

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

ELECTRICAL POWER COMPANIES

IRON MOUNTAIN ELECTRIC LIGHTING COMPANY

The Menominee Range, Iron Mountain, Menominee County, Michigan, Volume XI, Number 3 [Thursday, April 11, 1889], page 8, column 1

Personal and Social.

James Fern, who has been electrician for the Iron Mountain Electric Lighting Company since it started, has been offered the important position of engineer in the big engine house of the Lumbermen's Mining Company, and has accepted the appointment. As the man who looked after all the electric lights in the city[,] Mr. Fern did excellent work, and was generally liked for his courtesy and promptitude [sic] in repairing anything that happened to go wrong. He has been succeeded by James L. Baker, from the Brush Company's shops in Cleveland, Ohio.

The Menominee Range, Iron Mountain, Menominee County, Michigan, Volume XI, Number 19 [Thursday, August 1, 1889], page 1, column 3

ELECTRIC light is very nice, but it is also very annoying when it flickers out as it did last Friday night and leaves a large audience sitting in the dark. Manager Rundle was forced to rush over to his store and get a dozen oil lamps, make tin reflectors, etc., all of which exercise served to make him somewhat hot under the collar. The Electric Light Company appears to be unfortunate in the matter of furnishing a

steady reliable light at all times, but we hope they will succeed in overcoming all difficulties in the future.

IRON MOUNTAIN ELECTRIC LIGHT & POWER COMPANY

The Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 4, Number 304 [Wednesday, April 8, 1925], page 2, columns 1-2

Light Company Property Is Valued At \$119,462

Report of City's Appraiser Made at Council Meet Last Night.

The physical value of the Iron Mountain Electric Light & Power company is approximately \$119,462.85, according to an appraisal made by Charles Foster, of Duluth, consulting engineer who was hired by the city.

Foster's report was submitted at the city council meeting last night and was placed on record without comment. In it he made mention of the fact that the light company did not co-operate in the appraisal nor open its books, an attitude that became public several weeks ago when Foster's first attempt at an appraisal met with disappointment.

It is understood that the council committee in charge of negotiations for the purchase of the company plans to confer with company officials some time [sic – sometime] before the next council meeting, which is scheduled for April 20. Following this the city will then make known its plans

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for proceeding with the purchase of the plant.

Condition in February

Foster's appraisal is based upon the condition of the property in February, 1925. The valuation is founded upon the cost of reproducing the property, less depreciation, which, Foster's report says, "seems equitable from the public point of view at least, for, if the public is permitted to buy a property or is allowed to use a public utility on the basis of what it would cost to reproduce a similar property at the present time, with proper deduction for depreciation, there can be no cause for complaint by the public."

In his report Foster says that "no allowance has been made for hazards, good will, going value, etc., as these are perhaps more properly legal questions than questions of engineering."

Declined to Co-operate

"Since the Iron Mountain Electric Light & Power company refused to co-operate in this appraisal," the report continues, "some errors may have been made but every effort has been made to make the inventory fair to the company as well as fair to the city of Iron Mountain.

"It was not possible to obtain permission for reasons above stated to enter the substation and make inventory of the equipment therein or the office to obtain a list of that equipment or a list of the tools, automobiles, trucks., etc., or the stock of materials on hand. All of these were therefore omitted from the appraisal except the substation and in order to make the inventory and appraisal of the distributing system complete a substation was designed of the size and capacity required to serve the city of Iron Mountain only. The equipment in the present substation for serving the city of Iron Mountain only, and the company's valuation will probably be greater than my valuation."

Three Kinds of Depreciation

Foster says that in his appraisal he considered "physical depreciation," a lessening in value to wear and age; "functional depreciation," which results from changed conditions and surroundings such as equipment becoming obsolete or ill adapted because of growth of business, and "contingent" depreciation" which is deterioration in value due to accidental causes, such as that caused by storms.

The reproduction cost of the company is \$156,002.32, Foster says. From this amount he subtracts \$36,540.97, leaving a present value of \$119,462.85. The real estate and buildings of the company he values at \$15,000, poles are valued at \$25,388.16 and wires and cables at \$34,090.16. Substations he values at \$7,187.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 9 [Tuesday, April 21, 1925], page 1, column 5

STOCKHOLDERS TO RE-CONSIDER SALE

City to Be Informed Of Light Company De- cision by May 15

The Iron Mountain Electric Light & Power company will definitely inform the city on May 15 as to its attitude regarding sale of the property to the city, the council was informed last evening in a report submitted by its committee.

In compliance with a report at the council session two weeks ago the committee met with officials of the light

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company, the report last night revealing that this conference was held last Wednesday evening.

The light company, according to the report, was represented by O.C. Davidson, George J. Eisele, W.W. Thompson, F.C. Cole, L.T. Sterling, Dr. J.A. Crowell and Attorney Bell, of Negaunee. The city's representatives were Alderman *[sic – Aldermen]* Desmarais, Franklin, Lloyd and Stefanelli and City Attorney Dan J. O'Hara, Mayor Henze and Charles Foster, of Duluth, consulting engineer who recently appraised the company's property at approximately \$119,000.

Franchise Validity Discussed.

"The question brought up by the representatives of the electric light company was the matter regarding the validity of their franchise," the report declares, "and on which the matter of their willingness regarding the quotation of a sale price seemed to hinge."

The mayor raised a point that in a previous letter to the city the officials of the light company had left open the question of selling and in view of this, the report stated, the officials agreed to bring the question before their stockholders again.

The city representatives suggested at the conference that the light company quote a price "including all such factors as they deem permissible on such a proposition."

The mayor and Alderman Lloyd informed the light company officials that the city was interested only in that part of the company's property which is in the city limits.

According to the report, the light company officials agreed to call a stockholders' meeting and resubmit the proposition of selling, informing the city of their decision by May 15.

The Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5,

Number 31 [Saturday, May 16, 1925], page 1, columns 6-7

Light Company in Offer To Negotiate For Sale to City

Also Authorizes Directors to Have Appraisal Made of Property.

Directors of the Iron Mountain Electric Light & Power company were last night authorized to negotiate for the sale of the company's property to the city, a resolution to this effect being passed at a meeting of the stockholders.

In addition, the board was given authority to have an appraisal made of the property and, in addition, negotiate for the sale of all or just that part of the property that is within the city limits of Iron Mountain.

Sent To Council

The meeting was called pursuant to the company's promise to the city that it would present at the council meeting of May 18, next Monday, a statement as to its attitude regarding the city's proposal to buy the property. A copy of the resolution stating this attitude was sent today to the city.

Indication that the light company is not ready to accept the city's appraisal of the physical property at \$119,000 was seen in that part of the resolution referring to having a new appraisal made. If the directors so desire[,] they may "join with any prospective purchaser" in the employment of one or more experts to make the appraisal.

Final action on the sale, however, is left with the stockholders who can accept or reject whatever offer is made.

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The Resolution

The resolution, a copy of which was given out by L.T. Sterling, secretary of the company, follows:

“Resolved, that the board of directors, be and they are hereby authorized to negotiate for a sale, at a price representing its fair and reasonable value, of all the rights and property of the company, or of all the rights and property thereof in the city of Iron Mountain.

“Resolved, further that for their information and our [sic – ours] as to what is information and ours as to what is [sic – line repeated and possible words or line missing for what follows] company’s rights and property in the city of Iron Mountain, and as a whole, the board of directors, be and they hereby are duly authorized to employ a disinterested and competent expert to appraise the same, or in their discretion to join with any prospective purchaser in the employment of one or more competent and disinterested experts to appraise the same.

“Resolved, further that the negotiation herein authorized may be conducted on behalf of the board of directors, by any officers or agent of the company designated by them.

“Resolved, further that any proposition for a sale of the company’s rights and property, in whole or in part, submitted by the board of directors, shall be subject to the approval of the stockholders.”

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 44 [Tuesday, June 2, 1925], page 1, column 6

COMPANY TOLD TO MAKE APPRAISAL

Further Negotiations for Purchase of Light Plant Held Up

The Iron Mountain Electric Light & Power company has been notified by the city to proceed with an appraisal of its property located in the city in accordance with the proposal that it made to the council a short time ago, it was revealed at the city council session last night.

At a meeting of the light committee, composed of Alderman [sic – Aldermen] Desmarais, Franklin, Stefanelli and Lloyd, Mayor Henze was authorized to instruct the company to this effect and further negotiations for the sale of the property to the city will be held up pending completion of the valuation.

The mayor in his letter to the company stated that when its appraisal had been completed a meeting of the council representatives would be held with the company’s representatives to further discuss the proposed purchase.

It is almost a foregone conclusion that the company’s appraisal will exceed that made recently by a city appraiser, who placed a valuation on the property of \$119,000. The city appraiser, however, was not given access to all of the property of the company and part of his valuation was purely estimate.

PENINSULAR POWER COMPANY

The Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 4, Number 234 [Friday, January 16, 1925], page 3, column 2

U.P. POWER UNITS

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TO BE LINKED UP

Will Become Part of Super System Embracing Wisconsin

Water power in the upper peninsula, particularly along the Wisconsin-Michigan border, soon will be linked with a super-power system embracing Wisconsin, according to reports to the public utilities information bureau at Ann Arbor.

Expenditures totalling [sic – totaling] \$10,000,000 for the development of the system in Wisconsin, of which the Peninsular Power Co. will be a party, will be made by the North American Co., which recently purchased the Peninsular firm, an Ann Arbor dispatch says.

Through inter-connection with the Wisconsin steam plants, the company will be able to make use of hydro-electric power which now goes to waste when demand falls to equal the supply. Savings effected through this combination of steam and water power – the steam supplementing hydro supply at low water seasons, and the hydro-electric plants supplying the demand normally taken care of by the steam plants at high water – as well as the guarantee of unlimited reliable service makes the large expenditure involved worth while, the utilities bureau believes.

TWIN FALLS ELECTRIC LIGHT & POWER ASSOCIATION

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, _____ Year, Number _____ [Saturday, July 22, 1922], page 1, column 7

FARMERS UNITE TO GET POWER

Twin Falls Electric Light Association is Formed

Farmers living between Twin Falls and the city limits will be furnished with electric power as the result of the formation of the Twin Falls Electric Light & Power association.

The association is composed of about 10 farmers and they have already purchased the equipment that will be used in building the line. Construction will start within a short time.

Frank Erickson is chairman of the association, Walter Clark is secretary and treasurer and William Weiser is manager. Power will be secured from the Peninsular Power company. It is not planned to operate the association for profit, but merely to give power accommodation to those living in the district. There are a number of persons who have not yet joined by [sic – the] association but it is believed they will apply for membership as soon as the line is built.

The line, which will be two miles long, will enable Anton Miench, contractor, to employ a motor at his gravel pit at Twin Falls.

GAS COMPANIES

IRON MOUNTAIN GAS COMPANY

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5,

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Number 39 [Tuesday, May 26, 1925],
page 1, column 4

9,000 FT. OF NEW MAINS INSTALLED

Rapid Progress Is Being Made on Gas Com- pany Program

Nine thousand feet of gas mains of the five miles to be installed this summer have already been laid, according to figures obtained today from W.P. Clausen, manager of the Iron Mountain Gas company.

Rapid work has been made possible through the purchase of a new type of ditch digger, which established the high record of 760 feet of trench in one day, [sic - .] The average per day is 500 feet. The machine is regulated to dig a trench 18 inches wide and four feet deep.

Installation of mains has been completed in the Ford second addition, which is in the village, with the exception of about 1,000 feet and this work is now going forward. Pipes have also been laid on West G street, Cedar avenue and on Fourth street on the North side. Mains will also be put in on Detroit avenue, Woodward avenue and Crystal Lake boulevard.

It is estimated that the balance of the five-mile program will require the rest of the summer to complete. The work not only entails the laying of mains but the connecting of services, a number of new patrons being constantly added as gas is made available to them.

TELEPHONE COMPANIES

FELCH AND WAUCEDAH TELEPHONE COMPANIES Felch Township; Waucedah Township

Iron Mountain News, Iron Mountain,
Dickinson County, Michigan, Volume 1,
Number 34 [Thursday, May 19, 1921],
page 1, column 3

PHONE COMPANIES WILL BUILD LINES

The Waucedah Telephone company and the Felch Township Telephone company have been granted permission by the county road commission to construct toll lines along the several highways. The lines will be located by the county road engineer. The company's named are co-operative organizations of farmers and were formed for the purpose of placing their subscribers in touch with the markets, etc. Each company has a dozen or fifteen subscribers, and connections are made with the system or the Michigan State Telephone company at Waucedah and Felch.

MENOMINEE RANGE TELEPHONE COMPANY

Iron Mountain Press, Iron Mountain,
Dickinson County, Michigan, Volume 9,
Number 23 [Thursday, October 27,
1904], page 5, column 4

NORWAY NOTATIONS.

The Menominee Range Telephone has decided to extend their line into the Pine

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Creek farming district, a distance of six miles, [sic] one hundred and fifty poles for this line have been purchased from the O.C. Lumber Co., at Sturgeon mill. Work on the line will be started at once. The company has also made some extensive repairs on the lines in the city.

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 9, Number 25 [Thursday, November 10, 1904], page 5, column 5

NORWAY NEWS NOTATIONS.

The Menominee Range Telephone company has finished setting the poles for the six miles of line to the Pine Creek district and has over three miles of wire strung. The line will probably be finished this week.

MICHIGAN STATE TELEPHONE COMPANY

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 9, Number 25 [Thursday, November 10, 1904], page 5, column 5

NORWAY NEWS NOTATIONS.

Jos. Legendre and Chas. High went to Florence on Monday to move the central office of the Michigan State Telephone company.

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 15, Number 28 [Thursday, December 1, 1910], page 1, column 4

Telephone Matters.

K.S. Baker, of Marquette, upper peninsula manager for the Michigan State Telephone company, spent yesterday in the city, the guest of Supt. Martin. When reminded by The Press that his company had not yet redeemed its promise of improved equipment and service in the Menominee range district. Mr. Baker declared that the pledge still held good and he hoped to inaugurate [sic – inaugurate] the work at an early date. Mr. Baker says the company is just now devoted all its spare cash to the work of improving the long distance service in this peninsula and had many lines under construction. The service between Iron Mountain and Iron River is to be improved forthwith, we were informed. The cities are to be connected with another wire for the exclusive use of the patrons in the two towns. This will help some. The need of the hour, however, is an entirely new and modern equipment for the Iron Mountain exchange.

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 15, Number 31 [Thursday, December 22, 1910], page 1, column 2

TELEPHONE IMPROVEMENTS.

Michigan State Making Many Addition [sic] to the Toll Service.

Extensions and improvements are now in process of installation by the Michigan State Telephone company that will mean greatly improved long distance service, and

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some of these betterments have already been put into service. Six new long distance copper circuits are being built: From Menominee to Powers; from Menominee to Escanaba; from Escanaba to Marquette; from Marquette to Munising, and from Marquette to Negaunee and Ishpeming.

A new feature for increasing long distance telephone facilities, known as "phantom circuits," is to be put in between Menominee and Powers, Powers and Iron Mountain, Marquette and Escanaba, and Marquette, Negaunee and Ishpeming. A phantom circuit, as the term is used by the Michigan State Telephone company, is the imposing of a third message upon two circuits, which, in turn, is each carrying a message at the same time. This is accomplished by installing additional apparatus and by special arrangement of the circuits on the pole line. This phantom arrangement makes it possible to send three messages at the same moment, without any one interfering with the other, where it was only possible to send two before.

The word phantom, according to Webster, means "fancied vision." Assume that there are only two circuits between two given points and that there is no possible way of putting in more circuits. Your eyes would tell you that there are but two telephone lines between the two points, but when you go to the telephone, under the phantom system, you would discover three lines operated over two wires. In other words, the evidence of your ears contradicts that of your eyes. Hence the word phantom as applied to telephone circuits.

It is also proposed to build a second toll line for the benefit of Iron Mountain and Iron River patrons and a line from this city to the Marquette range following the route of the

new inter-county highway is also under consideration.

The matter of re-building [*sic* – *rebuilding*] and modernizing the Iron Mountain central in accordance with pledges made at the time of consolidation with the old Menominee Range company is again receiving consideration at the Detroit office. Iron Mountain people have the pledge of Vice-President Kingsbury that the improvement would be made, but the gentleman has been unable to secure the necessary appropriation to date. He is again working on the proposition, and is hopeful of securing results in the near future. Perhaps the Iron Mountain people have been altogether too patient in the premises [*sic* – *promises*]. A united protest might hasten matters. Certainly this city is deserving of a modern plant and a modern service.

SAGOLA TELEPHONE COMPANY Sagola Township

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 15, Number 22 [Thursday, October 20, 1910], page 4, column 1

SAGOLA NEWS GOSSIP.

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The Sagola Telephone Co., [*sic*] has installed a new switch board [*sic* – *switchboard*] in the central office.

WATER SUPPLIES

IRON MOUNTAIN WATER SUPPLY

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 15,

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Number 12 [Thursday, August 11, 1910], page 1, column 3

A Rat Story.

The Iron Mountain Water Works company has been unloading a consignment of 1,500 tons of coal this week. Supt. Croll says that more than a thousand large wharf rats were received in the consignment. Ben Nowatski, who bossed the job of loading [*sic – unloading*], declares that some of the rats were as large as cats. In a consignment of coal received at the pumping station direct from Pennsylvania mines, several hundred snakes were received. The snakes were all sizes and breeds.

Iron Mountain Press, Iron Mountain, Dickinson County, Michigan, Volume 25, Number 25 [Thursday, November 4, 1920], page 1, columns 1-2

OUR WATER PLANT

ENGINEER MAURY RECOMMENDS A RIVER FILTRATION PLANT.

Has Estimated the Cost of the Proposed Improvements and Extensions [*sic – Extensions*] at Over \$600,000.

The growth of a city, and the health of the inhabitants thereof, is dependent entirely upon the purity and sufficiency of its water supply for domestic purposes.

This fact being conceded, the people of Iron Mountain will be interested in learning

that this vital question is now receiving earnest consideration at the hands of the board of public works and the officers of the Iron Mountain Water Works company.

Dabney H. Maury, of Chicago, a well-known consulting engineer, who has given water works construction and water supplies extensive study, has just completed a survey of the system of the Iron Mountain Water Works company. After making a most exhaustive study of local conditions, the present and future water supply in particular, Mr. Maury has submitted his report to President Brown, of the Water Works company.

This report has been, in turn, submitted by Mr. Brown to the board of public works, and it is now in the hands of Seastone & Mead, the well-known engineers of Madison, Wis., who have been engaged to represent the city in the consideration of water works problems. It is probably that the engineering experts of the two interests will meet in council at an early date when the various questions relative to a permanent and sufficient supply of pure water will be discussed as well as the extensions needed to accommodate the anticipated growth of the city. It is pleasing to record that the entire question has been placed in the hands of such competent experts as Messrs. Maury, Seastone and Mead. It is assurance of an earnest endeavor upon the part of the city authorities and the Water company that the interests of the people will be amply protected.

Mr. Maury, in his report, while believing that the present source of supply is absolutely safe for all domestic purposes, does not believe that the source is sufficient and he has recommended the building of filtration basins in the Menominee river at a point west of the city.

The date of Mr. Maury's report is July 1st. After careful survey, he estimates that

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\$521,711 is a fair valuation to place upon the property of the Iron Mountain Water Works company.

“Since the date of valuation,” says Mr. Maury, [“]there have been important and radical changes in the industrial development of Iron Mountain. These changes are of such magnitude as to render it necessary immediately to enlarge the water plant works system to several times its present capacity. This enlargement will involve not only a great increase in the capacity of every part of the water works system, but also a complete change in the source of supply, and the installation of purification works of the most modern type.[”]

“The population of Iron Mountain shows a decrease during the past ten years, the U.S. census for 1920 placing it at only 8,251. Predictions as to the effect of the recent extraordinary developments naturally vary greatly, but well informed residents of the community appear to be confident that the population of the territory supplied by the water works system will be increased to not less than 25,000 within the next two or three years, and there are many persons who believe that the figures will be much nearer to 35,000.

“The yield of the present source of water supply was barely sufficient for the needs of the city on July 1st, 1920. There is in some quarters a local prejudice against the supply because of the alleged unsanitary quality. This prejudice the writer believes to be without adequate foundation, as the records would appear to show that, with the exception of a very few occasions, the water has been safe for drinking purposes and otherwise unobjectionable but, in any event, the capacity of the present source would be wholly inadequate for the immediate future needs of the community, and a new source must be at once _____ed.

“The nearest available source would be the deep workings of the Chapin mine from which there is now pumped daily more water than would be required by the city for a number of years to come.

“The duration of this supply, though somewhat uncertain, will be short, for it can only be a matter of eight or ten years before the deep workings of the mine, which furnish the supply, are abandoned. When that occurs, the city would have to go to the very great expense of pumping the water from excessive depths, in addition to re-pumping it after it reached the surface. It is possible that the supply might be interrupted by strikes among the mine workers. Furthermore, the mine water would require sanitary purification before it could be made potable. It would also be much harder than the present supply, and would probably contain objectionably quantities of iron.

“The most available source would be the Menominee river. The minimum flow of this stream would be more than sufficient for the needs of the community for all time to come. The river drains a very sparsely populated territory and its waters are therefore, in their raw state, much purer from a sanitary standpoint than the average surface supply. The river water would be comparatively soft. It would contain a little color, but would be unusually free from sediment. Purification work would, of course, be necessary from the standpoint of sanitation, and the sediment would be entirely removed, and the color very greatly reduced, by the purification processes.

“The river is herefore [*sic – therefore*], in every respect, by far the best available supply.[”]

Mr. Maury recommends that the water works intake be located on the left bank of the Menominee river just above a new dam to be constructed by other interests of the stream. This would bring the intake above

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the point of the discharge of the city's sewage [*sic – sewage*]. Low lift pumps at the intake would deliver the water, after aeration, into the covered sedimentation basins, which would form a part of the four million gallon purification plant. From these basins the water would flow by gravity through the filters into a clear water reservoir beneath them. Electrically driven pumps would take the purified water from the reservoir and discharge it into the main leading to the existing distribution system.

This main would pass through territory now in process of development by the industrial interests which have already begun work on a large scale.

Mr. Maury has estimated the cost of the improvements and the contemplated enlargement of the water works at \$440,000. The items include \$196,193 worth of new mains; \$10,000 for sedimentation basins; \$20,000 for filter piping and equipment; \$86,000 for filter and pumping station building, laboratory, etc.; \$10,000 for intake, screen chamber, and low lift pump pit; \$13,807 for valves, hydrants, etc.; \$10,000 for two motor fire pumpers with garages, and \$71,000 for engineering and contingencies.

The total cost of the extensions and improvements to the existing plant, as summarized by Mr. Maury, is about as follows:

Actual physical cost of extensions, not including main extensions [*sic – extensions*] in addition to the city yet to be developed, \$440,000.

Mains, valves, hydrants and specials sufficient to develop four additions of forty acres each, \$100,000.

Loss of interest during construction, \$20,000.

Going value, or loss of revenue during construction and during the earlier years of operation, say, \$60,000.

Total value of the extensions and improvements on which fair returns should be paid, \$620,000.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 4, Number 304 [Wednesday, April 8, 1925], page 3, column 1

BORROW \$75,000 FOR WATER WORKS

Money Needed to Complete Improvements, Council is Told

The board of water works commissioners, composed of Sam Cudlip, Gust Rahm and Felix Valenti, was authorized last night by the city council to borrow the sum of \$75,000 in order to complete the construction of the city's filtration plant and the extension of a water supply from the Hamilton shaft of the Oliver Iron Mining company to Lake Antoine.

The additional money is needed for completion of the plant because in the original estimate of the improvements the commissioners, it was pointed out, did not contemplate making as many extensions as were petitioned for last summer. Practically all the extensions called for at that time have been completed, it was stated at the meeting.

This caused a heavy drain on the funds which were to be used for construction purposes according to the original estimates furnished by the engineers. Consequently, it was said, approximately \$50,000 more is needed to complete this work.

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The supply line from the mine will require about 6,000 feet of pipe, 16 inches in diameter, to insure the necessary volume and also to keep up the water supply for some years to come. The estimated cost of this project is in their *[sic – the]* neighborhood of \$25,000.

It is the intention of the commissioners to purchase pipe of such quality that it can be used on the extension line to the Menominee river whenever that becomes necessary. This pipe, together with that now in use around Lake Antoine, will be sufficient to supply water from Twin Falls to the city.

The mayor and city clerk were authorized by the council to sign a lease with the NorthWestern *[sic – North-Western]* railroad for the 'right-of-way' of the proposed pipe line from the Hamilton shaft. The line will start from the shaft, cross over the old Schlessinger track, which is owned by the railroad, and follow the track northward.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 4 [Wednesday, April 15, 1925], page 2, column 4

PURCHASE PIPE FOR EXTENSIONS

Bids for Hamilton Shaft- Lake Line Are Rejected By Board

The city water works board last night awarded a bid to the National Cast Iron Pipe company for 90 tons of 6-inch pipe to be used for the extension of water mains in Iron Mountain this summer, the rate given

by the company being \$49.75 per ton. The company's bid on one ton of special castings at \$110 was also accepted.

There were many bids received on the castings and the figures of the competing companies were exceptionally close.

Not To Use Steel

Because of the condition of the iron market all bids were rejected for the 6,000 feet of 16-inch steel pipe which is to be run from the Hamilton shaft to Lake Antoine. Upon investigation it was found that the difference in the cost of cast iron and steel piping is so slight that new bids will be asked on April 27 for cast iron pipe which, according to Engineer Hartman, will insure a first class job.

About 1,000,000 gallons of water are drawn daily for the city's water supply and the new pipe running from the mining property will add about 3,000,000 gallons a day, giving the assurance that the lake level will be kept at the proper height at all times.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 38 [Monday, May 25, 1925], page 1, columns 6-7

City Without Water When Mishap Prevents Pumping

Village Called on For Assistance; Line Break Repaired and Pressure Is Restored.

The sensation of a city without water was experienced this morning by Iron Mountain when it awoke at 7 o'clock, turned

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on the taps and got only a gurgle in response.

This unusual situation, and one having its hazards as well, resulted from an accident in “cuttnig [*sic* – *cutting*] in” the Lake Antoine pumping station line to the new filtration plant. The mishap delayed resumption of pumping and the supply stored in advance in the city’s two reservoirs was exhausted this morning at about the time that a number of Monday morning washings had just been placed in the tub.

Get Water From Village

Emergency water service was restored at 10 o’clock when the village of Kingsford supplied water to the city mains by running two hose lines from the village hydrants near Woodward avenue to two city fire hydrants on the avenue. Because of the fact that the threads on the village and city hydrants are different and only two “adapters” were available no more lines could be connected. However, within a half hour of the time that the village water from the Ford filtration plant began pouring into the city mains hydrants in the lower sections of the city were again giving forth full sized streams of water. In the higher districts water could be secured about 11 o’clock and shortly before noon the city pumping station was able to resume service. At 1 o’clock this afternoon pressure had been restored to almost normal.

Residents of the city had been warned in advance to be sparing in their use of water over Sunday as the new line was to be cut in. The city’s reservoirs were filled and it was believed that with economical use the supply would easily hold over until the lake station was again in use.

Valve Blows Out

The cutting in work at the new filtration plant was completed at 9:30 o’clock last night. Shortly after midnight the pumping

station again started operating. The sudden rush of water into the pipe caused the air to be compacted and an “air hammer” resulted that blew out a valve near the filtration plant.

Homes at the higher elevations were the first to feel the drought this morning. Householders awoke to find that after starting a fire in the furnace to take the chill off the house they had no water with which to bathe their faces or wash the soot from their hands. More than one bearded face otherwise usually clean shaven, [*sic*] made its appearance at downtown offices.

Houses in lower sections were more fortunate and managed to obtain enough water for the morning ablutions before the faucets wheezed and the supply strangled to death. But shortly after 8 o’clock even they went dry and remained so until the assistance of the village was asked at 10 o’clock.

No Fires

Fortunately there were no fires during the period that the mains were empty. Had a serious blaze developed it would have found the city in dire straits and considerable damage might have resulted.

The famine was enough, however, to give the citizens a taste of the experience that would be theirs if the city’s water supply should be suddenly cut off and there was no other supply – as there was in this instance with the village – at hand to provide relief.

With the new cut in a the filtration plant completed, there will be no further suspension of pumping service when the plant is put into operation some time this year, it was stated.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 39 [Tuesday, May 26, 1925], page 6, column 1

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[Compiled and Transcribed by William J. Cummings]

WATER SERVICE IS AGAIN NORMAL

Sediment Gave it Black- ish Color When Pumping Started

After a day in which there was no water, then village water, and family [sic – finally] water that varied in hue from milkfish white to darkest indigo, Iron Mountain today was turning on the taps and again getting the old home grown variety bred in Lake Antoine and chlorinated before passing into the city pipes.

Another accident at the new filtration plant “cut in” from the pumping plant occurred late yesterday afternoon when a section of small pipe “blew up” from an air hammer[,] struck the thumb of a worker and nearly severed it.

Bad Luck Over With

City Engineer Hartman declared last evening, however, that he believed they had the situation “licked” and service would again go back to normal with no interruptions. The supply was cut off yesterday morning as a result of a valve blow out when water was again pumped into the empty mains following completion of work on the filtration plant cut in.

The sediment in the water that gave it a black appearance was due to the fact that when the reservoir supply was exhausted and water began draining back in the hill side mains it carried with it sediment a [sic – at] the ppes sic – pipes]. This was again disturbed when pumping was resumed and clear water was not available until late that evening.

Because furnaces could not be operated and there was no drinking supply, city

schools were dismissed at 10 o'clock yesterday morning until noon.

Pressure today in the mains was normal and there will be no further interruption to service when the filtration plant is put into use some time this year.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 44 [Tuesday, June 2, 1925], page 3, column 3

JOIN TWO WATER LINES, PROPOSAL

Village Suggests Connec- tion to Prepare For Emergencies

The commission of the village of Kingsford last night decided to confer with city officials relative to connecting the water systems of the two municipalities in order that water may be transferred in case of an emergency.

Such an emergency arose a week ago Monday, when the city's reservoir supply gave out because of an accident that delayed the completion of the “cut in” at the new filtration plant.

The village came to the rescue by furnishing the city with water[,] the connection being made by joining two sets of hydrants with fire hose.

It was estimated that the cost of making a permanent connection between the systems would not be more than \$20. Although no opinion has yet been voiced by city officials, it is believed that they will be agreeable to the proposed installation.

It was pointed out at the commission meeting that an emergency may not again

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present itself but the expense in making the connection would be so small that the safeguard to both city and village merits the investment. The cost would be divided.

During the emergency last week, the city used approximately 100,000 gallons of water and the village will bill the city for the cost price, which is eight cents per thousand gallons from the Ford Motor company.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 45 [Wednesday, June 3, 1925], page 3, column 1

BONDS NEEDED TO GET WATER, CLAIM

Level of Lake Antoine Rapidly Lowering, Says Engineer

Unless the \$150,000 bond issue, which is to be used for extension of water mains, completion of the filtration plant and construction of a water line from the Chapin mine to Lake Antoine, is passed on June 15, Iron Mountain will be forced to seek a new source for its water supply. This information was given out today by City Engineer Fred W. Hartman following a survey of statistics on Lake Antoine, where the city's water supply is now obtained.

The water department has had a continual fight, according to the city engineer, to provide Iron Mountain with water since the spring of the year. The level of Lake Antoine is at present 3.7 feet below normal, which represents a shortage of about 450,000,000 gallons and great difficulty has been experienced in keeping

the intake crib at the low enough level to keep the suction pipes functioning properly.

Drops 6 Inches In Month

A drop of six inches has been recorded in the level of the lake from April 20 to May 25 and unless some steps are taken to replace the water Iron Mountain will experience the same trouble it had last week when a break in the pipe at the new filtration plant stopped the supply for several hours.

This constant drop in the level of the lake is caused, it is claimed, by the increased use of water in the city, which now averages 1,250,000 gallons daily. According to government statistics rainfall and snowfall has been considerable below normal the last four or five years while evaporation has been the same. This accounts for the loss of some of the water in the lake.

If the bond issue is passed it will be possible for the city to build the water line from the Chapin mine, which will carry 3,000,000 gallons of water into Lake Antoine daily. Deducting the supply used by the city this will leave a surplus of 5,500,000 gallons in the lake monthly and it is expected that by fall the level will again be nearing normal.

Lowering Is Apparent.

Lowering of the lake is plainly visible, the shore line having receded about 250 feet while a former island is now a part of the mainland. The island at one time provided a good fishing spot, according to the old timers, but the water is only several feet deep now and fishing is next to impossible.

The Oliver Mining company has offered to install free of charge the pumping unit at the Hamilton shaft to pump the water into the city mains. An arrangement will also be made whereby the water can be pumped directly into the sewers to flush the mains at any time it is necessary.

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The \$150,000 asked is one of three bond issues that will be voted on June 15. Another issue is for \$40,000 to purchase a 40-acre addition to the cemetery while a third is for \$25,000 for beautifying the city parks and purchase of a park site on the North side.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 49 [Monday, June 8, 1925], page 3, column 6

Hundreds Cool Off At Bathing Beaches

Hundreds were driven to the beaches over the week-end [*sic* – *weekend*], donning swimming suits in an effort to seek relief from the sweltering heat of the past week. But Lake Antoine, the source of the city's water supply[,] is one place where the bathers are not welcome and Sheriff Frank Cleveland has issued a warning that any persons caught bathing there will be placed under arrest.

While out on his usual Sunday patrol yesterday, Sheriff Cleveland drove around Lake Antoine and found a number of bathers enjoying a swim. All were warned and ordered off the premises in accordance with the city regulation prohibiting bathing in the lake.

The Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 165 [Friday, October 23, 1925], page 10, columns 1-8 [two photographs]

City Filtration Plant To Be Formally Opened Tomorrow

Public Is Invited to Inspect Operation of Modern Water Plant

Brings to Completion Pur- chase and Construction Program Involving In- vestment of More Than Half Million Dollars

Formal opening of the city's new filtration plant, construction of which was completed in July after almost a year of work, will be held tomorrow afternoon, beginning at 2 o'clock and extending throughout the evening.

The opening marks the completion, with one exception, of an extensive program of water works development, involving an investment by the city of more than half a million dollars. The one exception is construction of a new intake from Lake Antoine to the filter plant. Contract for this has already been awarded and the work will go forward during the winter months.

The history of the Iron Mountain water works is a history of ups and downs; the ups is that it always managed to keep going the downs the peculiar situation [*sic* – *situation*] of being several times left without a supply of water.

History of Progress

Its progress from the time of getting the franchise is interestingly set forth in an article prepared by E.A. Croll,

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superintendent, and F.W. Hartmann, city engineer.

The article which will be distributed in pamphlet form at the opening, follows:

On February 23, 1892, the original franchise of the Iron Mountain Water Works was approved by action of the city council, T.J. Trudell, mayor. At that time there had been installed thirteen miles of pipe varying in size from four to sixteen inch with one hundred and fifty six double nozzle hydrants.

On August 2nd, 1892, E.A. Croll, then city clerk, was appointed Superintendent of the Iron Mountain Water Works. Upon taking charge he found a Water Works System but no water, facing a problem where the Water Works Company had an investment of over \$250,000 but no water to supply its consumers. This meant an expenditure of a large amount of money to increase the supply.

Contracts were made with the Cook, Wells Company of St. Louis for the sinking of twenty wells, each six inches in diameter[,] to depths varying from fifty to one hundred and forty seven feet. On completion of this contract several rigorous tests were made by the Company and in each case it was shown that an abundant water supply was available. It was merely a matter of pumping capacity to exhaust it. The maximum demand at the time was not in excess of 450,000 gallons per twenty-four hours.

After the installation of the well system, the Water Works Company operated without further trouble until the year 1898 when by reason of the excessive caving of Stephenson Avenue between Second Street and the Chapin shops, it became necessary to remove the twelve inch force main across the cave to a point east of the Mining Company's workings. This entailed an expenditure of over \$30,000.00.

A twelve inch main was installed along Aragon Street to Sixth Avenue thence west on Sixth Avenue to Vulcan Street connecting with the existing twelve inch main on that street; then a sixteen inch cast iron main was installed from the corner of Sixth Avenue and Aragon Street over Millie Hill to the corner of "A" and Van Buren streets. A twelve inch main was laid from this point West [*sic – west*] on "A" street to Stephenson Avenue connecting at the corner of "A" street and Stephenson avenue to the existing twelve inch mains.

The following three years the Water Works Company lived at ease until 1901 when it became very evident that additional water supplies must be developed, but owing to political bickerings [*sic – bickering*] and continual fighting between the City Council and the Water Works Company, the Company hesitated about putting a large amount of additional capital into its plant, unless assured that it would receive better cooperation from the city, as up to this time it had been made the football of every administration.

Acting on the advice of Superintendent Croll the Company agreed to dispose of one half of its stock to local business men [*sic – businessmen*]. This stock transfer was accomplished on August twenty-first, 1901. A committee of three composed of E.A. Croll, R.C. Browning, and Wm. A. Laing was appointed to go to Ypsilanti, there to complete the transfer of stock and elect a full complement of officers composed of local business men [*sic – businessmen*]. E.F. Brown was elected President; R.C. Browning, Secretary; Wm. H. Laing, Treasurer; E.A. Crowell, Superintendent.

The new organization immediately entered into a contract with Reppel and Green of Green Bay to sink three additional deep wells which were completed the following spring. This gave the Water

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Company an increase in supply making the maximum capacity over one million gallons daily, but owing to lack of rainfall these wells soon showed signs of slacking up.

The climax came with the opening of the Indiana Mine. The wells dried up in a little less than thirty days, the water level in the walls falling so low as to be beyond the reach of the pumps. Being forbidden under the franchise to use Lake Antoine water, the Water Works Company was in a very difficult position. However this was a case of water no matter what its purity, if not fit to drink without first bottling, it must at least put out a fire.

This time Mr. O.C. Davidson came to the rescue. A contract was entered into with the Chapin Mine to deliver water from the twelfth level of the Hamilton Shaft directly into the reservoir but owing to the mining operations cutting into this supply several levels below, the Water Works Company was again left without water. This time the only available supply was the Pewabic Mine and early in 1914 Mr. Brown came to the Company's relief by installing a special system of piping on the fifth level of the No. 1 shaft of the Pewabic Mine. This gave the Water company a supply of over 500,000 gallons per day, until caving operations broke the main line and the Company was again without water. The Indiana Mine was now in full operation. The wells at the Water Company Lake Antoine Station were dry, the only recourse was Lake Antoine.

Facing a critical situation, Superintendent Croll[,] acting without consent of the Board of Directors of the Water Company, pumped water direct from Lake Antoine into the mains. To overcome a possible source of disease from lake water, a Wallace & Tierman chlorinator was installed, sterilizing the supply so as to make it safe from water borne disease germs. A bacteriological laboratory was

installed, and a daily analysis was made so as to be assured of a pure water, safe for drinking and domestic use. This sterilized lake water was furnished until January, *[sic]* 1st, 1924[,] when the city purchased the plant for \$210,000.00, exactly \$190,000.00 less than it cost the Water Works Company to build.

The Water Company operated the plant thirty-two years and during all those years paid its stockholders only six dividends of one per cent. At the time of purchase there were twenty-one miles of pipe varying from four to sixteen inch on which were two hundred double nozzle hydrants within the city limits. On January 1, 1924, Messrs[,] Hoard, Decker, Shocraft and Drury[,] of Ann Arbor[,] werfe *[sic – were]* retained as consulting engineers to revamp and reconstruct the Water Works plant and enlarge it to be suitable for a city of the size to which Iron Mountain had grown, and to install all modern equipment[,] including a filtration plant with a capacity of 3,000,000 gallons per day.

Urged Alterations

Messrs. Hoad, Decker, Shoecraft and Drury had presented a report to the city council in January, 1923[,] recommending certain additions and alterations to the existing water works system. In accordance with these recommendations the voters were asked to approve a bond issue of \$390,000.00 to purchase the old Water Company plant and to carry out the program outlined in the Engineer's *[sic – engineers']* report. As soon as this bond issue was approved and funds became available, the construction program described below under the headings of the various contracts was commenced.

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Contract No. 1. Centrifugal Pump

On December 29, 1923[,] the city entered into contract with the American Well Works[,] of Aurora, Illinois[,] for the purchase of a one thousand Gallon [*sic – gallon*] per minute, 25 foot head centrifugal pumping unit, driven by a 150 horse power electrical motor. This pumping unit was delivered to the city in February, 1924[,] and installed in the pumping station on the North [*sic – north*] shore of Lake Antoine. Previous to the installation of this pump the city was having considerable trouble with the old pumping equipment and the installation of this new centrifugal pump was an emergency measure designed to insure the continuous operation of the plant. This pump has given excellent service and has been in almost daily use since its installation. The cost of the pumping unit was \$2,078.00.

Contract No. 2 Cast Iron Pipe and Specials

The contract for the cast iron pipe and special casting necessary for the extension and reinforcement of the existing water main distribution system was awarded to the National Cast Iron Pipe Company[,] of Birmingham, Alabama[,] in March, 1924. Under this contract the city purchased a total of 595.75 tons of pipe varying in size from six inch to ten inch, and 16,92 tons of special castings, at a total cost of \$36,556.19. This material, after being unloaded from the cars, was distributed along the various streets where needed, ready for the water main contractor to install.

Contract No. 3. Valves and Hydrants

The Traverse City Iron Works was the lowest bidder on the valves and hydrants needed for the water main extension program. There were seven bidders on this contract. With the additions necessary by additional water main extensions this contract included the furnishing of

approximately 14 5-inch hydrants, 40 4-inch hydrants, 30 6-inch valves and 1 1-2-inch valve[,] together with the necessary valve boxes for these valves. The total cost of this equipment was \$4,486.72.

With the delivery of this material the city was in a position to go ahead with the actual construction work. This construction work was under the direct supervision of the consulting engineers and Mr. F.W. Hartmann came to Iron Mountain to supervise the construction of the various structures included under the improvement program.

Contract No. 4 Laying Water Mains

On June 9, 1924[,] bids were received by the council for the laying of water mains. There were five bidders on this contract. The bid of the Phelps-Drake Co., Inc., of Iron Mountain, Michigan, being considered the best, the contract was awarded to this firm. Actual work on the laying of the mains was commenced on July 1, 1924.

The contractor used a P & H trenching machine for excavation and employed modern and efficient machinery wherever such machinery could be used. The soil conditions on this work were for the most part very discouraging. Most of the trenches in the eastern part of the city were dug through a soil composed of hard sand and clay interspersed with boulders of sizes ranging from pebbles to a cubic yard in volume, with the larger sizes predominating. An idea of the nature of the soil may be obtained from the fact that the contractor found it necessary to use a total of over 700 sticks of dynamite to remove stones, ledge rock and stumps in order to lay the pipe to a depth of seven feet as required by the contract. A considerable amount of ledge rock was encountered in this section of the city as well as ground water and buried stumps in the East "C" street line. A total of 267.5 cubic yards of ledge rock was removed under this contract

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and 2,305 lineal feet of mains were laid thru ground water. Most of this ground water was encountered in the west end of the city. The final estimate on this contract indicates that 1,082 feet of 10-inch, 6,707.3 feet of 8-inch and 23,682.5 feet of 6-inch mains were laid with 12 5-inch, or steamer, hydrants, 21 4-inch hydrants, 5 8-inch valves, 2 10-inch valves and 20 6-inch valves. This makes a total of 31,471.8 lineal feet of mains under this contract.

Contract No. 5 Reinforced Concrete Equalizing Reservoir

The city had long felt the need of of *[sic]* an additional reservoir to supplement the existing stand pipe in the northern end of the city. Owing to the growth of the city to the east and south the old stand pipe could not keep the pressure in these sections steady, nor was it large enough to hold a sufficient supply of water for any length of time without almost continuous pumping. Accordingly it was decided to construct a 1,000,000 gallon reinforced concrete equalizing reservoir on a piece of land situated between East "A" and "B" streets a short distance East *[sic – east]* of Park Avenue to furnish water and uniform pressure to the sections of the city lying to the East *[sic – east]* and South *[sic – south]* of the business district.

On June 9, 1924^[,] bids were received for the construction of this reservoir. There were seven bids submitted and Samuel Mills^[,] of Escanaba^[,] was awarded the contract. Work was started on June 30, 1924^[,] and exactly four months later the reservoir was filled with water.

The reservoir is approximately 100 feet square with an average depth of fourteen feet. Its total capacity is 1,000,000 gallons, and it is connected directly to the distribution system by means of a 10-inch main in East "A" street and an 8-inch main running South *[sic – south]* in Park Avenue to "H" street and thence West *[sic – west]* in

"H" street to Carpenter avenue. At various intersecting streets this 8-inch main is connected to the existing water main *[sic – main]* system. Both of these connecting mains to the reservoir were constructed under Contract No. 4.

In the construction of this reservoir it was necessary to move a total of 3,171 cubic yards of earth, 686 cubic yards of concrete, 60,531 pounds of steel reinforcement bars, 3,341 pounds of wire mesh reinforcement, 6,686 pounds of cast iron pipe and special casting and 192 lineal feet of 10 inch vitrified pipe drain tile were used. A small pumping station of concrete was built at the north east *[sic – northeast]* corner of the reservoir to supply the district to the North *[sic – north]* and East *[sic – east]* of the reservoir, in accordance with the terms of the deed signed when the city acquired title to the land on which the reservoir was built. The total cost of this contract was \$18,086.68.

A series of tests for water rightness were run on the reservoir from December 8 to December 12, 1924^[,] and it was found to be in perfect water tight condition.

Filtering Plant

The Contract *[sic – contract]* for the construction *[sic – construction]* of the filtration plant and pumping station, *[sic]* was awarded to the Phelps-Drake Co., inc. *[sic – Inc.]*, of Iron Mountain, Michigan^[,] by the council on August 25, 1924. Work was commenced on September 15, 1924, and completed in July, 1925. Since then the plant has been in satisfactory and efficient operation.

The construction is mainly concrete and brick. The plant is designed to filter 3,000,000 gallons of water per day and is

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so built that additional capacity can be easily obtained by extending it to the west.

The raw water is pumped from Lake Antoine to the Filtration plant through a 16-inch cast iron main laid along the north shore of the lake. As the raw water enters the plant a small amount of concentrated *[sic – concentrated]* alum solution is introduced into the water main and thoroughly mixed with the water by means of a specially designed mixing tank.

From the mixing tank the water containing the alum solution passes into a large coagulation basin which is so designed that the water moves slowly through it and is drawn off at the farther end.

The alum which has been mixed with the water in the mixing tank forms a large and well defined floc *[sic]*, which has the appearance of a cloud of snow flakes *[sic – snowflakes]*, which slowly settles to the bottom of the coagulation basin as the water flows through, and in settling carries with it most of the fine suspended material contained in the raw water.

After passing through the coagulation basin the settled water is carried by means of piping to the filters. There are four filters in the plant. Each filter is designed to filter three quarters of a million gallons per day.

The construction of the filter boxes is very interesting. The four beds are placed side by side and built exactly alike. Any one or all of them may be operated at any time, the number in operation being dependent upon the consumption of water in the city.

Each filter box covers an area of 260 square feet and is 10 feet deep. It is constructed entirely of reinforced concrete, the four walls and floor of each box being poured at the same time to insure absolute water tightness. Each box is entirely separate from the two adjoining ones. On the floor of each box is installed an under-

drainage system consisting of 2-inch pipes spaced 8 inches apart throughout their length. These 2-inch pipes are led through special cast iron header pipes to a common 12-inch pipe for each filter. There are six hundred sixty 5-16 inch holes in each filter under draining *[the]* system evenly spaced as described below so that there will always be a uniform flow throughout the filter. Around and over this underdrainage system is placed a layer of gravel varying in size from 2 1-2 inches to one inch. This first layer of gravel is seven inches thick. Upon this coarse *[sic – coarse]* gravel is placed a 3 1-2 inch layer of one inch to 1-2 inch gravel, then a 2 1-2 inch layer of 1-2 inch to 3-16 inch gravel, then a 1 1-2 inch layer of 3-16 inch to 1-64 inch gravel and finally another 1 1-2 inch layer of 1-64 to 1-100 inch gravel. The coarse gravel is placed around the two-inch pipes so that the 5-16 inch holes will be kept from plugging up. The varying sizes are then placed upon the coarse gravel in the order stated so that the finer gravel can not work down between the interstices of the coarser and thus plug up the small openings. On top of the last layer of finest gravel is placed a 30-inch layer of filter sand, which is the actual filter media. The filter sands *[sic – sand]* plays an important part in the operation of a filtration plant.

This filter sand is a specially graded product, entirely free from clay, loam, dust or organic matter. It is composed of hard, durable grains which will not disintegrate *[sic – disintegrate]*. When a sample of this sand either crushed or powdered is digested *[sic]* for 24 hours in strong, warm, hydrochloric acid at least 95 per cent remains insoluble. The effective sizes *[sic – size]* of the sand is 45-100 of a millimeter. The exact grading and placing of the sand is of the greatest importance in the problem of washing the filters.

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After going through the coagulation basin the water passes onto the filters where it goes through the sand and gravel and is collected by means of the under drainage system described above.

Function Of Filter

The primary function of a filter is that of mechanically straining out suspended particles. These particles may and usually do vary greatly in size. It can be readily understood how particles larger in size than the interstices of the sand bed will be strained out. It is not so easy to understand how particles with diameters of perhaps 0.0001 mm., and even smaller are removed. The submicroscopic particles are much smaller than the bacteria, and yet a filter is able to strain them out of the water in which they are suspended. Evidently agencies are operating within the filter bed which are remarkably effective in holding back these fine particles, and which do not depend alone upon the sand grains.

For a long time it has been known that a sand filter was more effective after it had been in service awhile than when first started. Rapid sand filters as well as slow sand filters appear to undergo this improvement [*sic – improvement*]. The more organic matter contained in the water being filtered, the quicker this so-called “ripening” is effected. Apparently it is the organic matter which plays the chief part in the straining process. This organic matter may be either living or dead, that is, it may be organized in the forms of plant life such as the bacteria, algae, diatoms and lower forms of animal life, or it may be unorganized like the vegetable coloring matter and the colorless nitrogenous and

carbonaceous compounds characteristic of natural waters.

Real Structure of a Filter

A close examination of a well “ripened” sand filter reveals the sand grains covered with a very thin film of a gelatinous character, which is most abundant near the surface of the bed, but appears to permeate it to some depth. This material is evidently in part composed of organic matter both living and dead. It is in the colloidal form and seems to fill partially or wholly the interstices of the bed, and to be supported by the sand grains. Not all of this material between the sand particles is of an organic character. Some of it is inorganic, but it is apparently in the colloidal [*sic – colloidal*] form.

It will be easier now to conceive of the sand bed as a framework [*sic – framework*] or skeleton of sand grains supporting and carrying the delicate structure of the filter proper, which latter consists of the colloidal matter deposited and developed within the bed. In a rapid sand filter, which is frequently disturbed by washing, the colloidal matter has less chance to develop and less opportunity for lodgement in the openings between the sand grains than in a slow sand filter. Nevertheless, when organic matter is plentiful in the water being treated, the sand grains become coated, and not even violent washing of the bed will entirely remove it. Moreover, in this class of filters colloids produced by the reaction of certain chemical compounds which are added to the water, [*sic*] are employed to assist the natural colloids in their straining action.

Uniformity of Rate of Filtration

It is of the utmost importance that the rate of filtration shall be uniform over the whole area of the filter bed. Any sudden increase in the rate of flow is likely to cause the bed to break through at some point, and thereby to seriously impair the quality of the

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effluent. A sudden decrease in the rate of flow is of much less consequence, so far as it may effect the quality of the effluent, unless air, which may have come out of solution in the water or have entered the filter through small cracks, should be liberated from the bed in considerable quantities; in which case the disturbance of the surface of the filter bed is likely to result in an imperfectly purified effluent. Slow and steady changes in the rate of flow within certain limits are permissible [*sic* – *permissible*] and are not infrequently made use of where insufficient storage capacity for the filtered water makes it necessary that the filters should follow closely the rate of consumption.

When the sand in the filter beds is perfectly clean, water will run through it too fast to filter thoroughly, and if the sand were too dirty the water would hardly go through at all. As the sand in the filter becomes dirty it naturally offers more resistance to the flow of water through it. In either case the filter would not function as intended.

Rate Controllers.

From a 12-inch pipe which is the outlet of the under-drainage system the filtered water passes through a rate controller. The maintenance of a uniform[,] or of a slowly changing, rate of filtration is made possible by automatic rate controllers. There are four rate controllers, [*sic*] in this plant, one for each filter.

The type of controller used in this plant is known as the Simplex.

It consists of a balanced valve which is so designed that as the head lost going through the filter increased, in other words, as the impurities and foreign matter strained from the water clogs the sand, the valve opens wider to permit a larger flow of water.

When the filter beds have just been washed, the controller valve narrows, slowing up the flow of water automatically,

thus insuring the proper functioning at all times of the filter bed under normal conditions.

Each controller is set at a rate of 750,000 gallons a day. After going through the filters and controllers the water is conducted into clear wells, or storage tanks for filtered water. One of these wells is immediately below the filters, the second a short distance off. They are connected by a 16-inch pipe. Their combined storage is 90,000 gallons.

Washing Filters

A gauge at each filter indicates by a hand on a dial the condition of the sand, and indicates when it is time to wash the beds, which is accomplished by reversing the filtering process. That is, the water is introduced from the underdrainage system and flows up through the filter beds instead of down.

This process carries all the dirt to the surface of the filters and runs it off into troughs which empty into an 18-inch sewer which in turn conducts the dirty water to an old water course about 2500 feet north of the plant.

In rising, the grains of sand whirl round and round in the water and each helps to scour its neighbor. If the sand were of varying sizes instead of the carefully graded product which is used it would not rise and whirl uniformly and the washing process would not work out so successfully.

Under ordinary conditions a filter will function for about 18 hours before requiring [*sic* – *requiring*] washing and it can then be [*sic* – *be*] washed and set to filtering again in about five minutes. During the 18 hours the filter will run through about 562,000 gallons of filtered water, of which

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

approximately 14,500 gallons has to be reversed through it for washing purposes.

In the clear wells is located the end of the suction line from which the filtered water is drawn by pumps and forced into the pipe lines leading to the reservoirs from which lead the city mains. An electrically driven centrifugal pump of a capacity of 1400 gallons per minute, and another of a 700 gallon capacity are installed in the pumping station to deliver the filtered water to the reservoirs.

Approximately a million and a half gallons a day is pumped to the reservoirs.

Just before being pumped into the pipe lines leading to the reservoirs, a small amount of chlorine is introduced into the water in the suction lines.

The filters will purify the raw water to about 98 or 99 per cent. The extra one or two per cent which might get by the filters is sterilized by the chlorine so that when the water is distributed into the city mains it is absolutely free of disease germs as well as dust and physical impurities.

Chlorine is used in the Iron Mountain plant in the proportion of .2 parts per million, or one fifty of a gallon of chlorine to a million gallons of water. The chlorinating apparatus is the newest vacuum type, so designed that the quantity of chlorine can be regulated to minute degrees. This also is of considerable importance in that if .5 parts per million of $\frac{1}{2}$ gallon of chlorine per million gallons of water were introduced it could be detected by taste.

One of the city reservoirs is located on the East side with a capacity of a million gallons, and the other, of 500,000 gallon capacity, on the North side. The two combined store almost the exact quantity of water used in the day's consumption in the city makes [sic] at the present time. A gauge at the filter plant indicates the amount of water in the reservoirs at all times.

At the completion of the filtration plant and pumping stations, Mr. Hartmann[,] who had been acting as resident engineer for Hoad, Decker, Shoecraft and Drury[,] accepted the position of City Engineer and all the design and supervision of construction of the remainder of the water works improvements was handled through the City Engineer's office.

Contract No. 7. Water Mains.

The contract for the installation of the 1925 water main extensions was entered into on June 19 and the work under this contract is now practically completed. A total of approximately 15,500 lineal feet of six-inch and 8-inch main are included under this contract.

Contract No. 8. Chapin Mine-Lake Antoine line.

Owing to the rapidly decreasing level of the [sic] Lake Antoine due mainly to lack of rainfall during the past two or three years and also the fact that the city was drawing about 1,500,000 gallons per day from it, it became necessary to seek some method of raising the level of the lake and thus increasing its storage capacity.

After negotiations had been in progress for some time between the Board of Water Commissioners and The [sic – the] Chapin Mine officials, the city entered into a contract with the Chapin Mining Company whereby the Mine would furnish to the city approximately three and one half million gallons of water per day if the city would provide a pipe line to deliver this water to the lake.

Accordingly the Board of Water Commissioners on June 19, 1925[,] entered into a contract with the Phelps-Drake Company for the installation of a 16-inch main from the Hamilton Shaft of the Chapin mine [sic – Mine] to Lake Antoine, for the purpose of conducting the mine water to the lake. This line is 5,700 feet in length and commencing on the third day of September,

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

the Chapin Mine began pumping water through it to the Lake [sic – lake] at a rate of approximately 3,500,000 gallons per day. The level of Lake Antoine has been raised approximately seven inches since September 3, and while some of this rise is no doubt due to rainfall during that time, it is safe to say that the water pumped from the mine has materially helped to bring about this rise. The Olive Mining Company furnishes the pumping equipment and power necessary to pump this water while the city installed the main and maintains it.

New Intake

On October 12, 1925[,] the City entered into contract with the Phelps-Drake Company of Iron Mountain for the construction and installation of a new intake, screen chamber and low lift pump connection, this company being the low bidder on this work.

This construction work was considered necessary for several reasons. At present the raw lake water is pumped from the old pumping station on the North [sic – north] shore of Lake Antoine, through approximately one and one half miles of 16-inch pipe to the filtration plant. The old pumping station is in a poor state of repair, it requires the service of three men continually, each working eight hours a day and the cost of pumping water through this one and one half miles of pipe is considerable. By installing a new gravity intake from the west end of the lake to the filtration plant and placing the low lift pumps at the filtration plant it will be possible to dispense entirely with the old pumping station. This will mean a saving in labor and power alone of approximately \$7,500 per year besides the nearing [of] the end of

the almost continuous and repairs at the old station, and the hazard of trusting the water supply of the city to a one and one half mile length of pipe running through what are now treacherous, marshy places making repairs and maintenance on this line hazardous and costly.

The new intake will consist of a 20-inch cast iron pipe 3,400 feet in length, extending from a point about 2,300 feet in the lake to the screen chamber at the site of the filtration plant. From this screen chamber the raw water will be pumped through the filters and then to the reservoir.

The cost of this project will be \$45,315.00 and on its completion the city of Iron Mountain will have one of the most modern and efficient water works systems in the country.

CAPTION:

Upper photograph shows the new city filtration plant as seen from the northeast.

Lower photograph shows the operating gallery. The row of upright stands in the back room are the valve controls which regulate the flow of water into and out of the filters. On the left side of the room may be seen part of the coagulation basins and on the right are part of the filter beds.

On the left in the front room is a registering meter indicating the amount of water being pumped to the reservoirs. On the right side of the entrance into the back room is a meter registering the depth of water in the filtered water storage reservoirs at the plant. At the left of the front room is the bacteriological laboratory where daily tests are made of the water.

KINGSFORD WATER SUPPLY

Iron Mountain News, Iron Mountain,
Dickinson County, Michigan, _____

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Year, Number _____ [Monday, June 29,
1925], page 3, columns 4-8

MUST PETITION FOR WATER LINE

Supervisor Explains Meth- od That Districts Must Follow

Before the residents of Ferndale, East Kingsford and the Lincoln addition can obtain water from the village of Kingsford it will be necessary for them to circulate a petition and secure the signatures of 60 per cent of the population in order to form a water district, according to Fred Langsford, supervisor of Breitung township.

This point was explained by the supervisor as a result of a number of inquiries from residents of those sections. It is necessary to obtain the signatures, Mr. Langsford said, before the proposal can be officially acted upon.

After the necessary names are secured, the water district will be determined. This procedure is fundamental in view of the fact that after the water district is fixed the township board will be enabled to levy assessments for the work.

A number of representatives from those sections will meet tonight at Hemlock hall to sound out sentiment regarding the proposal of the village of Kingsford to serve them with water for 20 cents per 1,000 gallons. It is understood that there is practically no opposition to the proposal.

East Kingsford has a water supply of its own but it is inadequate for fire protection. Water is obtained from wells and sent through small pipes by a pumper.

A large gathering is expected to attend the meeting as the water situation is commanding considerable interest. Residents are anxious to put the measure through as soon as possible, it is said.

SEWAGE DISPOSAL

IRON MOUNTAIN SEWAGE SYSTEM

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 9 [Tuesday, April 21, 1925], page 1, column 2

STATE CONDEMNS SEWAGE DISPOSAL

Village, City and Com- pany May Unite to Plan New System

Use of Sewer creek by the city of Iron Mountain for the disposal of sewage has been condemned by the state department of health on the ground that it is a nuisance and a menace to public health, it was revealed at the city council meeting last night.

The condemnation was based upon the result of an inspection recently made by representatives of the health department. The city has been notified to take immediate action towards providing other means of disposing of sewage.

In replying to Edward D. Rich, health department director who sent the notice to the city, Mayor Henze stated that no action was being taken at present by the city as

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

plans were under way to installa [*sic – install a*] sewer system in the village of Kingsford, which intended to dispose of its sewage in Sewer creek. According to present indications, the mayor said, the same action is also being contemplated by Skidmore and East Kingsford.

The mayor voiced the hope that the department of health would co-operate in having the village of Kingsford and the Ford Motor company join with the city in planning a new method of disposal. He called attention to the fact that the right-of-way of Sewer creek was purchased by the city about 20 years ago at a price of \$3,000.

Further action in the matter is being upheld pending a reply from Mr. Rich.

KINGSFORD SEWAGE SYSTEM

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 5 [Thursday, April 16, 1925], page 3, column 1

VILLAGE SEWER COST \$250,000

Temporary Estimate Is Given at Commission Meeting

Temporary estimates on [*an*] adequate sewage disposal system for the village of Kingsford were given the commission last evening by Mr. Hoad, senior member of the firm of consulting engineers which is drawing up the plans. The cost, as given under the estimate last evening, will amount

to \$250,000 and will take care of two-thirds of the sewage disposal of the village.

The plans presented last evening were not in form for the commission to take any definite action on although Mr. Hoad stated that neither a lifting or pumping station would be needed.

Plan Three Outlets.

Present plans call for three outlets and only one deep cut will be encountered during the work, that in Kingsford Heights between Edison and Woodward avenues which will be 22 feet. The cut, however, is only for a short distance. The main trunk line from the heights [*sic – Heights*] will run down Hamilton avenue while one trunk line in Breitung will run east on Sagola avenue, the western extremity of the village, to be served by a trunk which will run directly southeast to the creek.

Mr. Hoad endeavored to have the commission grant his firm the supervision of the work but this was held in abeyance, pending a decision on increasing the engineering department of the village.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 8 [Monday, April 20, 1925], page 1, column 2

MINE COMPANY TO SELL LAND

Disposal of Property To Mean End of Chartiers Venture

Stockholders of the Chartiers Mining Manufacturing company at a meeting held in the office of C.T. Hampton, Commercial bank building, elected officers and directors

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

to conduct the sale of the remaining property of the company which is located on the North side and authorized the conveyance of property to the city of Iron Mountain and settlement of an award in payment as allowed at the October term of circuit court.

The company was founded by John T. Jones, who erected an experimental furnace to be lined in an entirely new smelting process. The furnace was built on a large tract of land near Lake Antoine but proved unfeasible. The charter of the company was suspended by the state for several years upon failure to file reports.

A few months ago the city of Iron Mountain started a condemnation suit to obtain part of the company's land for the new filtration plant. The suit was first begun in probate court and later settled in circuit court where a jury awarded the Chartiers company \$4,750 for the land upon which the filtration plant now stands. This award was accepted at the stockholders' meeting and the officers were ordered to offer for sale the balance of the land upon completion of which the company will dissolve.

Members of the board of directors elected at the meeting were Elmer W. Jones of Marquette, president; George A. St. Clair, Duluth, vice president and treasurer, Raymond Turner, Iron Mountain, secretary, E.W. MacPharren, of Duluth, and C.T. Hampton.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 9 [Tuesday, April 21, 1925], page 1, column 2

STATE CONDEMNNS SEWAGE DISPOSAL

Village, City and Company May Unite to Plan New System

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The condemnation was based upon the result of an inspection recently made by representatives of the health department. The city has been notified to take immediate action towards providing other means of disposing of sewage.

In replying to Edward D. Rich, health department director who sent the notice to the city, Mayor Henze stated that no action was being taken at present by the city as plans were under way to installa [*sic* – *install a*] sewer system in the village of Kingsford, which intended to dispose of its sewage in Sewer creek. According to present indications, the mayor said, the same action is also being contemplated by Skidmore and East Kingsford.

The mayor voiced the hope that the department of health would co-operate in having the village of Kingsford and the Ford Motor company join with the city in planning a new method of disposal. He called attention to the fact that the right-of-way of Sewer creek was purchased by the city about 20 years ago at a price of \$3,000.

Further action in the matter is being upheld pending a reply from Mr. Rich.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 19 [Saturday, May 2, 1925], page 6, columns 1-2

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

NO ACTION TAKEN ON SEWER PLANS

**Village Trunk Line Cost
Is Estimated At
\$250,000**

The proposed sewage system for the village of Kingsford as planned by Hoad, Decker[,], Shoecraft and Drury, consulting engineers of Ann Arbor, was discussed at a special meeting of the village commissioners called last night to consult with R.D. McNamee, representing the Ann Arbor firm. Although the plan met with the general approval of the commissioners, with the exception of two minor changes, one of which was designated to take care of one of the proposed new schools, no formal action was taken.

Approval was withheld pending a conference between representatives of the village and a committee from the Iron Mountain city council to discuss a proposed sewage disposal plant in view of the state's order to discontinue using Sewer creek. Commissioners Peterson and Green, Acting Manager C. Walter Seiler and Ray Turner, village attorney, were named to meet with a committee which is expected to be appointed by Mayor Walter Henze at Monday's council meeting.

Estimated Cost \$250,000

The plan as presented last evening involves the expenditure of approximately \$250,000, which will meet the cost of laying the trunk lines of the combined sewage system. It was estimated that two and probably three times the amount of territory taken in by the trunk lines can be cared for at a cost of \$100,000 when the connecting

laterals are laid, as all of the large sewers necessary will have already been installed.

Streets included in the plan are East *[sic – east]* on Emmet avenue from Case to Lyman, south on Lyman to Hoadley avenue thence east as far as Birch street and southeast on Birch to Sewer creek. Another trunk will run east on Breitung avenue from case *[sic – Case]* to Parkway and Sewer creek, and one will go south on Carpenter avenue to Hamilton avenue, then west one block to Kimberly avenue and the creek.

A third trunk line is proposed on Edsel street from Marquette to Fulton street, east on Fulton to Harding avenue and south to the alley between Woodward and Edison, where it will be joined by the sewer running east on Edison from Saratoga street to Wilson avenue and south on Wilson through the alley and then continuing south to Woodward avenues *[sic – avenue]*, east on Woodward for one block and south to the Kingsford Heights school east through the Ford property joining North boulevard and south on North boulevard as far as Hamilton avenue where it continues east to Kimberly avenue and empties into Sewer creek.

Plans to take care of the trunk line running southwest on Marquette boulevard from Roycroft to Waverly were abandoned in favor of a line to extend west from the intersection at Fulton and Edsel streets to Montclair and then southwest to Walworth. This will take care of one of the proposed new schools.

Provides For Trunk Lines

As presented the plans take care of only the large sewers, most of which are 48 inches and their cost necessarily large. Mr. McNamee estimated that almost three times the territory could be covered with lateral sewers at a cost of approximately \$100,000 after the main sewers are laid.

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

It was also proposed at the meeting to make a standard sewer charge for all lots and although no definite price has been set as yet it will range from \$1 to \$1.20 a foot. Cess pools were also discussed, statistics showing that it is much cheaper and more efficient to put in sewers immediately. Action is already pending by the state health department to have all cess pools removed. Danger of stagnation and injury to health are the chief objections while the cost of keeping those pools cleared in a few years more than equals the costs of building sewers.

The assessment roll of the village will be ready within the next 10 days and it is figured that the new roll will give the commission power to increase the amount of the bond issue, which would aid in providing sewers for the heavily populated area.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 23 [Thursday, May 7, 1925], page 7, column 4

DISPOSAL PLANT TO BE DISCUSSED

**Village and City Repre-
sentatives Will Meet
Saturday**

Representatives of the village commission of Kingsford and the city council of Iron Mountain will meet in joint session Saturday evening at 7:30 o'clock to discuss the proposal for a co-operative effort in the building of a sewage disposal plant to replace sewer [sic – Sewer] creek.

The use of the creek for sewage disposal has been forbidden by the state department of health on the ground that it is unsanitary and dangerous to health. This notice was received by the city a short time ago and in view of the fact that the Ford Motor company uses the creek for the same purpose and the village plans to do so it was suggested that the three pay proportionate shares in the construction of a plant.

The meeting is to be held at the office of Mayor Henze in the city hall building. Village representatives are Commissioners Gust Peterson and Amos Green, Village Manager Seiler and Village Attorney Turner. The city will be represented by Aldermen Franklin and Stefanelli, Acting City [sic – City] Attorney Paul Rahm, City Engineer Hartman and Mayor Henze.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 29 [Thursday, May 14, 1925], page 12, column 7

SEEK USE OF SEWER CREEK

**Village to Ask City Per-
mission to Use it For
Outlet**

A special meeting of the commissioners of the village of Kingsford has been called for tomorrow afternoon at 4:30 o'clock to draft a resolution asking the city of Iron Mountain for permission to use outlets on Sewer creek for sewage disposal.

The city owns Sewer creek and the resolution will be presented to the council at its regular meeting Monday night.

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Tomorrow night at 7:30 o'clock, a joint meeting of village and city officials will be held in the mayor's office for the purpose of discussing ways and means whereby conditions may be remedied in connection with Sewer creek. It is proposed to widen and deepen the creek in order that temporary relief may be obtained.

The primary purpose of the joint session is to reach an agreement on what share of the cost of the contemplated work each party will pay. Village representatives at the meeting will be Attorney Ray Turner, Manager C.W. Seiler and Commissioners Amos Green and Gust Peterson. The committee of city officials will consist of Mayor Henze, Acting City Attorney Paul Rahm, City Engineer Hartman and Alderman Franklin.

The Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 31 [Saturday, May 16, 1925], page 3, column 1

SEWAGE DISPOSAL DISCUSSION HELD

Plans Are Also Made For Improving Sewer Creek

A joint meeting of the two committees representing the Iron Mountain city council and the village of Kingsford commission to discuss the proposed joint sewage disposal plant, *[sic]* was held last evening at the city hall.

Improvement of conditions along sewer creek *[sic – Sewer Creek]* to afford abutting property owners better health protection was also discussed and C. Walter Seiler,

manager of the village of Kingsford, and City Engineer Fred W. Hartman were put in charge of the work.

Conditions along the creek will be investigated to decide on what should be done. It is estimated that \$2,500 will be needed to clean the creek bed and change its course for about 1,000 feet. About \$1,500 worth of dirt has been taken from the creek near Hoadley avenue and will have to be replaced, which will also necessitate changing the course of the creek. About \$900 will be needed to clean the creek bed.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 31 [Saturday, May 16, 1925], page 3, columns 3-4

ASK CITY FOR USE OF CREEK

Formal Resolution Is Adopted by Kingsford Commission

The commission of the village of Kingsford adopted a resolution at a special meeting yesterday afternoon asking the city of Iron Mountain for permission to use outlets on Sewer creek, which is owned by the city, for sewage disposal.

The resolution was turned over to city officials today and will be *[sic]* Monday night. It was brought out at presented at the council meeting monday *[sic – Monday]* night. It was brought out at the meeting that conditions are such in the village that the use of the outlets is necessary in connection with the proposed sewer system in the village.

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Following the adoption of the resolution, the commission entered into a discussion of what share the village should pay in the deepening and widening of Sewer creek in order to take care of the increased sewage.

Village Manager Seiler and City Engineer Hartman agreed that the city should pay at least two thirds of the cost of making the improvements in view of the fact that the city is the principal user. It was estimated that the cost of the work will be between \$2,00 [sic - \$2,000] and \$2,500.

Seek Wider Road

Gust Peterson and Amil Perreault, commissioners, were appointed on a committee to confer with the street committee of Iron Mountain regarding the widening of the road from the City park to Kingsford Heights. Traffic on the road, which is an outlet, has increased to such an extent that it is essential that it be widened. The road is so narrow at some points that a driver ahs to be extremely cautious when passing another car.

The commissioners report will be submitted to the commission at its regular meeting Monday night, at which time the new street numbering ordinance may also be in readiness. The method recommended and which appears to meet with approval throughout the village, is the numbering of homes according to the system used in the city, which is 100 numbers to a block.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, Volume 5, Number 33 [Tuesday, May 19, 1925], page 6, columns 3-4

CREEK PROBLEM NOT DISPOSED OF

Referred to Committee; City Building Inspector Resigns

Although no decision was taken by the city council last evening on the proposal of the village of Kingsford to act jointly in the cleaning of Sewer creek bed, the city of Iron Mountain to pay two-thirds of the cost and the village to pay one-third, the matter was favorably reported and some action will be recommended by a special committee appointed by the mayor.

The village also asked permission to empty main trunk sewers into the creek at Hamilton and Breitung avenue and Birch street in the Skidmore addition.

An estimate of the cost on cleaning the creek bed was given the council as \$2,500 with a recommendation that the work be done.

A report will be made to the council by the special committee at the next regular meeting, a careful investigation into the question being ordered.

An offer for a cub bear was received from Morton Grove, Ill., which asked that the bear be shipped from the local park and a bill mailed to the Morton Grove council. The matter was referred to the park committee.

In addition to the resignation of Paul Rahm as acting city attorney, the resignation of Noel Lambert as building inspector was also presented. Lambert intends to leave the city within the next month and his resignation was accepted.

One application was received for caretaker of the new comfort station and was referred to the park committee. The application was from a woman attendant with three years' past experience.

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Iron Mountain News, Iron Mountain,
Dickinson County, Michigan, Volume 5,
Number 44 [Tuesday, June 2, 1925],
page 10, column 1

USE OF CREEK IS GRANTED VILLAGE

Must Pay Half of Cost of Improving and Straightening

Permission was granted the village of Kingsford to empty its sewage into Sewer Creek by the city council last evening. The action resulted from a request received from the village commission a short time ago, the outlet being being [sic] necessary in connection [sic – connection] with the village's proposed sewer system.

After a brief discussion of the matter it was decided to permit the village use of the creek providing that it shares equally the expense in cleaning the bed of the creek and straightening the channel. A clause holding the Kingsford commission to abide by the rules and regulations as laid down by the city was also included.

City Engineer Hartman was ordered to get in touch with C. Walter Seller, manager of the village, so that work on the sewer creek can be started immediately.

Iron Mountain News, Iron Mountain,
Dickinson County, Michigan, Volume 5,
Number 46 [Thursday, June 4, 1925],
page 3, columns 3-4

CREEK PROJECT

IS GIVEN OKEH

Both Village and City Agree on Improve- ment Work

C.W. Seiler, manager of the village of Kingsford, last night was given authority by the commission to co-operated [sic – cooperate] with city officials in the work of deepening and widening Sewer creek. City Engineer Hartman was given the same authority by the council and it is expected that the work will be started within a short time.

The commission last night also decided to buy from five to 10 tons of calcium chloride from the county road commission which has ordered a carload of the product but will not have use for all of it. The county road officials will sell the chloride to the commission at cost price, which is \$29.70 per ton.

The village manager was also instructed to request Dr. J.M. O'Neill, village health officer, to submit a regular monthly report of his work and the number of communicable diseases registered in the village.

Iron Mountain News, Iron Mountain,
Dickinson County, Michigan, Volume 5,
Number 46 [Thursday, June 4, 1925],
page 8, column 1

\$280,000 ASKED FOR SEWER WORK

Village Commission Will Submit Bond Issue to People

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Acting in accordance with estimates furnished them by competent engineers, the commissioners of the village of Kingsford at their meeting last night decided to spend \$280,000 this summer to install trunk line sewers if the bonds are approved by the people.

Village Attorney Ray Turner was requested to proceed with the necessary legal features of the program and report at the next meeting. The attorney told the commissioners that he thought the special election at which the bond issue will be voted on, *[sic]* could be held during the early part of July.

Pay 85 Per Cent.

It was pointed out at the meeting that the village will pay approximately 85 per cent of the total cost of the trunk line installation. It is also the purpose to extend lateral sewers in every section in order that all residents will be accommodated. Although no definite plan has been worked out, it is believed that the commission will employ special assessments in these lines.

The rate of the special assessments will also be worked out later but it was indicated at the meeting that it will be about \$1 per front foot.

It has not yet been decided whether the village will grant one contract for the sewer program or whether it will divide the project into sections. The commission will act in accordance with suggestions from its engineers relative to this feature of the program.

Want Sewers, Belief.

Residents of the village are continually asking for sewers and for this reason it is expected that there will be little or no opposition to the bond issue. Approximately four miles of trunk lines would be built this summer.

A 48-inch sewer will be installed in Kingsford Heights. This line will start on Fulton street, follow south on Harding avenue, south again to Hamilton street and east on Hamilton street to Sewer creek. A 24-inch sewer will begin on Cass street, proceed south to Hamilton street and along Carpenter avenue to Sewer Creek *[sic]*. An 18-inch line will run from an intersection of Dickinson and Edison streets, east along Edison to Wilson and south on Wilson to Harding avenue, where it will be connected with the trunk line.

In Breitung, a 30-inch sewer will run from Beech street east on Breitung avenue to Sewer creek. A 42-inch sewer will begin at the intersection of Emmet and Case streets, and proceed east on Emmet to Lyman, south on Lyman to Hoadley, east on Hoadley to Birch street and south on Birch street to Sewer creek. Another 24-inch *[sewer]* will begin at the intersection of Hooper and Breen streets and proceed south on Hooper to Sewer creek.

In Garden Village, a 30-inch line will start from the east end of Henford avenue and proceed south to Sewer creek.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, _____ Year, Number _____ [Saturday, June 20, 1925], page 3, columns 7-8

DEEPENING BED OF SEWER CREEK

**Work Going Forward
Under Supervision of
City and Village**

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Work of cleaning out, deepening, and widening sewer [sic – Sewer] creek, paralleling [sic – paralleling] Carpenter avenue, is nearing completion.

The project is being carried forward jointly under the direction of F.W. Hartman, city engineer, and C. Walter Seiler, manager of the village of Kingsford.

Excavation of the bed of the stream, which runs through Kingsford village, and the Skidmore addition, and building up of its banks has been in progress for two weeks, and will require about one week longer to put in first class condition.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, _____ Year, Number _____ [Saturday, June 27, 1925], page 3, column 5

FEW REGISTER FOR BOND VOTE

Village Sewer Issue to Be Decided at Polls July 6

Only a few qualified voters today called at the office of the village of Kingsford to register for the \$280,000 sewer bond issue to be voted upon July 6.

It was expected, however, that a large number would register after the 4 o'clock shift change at the Ford plant. The board of registration will remain in session until 8:30 o'clock tonight.

Qualified voters who fail to register today will be deprived of casting a ballot at the special election unless they present the election board with an affidavit. This, however, does not effect [sic – affect] those who registered for previous elections.

Little or no opposition has been heard relative to the bond issue, which, if approved, will mean that trunk line sewers will be constructed in the village.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, _____ Year, Number _____ [Monday, June 29, 1925], page 1, column 2

1102 REGISTERED ON VILLAGE BOOKS

Each Precinct Has 551; Believe Bonds Will Be Approved

The village of Kingsford has an even 551 votes in each of its two precincts, figures tabulated at the close of registration Saturday revealed.

Although registration for the sewer bond issue which will be voted on July 6 was very light, it is believed that there are few eligible to vote who are not registered. Previous to Saturday there were 1061 names on the poll books. This number has now been increased to 1102.

No active campaigning for or against the bond issue has been going on in the village and the general expectation is that the voters will approve it. The village is seeking \$280,000 for the construction of trunk line sewers.

Iron Mountain News, Iron Mountain, Dickinson County, Michigan, _____ Year, Number _____ [Tuesday, June 30, 1925], page 2, columns 1-2

DICKINSON COUNTY HISTORY – UTILITY COMPANIES AND WATER SUPPLIES

[Compiled and Transcribed by William J. Cummings]

Failure To Pass Sewer Bonds Will Retard Village, Claim

Assessments to Be at Uni- form Rate So That No One Will Pay Unfair Share.

An extended system of main sewer arteries, to serve the greater part of the built up area in the vicinity of the Ford plant, is the plan of the Kingsford village commission, in its \$280,000 sewer bond issue which will come before the voters in the special election of July 6.

Persons owning property on the streets through which these main arteries will be installed, *[sic]* will not be obliged to pay the heavy cost of artery mains, but will be assessed at a uniform rate, estimated in the neighborhood of \$1 per lineal foot, to be spread out over a period of from five to ten years.

The same rate will be made applicable to an extension of lateral mains branching off the main arteries, and to be financed by a later bond issue or special assessment. This project will come up later after the main system which must be installed preliminary to permanent paving has been constructed.

Village to Pay Share.

Assessment of a uniform rate for laterals and main arteries will not pay the full cost of the project, so the village will assume the major portion of the burden.

Persons living in the first Ford addition, the only place in the village served by a sanitary sewer system, will not share in the

assessment of the new mains. This system, which is now greatly over burdened *[sic – overburdened,]* will be assimilated into the general system.

Hoad, Decker, Shoecraft and Drury, consulting engineers of Ann Arbor, have mapped out the proposed network of mains into six systems.

These are, *[sic - :]* the Hamilton avenue system in Kingsford Heights, along Fulton avenue, Harding and Hamilton avenues*[:]* the Carpenter avenue system on Hamilton and Carpenter avenues in Ford's First Addition, *[sic - ;]* the Breitung avenue system along Breitung avenue, in Breitung, Roseland and Pinehurst*[:]* the Henford avenue system along Henford, Breitung and Spencer avenues in Garden Village*[:]* the Hooper avenue system, taking in part of Hooper avenue and the Birch street system, running along Emmet, Lyman and Hoadley avenues. The mains will branch over a little into other areas not named.

Hope For Large Vote

Saturday's registration preliminary to the voting on Monday, July 6, totalled *[sic – totaled]* 1102. The village commissioners hope not only that the project will be affirmed by the people, but that the vote cast will indicate general approval of the proposed work, which is considered to be of vital necessity.

Any objection to the proposal, Mr. Minnear said, must come from persons who do not fully realize the urgency of the need of a sanitary drainage system in any populous community, *[sic]* from the standpoint of health, sanitation, convenience, and progress.

Construction of the new mains will accelerate the growth of the village, President Minnear declared, because there are many persons who will not establish a residence in areas in which modern improvements have not been installed.

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Swamps, mudholes [*sic* – *mud holes*], streets in bad repair, and danger of disease, [*sic*] exist where no catch basins are constructed to carry off surface water, he said.

The proposed bond issue will include storm sewers for surface drainage as well as a sanitary system.

Cesspools Unsatisfactory

Cesspools now serving the village, [*sic*] and thought when they were installed, [*sic*] to be good for a number of years, have proved very unsatisfactory.

A film of grease, from soap decomposition, [*sic*] or other causes[,] forms in the cesspools and closes the pores of the earth, causing the water to remain stagnant until the drainage pit fills up and overflows.

The work ahs been in contemplation for about a year and if the vote is favorable the commission will proceed with all speed to the sale of bonds, and advertising for bids on materials and construction in the hope that the work maybe completed before the frost sets in.

Failure of the issue to pass would delay the progress of the village a whole year, village heads believe.