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# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF PUBLIC WORKS, TENDERS, ADVANCE INFORMATION, AND MUNICIPAL PROGRESS

EVERY THURSDAY

THIS PAPER REACHES EVERY WEEK THE TOWN AND CITY CLERKS, TOWN AND CITY ENGINEERS, COUNTY CLERKS AND COUNTY ENGINEERS THROUGHOUT CANADA.

Vol. 4.

Toronto and Montreal, Canada, April 6, 1893.

No. 8

**THE CANADIAN CONTRACT RECORD,**  
PUBLISHED EVERY THURSDAY  
As an Intermediate Edition of the "Canadian Architect and Builder."

Subscription price of "Canadian Architect and Builder" (including "Canadian Contract Record"), \$2 per annum, payable in advance.

**C. H. MORTIMER, Publisher,**  
CONFEDERATION LIFE BUILDING, TORONTO.  
Telephone 2352.  
64 Temple Building, Montreal.  
Bell Telephone 2299.

Information solicited from any part of the Dominion regarding contracts open to tender.

ADVERTISING RATES ON APPLICATION.

At its convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for tenders.

The following resolution was unanimously adopted at the First Annual Meeting of the Province of Quebec Association of Architects, held in Montreal, Oct. 10th and 11th, 1890: "Moved by M. Ferrault, seconded by A. F. Dunlop, that we the Architects of the Province of Quebec now assembled in Convention being satisfied that the CANADIAN CONTRACT RECORD affords us a direct communication with the Contractors.—Resolved, that we pledge our support to it by using its columns when calling for Tenders."

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publisher of any irregularity in delivery of paper.

## BARTER AND EXCHANGE.

This department has been opened for the speedy barter and exchange of second-hand plant or material, or small lots of new or second-hand materials by builders and others not regularly engaged in the sale of such articles. Advertisements other than those of the above description will not be inserted.

RATES—12 words and under, 15 cents, each additional word, 1 cent (three figures count one word); on two or more subsequent insertions a discount of 10 per cent. will be allowed. Not more than four insertions of an advertisement can be granted.

Replies to advertisements may be addressed to a box at this office, in which case necessary stamps must be sent for re-mailing replies. Advertisements for this department must be prepaid.

**TO DRAUGHTSMEN.**—About 2½ quires of Whatman's Drawing Paper for sale (Imperial size), only \$6 for the lot. Box 151 at this office.

**FOR SALE.**—Builder's plant, consisting of plank, poles, pullocks, scaffold, ropes, horses, wagons, sleighs, etc. Apply 194 Bellwoods Ave.

## PERSONAL.

It is our painful duty to record the death, since our last issue, of Mr. John Farley, of Toronto, the well known contractor for municipal works. Death came suddenly as the result of a severe cold. Deceased was 43 years of age, and was a native of Monaghan county, Ireland. He was a prominent member of the Orange Society. A widow and four children and a large circle of friends mourn his loss.

## ELECTRIC STREET RAILWAY

### TENDERS WANTED.

Tenders will be received at the office of the undersigned Company up to the 17TH APRIL, 1893, for the Grading and Track Work on Three and One half Miles of Electric Street Railway, in the Town of Peterboro'.

Plans, specifications and form of tender may be obtained at the office of the undersigned Company, 65-71 Front st. West, Toronto.

The lowest or any tender not necessarily accepted.

The Canadian General Electric Co., Ltd.

## TO CONTRACTORS.

Tenders will be received by the Secretary-Treasurer, Toronto Junction High School Board, up till APRIL 10TH NEXT, for the erection and completion of the

### Toronto Junction High School Building.

Tenders will be received for the various trades separately or the entire works.

Plans and specifications can be seen at the office of the architect on and after Friday, March 31st. A marked cheque for five per cent. on tenders for less amount than one thousand dollars, and two and a half per cent. on tenders over that amount, must accompany the tender. The lowest or any tender not necessarily accepted.

J. A. ELLIS, Architect. J. F. HOLDEN, Sec.-Treas.



## NOTICE TO CONTRACTORS.

### Tenders for Dredging Water Slips.

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 12 o'clock noon on SATURDAY, APRIL 15TH, 1893, for the

## DREDGING OF WATER SLIPS.

Specifications may be seen, and forms of tender obtained on and after Saturday, 8th April, 1893, at the office of the City Engineer.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2½ per cent. on the value of the work tendered over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications), or they will be ruled out as informal. The Committee do not bind themselves to accept the lowest or any tender.

**DANIEL LAMB,**  
Chairman of Committee on Works.  
Committee Rooms, Toronto, April 1, 1893.

A tube 10 feet in diameter and weighing 3¾ tons, for one of the culverts of the Soulanges canal, was successfully cast a few days ago at the establishment of H. R. Ives & Co., Montreal.

## TENDERS WANTED.

Tenders will be received by the undersigned up to SATURDAY NOON, MAY 6TH, 1893, for supplying

### Cast-Iron Pipe for a Submerged Main.

Plans and specifications may be seen at the office of this paper. Each tender must be accompanied by a marked cheque or cash deposit equal to 5 per cent. of the amount of the contract. The lowest or any tender not necessarily accepted.

THOS. F. MCGUIGAN, City Clerk.  
Vancouver, B.C., March 30th, 1893.

## TENDERS

Will be received by the Secretary of the Public School Board up to APRIL 13TH for the several works required in the erection of a

### Four Room Brick School Building

in the Village of St. George. Plans and specifications can be seen at the office of the Architect, also at the office of the Secretary P. S. B. No tender necessarily accepted.

R. A. LAWRASON, Sec. P.S.B.,  
JAS. A. ELLIS, Architect. St. George, Ont.  
Toronto Junction, Ont.

## CORPORATION OF THE CITY OF THREE RIVERS, QUE.

Sealed Tenders will be received at the office of the undersigned up to MONDAY, TH. 17TH APRIL INSTANT (1893) inclusively, for the supply of

### ONE DUPLEX, COMPOUND, CONDENSING PUMPING ENGINE,

of the capacity of 2,000,000 gallons (U. S. gallons) per 24 hours, according to written conditions that may be procured at the above mentioned office.

The lowest or any tender not necessarily accepted.

L. T. DESAULNIERS,  
Sec.-Treas. Three Rivers Corporation.  
City Hall, Three Rivers, 1st April, 1893.

A German paper, in an article on the present method of rope manufacture from hemp, and the determination of the different qualities and the probable strength from the appearance, lays down the following rules: A good hemp rope is hard but pliant, yellowish and greenish gray in color, with a certain silvery or pearly luster. A dark or blackish color indicates that the hemp has suffered from fermentation in the process of curing, and brown spots show that the rope was spun while the fibers were damp, and is consequently weak and soft in those places. Again, some times rope is made with inferior hemp, on the inside, covered with yarns of good material—a fraud, however, which may be detected, by dissecting a portion of the rope, or, in practical hands by its behaviour in use, other inferior ropes are made with short fibers, or with strands of unequal strength or unevenly spun the rope in the first case appearing woolly, on account of the number of ends of fiber projecting, and, in the latter case, the irregularity of manufacture is evident on inspection by any good judge.

## CONTRACTS OPEN.

**DRUMBO, ONT.**—The Presbyterians will erect a new manse.

**NORWOOD, ONT.**—The Canoe Club contemplates erecting a club house.

**UNIONVILLE, ONT.**—It is proposed to build a new Methodist church here.

**ELKHORN, MAN.**—Mr. Williams contemplates the erection of a stone residence.

**SANDHILL, ONT.**—The congregation of the Methodist church are making arrangements to erect a large hall in connection with the church.

**LONDON, ONT.**—The City Engineer has granted the following building permits: John Phillips, 906 Queen's avenue, brick residence cost \$1,400.

**NORTH TORONTO, ONT.**—The council have decided to re-lay the water mains on Eglinton and Victoria avenues, and to establish three new fire stations.

**WESTON, ONT.**—The York County Council has granted the Moffat Stove Co. exemption from taxation, and a factory will be erected at once outside the corporation limits.

**TRURO, N. S.**—The question of expending the sum of \$14,000 for the construction of a water-works dam is being considered. The ratepayers will in all probability be asked to vote on the matter.

**PETERBORO, ONT.**—An American syndicate has purchased 90 acres of land on the western boundary of Peterboro, and will erect at once a piano factory, a furniture factory, and a steam saw mill.

**PRESTON, ONT.**—At a special meeting of the council held last week, a by-law was passed authorizing the building of a street railway between the towns of Preston and Galt. The road will be built this summer.

**BRACKBRIDGE, ONT.**—Mr. Hunt intends erecting a new building to be used as a bank. It will be a large, solid brick building, costing from \$1,200 to \$1,500 and the work of erection will be proceeded with at once.

**BERLIN, ONT.**—Tenders are invited until the 10th inst. for the excavation, mason and carpenter work of a new church to be built on Weber street for the congregation of the Evangelical Association. Plans may be seen and tenders received at the office of J. C. Breithaupt.

**HESPELER, ONT.**—Mr. Philip Blumgartner has purchased a lot on the Rife estate and intends building this summer.—Mr. Chris. Schultz has definitely decided to build on the lot on the corner of Queen and Adam streets, and will let the contracts at once. He proposes erecting a three story brick building, 22 x 43 feet.

**STOUFFERVILLE, ONT.**—The Creamery Company here propose erecting a solid brick building 30 x 40 feet, two stories high, to be completed by June 1st, next.—Preparations are being made for a large vinegar factory to be built here.—It is also stated that a flour mill is to be erected, and several dwelling houses.

**ARNBRON, ONT.**—Messrs. McCreary & Whyte will rebuild their factory on the lot adjoining the Hartney premises, on the corner of McConigal and Daniel streets.—Councillor Gaudette will erect a fine brick block on Egin street this spring.—The work of constructing the R. C. convent will be commenced as soon as the weather permits. The building material is now upon the ground.

**ST. THOMAS, ONT.**—The City Council is considering the construction of a new main sewer and laterals for the drainage of the eastern portion of the city. The city engineer estimates the cost at \$35,848. A by law to raise the necessary funds will be submitted to the ratepayers.—The Oddfellows of this city will erect a block this summer containing lodge rooms, concert hall, etc. The building will be 66 by 120 feet, three storeys high, with basement.

**HALIFAX, N. S.**—The City Council has concurred in the report of the Board of Works re

commending that the sum of \$50,000 be borrowed for the new pipe line.—It is stated, on what is supposed to be good authority that the construction of a railway from Lewisburg to the Strait of Canso will be undertaken at once. Two Americans are now in Cape Breton looking after the undertaking. It is stated that Mr. P. Paint is interested in the enterprise. The distance to be covered by the road is about 70 miles. The promoters will apply for Dominion and provincial aid, and will build the road whether they receive it or not. The necessary capital, some two million dollars, has already been subscribed.

**NIAGARA FALLS, ONT.**—The authorities of the Grand Trunk Railway contemplate moving the station and offices further west at the Falls and it is said that with this end in view the bridge company propose enlarging the Suspension bridge.—Mr. Geo. Ellis is going to erect a two story brick building on Erie avenue next to McCartney's drug store, with a similar front. The building will be used as a store.—Mr. D. McCrae, who purchased the Blount property on Queen street last fall will erect a new block thereon.—The high school trustees have accepted plans for the new building, and tenders will be advertised for at once.

**WINNIPEG, MAN.**—The Winnipeg School Board is calling for tenders for the erection of two new school buildings, the plans for which were prepared by Mr. George Brown, architect. Particulars may be obtained from Mr. Stewart Mulvey, secretary.—The English shareholders of the Bank of British North America have approved of the plans prepared by Mr. Brown for their new building to be erected on Main street, near Portage avenue, and construction will be proceeded with at once. The structure will be three storeys and basement in height. Tenders are now being asked for the removal of the buildings situated on the proposed site.—The Board of Trade is urging that a custom house be built in the heart of the city.

**VICTORIA, B. C.**—The plans of Mr. Hooper, architect, for the new Protestant Orphans' Home corner of Cook street and Hillside avenue, have been conditionally accepted and are now on view at the office of Mr. R. Mackay Fripp, Traction avenue. The structure is to cost \$20,000, and will be erected through the liberality of the late John G. Taylor. Tenders will be invited and work commenced as soon as possible.—Mr. H. H. Nagle, of San Francisco, is arranging for the erection of a large hotel in the vicinity of Duncan's. A site has been secured and work will be commenced at once.—Messrs. A. T. Taylor, of Montreal, and S. G. Curry, of Toronto, the experts appointed to award the competition for Government buildings in this city, have presented their report, in which the plans of Mr. F. M. Rattray, of Vancouver, are accepted.

**STRATFORD, ONT.**—Messrs. T. Ballantyne & Sons are making preparations for the erection of a large cheese and butter factory at Black Creek during the coming summer.—Mr. Thomas Trow, of this place, contemplates erecting a two and a half story, red brick residence, at a cost of \$6,500, with hot water heating, six grates and mantles, slate roof, plate and leaded glass, hardwood finish, etc. A quantity of cut stone work will also be required. Tenders will be awarded about the 30th of April.—It is the intention of Mr. J. A. Down to build a stable and coach house; cost \$900.—Mr. H. M. Johnson purposes heating his present residence with hot water or hot air and water combination, at a probable cost of \$600, tenders will be awarded about the 15th inst. Mr. D. G. Baxter, will have charge of the above works.

**VANCOUVER, B. C.**—A surveying party of engineers are at present engaged locating the line for the Northern Pacific Railway, between Vancouver and Sumas. It is the intention to have the route laid out inside of five weeks time and then operations on clearing and grading will begin. The work will be let out in small divisions so as to enable operations to be in progress along the entire distance, some 47 miles.—Mr. Frank Bakeman, the chief promoter of the Canadian Western railway, has published an announcement to the effect that all financial arrangements have been completed for the construction of the road, the capital being mostly subscribed by London, (Eng.) and New York capitalists. It is estimated that \$25,000,000 will be required to build the line. Considerable doubt is expressed, however, as to whether the project will materialize or not.

**OTTAWA, ONT.**—E. F. E. Roy, Secretary Department of Public Works invites tenders until Tuesday, the 11th inst., for the construction of a landing wharf and approach for quarantine purposes at Partridge Island, St. John harbor, N. B. Plans may be seen at the office of Mr. W. J. McCordock, Superintendent of Dredging, St. John, and at the above department in this city.—Messrs. Arnold and Calderon, architects, have been instructed to prepare the plans for the proposed Y. M. C. A. building, the sum of \$9,000 having been subscribed towards the building fund. It will be built of brick, having a frontage of 90 feet on Metcalfe street and 60 feet on Maria street. The cost is not to exceed \$15,000.—Mr. Abbott will in a few days commence active operations in the building of his new stone carriage factory on Wellington street.—The select committees of the Hull and Gatineau Point councils met last week at Gatineau Point to consider the plans of the proposed bridge across the Gatineau

river at that point. They will recommend to the councils that tenders should be asked for at once for the construction of the bridge.—The report of the City Engineer on the drainage of that part of the city lying south of the Canada Atlantic railway was read and adopted at the last meeting of the Board of Works. In the report he recommends that arrangements be made to provide funds for constructing the trunk sewers to provide sufficient outlet for the subsidiary sewers required to drain the two proposed areas in accordance with the special act extending the city limits. The estimated cost for a brick sewer for No. 1 area, 5,400 feet in length, all in earth excavation, is placed at \$25,000. For No. 2 area a combined surface water egg-shaped brick sewer is recommended at a cost of \$140,000.

**HAMILTON, ONT.**—The Hamilton Steamboat Company proposes to erect a summer theatre at Burlington Beech capable of seating 2000 people.—The following building permits have been granted: Mrs. W. A. Duffield two-story brick dwelling on the northeast corner of Aberdeen avenue and Hilton street, cost \$3,600; trustees of First Methodist church, brick and stone addition to Sunday school building, cost \$8,000; Mrs. E. Trumbull, two two-story semi-detached brick dwellings on West avenue, between Main and Hunter streets; Peter Ryan, two-story brick dwelling on Market street, between Queen and Ray streets, cost \$11,000.—The City Council has decided to purchase a stone crusher, at a cost of \$1,800.—A meeting was held last week in the Y. W. C. A. parlors to discuss the raising of funds for the erection of a gymnasium. A majority of those present favored the idea, and committees will be appointed to canvass for subscriptions and obtain an estimate of the cost of its erection.

**MONTREAL, QUE.**—The R. C. School Commissioners are calling for tenders for the erection of the new Montcalm school.—Tenders will be received by Mr. E. D. Porcheron, Secretary, until the 15th inst. for the grading of thirteen miles of railway for the Montford Colonization Railway Company. Full particulars may be obtained at the company's office, No. 1608 1/2 Notre Dame street, this city.—The Grand Trunk railway and the corporation of Montreal are about to construct a bridge over the Mountain street crossing of the company. The plans as proposed show the length of the bridge to be 900 feet, costing about \$80,000, half to be paid by the city and half by the Grand Trunk.—The council is in receipt of a communication from the Major Manufacturing Company who wish to secure a site on which to erect a wire drawing establishment, and are negotiating for the purchase of the property in Point St. Charles lying between the Tail race and the St. Pierre river.—The Water Committee will ask the City Council for an appropriation of \$22,870 for the purchase of new turbine wheels to replace the old ones at the wheel house.—The plans for the new buildings to be erected in connection with McGill University have not yet been completed and will not be fully decided upon for about two weeks. The land purchased will come into possession of the University corporation on May 1, when work will be proceeded with in order that the buildings may be completed by next October. Alterations and improvements to the present building will also be made.

**TORONTO, ONT.**—Mr. M. Hall, architect, will receive tenders until tomorrow, (Friday) for the erection of cattle sheds and stables on the exhibition grounds.—Archbishop Walsh has purchased the Blantyre estate, situated about five miles from the city on the Kingston road, the object being to establish a Roman Catholic industrial school for boys. Buildings will be erected on the property to meet the requirements of the school.—Plans have been prepared for the new church building to be erected by the congregation of Broadview avenue Congregational church on the site of the present edifice. It will be 50 x 70 feet, two stories high and built of solid brick.—The special committee appointed by the City Council for the encouragement of manufactures have agreed to grant a lease of the St. Alban's pumping station site to Messrs. D. C. Adams and Richard McDonnell, representing a syndicate who contemplate establishing rolling mills.—The City Engineer will recommend the following list of streets upon which to lay roadways of permanent construction: Front street, from Church to Sherbourne, granite on concrete; York street, from Front to Queen, asphalt; Dundas street, from Queen to Arthur, asphalt; Parliament street, from Queen to Gerrard, asphalt; Parliament street, from Carlton to Winchester, asphalt; Queen street, from Yonge to River, asphalt; College street, from Yonge to McCaul, asphalt; Carlton street, from Yonge to Parliament, asphalt; George street, from Front to King, granite on concrete; Frederick street, from Front to King, granite on concrete; Sherbourne street, from Front to King, granite on concrete; Bathurst street, from King to Queen, vitrified brick or cedar; Winchester street, from Parliament to Sumach, vitrified brick or cedar. The cost will aggregate about \$175,000.—The City Engineer recommends the purchase of a dredging plant to be used in building a channel from the harbor to Ashbridges Bay. He estimates the cost at \$35,000.—The York County Council has instructed the engineer to report on the advisability of laying a pipe sewer on the Don Mills road.—The Northey Manufacturing Company, No. 1 Toronto street, want tenders for grading and white-

washing.—Thos. Crawford, Chairman Property Committee, invites tenders until Thursday, the 13th inst., for the extension of the Brock street wharf. Plans at the City Commissioner's office, City Hall.—Building permits have been granted as follows: Jas. Farran, a story brick clad dwelling, 20 Norfolk avenue, cost \$1,100; P. Brantier, Centre avenue, a story brick dwelling, 101 Elm street, cost \$1,400; R. G. Kirby, 240 Davenport Rd., mansard roof, 240 Davenport Rd., cost \$1,000; Samuel Smith, 314 Seaton street, brick addition, 171-3 Jarvis street, cost \$1,700; Corporation of Toronto, addition to registry office, Richmond street west, cost \$16,000; Kemp Mfg. Co., Gerrard street, sub story and alterations to factory, corner Gerrard and River streets, cost \$8,000; R. Simpson, alterations to Elgin block, 170 Yonge street, cost \$7,000; Jas. N. Shenstone, 34 Madison avenue, detached 2-story and attic brick dwelling, Walmer Rd., north of Baptist church, cost \$11,000; A. E. Kemp, pair semi-detached and one detached brick houses, south side Wellesley crescent, west of Homewood ave., cost \$20,000; Dr. Hall, additions to dwelling, northwest corner Jarvis and Carleton streets, also 2-story brick stable in rear, cost \$7,000; Jas. Henderson, Glen Rd., detached 2-story and attic brick dwelling, northeast corner Glen Rd. and Rachel street, cost \$16,000; Dr. G. Sheard, brick extensions to stores, 122-4 Yonge street, cost \$4,000.

### FIRES.

The residence of Dr. Stanton, at Simcoe, Ont., was damaged by fire to the extent of \$1,000, which was fully covered by insurance.—On the 30th ultimo fire was discovered in Mr. M. P. Sheppard's planing mill at Port Stanley, Ont., which was completely destroyed, together with a dwelling house opposite, occupied by Mr. T. L. Orme. Both buildings were uninsured.—Another disastrous fire occurred in Montreal on Friday last, the following places being destroyed: James McDougall & Co., tailors' trimmings, loss about \$15,000; James H. Wardlaw, foreign and Canadian leathers, loss \$10,000; Minto, Lavigne & Co., loss \$5,000. The loss is said to be nearly covered by insurance.—A large two and a half story house at Norton, N. B., owned by W. H. Baxter, was entirely destroyed by fire last Saturday evening. The house was built for a hotel at a cost of \$4,000; no insurance.—The residence of Mr. James Stewart, barrister, Minnedosa, Man., has been totally destroyed by fire with all its contents. Loss \$5,000.—The general store, post office and dwelling of J. S. Corrigan, at White-mouth, Man., were burned on the 28th ultimo.—Mr. George J. Bennett's residence at 36 Melbourne avenue, Toronto, has been damaged by fire recently to the extent of \$3,500, part of which is covered by insurance.—The residence of Mr. John Bell, at Uxbridge, Ont., was gutted by fire on the 3rd inst. The loss on the building is covered by insurance.—The residence of Dr. Goulding, of Virden, Man., has been destroyed by fire.—The residence of Mr. Johnson, mayor of Meaford, Ont., was burned on Saturday evening last. The building and contents were insured to the extent of \$1,850.

### CONTRACTS AWARDED.

**PORT ALBERT, ONT.**—The contract for repairing the harbor at this place has been awarded to Mr. Patrick Neven, the amount of tender being \$10,497.

**PORT ELGIN, ONT.**—The contract for the erection of the Agricultural Hall in Lake View Park has been let to Mr. Henry Kalbfleish. The plans were drawn by Mr. S. G. Kinsey.

**NANAIMO, B. C.**—Mr. W. N. Shaw is the successful contractor for the erection of the new Presbyterian church. The site is being prepared and work will be commenced at once.

**QUEBEC, QUE.**—The contract for the construction of the Richelieu and Ontario Navigation company's offices in this city has been awarded to Mr. Fred. de Varennes, at the price of \$12,631.

**VICTORIA, B. C.**—Seventeen tenders received for the construction of the new Point Comfort hotel, from New Westminster, Vancouver and Victoria. The contract has been awarded to Mr. T. F. Sinclair, of this city.

**MOUNT FOREST, ONT.**—The contract for the erection of Dr. Jones' new block has been let the past week as follows.—Brickwork, A. Welton; carpenter, W. Davidson; tinsmithing, Thornhill & Woodall; painting, J. Ritchie.

**NIAGARA FALLS, ONT.**—The contract for the carpenter and mason work on the new power house for the Niagara Falls Electric and Park Railroad Company has been let to J. Phillip, of Hamilton, and J. Pocock respectively.

**SHERBROOKE, QUE.**—The contract for the erection of five new buildings for the Magog Print Works has been awarded to Messrs. G. G. Bryant and D. G. Loomis & Sons. The buildings will have a chimney 150 feet high, and the whole work is to be completed by the beginning of August.

**KINGSTON, ONT.**—The following are the successful contractors for the erection of a brick residence on Wellington street for J. F. Leslie: masonry, C. Mitchell; carpenter work, R. N. F. McFarlane; hot water heating and plumbing, Joseph Jamieson; galvanized iron work, Nugent & Taylor; painter and glazier, Savage Bros.

**HAMILTON, ONT.**—The City Council has accepted the tender of Mr. E. C. Mutton for the construction of a pipe sewer on Emerald street, from Stinson street to the railway at the price of \$1.00 per foot.—The Board of Works has awarded the contract for the construction of a stone culvert to Mr. J. P. Hancock, his tender being \$986.70.

**GUELPH, ONT.**—Mr. John Day, architect, has awarded contracts as follows for a pair of semi-detached houses, three storeys high, to be erected on Woolwich street for Mr. J. E. McEldery: mason and brick work, T. Matthews; carpentering, Thos. Simmons; plastering, Thos. Robinson; painting, E. H. Pass; tinsmithing, Geo. Howard; plumbing, Walker & Mahoney; hot air furnace, Kerr Bros.

**TORONTO, ONT.**—Mr. Dingman, secretary of the Toronto and Scarborough Electric Railway Company, has completed arrangements with Messrs. Patterson and Corbin, of St. Catharines, to furnish the cars required by the road. Two will be delivered in Toronto by the 20th of May.—The Toronto Collegiate Institute Board has awarded the contract to Messrs. Withrow and Hillock for repairing the roof and altering the corridor of the Jarvis street Collegiate Institute, at the price of \$410 and \$225 respectively.

## MUNICIPAL DEPARTMENT.

### CONCERNING HIGHWAY BRIDGES.

Under this heading, Chas. F. Stowell, of Albany, N. Y., writes to *Engineering News* as follows:

I have read with interest your recent discussion of highway bridge matters and feel inclined to offer a few remarks on the subject, being one to which I have paid considerable attention.

It has been my experience that highway bridge builders would rather build good bridges than poor ones, and as a rule they do build as good a bridge as the price will warrant and their skill permits. An abnormal "skinning" down of sections is not common, though it occasionally happens that after the cost of the pool is taken out, or after a close competition in a "free fight," here is so little left for the bridge that the temptation is strong to make an extra heavy coat of paint do duty toward keeping up the required dimensions of the members.

I agree with you that the pooling system is the worst evil that afflicts the highway bridge business. It is an incubus that has grown to unwieldy size, and has fastened itself on the business with a grip like Sinbad's old man of the sea. It has become so important a feature that more than one case could be cited where parties have invested in a few tools and started a bridge company with the sole intention of getting the greater part of their living from the pools on bridges which they do not build. I know that the largest builders would be heartily in favor of abolishing the entire system. An attempt was made in New York state two years ago to do away by legal enactment with this evil, and also that of "private contracts." At the instance of one of the largest builders of highway bridges a bill was introduced into the legislature providing that when any bridge work estimated to exceed \$300 in cost was to be done by any town authority, sealed proposals should be advertised for in a specific way, and the contracts, if awarded at all, should be given to one of the parties submitting such sealed proposals. The occasion was inopportune, and the bill died of inanition.

I believe the best results will be attained, together with the greatest economy to the purchaser, by employing a bridge engineer on all highway work. Such an engineer should, if the work is riveted construction, furnish a full plan; and if pin-connected, a strain and section sheet, allowing the builder to make details subject to the engineer's approval; he should specify clearly the kind of workmanship and material wanted, and should see that it is furnished, and finally should give a formal acceptance of the bridge before final payment can be made.

It often happens that a body of well meaning but ignorant officials, after advertising in the usual loose manner for bridge proposals, gets an overwhelming mass of plans, specifications and bids, which they know nothing about, and then,

**MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.**

as the easiest way out of the slough into which they have gotten themselves, call in an engineer and unload the whole business on him. The digestion of so heterogeneous a mass is as distasteful as it is laborious, and on account of the time it takes is generally much more costly than if the engineer had been employed in the beginning, and had set up a single standard upon which all bids should be based.

The engineer for a public body is often obliged to award contracts to parties from whom he is morally certain that he cannot get the best results, simply because they are financially responsible and are the lowest bidders. The successful bidder takes the job with every assurance that all the requirements will be faithfully complied with, and very likely he fully means to do what he promises, according to his lights. But there is as much difference between bridge builders as shoemakers, and what would be considered first-class work in one establishment would not be tolerated in another. The engineer knows this, and he knows too, that in awarding a contract to one party he cannot, even if the bidder does his very best, get as good work as from some one else, for all the engineers in the world cannot get better work from a shop than it knows how to do. If he were at liberty to select his bidders this might be avoided, but on public work this cannot be done. The poorest work is turned out mainly by those builders whose mainstay is the pool, and if that can be abolished, many of the companies which turn out the worst work will have to close up, as their chief source of income will have vanished.

Brick paving has been laid in the city of South Bend, Ind., on a foundation of well rolled gravel, and is stated by the city engineer, Mr. W. M. Whitten, in a letter to "Paving and Municipal Engineering," to be in as good or better surface after a years traffic as the brick paving in other cities laid on a concrete foundation. He also states that a street in South Bend paved with one course of brick is in better surface than one paved with two courses at a cost 30% in excess. Mr. Whitten lays all brick pavements with the courses at an angle of 45° with the course of the street, and believes that the pavement wears more evenly and keeps in better surface when so laid.

**THOROLD CEMENT**

I have tested with Reihle's Testing Machine the tensile strength of six blocks made from the barrel of Thorold Hydraulic Cement sent me last summer. The blocks were made of neat cement, and were 1 1/2 inches square at the smallest part. Four of them were kept 23 days in air, and only broke under the following weights: No. 1, 420 lbs.; No. 2, 470 lbs.; No. 3, 436 lbs.; No. 4, 420 lbs.; averaging 437 lbs. each, or 194 lbs. per square inch. The remaining two were kept one day in air and forty-seven in water, and broke under the following weight: No. 5, 420 lbs.; No. 6, 450 lbs.; averaging 435 lbs. each, or 193 lbs. per square inch.

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