ORDINANCE NO. 172.

An ordinance providing for the execution of agreements for the purchase of water for the city of Medford, Oregon, and the construction of pipelines and reservoir, and providing the terms and conditions thereof.

The city of Medford doth ordain as follows:

Section 1. That the mayor and recorder of the city of Medford are hereby authorized and instructed to make, enter into and execute, on behalf of said city, an agreement with I. L. Hamilton, in words and figures as follows, to-wit:

This agreement, made and entered into this .... day of November, 1908, by and between I. L. Hamilton, of Jackson county, Oregon, hereinafter called the contractor, and the city of Medford, Oregon, a municipal corporation, hereinafter called the city,

Witnesseth, That, wher as, the said contractor has heretofore submitted to the people of said city and to the city council thereof a proposal to furnish to the said city 300 inches of water and to furnish and build a pipeline and reservoir, according to the terms and conditions in said proposal set forth, which proposal is hereto annexed and marked "Exhibit A" and made a part of this agreement, and

Whereas, the said proposal has been accepted by a majority vote of the people of said city and by the city council thereof,

Now, therefore, the said contractor hereby undertakes and agrees to furnish to the city of Medford a perpetual flow of 300 inches (Seven and one-half cubic feet per second) of water at the intake of the pipeline hereinafter mentioned, on the north fork of Little Butte creek, and to furnish all labor and materials for and construct and complete a pipeline from said intake to the reservoir hereinafter mentioned, to be established near said city, to furnish all labor and materials for and construct and complete said reservoir and a pipeline connecting same with the distributing system of said city, all such construction to be along the lines and grades which shall be furnished by the supervising engineer of said city, and according to the specifications furnished by said supervising engineer, which specifications are hereto annexed and marked "Exhibit B," and made a part of this agreement, and upon the terms and conditions expressed in said proposal marked "Exhibit A."

And the said contractor further undertakes and agrees to furnish to said city, immediately after the execution of this agreement, an agreement between the Fish Lake Water company and said city, whereby the said Fish Lake Water Company agrees to furnish said water as above set forth, and guarantees the said city against all litigation that that may arise out of such furnishing of said water to said city, said agreement to be secured by a satisfactory surety bond in the sum of fifteen thousand dollars, conditioned upon the faithful performance of said agreement by said Fish Lake Water Company;

And said contractor further agrees to furnish to said city a satisfactory surety bond in the sum of one hundred thousand dollars, conditioned upon the faithful performance of all that part of this agreement relating to furnishing of materials and labor and construction as herein provided, according to the terms and conditions hereof and of said proposal and specifications.

It is further agreed that all work done and services performed hereunder shall be done and performed subject to the supervision and approval of the supervising engineer of said city.

And in considerati n of the faithful performance of this agreement as herein provided, the city undertakes and agrees to pay therefor to said contractor, in full compensation therefor, the sum of two hundred and fifty-four thousand one hundred dollars ($254,100.00), said sum to be paid as follows, to-wit: Fifteen thousand dollars thereof for the water furnished under this agreement, in three equal payments, one therof upon delivery to said city of the agreement with the Fish Lake Water Company hereinbefore referred to, and the bond therein provided; another upon July 1, 1909, and the third of said payments thirty days after the work has been finished to the satisfaction of the supervising engineer of said city; the remainder of said compensation, to-wit: two hundred and thirty-nine thousand one hundred dollars, to be paid as provided in said proposal and specifications.

In Witness whereof, the said contractor has hereunto set his hand and seal, and the said city has caused these presents to be signed by its mayor and recorder and its corporate seal to be hereunto affixed, pursuant to an ordinance duly enacted and approved the day and year first above written.

.....(Seal)
CITY OF MEDFORD.

By.....
Mayor.

Attest:.....
Recorder.

In presence of:

.....

.....

Exhibit A.

Medford, Oregon, Oct. 15, 1908.—Honorable City Council, City Medford, Or.—Gentlemen: I herewith propose to furnish the city of Medford with 300 inches of water at the intake of the pipeline on the north fork of Little Butte creek, build the gravity wooden pipeline, including the head works, trenching and back-filling and clearing, a 2,000,000-gallon reservoir and a connecting pipeline from the reservoir to the present city distributing system for the sum of two hundred and fifty-four thousand one hundred ($254,100).

Specifications.

The intake of the gravity pipeline shall be at a point on the north fork of Little Butte creek above the ford at the head of Hanley's field, wooden pipe running thence to a connection with the beginning of the second survey to Medford by way of Brownsboro, profile of said survey being on file in engineer's office and marked

Profle of
Preliminary Survey
"B"
Gravity Pipeline, August, 1908,
Medford, Oregon.

The wooden pipeline, hydraulic grade line of which shall be as shown on profile above referred to, will connect with a reservoir at the lower end of the line and will continue thence to the junction of Roosevelt avenue and East Seventh street, a total length of 16-inch machine-banded wooden pipe of approximately 23.3 miles. At the junction of Roosevelt avenue and East Seventh street the wooden pipe will connect with a 12-inch cast iron pipe, which will continue approximately 2300 feet along East Seventh street to Riverside avenue, where it will connect with your present distributing system.

The machine-banded wooden pipe shall have an inside diameter of 16 inches and shall conform with the specifications covering same, that governed the tenders previously submitted to you on August 6, 1908, now on file with the city recorder.

The 12-inch cast iron pipe shall be class "D" New England Water Works standard or its equivalent and with it will be furnished and set the following "specials:"

Two 12-inch gate valves.
Two c. i. valve boxes.
One 16-inch to 12-inch reducer.
One 12-inch to 8-inch reducer.
One 12-inchx12-inchx10-inch T.
One 12-inchx12-inchx8-inch T.
Seven 12-inchx12-inchx6-inch Ts.
Four Eclipse hydrants.
48 feet 6-inch cast iron pipe.

The reservoir shall have a capacity of 2,000,000 gallons and shall be constructed of concrete 6 inches thick with two coats of asphaltum on the inside surface.

For your information and so that you may know I am well equipped to carry out the terms of this proposal, will state that the Fish Lake Water Company has agre d to furnish the amount of water herein offered and will guarantee the city against all litigation that may arise out of so furnishing this water; and also that arrangements have been made by which Mr. C. D. Vincent and the Redwood Manufacturers Company will furnish and construct the system as herein set forth.

I understand that payments will be made as the work progresses, monthly, based on the engineer's estimate as follows:

90 per cent of the value of material furnished and work done to be paid on or about the first of each month for the material furnished and work done during the preceding month.

10 per cent or whatever may then remain to be paid thirty days after the work has been finished to the satisfaction of the engineer.

Owing to the upward trend in market prices for the materials involved in this construction, I must make this proposal subject to acceptance on or before November 15, 1908.

I must also stipulate that in case this proposal is accepted the city through its proper authorities shall produce satisfactory assurance that the necessary funds are available to pay for this construction.

As evidence of good faith, I herewith attach certified check to the amount of five thousand dollars, made payable to the recorder of the city of Medford, which is to be returned in case this proposal is rejected, or to be held in case this proposal is accepted only until such time as a contract in due form, embodying the terms of this proposal can be executed.

Respectfully submitted,
I. L. HAMILTON.

Exhibit B.

Specifications—Medford Water Works.

General clauses:

1. The work herein contracted to be done must be commenced within 15 days after the date of this contract, and sufficiently completed on or before the first day of August, 1909, to enable the main pipeline below the "Bradshaw Drop" to supply the city of Medford uninterruptedly; and the entire contract must be completed on or before November first, 1909.

2. Time being an essential part of this contract, there will be charged by the city of Medford, to the contractor, after August 1st, 1909, the amount of $50 for each and every day that the main pipeline, below Bradshaw Drop, does not supply water at the full rate possible according to size and pressure, and the amount of $50 for each and every day that the work is not wholly completed after November 1, 1909, such charges being hereby agreed to between the parties to the contract as the liquidated damages for which the contractor shall be liable to the city of Medford, in the event of his failure to complete the work as specified. If the contractor shall have finished the work sufficiently to enable supplying water at the full rate as stated above, from the Bradshaw Drop to the city, prior to the 31st day of July, 1909, at 12 p. m., but not before the 10th day of July, 1909, he shall be paid $50 for each and every day that the main pipeline supplies the city with water uninterruptedly between said dates.

3. Where in the opinion of the engineer for the city, the employment of skilled laborers is necessary for the successful completion of the work to be done under this contract, then only such as have had experience in and can show themselves to be skilled in their particular line of work, shall be employed by the contractor, and whenever the engineer in charge shall decide that any person whosoever, employed on any portion of the work, is incompetent, unskilled, disrespectful, disobedient, disorderly, or in any way detrimental to the interests of the city, then such person shall be discharged by the contractor, and not again employed upon any portion of the work during its construction.

4. The contractor must use such methods and appliances as will, in the opinion of the engineer, secure the best progress and results attainable, and whenever the engineer notifies the contractor, in writing, that the appliances used, and the methods adopted for performing the work are not suitable for obtaining the best results, then the contractor shall immediately provide such tools and appliances, and adopt such methods for the performance of the work as are satisfactory to the engineer; but the failure of the engineer to notify the contractor that the before mentioned tools and appliances are unsuitable shall not relieve the contractor in any way from his obligation to secure the quality of the work set forth in these specifications.

5. If it shall become necessary at any time to stop work on account of injunction suits, or any sufficient cause whatever, the contractor shall, upon three days' notice in writing of such suspension of work, without cost to or against the city, obey such order. When the city council shall order the work to be resumed, the contractor shall complete the same upon the terms of this contract.

6. The contractor shall not be entitled to any claim for damages for any hindrance or delay from any cause whatever in the progress of the work or any portion thereof; but such hindrance or delay may entitle him to an extension of time for completing his contract, sufficient to compensate for the detention, the same to be determined by the engineer.

7. The contractor is to sustain, without claim against the city, all losses or damages to the work arising from the action of the elements, the nature of the work to be done under these specifications, or any unforeseen obstructions on the line of work which may be encountered in the prosecution of the same.

8. The contractor will be responsible for the work or materials to the full amount of the payments made thereon, and any damage to same from any cause whatever, not the fault of the city or its employes, before the final acceptance of the work, will be required to be made good at the expense of the contractor.

9. The contractor shall put up and maintain such barriers and red lights at dangerous places along the line of the work as will effectually prevent accidents by day or night, for which the city might be liable, and he shall be liable for all damages occasioned in any way by his acts or neglects, or that of any of his agents, employes or workmen.

10. All fees or royalties for any patented article or arrangement that may be used upon fications shall be included in the price named in the proposals, and the contractor shall protect the city against any and all demands for such fees or royalties, and before the final payment is made on the contract, the contractor shall furnish acceptable proof of a satisfactory release from all such claims.

11. No sub-contractor shall relieve the contractor of his liabilities or obligations under his contract, and should any sub-contractor fail to perform the work undertaken by him in a manner satisfactory to the engineer, and should this provision be violated, the city may, at is option, annul and terminate such contract.

12. Whenever any portion of the work is completed the contractor shall dispose of all surplus materials and rubbish as designated by the engineer, also remove all implements and plant from the site of the work and leave the finished portion in a neat and presentable condition.

13. Defective work or material may be condemned by the engineer at any time before the final completion of any portion of the work, or the release of ten (10) per cent reserve. When any work has been condemned, it shall be immediately torn down by the contractor and done over again in accordance with the plans and specifications. When defective material has been condemned, it shall be immediately removed from the work to some place designated by the engineer, where it can be kept under his charge or otherwise disposed of to his satisfaction. In case the contractor shall neglect or refuse to replace any rejected work or material after being served with a written notice so to do by the engineer, such work or material shall be removed or replaced by the engineer at the contractor's expense.

14. The contractor shall provide suitable passageways for traffic over all streets or roads, where such traffic is interrupted by the progress of the work, such passageways to be made to the satisfaction of the engineer.

15. At all times when the work is in progress, either the contractor himself, or a competent foreman, must be in direct charge of the work; a complete set of plans and specifications must also be kept upon the work, and any orders given to a foreman or superintendent will be considered as having been given to the contractor himself.

16. Oversight or failure on the part of the engineer or any of his authorized agents to immediately condemn or reject faulty or bad work or material shall not be implied or construed as an acceptance of the same, if such faulty work or material becomes evident before the final acceptance of the work and release of the contractor from his obligation.

17. No claim for extra work will be considered or allowed unless said work has been previously ordered by the engineer in writing, and the price for doing the same agreed upon by the parties to the contract in advance. All claims for extra work so ordered must be presented on or before the 3d day of the month succeeding that in which the work was done. In case any extra work has to be done, the city reserves the right to let the contract for doing the same to whomsoever it sees fit, unless an agreement upon the prices for doing such extra work can be speedily reached between the city and contractor.

18. It is hereby distinctly understood that the measurements and estimates of the engineer are to be taken as final and conclusive evidence of the amount of work performed by the contractor. The full measure of compensation to be received by the contractor. The estimate is to be based upon the proposal for the labor performed and material furnished under the contract, and in accordance with these specifications, and whenever there may be any ambiguity therein the engineer's instructions shall be considered explanatory and shall be of binding force.

19. In order to prevent dispute and litigation, the engineer shall in all cases be the referee to determine the amount quality, acceptability and fitness of the several kinds of work and material which are to be paid for under these specifications, and to decide upon all questions which may arise as to the fulfillment of said contract on the part of the contractor, and his decisions and determinations shall be final and conclusive.

20. It is hereby stipulated that if the work to be done under this contract shall be abandoned, or if at any time the engineer is of the opinion, and shall so certify to the city in writing, that the work is unnecessarily delayed, or that the contractor is violating the terms of his contract, or is not executing the contract in good faith, then the city shall have the right to notify the contractor to discontinue the work, or such part thereof as the city may designate, and to take possession of the work, and either re-let the same by contract, or furnish the necessary tools and appliances for completing said work under the direction of the engineer, and if the cost of so completing the work is less than the amount due the contractor, the amount left, after deducting all the expenses for so completing the work, shall be paid to the contractor or his assigns, but if the cost is greater than the amount due the contractor upon his contract, then the contractor or his sureties upon the bond shall pay to the city the amount of money that the expense of so completing the contract exceeds the amount due upon the contract.

21. The following documents are essential portions of the complete contract The proposal herein referred to and described, these specifications and general clauses, city ordinances, specific contract, and contractor's bond.

22. Whenever the word "engineer" is used herein it shall be and is hereby understood to refer to W. J. Roberts, the engineer employed by the city of Medford, and to his duly appointed assistants and inspectors, limited by the particular duties entrusted to them.

23. Whenever the words "city" or city council are used herein, they shall be understood to refer to the corporation of the city of Medford, of which the city council is the duly authorized agent.

24. Whenever the word "contractor" is used herein, it shall be and is understood to refer to the party or parties contracting to do any of the work described herein, furnish materials therefor, or the legal representatives of such party or parties or their assigns.

Plans and Superintendence.

Plans and specifications are intended to be explanatory of each other. All dimensions, materials, lines, grades, etc., must be in full accordance with these specifications. The plans and specifications are intended to include whatever thing, material, work, or skill which may be requisite to obtain complete and finished work; and anything not herein specifically mentioned, but which may be fairly implied as included in the contract as necessary to render the works complete, of which the engineer shall be judge, shall be deemed to be included in the various prices bid by the contractor, and must be furnished or performed by the contractor without extra charge.

Tests.

Whenever the engineer shall desire to make tests of the quality of materials to be used in the construction, the contractor shall furnish, free of charge, all necessary material, required for making such tests.

Clearing and Grubbing.

For a distance of about 14 miles it will be necessary to clear and remove the brush and small trees now covering the ground along the right of way. This clearing will be made for a width of 20 feet, or wider if the engineer shall so direct. The brush and trees will all be cut close to the surface of the ground and removed as the work proceeds. No burning will be required. No grubbing will be necessary except for space occupied by the trench.

Timber.

All sawed or hewed timber used in any part of the work, except for pipeline, may be of common native fir, sound and free from decay.

Cast Iron.

All iron castings, unless otherwise specified, shall be made from a superior quality of iron having a tensile strength of not less than 18,000 pounds per square inch. All castings shall conform to the shape dimensions required by the detailed drawings to be furnished by the engineer, and shall be clean and perfect, without defects of any kind. All castings are to be coated with a paint of asphaltum or other approved mixture.

Cement.

The cement used shall be the best quality of Portland cement, dry and free from lumps and all foreign material, delivered in the original packages, in good condition, properly labeled anad well protected from rain and dampness. It shall be delivered on the work in such quantity in advance as shall afford the engineer opportunity for making tests of its quality before being used. The tests required by the city of Portland for acceptance will be acceptable on this contract.

Sand.

The sand used for making mortar, concrete or plaster, shall be coarse, sharp-grained sand, free from deleterious foreign matter.

Gravel and Broken Stone.

Either clean screened gravel, quartzite, basalt or granite when free from mica may be used for concrete work. Acceptable sizes for gravel or broken stone will be such as will pass a screen 2½-inch mesh and be rejected by a screen of ¼-inch. Earthy matter must be removed by washing.

Standard of Measurement.

In making mortar or concrete, a barrel of cement of not less than 400 pounds gross weight or the equivalent weight of cement in sacks, will be the unit of measure and is called herein one quart. The contractor is to provide boxes holding four cubic feet each by measure. One of these boxes full of sand, struck measure, will be called one part of sand. Therefore if mortar is to consist of one part cement and two parts sand the proper portion will be one barrel of cement and two boxes of sand.

Concrete.

Concrete shall be composed of one part cement, three parts sand and five parts broken stone or gravel. Thorough mixing and tamping will be rigidly insisted upon.

Mortar shall consist of one part cement and two parts of sand. No mortar is to be used after the cement has taken its initial set.

Reservoir Lining.

When the work of trimming the bottom and slopes and laying all the pipes and accessories is complete the basin is to be lined with concrete six inches in thickness of the proportions named above. Before the concrete has set it shall be examined carefully and all rough places and inequalities on its surface shall be smoothed over.

Asphalt Coating.

When the concrete has become absolutely dry, which will probably be in three or four weeks after the lining of concrete is finished, it is to receive two coats of asphalt, equal in all respects to the "D" grade asphalt of the Union Oil Co., of San Francisco. The asphalt is to be heated to a temperature of 350 degrees, Fahrenheit, in tanks placed close to the work. It shall be carried to the work in pails and applied to the surface of the concrete with brooms or brushes, enough men being employed to do the work quickly, so as not to give the asphalt time to cool before being applied. The entire surface of the reservoir is to be gone over once before work is begun on the second coat. No work shall be done during the rainy or damp weather, or while the surface to be coated is the least bit damp.

Gate Chamber.

The gate chamber for enclosing the controlling gates will be located as shown on the plans. It will be built of concrete according to the plans of same.

Setting Valves and Appurtenances.

All work in connection with setting valves and appurtenances must be done in a most careful manner in order to insure water tight work.

Gate-Valves.

All gate-valves shall be iron body bronze mounted, two faced, wedge valves of one standard make. All valves shall be equal to the best type and make of valves made by the Crance company of Portland, Oregon.

Staves.

All lumber for staves, whether for continuous stave pipe or what is known as machine-banded pipe, shall be of first quality live timber, known as Washington, Oregon or Douglas fir, or redwood, and must be thoroughly seasoned, and dried either in kiln or air, before being milled into staves. Lumber shall be sound, straight-grained, entirely free from all dead wood, knots, dry rot, cracks, shakes or other defects, that may impair its strength or durability. Small pitch seams will be allowed not exceeding three inches in length ,and not extending more than half way through the thickness of the stave. Sapwood will be allowed only on the inner side of the stave, and then only when it does not extend more than one-half of the way through the thickness of the stave.

The staves shall be milled to true concentric lines, both outside and inside, and the edges shall be planed to true radial planes.

Staves may be milled from 1½x4, 2x4 or 2x6-inch lumber.

The thickness for 16-inch pipe shall be not less than 1¼ inches for heads up to 150 feet, and shall be greater than 1¼ inches, but not greater than 1½ inches thick for heads greater than 150 feet.

Erection.

The pipe when laid shall conform in alignment and grade to the stakes given by the engineer.

Blow-offs.

Blow-offs four inches in diameter, with special tee castings are to be placed on the bottom of the pipe at such depressions as the engineer may indicate. With each blow-off there will be furnished a four-inch gate valve, six feet of heavy Matheson pipe 4 inches in diameter, and a short cast iron valve box.

Air-Valves.

At such summits along the line as may be indicated by the engineer two-inch automatic air valves shall be placed by the contractor. The valve to be used must be equal in all respects to the Coffin Automatic air valves manufactured by the Coffin Valve company of Boston, Mass.

Stand-Pipes.

Where the wood stave pipe is located less than 30 feet below the hydraulic grade line there shall be placed 2-inch galvanized iron stand-pipes, with a 2-inch service cock located near the pipe. These stand-pipes shall be boxed in and have the box filled with sawdust.

Testing and Acceptance.

The testing of the pipeline will consist of filling the same with water, from settling basin to reservoir, and from reservoir to distributing system, and closing any leaks showing after three weeks under full pressure. The final acceptance of the pipe will be made only after the same shall have been in satisfactory operation for 30 days after the closing of all leaks.

Refilling Trenches.

As soon as the pipe is constructed and approved by the engineer the trench shall be refilled by the best of excavated material, the earth being thoroughly tamped to the middle diameter of the pipe. Care shall be exercised in backfilling that no injury is caused to pipe by careless refilling with loose stone. All of the material excavated from the trench shall be placed over the pipe in backfilling.

Measurements of Pipe.

All measurements of pipe shall be made parallel to the axis of the pipe laid in trench, connected and ready for use.

Machine-Banded Pipe.

If machine-banded pipe is used the specifications for staves used in continuous stave pipe shall apply. The thicknesses for the several heads used shall conform to the thickness submitted by the manufacturer and approved by the engineer before proposals are opened, and will be approximately 1⅜ inches thick for lowest heads and 1 3-8 inches for maximum heads, being varied to correspond to the heads for which it is built.

The ends of all pipe shall be sawed off square and turned smoothly to correspond with the couplings. The ends shall be made of proper size to make a tight fit when the pipe is driven into the coupling, gate or fitting.

The pipe shall be made in sections of from 8 to 16 feet in length, and not more than 10 per cent of sections shall be less than ten feet in length.

The thickness of all shells for couplings shall be the same as the pipe with which it is to serve.

Wire.

The pipe shall be banded wire with galvanized wire having a tensile strength of not less than 60,000 pounds per square inch of section. The gauge of wire shall correspond to Washburn & Moen's standard gauge, as follows: No. 1—0.2830-inch diameter.

Banding.

In winding, the bands must have sufficient tension to impress the wire slightly into the staves, but wire that has broken the fiber of the wood will subject the section of pipe to rejection. The wire must be securely fastened, by staple at the beginning of the winding and at the finishing of the winding on a section of pipe a clip made of Norway iron or mild steel must be used to securely fasten the end of the wire.

Wood Couplings.

Wood couplings shall be made of the same material as the pipe sections they are intended to connect. Couplings for 16-inch pipe for heads up to 100 feet shall be 6 inches in length, and for all other heads 8 inches in length. All the couplings shall be banded with individual bands of round mild steel, 3-8 inch in diameter, each band having a shoe of malleable cast iron or drop forge steel, which shall securely hold the threaded end of band and head of band in such manner that the band may be cinched to its proper position. The size and number of bands to be used on couplings are to be as specified.

Coating.

The outer surface of the pipe, as well as the banding, shall be coated with a mixture of asphalt fluxed with suitable material, of proper consistency, applied hot, by dipping in bath. The tenon ends as well as the inside of pipe shall be properly protected from the coating. The coating must adhere strongly to the pipe and banding, showing no tendency to flow in hot weather or chip or scale in cold weather.

Spacing.

The spacing for the banding and the number of the gauge of wire to be used for the several heads will be as follows:

Size—	Head	Spacing in 16ths.
16-inch	50 foot	48 equals 3-inch
16	100	34
16	150	23
16	200	17
16	200	17
16	250	13
16	300	11
16	350	10
16	400	8 equals ½-inch

Gauge—	Coupling, Band.	No.
No. 1	⅝-inch	3
No. 1	⅝-inch	4
No. 1	⅝-inch	5
No. 1	⅝-inch	6
No. 1	⅝-inch	7
No. 1	⅝-inch	7
No. 1	⅝-inch	8
No. 1	⅝-inch	8

Head Works.

The head works will consist of a diverting weir, settling basin, sluice gates and screens.

The area to be flooded, less than one acre, shall be cleared and grubbed, and all vegetable mat er removed to a point below the diverting weir.

The areas to be occupied by weir and screening chamber are to excavated to solid rock or solid foundation, and the rock, if any, cleaned off perfectly clean, and trenches cut therein as shown by plans. All pipes must be carefully set and embedded in concrete so as to insure water tight work. Before concrete work is commenced all surfaces that are to receive it must be thoroughly cleaned and sprinkled with a heavy coating of neat cement.

The diverting weir will be a concrete structure, and with an intake and screening chamber as will be shown by plans.

The quality of concrete work to be done shall be equal to that specified for the reservoir lining.

Reinforcement to be used as required.

The asphalt coating to be applied will correspond with that specified for the reservoir.

Racks and gratings: A grating made from bars 5-16 inches by 2 inches iron or steel, 3 feet long, of 18 pieces, is to be placed in front of the intake pipe. In the interior of the settling basin or screening tank will be placed two sets of galvanized wire screens, one set to be of No. 18 wire, having 8 meshes to the inch, and the other to be of No. 20 wire having 12 meshes to the inch. These screens will be 30 inches wide and four feet long, fastened to a steel frame of 1½-inch angles, ¼ inch thick.

The settling basin will be 8 feet wide, 4 feet deep and 40 feet long, inside measure, made of concrete 8 inches thick, coated as above.

An 18-inch steel pipe, about 100 feet long will connect the diverting weir and settling basin.

One 18-inch, one 16-inch and one 6-inch "self-contained Coffin sluice valves" shall be set as indicated.

The amount of concrete for head works is estimated at 60 cubic yards. The basin will be roofed substantially and provided with door.

Telephone.

The city will construct and equip a telephone line along the right of way, connecting the head works and city, within 60 days after the signing of the contract, for its own use, but the contractor will be allowed the use of same during the construction of the work contracted by him.

Cast Iron Distribution Extensions.

The connecting pipe between the 16-inch machine-banded stave pipe ending at the intersection of Seventh street and Roosevelt avenue will be 12-inch class D cast iron, for about 2300 feet, including fittings, gates, and hydrants, as stated in the proposal.

Payments.

In order to enable the contractor to prosecute the work successfully, the engineer will make an estimate on or about the first of each month of work performed and material delivered. The city will pay the contractor ninety per cent (90 per cent) of such estimate on or before the tenth day of the month succeeding that for which the estimate was made. The final estimates and payments will be made upon the completion of the contract.

Thickness of Shell, Machine-Banded Pipe.

Referring to page 7: "Machine-banded pipe," the thicknesses for the heads contemplated will be as follows:

16-inch, 50-100-150 feet heads, 1¼.
16-inch, 200-250-feet heads, 1 5-16.
16-inch, 300-350-feet heads, 1 3-8.

Section 2. The agreement for furnishing water to said city by the Fish Lake Water Company, this day presented to the council, is hereby approved as to form, contents and substance, and the mayor and recorder are hereby authorized and instructed to endorse the acceptance of the city thereon.

Section 3. The mayor and recorder are hereby further instructed to accept the bonds of the United States Fidelity and Guaranty Company when furnished by the said I. L. Hamilton and the Fish Lake Water Company, in the amounts and upon the conditions respectively in the foregoing agreement provided.

Section 4.—All ordinances and parts of ordinances in conflict herewith are hereby repealed in so far as they conflict herewith.

The foregoing ordinance was passed by the city council November 11th, 1908, Trowbridge voting aye, Merrick aye, Eifert aye, Olwell aye, Hafer absent, Wortman absent.

Approved November 11th, 1908.
J. F. REDDY, Mayor.

Attest:
BENJ. M. COLLINS, Recorder.