

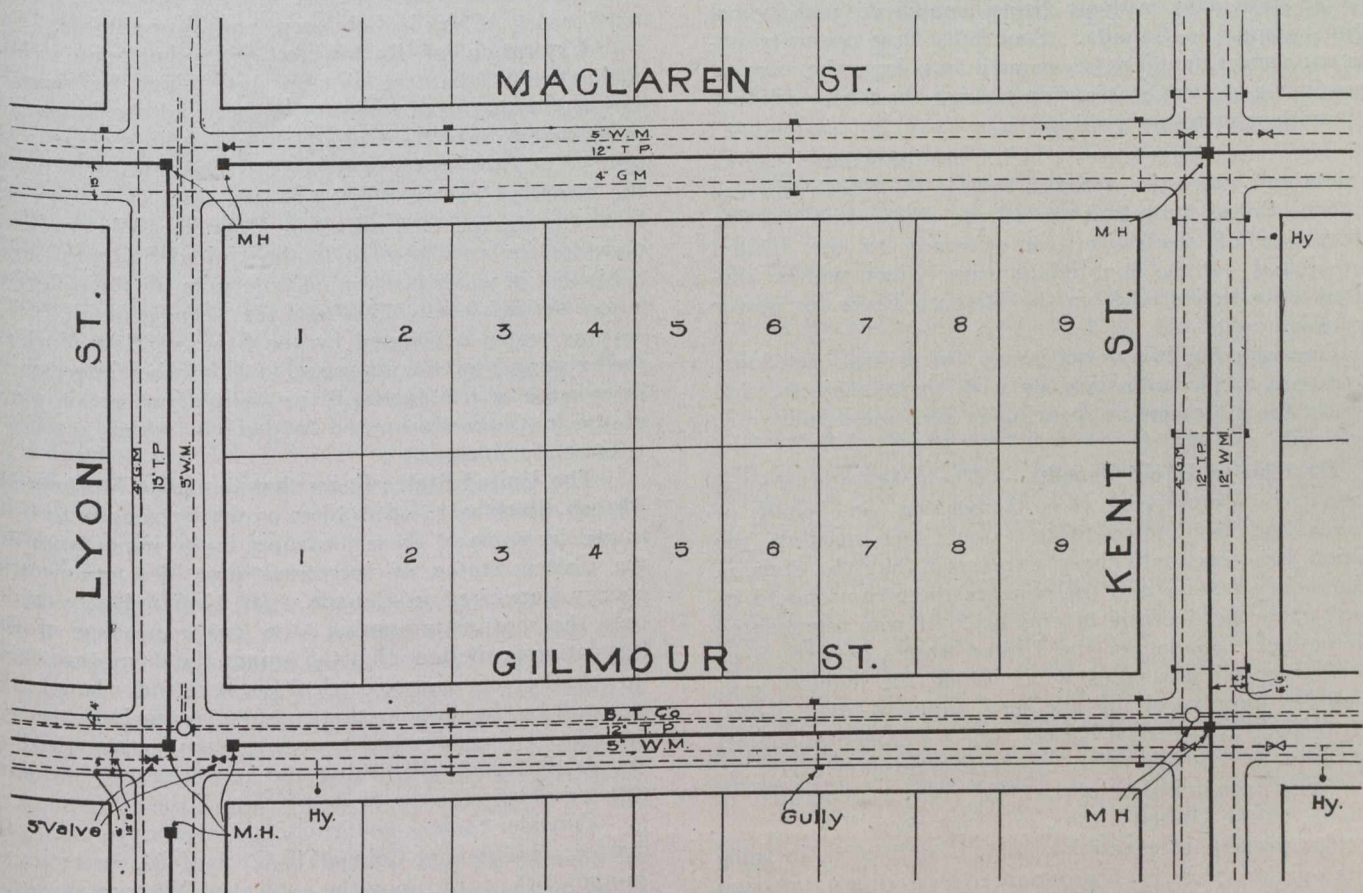
UNDERGROUND SURVEY OF OTTAWA.

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SEVERAL times during the past few years when experts have been called in to co-operate with the city engineer of Ottawa on various large engineering projects, great difficulty was encountered in supplying them with very necessary information, such as the site of water mains, sewers, location of valves, manholes, hydrants, etc. Thus it became an absolute necessity to have an underground survey of the city commenced.

to be undertaken within the next five years, which will involve an enormous outlay of money.

The survey will be plotted to a scale of 40 ft. to the inch. This is the same scale as that of the pavement plans, so that it will not be necessary to re-survey the streets possessing permanent pavements. The record plans will be 30 x 24 in. in size. All underground work will be shown on the plan in broken lines, excepting the sewers which will be denoted by extra heavy solid lines. All surface delineations will be made in light solid lines. There will be shown on the plans the location of all manholes, valves and hydrants, and also the gutter grates on paved streets.



Typical Section of Record Plans.

Last year a gang of men were started to open up streets where sewers and other underground pipes or conduits had been laid without any record having been kept, and a survey was made showing the location of the mains found and their depth. This work of locating mains was also carried out when a street was having surface drainage put in preparatory to a pavement being laid, the measurements being all taken from the sidewalks. The survey is now so far ahead that a start can be made to have it placed on paper.

As no special appropriation has been made to carry this undertaking through, work on the scheme has been to date proceeded with very cautiously, the expense being borne by the general account.

Particular attention will be given to the location of water mains and sewers, as this year Ottawa will embark on a scheme for the redistribution of water mains which will cost when completed about a million dollars—\$420,000 having been voted on January 4th to start the work. A new sewerage scheme for the city will also possibly have

The elevation of the sewers will be marked at each manhole and for the balance of the underground work the depth below sidewalks will be shown.

HEAD OF STEEL AT McLENNAN.

The head of steel on the Edmonton, Dunvegan and British Columbia railway has reached the second divisional point of McLennan, formerly known as Round Lake, thus completing track-laying for a distance of 262 miles from Edmonton. Trains, both passenger and freight, at present are running to mile 235, at High Prairie, and although the track is not ballasted onwards from Smith, the first divisional point at mile 131, a splendid and regular service is being maintained.

Water Commissioner Rust, Victoria, B.C., who recently visited Humpback reservoir, reports that the maximum amount that can be stored, over 130,000,000 gallons of water, has been poured into the reservoir, which will be shortly used by the city.