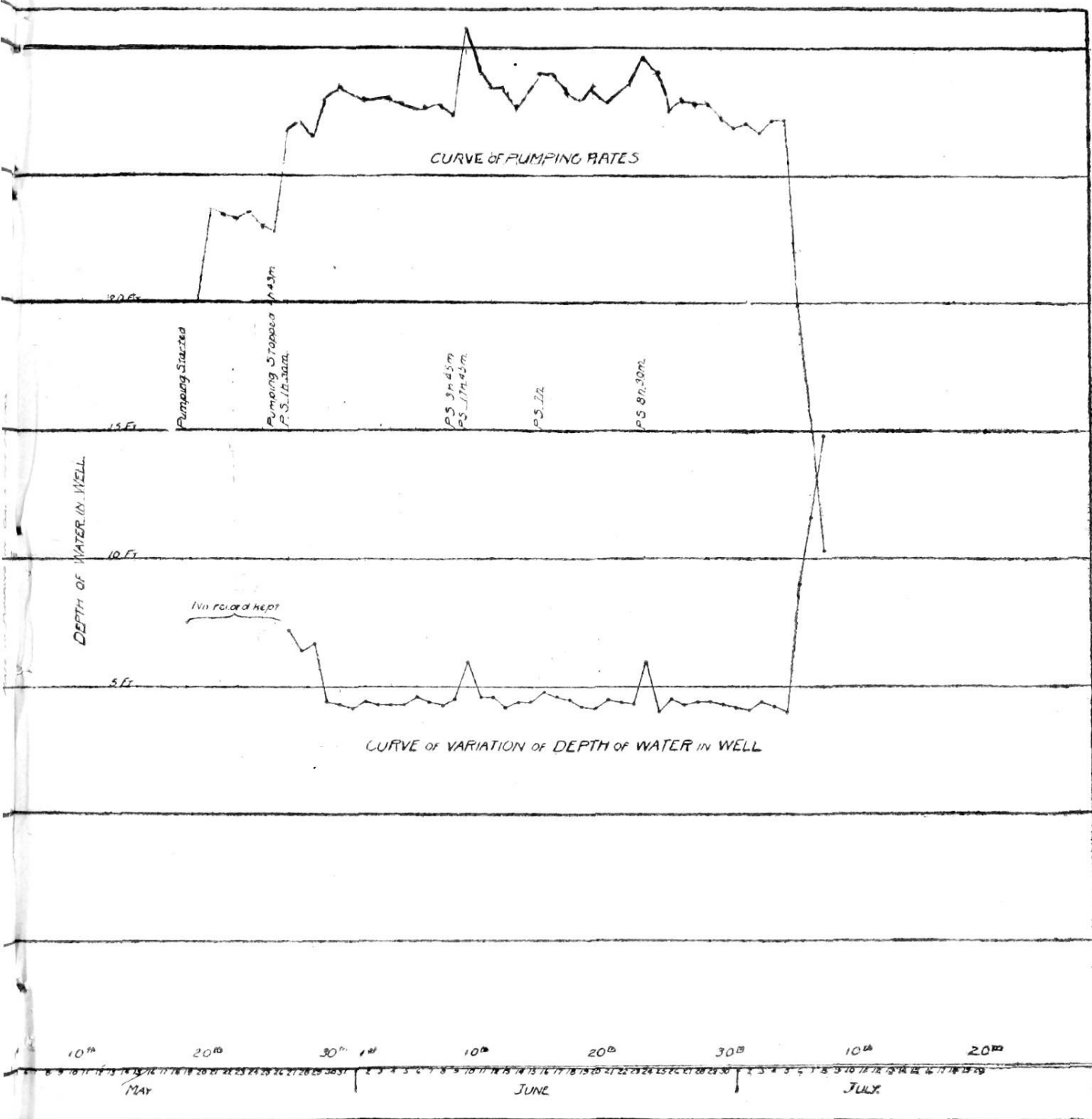
Effect of Pumping on Surrounding Wells.

Before taking up the important question of the effect of the pumping on the wells near the Steere farm, the effect of the seasonal fluctuations and rainfall on the groundwater level must be considered.

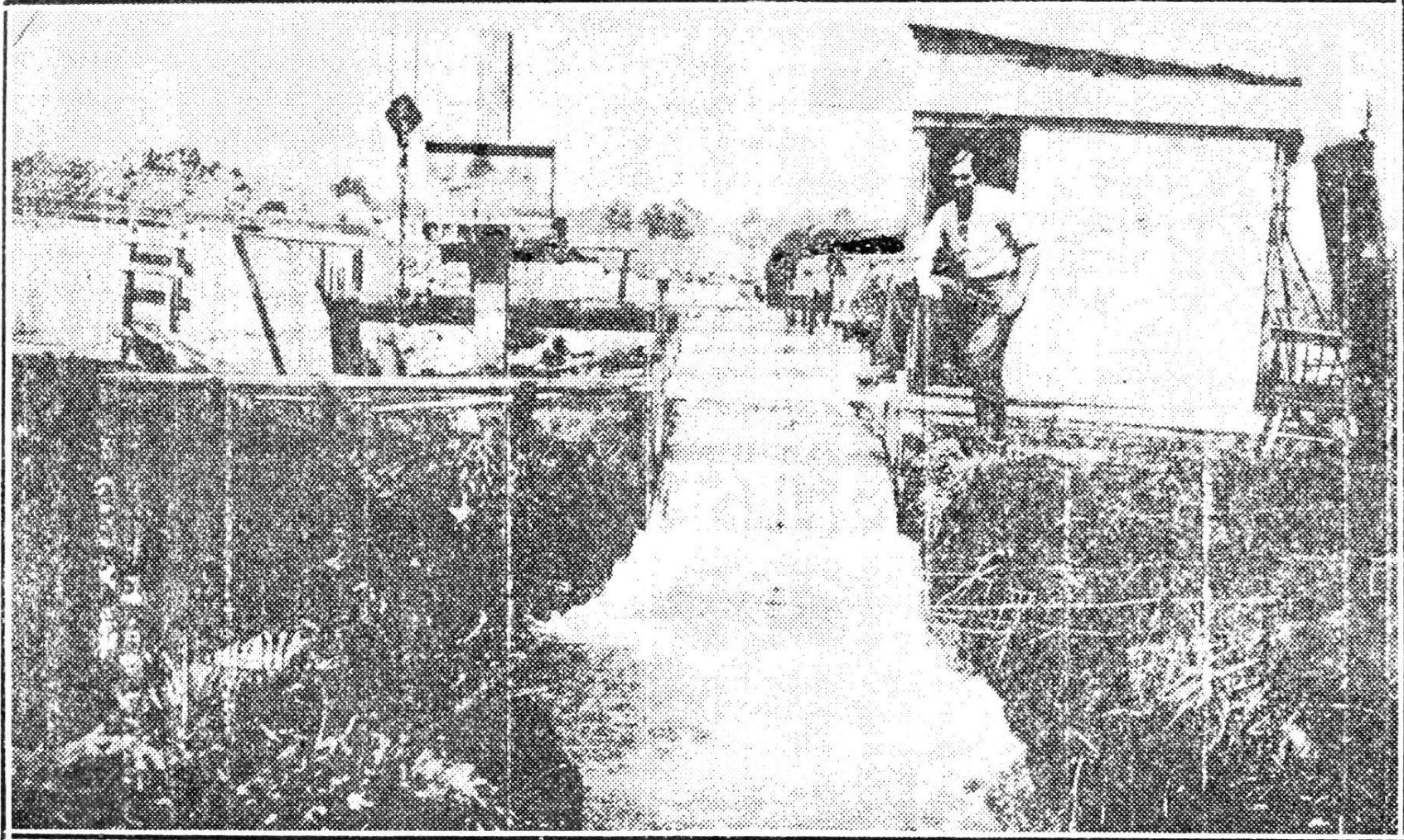
It has been observed by those who are familiar with underground waters that the rainfall during the year, in relation to its effect on the underground water level, should be divided into three periods: the storage pe-



Depth of water in well over bottom of well plotted above respective rate of pumping. Scale of depth given at left.



Pumping rates and depth of water IN WELL over bottom of well plotted above respective dates. Scales of pumping rates and depth given at left.



Pumping Test. Shows well after settlement, arrangement of pump and measuring apparatus, and discharge over four foot measuring weir.

riod, comprising the months of December, January, February, March, April and May; the growing period June, July and August; and the replenishing period, September, October, and November. This division of the year makes the water year begin in December and end in November.

During the storage period the rain and melted snow go to increase the amount of underground water during the time the ground is not frozen. When the ground is frozen the snow is either held on the surface or passes off as runoff in stream flow. There is little evaporation during this period.

The rainfall during the growing period gives very little to the groundwater owing to the big demand of the

growing crops and grass and the high percentage of evaporation. It has been found that grain crops will consume from ten to fifteen inches of water during the growing season, while grasses during the entire season will consume thirty or forty inches if they can get it.

The replenishing period, as its name indicates, is the time during which the ground water, depleted by the demands of the summer growing season, is replenished by the fall rains. The growing things demand relatively little now and the evaporation has also decreased.

The following table gives the rainfall in Ann Arbor in inches during each of the above named periods from the year 1900 to date:

Rainfall Records For Ann Arbor.

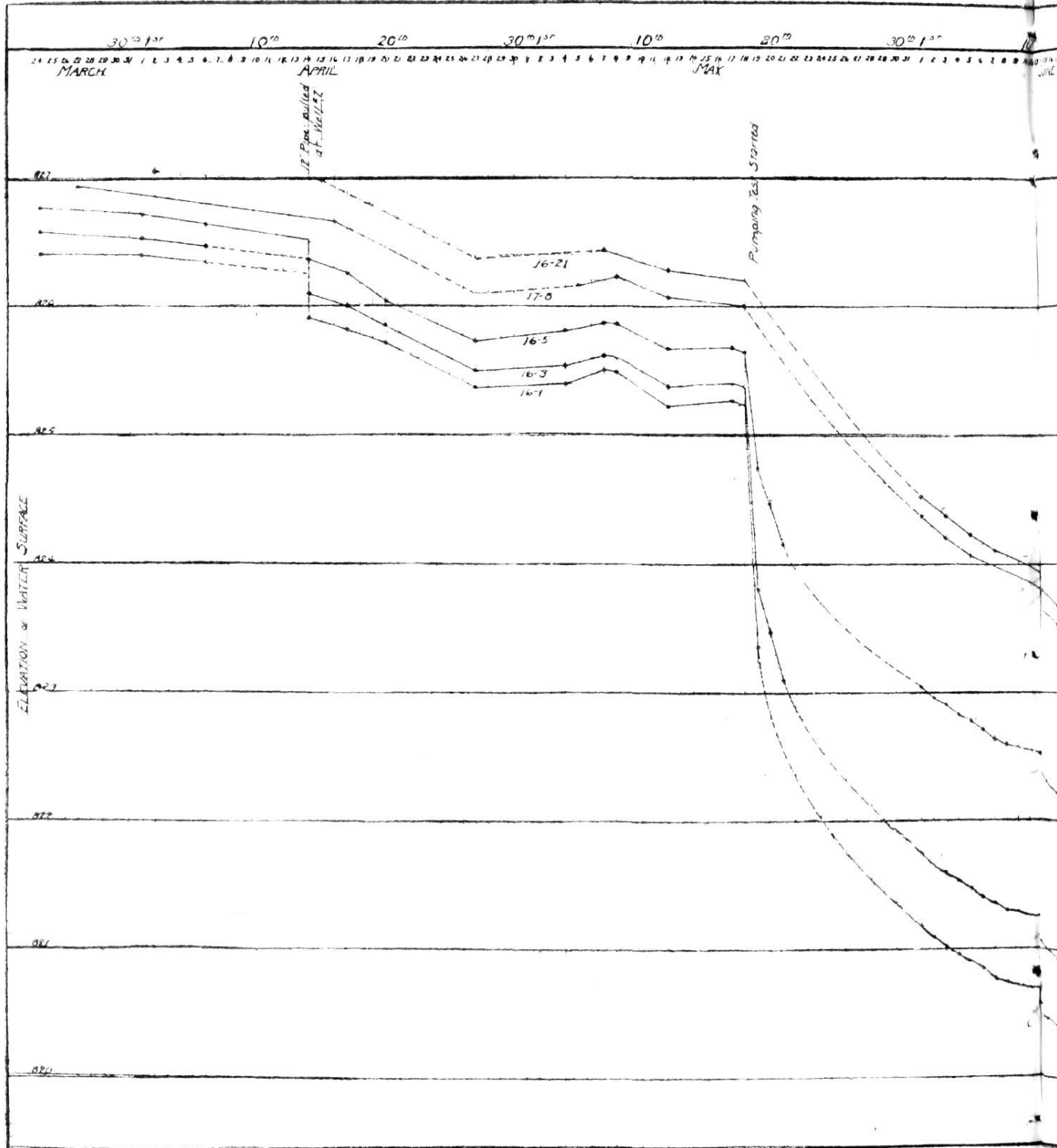
Period	1900	1901	1902	1903	1904	1905	1906	1907
Storage	13.84*	9.19	13.04	15.43	16.59	13.89	13.65	15.06
Growing	7.25	8.50	18.89	15.23	7.50	13.06	11.04	6.63
Replenishing	7.06	5.78	10.19	5.38	4.82	9.63	6.26	8.30
Period	1908	1909	1910	1911	1912	1913	1914	1915
Storage	18.33	13.89	13.25	11.21	13.60	17.83	15.22	7.98
Growing	11.18	7.74	6.24	6.78	7.86	2.57	9.00	11.84
Replenishing	2.78	6.63	7.15	11.99	8.40	6.23	6.02	

*Five months.

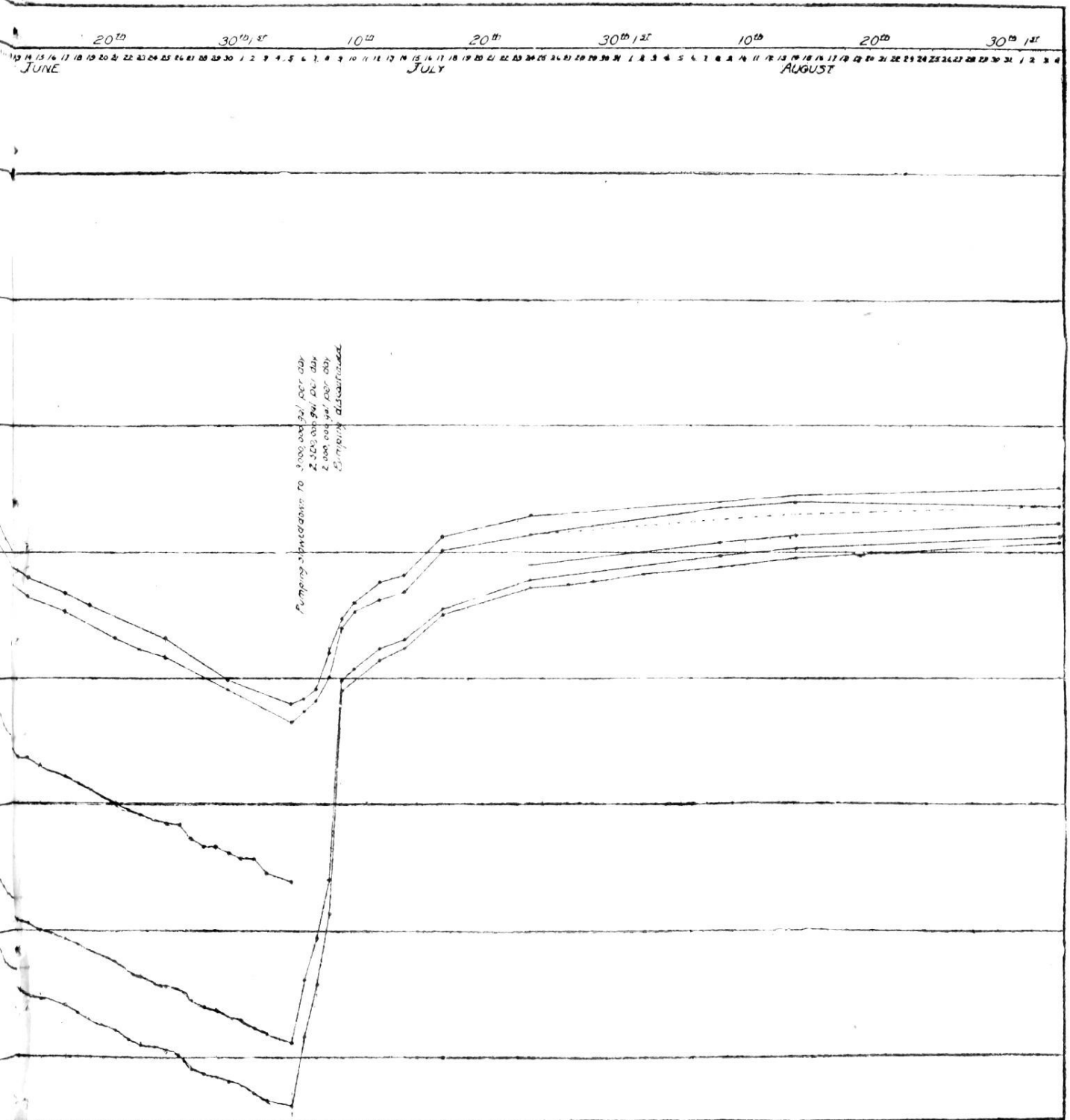
It will be seen from this table that the rainfall for the storage period of 1915 is by far the lowest since 1900 at least; the records were searched back no farther. The replenishing period of 1914 was also lower than it has been since 1908 although not so noticeably low as the rainfall for the storage period. For the sixteen years given, the 9.19 inches of rainfall in 1901 is the nearest approach to the 7.98 inches for 1915 in the storage period. During March and April at the time in which percolation would naturally be the highest the rainfall was especially low. This dry replenishing and exceptionally dry storage period would lead us to expect a low ground water level at the time the pumping test was made. While the rainfall during the growing season was above the average, it was not more than would be entirely consumed by the growing crops, which were unusually fine. After these crops were harvested, the rainfall again percolated into the ground, but this was after the close of the test. Instead of carrying on the test under the most favorable conditions, a decidedly unfavorable time was chosen.

From close observation of the wells in the vicinity of the Steere farm, it was quite evident that none of them were directly or immediately affected by the local rains. In no case, following even the hardest rains of the period of this work, was any rapid raise in the standing water elevation in these wells shown. This absence of effect from local rains is due to the fact that the rain which feeds this underground stream falls upon and percolates through a very large ground surface area which extends to a considerable distance from the location of these wells. The water discharged at this location has been underground for a considerable period of time, probably several months, before reaching the Steere farm vicinity.

Plates III and IV have been prepared to show the varying elevation of the water in the several wells throughout the period of this test. Under the respective dates given at the top of each sheet the elevation of the water in each of the wells shown has been marked with a small circle, the scale of elevation being given to the left of the plotting. These elevations



Elevations of water level (above mean sea level) of several flowing wells and elevations were taken. Successive elevations are connected by straight lines.



and in the vicinity of "Steere Farm" are plotted under respective dates on which

have been joined by straight lines to better show the character of the variations in water level. Plate III represents flowing wells near to the sixteen-foot well and plate IV represents several of those wells on higher ground from which water must always be pumped. By referring to Plate I, these wells may be located and the difference in their distance from the sixteen-foot well noted. Referring to Plate III first, it will be seen that the lines connecting the successive elevations of the several wells are, for the greater part of their length, parallel. This is true prior to the beginning of the pumping at the sixteen-foot well; for the period from June 1st to July 5th during the pumping; and for the entire period plotted since July 17th. This parallelism shows that during these periods the wells were affected only by the general variation of ground water level; a variation which affected all wells located in the same formation in equal amounts, regardless of the elevation of standing water at that point or of their distances from the well being pumped. During the time from May 19th to June 1st the pumping at the sixteen foot well was drawing down the level of the water in these wells, the varying effect on the different wells being shown by the fact that the lines are not parallel. After June 1st, the pumping had no further effect on these elevations, which, as shown by the parallelism of their lines, varied only with the general variation in water level over the entire territory. The same is true at the expiration of

the pumping, i. e., after July 17th, the parallel lines show that these wells are again governed only by the general variation in ground water level.

After noting the effect on the wells represented on Plate III at the time of starting and discontinuing pumping, it is evident that of those wells represented on Plate IV only the wells of Gustave Schenk and John F. Lawrence were affected in any amount by the pumping at the sixteen-foot well. The lowering of the water level in these two wells due to this pumping test did not exceed sixteen inches. This is determined by drawing a line through the plotted elevation under July 17th parallel to the slope of lines prior to discontinuing the pumping and reading the difference of elevation between the plotted and parallel lines.

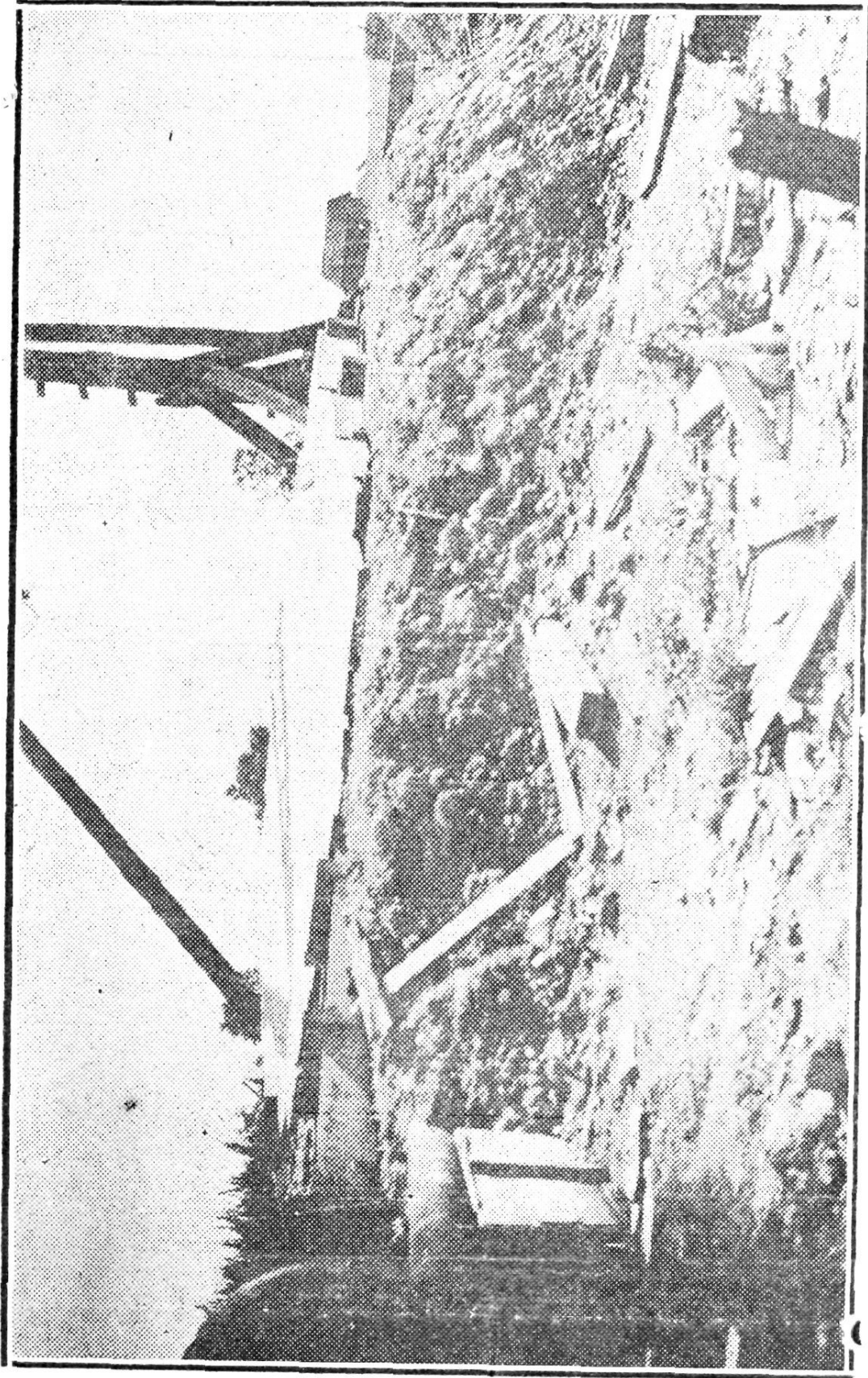
Costs.

The costs of the work were distributed as follows:

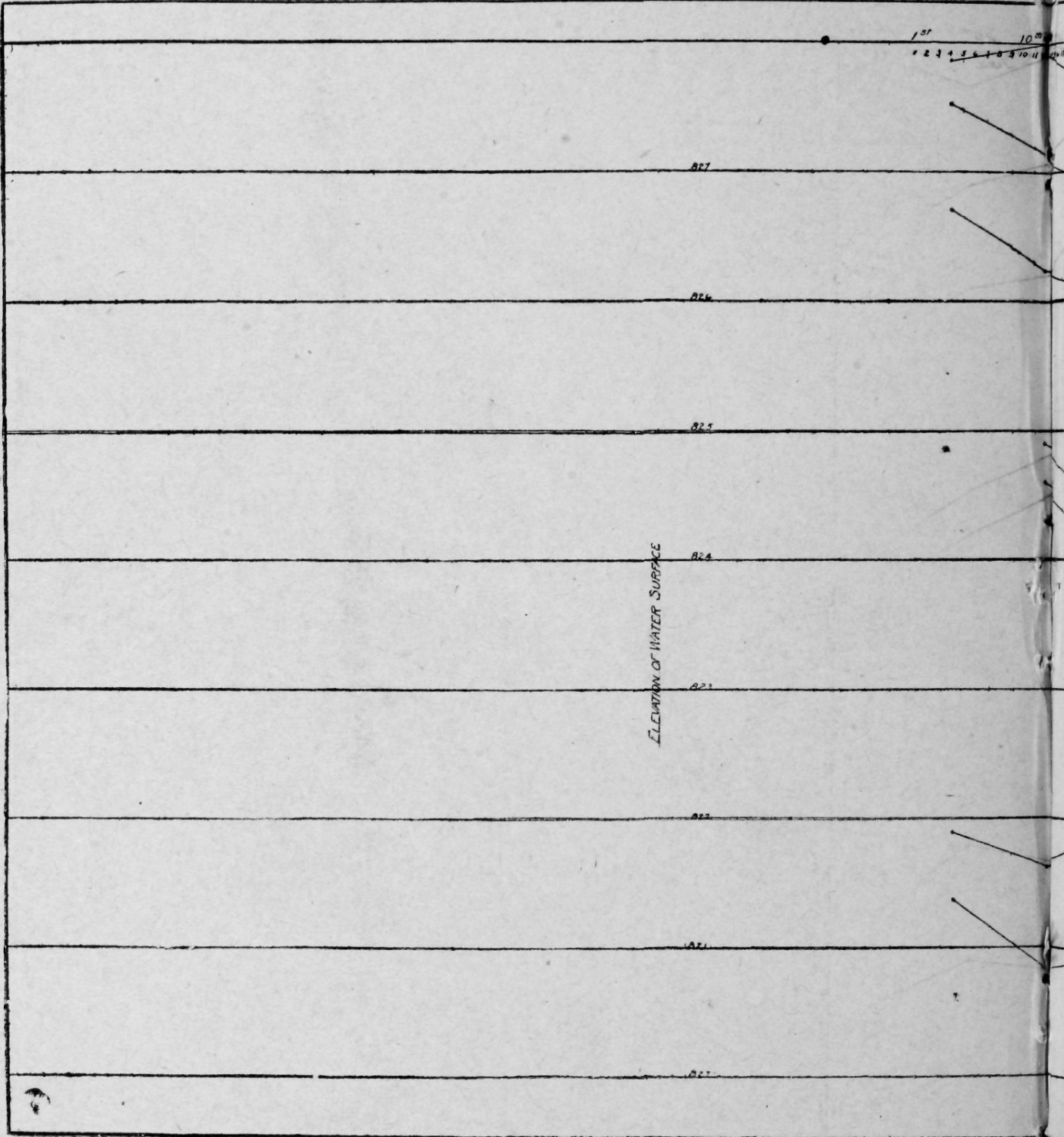
Construction of 16-foot well	\$4,947.57
Pumping 16-foot well	3,641.82

Total	\$8,589.39
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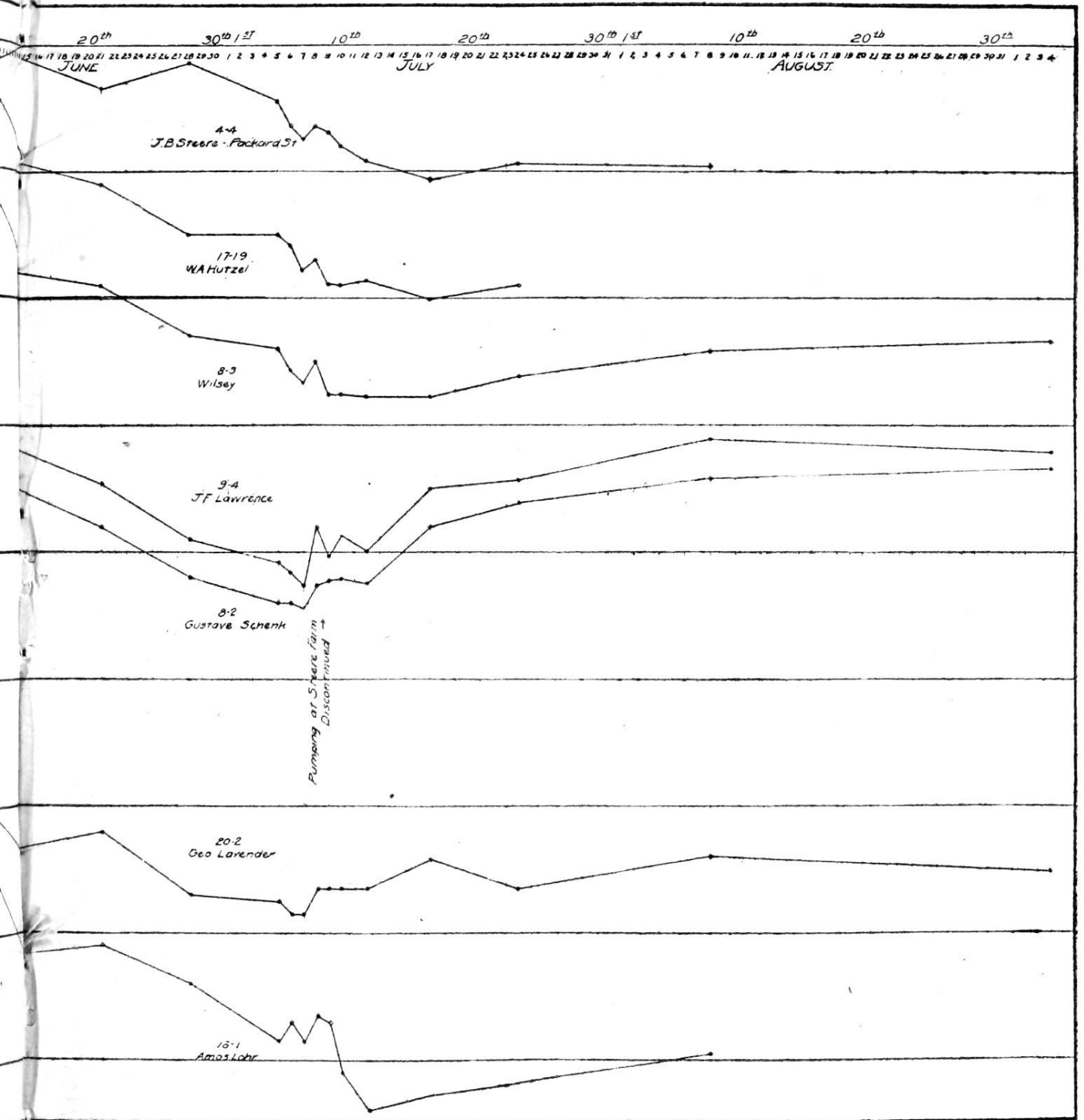
This includes all cost for labor and material as well as all payments to contractor. It includes all that part of my own time and of others working for a monthly salary properly chargeable to this fund. The amount of monthly salaries so included is \$471.13. As these monthly salaries have always been paid from the Contingent Fund, the amount charged against the Steere Farm has been \$8,118.26.



Well as it was left upon completion of test. Clay banked around concrete and well roofed over with plank.



Elevations of water level (above mean sea level) of several wells at varying distance which elevations were taken. Successive elevations are connected by straight lines.



ances and directions from the "Steere Farm" are plotted under respective dates on

Council Chamber, Ann Arbor, Mich., Dec. 6, 1915. Regular session.

Meeting called to order by the President. Present, Ald. Heusel, Fiegel, Hanselmann, A. Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, McGregor, Freeman, G. Lutz, Sink, President Wurster, 15. Absent, none.

President Wurster remarked on the death of Mayor Charles A. Sauer, and appointed a committee composed of Ald. Charles Sink and Ald. Samuel Heusel to draw up proper resolutions and present same to Council at next meeting.

Communications.

Ann Arbor, Mich., 11-26-15.

Mr. Ross Granger, City: Dear Mr. Granger—I enclose you the verdict which was rendered in the J. B. Draper case, and would ask you to present it to the Council at the next meeting.

Sincerely yours, Sam Burchfield, Coroner.

Verdict brought in the J. B. Draper inquest held Nov. 24, 1915:

That J. B. Draper came to his death on or about 5:30 on the afternoon of Nov. 13, 1915, by being struck by a city car (electric) with Motorman Alfred Augustus in charge, whom we entirely exonerate from all blame.

We also find that this part of North University avenue is poorly lighted, and would recommend that if air-brakes make traffic safer that the city enforce their ordinance which calls for same.

Jurors: Frank J. Ryan, Henry B. Dodsley, Wm. L. Dawson, D. Benham, Sam Hammial, Arthur Marsh.

Received and referred to the Ordinance and Lighting Committees.

Dec. 6th, 1915.

Mr. Ross Granger, City Clerk, Ann Arbor, Michigan: Dear Sir—Mr. B. F. Weadock, attorney for the Detroit, Jackson & Chicago Railway, requested me, this afternoon, to ask the Railway Committee to grant the company a hearing on the ordinance relative to air-brakes.

I trust that the committee will grant the hearing.

Very respectfully, M. J. Cavanaugh.

Received and referred to the Ordinance Committee.

Petitions.

Of Harriet Kelsey Fay, asking that Council investigate her claim for injuries said to have been received while walking on sidewalk along the south side of Monroe street, between South Ingalls and Thayer streets. Re-

ceived and referred to City Attorney.

Of Geo. P. Whaley et al., asking that a sidewalk be constructed on south side of Moseley street, between Second and Third streets. Received and referred to Sidewalk Committee.

Of Ann Arbor Machine Co., asking the Council to grant them permission to construct a side-track from present track about 170 feet further toward the east over and upon Canal street, running along north side of plant. Received and referred to Street Committee.

Of John McGregor et al., remonstrating against the abolition of fire station No. 2 on East University avenue. Received and referred to Fire Committee.

Ann Arbor, Mich., Nov. 23, 1915.

To the Honorable Common Council: The undersigned respectfully remonstrate against the abolition of fire station No. 2, on East University avenue, until provision is made for its replacement by another station in the same general locality, and the leaving of the territory south and east of the campus without proper fire protection.

They call attention to the fact that besides the business interests involved this section of the city contains a very large number of residences, and pays taxes largely in excess of other residence portions of the city. Also, that when the fire apparatus from station No. 1 is engaged in the west or north part of the city the south and east portion will be absolutely without fire protection.

Also, that the resolution adopted by your honorable body on July 19, 1915, provided in the preamble for repair of "fire stations," and it was generally understood by the voters at the special election that the repair of fire station No. 2 was to be taken care of under the bond issue voted.

The undersigned therefore respectfully petition that action be taken to retain fire station No. 2, with hose wagon or motor wagon equipment.

Name.

Address.

John McGregor, 551 East University.

C. I. Kidd, 1112 S. University ave.

Dr. Arthur W. Schurz, 1425 Cambridge road.

Marcus L. Ward, 703 E. University.

D. M. Thompson, 539 E. University ave.

E. J. Lohr, 1107 S. University ave.

H. W. Clark, 1109 S. University.

H. T. Cooch, 1610 Geddes ave.

Frank Leverett, 1724 S. University ave.

L. C. Schleede, 1111 S. University ave.
 W. F. Vernor, 908 Lincoln ave.
 H. J. Richard, 512 Mack road.
 L. A. Wikel, 1123 S. University ave.
 W. B. Hinsdale, 716 Forest.
 Will L. Ballard, 545 E. University ave.
 Geo. Blaich, 605 Forest.
 J. D. Ramsay, 515 Church.
 Wm. Condon, 920 S. University.
 Ed. I. Taylor, 537 Church.
 W. P. Lombard, 805 Oxford road.
 W. L. Miggett, 1102 Willard.
 Emil Lorch, 718 Church ave.
 E. C. Burrell, 1315 Forest court.
 W. E. Scott, 1209 S. University.
 Wm. P. James, 1341 Geddes ave.
 Arthur Brown, 1012 Hill st.
 Hudson T. Morton, 611 Church st.
 Norman A. Wood, 1216 S. University ave.
 L. D. Wines, 1208 Hill st.
 Reed M. Caughey, 1118 S. University.
 Alfred H. White, 715 Church st.
 J. R. Trojanowski, 1110 S. University ave.
 Frank J. Glen, 629 E. University ave.
 John H. Hall, 609 East University.
 Reuben Peterson, 610-620 Forest ave.,
 621 Church, 1416 Hill st.
 R. W. T. Hollister, 1306 Wells st.
 Chas. W. Spooner, 1824 Norway road.
 H. L. Wilgus, 1547 Washtenaw ave.
 E. G. Hoag, 930 Church st.
 C. G. Darling, 722 Forest ave.
 A. J. Sawyer, 533 Forest ave.
 H. E. Riggs, 1319 Cambridge road.
 Fred T. Stowe, Wash. ave.

Committee Reports.
FINANCE REPORT

Ross Granger, salary and clerk hire, \$166.66
 Geo. W. Sweet, salary and clerk
 hire 108.33
 Herbert W. Crippen, salary 125.00
 Manley Osgood, salary 150.00
 Alfred J. Paul, salary 125.00
 Frank B. DeVine, salary 83.33
 W. C. Russell, salary 85.00
 Julius Lohrke, salary 80.00
 R. M. Caughey, salary 70.00
 M. E. Easterly, salary 55.00
 John A. Wessinger, salary 50.00
 Fred Biggs, salary 50.00
 Ura G. Rickert, salary 50.00
 Geo. F. Muehlig, salary 25.00
 M. C. Ryan, salary ½ month 30.00
 Edward Besch, collecting garbage, 400.00

Total salaries and services, \$1,653.32

Fire Fund

Chas. J. Andrews, salary \$ 50.00
 Eugene Williams, salary 38.50
 Geo. Hoelzle, salary 38.50
 Ralph Edwards, salary 38.50
 Henry McLaren, salary 36.50
 Jacob Gwinner, salary 36.50
 Arthur Clark, salary 35.00
 Harley Wise, salary 35.00
 Martin Noll, salary 35.00
 Geo. Isbel, salary 35.00
 Frank Markey, salary 35.00

Thomas Shamp, salary 35.00
 Harold Darling, salary 35.00
 Herman Kruse, salary 35.00
 Ed Klemschmidt, salary 35.00
 Emil Damman, salary 30.00
 Edward Kapp, salary 30.00
 James Sumner, salary 30.00
 Nelson Hoppe, salary 30.00
 Theodore Higgins, salary 30.00
 Mat. Heininger 7.00
 Chas. Carroll, salary 23.00
 Frank Kapp, salary 23.00
 Clyde Carpenter, salary 25.66

Total salaries for ½ month of
 November, \$782.16

Police Fund

Frank Pardon, salary \$ 41.66
 Thomas O'Brien, salary 40.00
 Wm. Blackburn, salary 35.00
 Wm. J. Aprill, salary 35.00
 Gustave Meyer, salary 35.00
 Ruben Armbruster, salary 35.00
 Ed. Blumhardt, salary 35.00
 Frank Keihl, salary 35.00
 Emanuel Soga, salary 32.50
 Earl Walker, salary 32.50
 Marlene Howard, salary 32.50

Total salaries for ½ month of
 November, \$389.16

Poor Fund

J. H. Shadford, salary \$ 35.00

Cemetery Fund

Matthias Luippold, salary \$ 50.00

Park Fund

Ray E. Bassett, salary \$125.00

Water Works Fund

Geo. S. Vandawarker, salary \$150.00
 R. Spokes, salary 150.00
 H. Emerson, salary 30.00
 A. W. Cochran, salary 5.00
 George Mann, salary 20.00
 John Lindenschmitt, salary 20.00
 Wirt Cornwell, salary 20.00

Total salaries for month of
 November, \$395.00

Engineer Department

R. A. Dodge, labor \$ 22.95
 Laurence Lenhardt, labor 49.00
 Tom O'Neill, labor 36.25
 Horace H. Person, labor 57.75
 C. F. Seymour, labor 16.65
 C. W. Smedberg, labor 63.00
 F. E. Williams, labor 29.25

Total Engineer Department, \$274.85

Board of Review

Albert Fiegel, services \$ 5.00
 Albert S. Lutz, services 5.00
 Thomas Hanselmann, services 5.00
 Julius Koernke, services 5.00
 Frank Heck, services 5.00
 Wm. P. Flynn, services 5.00
 John W. Markey, services 5.00
 I. L. Sherk, services 5.00
 F. B. Manwaring, services 5.00
 John McGregor, services 5.00
 C. C. Freeman, services 5.00
 George Lutz, services 5.00
 Chas. A. Sink, services 5.00
 Ernst M. Wurster, services 5.00

Total Board of Review, \$70.00
 Frank B. DeVine, expenses paid, \$ 6.55

Geo. W. Sweet, expenses paid.....	4.14	John F. Wagner & Co., supplies...	11.20
C. R. Pollan, services.....	1.25	Anna Ladd, care of old lady.....	3.50
Wm. J. Clancy, sprinkling.....	240.00	Total supplies, etc.....	\$ 37.81
Washtenaw Gas Co., City Hall.....	6.01	Poor Fund total.....	72.81
Eastern Michigan Edison Co., City Hall and clock.....	26.96	Cemetery Fund	
R. W. Steere, water.....	1.00	J. W. O'Brien, labor.....	\$ 3.00
City Ice Co., ice for season.....	18.20	W. J. Randel, labor.....	3.00
Michigan State Telephone Co., tolls.	1.50	Ann Arbor Civic association, trees and shrubs	35.52
The Gillette Co., posting notices....	3.50	Total labor, etc.....	\$ 41.52
The C. F. Pease Co., supplies.....	3.99	Cemetery Fund total.....	\$ 91.52
John C. Fischer Co., supplies.....	1.50	Dog License Fund	
The Mayer-Schairer Co., supplies...	12.50	Joe Clay burials	\$ 1.50
Muehlig & Schmid, supplies.....	1.17	Joseph Wickliffe, burials.....	.50
The Times News Co., printing.....	492.95	Joseph Williams, burials.....	1.50
Chas. F. Meyers, printing.....	3.00	Total	\$ 3.50
Sid. W. Millard, printing.....	51.50	Street Lighting Fund	
C. M. King, repairs.....	1.50	Eastern Mich. Edison Co., light..	\$1,521.16
C. H. Kittredge & Co., repairs.....	6.50	Steere Farm Fund	
Smith Tire Repair Co., repairs.....	2.50	C. J. Rash, labor.....	\$ 2.70
Breitenwischer Auto Co., repairs, etc.	9.58	Michigan State Telephone Co., tolls	6.78
Manley Osgood, expenses paid.....	2.99	Total	\$ 9.48
Ross Granger, express paid.....	.36	Water Works Fund	
Total supplies, etc.....	\$899.15	W. H. Willsher, services	\$ 37.50
Contingent Fund total.....	\$2,897.32	Joel West, services	37.50
Fire Fund		Leslie Bush, services	37.50
Washtenaw Gas Co., light, etc., 2 months	\$ 20.39	Robert Stoll, services	30.00
Eastern Michigan Edison Co., light, etc.	4.14	Fred Schwikert, services	30.00
White Swan Laundry Co., laundry.	10.74	John Ford, services	30.00
Fred H. Wentworth, supplies	3.92	J. Schwikert, services	32.50
L. O. Cushing, supplies.....	2.00	Henry Linde, services	32.50
Dean & Co., supplies.....	4.25	John Wood, services	30.00
John C. Fischer Co., supplies.....	6.98	A. E. Hawkes, services	37.50
C. H. Kittredge & Co., supplies....	2.82	Cliff Shetterly, services	41.66
Mack & Co., supplies.....	15.00	Louise Malloy, services	20.00
Muehlig & Schmid, supplies.....	.43	Raymond Spokes, services	10.00
Schumacher Hardware Co., supplies	7.30	Total services for ½ month of November.....	\$411.66
Adolph Walters, hay.....	37.52	F. Rhodenbecker, labor.....	\$ 38.06
W. H. L. Rohde, coal.....	5.50	L. Hazelschwerdt, labor.....	35.00
City Ice Co., ice.....	10.00	J. Glazier, labor.....	38.06
The Times News Co., printing.....	5.10	J. Nimz, labor.....	26.25
J. L. Chapman, repairs.....	1.50	H. Koernke, labor.....	30.50
Schumacher & Backhaus, repairs...	4.75	George Mast, labor.....	2.25
Gus J. Vogel, repairs.....	2.60	A. Molkentine, labor.....	28.50
C. W. Cornell, horseshoeing, etc....	13.30	Fred Luepke, labor.....	32.75
Seybold & Esslinger, horseshoeing, etc.	27.15	Peter Carey, labor.....	24.00
Total supplies, etc.....	\$185.39	Chris. Larmee, labor.....	2.25
Fire Fund total.....	\$967.55	A. Kellogg, labor.....	5.75
Police Fund		Total labor	\$263.37
John Shankland, special.....	\$ 2.25	Ohio & Michigan Coal Co., supplies.	\$ 99.85
Standard Oil Co., gasoline.....	43.20	Roe-Stephens Mfg. Co., supplies....	150.00
Michigan State Telephone Co., tolls.	1.45	Crane Co., supplies.....	166.83
Muehlig & Schmid, supplies.....	.75	Eaton-Clark Co., supplies.....	3.93
Schumacher Hardware Co., supplies	9.70	Schumacher Hardware Co., supplies	3.40
Harvey Stofflet, subscriptions.....	8.50	Barnes & O'Neil, supplies.....	4.20
Clyde C. Kerr, printing.....	12.75	D. F. Woodward, services.....	1.80
Frank Pardon, rent of auto.....	30.00	G. Williams, services.....	264.82
Stark Taxicab Co., taxi service....	6.00	Wm. P. Flynn, cement work.....	380.43
Washtenaw Gas Co., repairs.....	1.05	Eastern Michigan Edison Co., lights and power	66.22
Ann Arbor Garage, repairs, etc....	10.69	McOmber & Miner, insurance.....	33.92
City Taxicab Co., repairs, etc.....	9.60	Michigan Central R. R. Co., freight.	172.16
Total supplies, etc.....	\$135.94	C. E. Godfrey, cartage.....	39.35
Police Fund total.....	\$525.10	Total supplies, etc.....	\$1,386.91
Poor Fund		Water Works Fund total.....	\$2,456.94
Schultz Bros., supplies.....	\$ 4.00		
Wm. E. Pardon, supplies.....	2.55		
Theurer & Walker, supplies.....	16.56		

Park Fund	
Horace Barnard, labor.....	\$ 6.00
Mort Bowen, labor.....	1.25
Howard Bros., labor.....	9.00
A. L. LeGraves, labor.....	1.65
W. J. Randel, labor.....	2.38
Dana Wilbee, labor.....	4.65
Total labor	\$ 24.93
H. J. Abbott, P. M., postage.....	\$ 2.13
Ann Arbor Civic association, shrubs and trees	69.30
City Taxicab Co. (Main st.), services	3.10
City Taxicab Co. (Liberty st.), sin- gle wagon	2.00
C. E. Godfrey, freight and cartage..	1.44
Schumacher & Backhaus, services, etc.	1.65
Total supplies, etc.	\$ 79.62
Park Fund total	\$229.55

Street Fund	
Douglass Bycraft, labor.....	\$ 3.50
Wm. Clark, labor.....	23.75
Emanuel Holzappel, labor.....	4.63
Sam. Kalmbach, labor.....	2.45
Matt Koch, labor.....	6.67
Geo. J. Mack, labor.....	23.89
James Mason, labor.....	24.51
W. H. Romig, labor.....	28.45
Geo. J. Schaible, labor.....	24.22
Eugene Schlanderer, labor.....	23.22
A. G. Schneeberger, labor.....	18.22
Jacob F. Staebler, labor.....	9.78
Fred Ulrich, labor.....	46.34
Martin Walsh, labor.....	10.00
John Wendland, labor.....	23.89
Max Bethke, team.....	3.00
Frel G. Hanselman, team.....	67.50
Robert Miller, team.....	38.30
Carl Rehberg, team.....	28.50
George Schaible, team.....	44.33
Claud Young, team.....	48.00
Total labor	\$503.15
Dawson Bros, supplies	\$ 1.00
Dean & Co., supplies	2.74
Jno. C. Fischer Co., supplies	9.20
Hertler Bros., supplies	49.09
Schumacher Hardware Co., sup- plies	7.40
John A Tice, supplies	1.00
Gott, Ely, gravel	1.25
John W. Herrst, gravel	79.62
M. E. Lennon, gravel	5.75
Arthur Lyon, gravel	103.35
A. F. Shepherd, gravel	2.30
L. C. Weinmann, gravel	2.70
Chas. A. Sauer & Co., extension..	28.80
C. W. Cornel', horseshoeing	5.80
Seybold & Esslinger, repairs	11.65
Total supplies, etc.	\$311.65
Street fund total	\$814.80

Bridge, Culvert and Crosswalk Fund	
Douglass Bycraft, labor	\$ 20.75
Wm. Clark, labor	8.89
Emanuel Holzappel, labor	27.88
Matt. Koch, labor	6.45
James Mason, labor	11.84
Eugene Schlanderer, labor	6.45
Jacob F. Staebler, labor	6.45
Martin Walsh, labor	27.50
Max Bethke, team	17.75
Carl Rehberg, team	14.75

Emmett Schafer, team	7.50
A. M. Steffen, team	4.00
Claud Young, team	13.00
Total labor	\$167.21
Hertler Bros., supplies	\$ 7.00
E. L. Schneider, final payment W. Jefferson storm sewer and Cam- bridge road storm sewer.....	127.22
S. A. Elsifor, team	3.20
Ann Arbor Machine Co., supplies..	108.56
Total supplies, etc.	\$245.98
Bridge, Culvert and Crosswalk fund total	\$413.19

Labor Accounts, Paving Districts

Ann Arbor Water Works Dept.

for water used—

No. 32

No. 33

No. 34

No. 35

Total

Labor Acc. Pav. Dist. No. 34

University of Michigan, repairs ..

Recapitulation

Contingent fund

Fire fund

Police fund

Poor fund

Cemetery fund

Dog License fund

Street Lighting fund

Steere Farm fund

Water Works fund

Park fund

Street fund

Bridge, Culvert and Crosswalk...

Total City funds

Paving Districts Labor Accounts—

No. 32

No. 33

No. 34

No. 35

Total Paving funds

Grand total

Ann Arbor, Mich., Dec. 6, 1915.

To the Finance committee of the Common Council: Gentlemen—I have examined the foregoing accounts against the city of Ann Arbor, and I hereby certify that they are correct to the best of my knowledge. ROSS GRANGER, City Clerk.

To the Honorable, the Common Council: Gentlemen—Your Finance committee has reviewed the foregoing report. Warrants for salaries were drawn Dec. 1, 1915. We recommend that same be approved and that warrants be ordered drawn for the foregoing accounts.

GEO. LUTZ, ALBERT FIEGEL, Finance Committee.

Ald. G. Lutz moved the adoption of the report, which was adopted by unanimous vote of the Council, 15.

Ald. G. Lutz presented the following estimates from the City Engineer and moved that amounts now due be allowed:

First estimate, storm water sewer

on Edwin and McKinley streets, Barnes & O'Neil, contractors, amount due \$1,278.45.

Second estimate, sewer district No. 68, Wm. Eddy & Son, contractors, amount due \$2,059.26.

First estimate, sewer district No. 72, Tom Joyce, contractor, amount due \$654.07.

Adopted by unanimous vote of Council, 15.

Ald. G. Lutz presented the bill of Franklin L. Parker for over-payment of taxes in paving district No. 21, and moved that amount of \$1.45 be refunded, which was adopted by unanimous vote, 15.

Moved by Ald. Sink, that Council adjourn to meet Monday, Dec. 13, 1915, at 7:30 p. m. Adopted.

ROSS GRANGER, Clerk.

Board of Review

Council Chamber, Ann Arbor, Mich.,
December 6th, 1915, 7 o'clock p. m.

Meeting of the Common Council as
a Board of Review on the closing of

Edward street, pursuant to order and resolution passed by the Council, November 15th, 1915, was called to order by President Wurster, and the following members found present: Ald. Heusel, Fiegel, Hanselman, Albert Lutz, Koernke, Heck, Markey, Flynn, Sherk, Manwaring, Freeman, George Lutz, Sink and President Wurster, 14. Absent, Ald. McGregor.

The Council entered upon the review of said proposed closing of Edward street between Summit street and street known as Charles street, heretofore closed. Due proof of the proper notice of meeting was filed. After hearing all persons desiring to be heard, the following resolution was offered:

By Ald. Albert Lutz: Resolved, that the Chair appoint a committee of three to confer with those interested in Edward street, and see what disposition can be made of the proposition aforesaid. Adopted, and the following committee appointed: Ald. Manwaring, Fiegel and Heck.

The Board adjourned.

ROSS GRANGER, Clerk.