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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, Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

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Notice to Contractors

Tenders for Repairing Asphalt Pavements

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, up to 5 o'clock p.m. on THURSDAY, MAY 7th, 1896, for
REPAIRS TO ASPHALT PAVEMENTS
 Specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, on and after Thursday, April 30th, 1896.
 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 up to \$1,000 and 2 1/2 per cent. on the value of the work tendered for over that amount, must accompany each and every tender, otherwise they will not be entertained.
 Tenders must bear the bona fide signature of the contractor and his sureties, or they will be ruled out as informal.
 Lowest or and tender not necessarily accepted.
 DANIEL LAMB,
 Chairman Committee on Works.
 R. J. FLEMING,
 Chairman Board of Control,
 Toronto, April 22, 1896.

TENDERS FOR CEMENT SIDEWALK.
 Sealed Tenders will be received up to 2 o'clock p.m. on Friday, May 8th, 1896, addressed to John Chamberlain, Esq., Chairman Board of Works, Collingwood, and marked "Tenders," for the laying of 1,326 feet of cement sidewalk. Plans and specifications can be seen at the Town Clerk's office. The lowest or any tender not necessarily accepted.
 JOHN HOGG, Town Clerk.
 Collingwood, April 28th, 1896.

TO BRICKMAKERS
 The Corporation of the Town of Collingwood require from 250,000 to 300,000 sidewalk bricks. Tenders for the same, f.o.b. Collingwood, will be received by the undersigned up till noon on Tuesday, May 12, 1896. Specimen bricks to accompany each tender. The Corporation do not bind themselves to accept any tender.
 JOHN HOGG,
 Town Clerk.
 April 21, 1896



Sealed Tenders addressed to the undersigned, and endorsed "Tender for Post Office, &c., Arnprior, Ont.," will be received at this office until Thursday, 7th May, 1896, for the several works required in the erection of Post Office, &c., Arnprior.
 Plans and specifications can be seen at the Department of Public Works, Ottawa, and at the office of Messrs. Dulmage & Burwash, barristers, Arnprior, Ont., on and after Friday, 24th April, and tenders will not be considered unless made on form supplied and signed with the actual signatures of tenderers.
 An accepted bank cheque, payable to the order of the Minister of Public Works, equal to five per cent. of amount of tender, must accompany each tender. This cheque will be forfeited if the party decline the contract or fail to complete the work contracted for, and will be returned in case of non-acceptance of tender.
 The Department does not bind itself to accept the lowest or any tender.
 By order,
 E. F. E. ROY,
 Secretary.
 Department of Public Works,
 Ottawa, 20th April, 1896.

BUSINESS NOTES.
 James Perry, plumber, Pembroke, Ont., is said to have assigned.
 Pierre Picote, contractor, Montreal, is announced to have assigned.
 Baker Bros. have started the manufacture of brick at Casselman, Ont.
 J. B. Devot & Co., contractors, Montreal, have dissolved partnership.
 D. Nicholson, Wellington, B. C., has commenced business as carpenter and contractor.
 An assignment is said to have been made by James Hartney, contractor, Vancouver, B. C.
 Oldershaw & Campbell, plumbers and hardware merchants, Chatham, Ont., have dissolved partnership.
 Charles Booth, C. E., of Kingston, has received the appointment of city engineer at Westmount, a suburb of Montreal.
 The foundry of Wm. Clendinneng & Son, Montreal, was sold by auction last week to the Banque du Peuple, for \$125,000.
 E. J. Walsh, C. E., of Ottawa, has returned from the West Indies, where he has been engaged on work for the Imperial government for the past six years.

CONTRACTS OPEN.
 AYLMER, ONT.—J. T. Rowe will enlarge his organ factory.
 WINGHAM, ONT.—G. H. Irwin proposes building a brick residence.
 WHEATLEY, ONT.—Dr. Wright is preparing to erect a new drug store.
 UXBRIDGE, ONT.—There is an agitation to construct a new town hall.
 BURK'S FALLS, ONT.—It is probable that a tannery will be erected here.
 TILBURY, ONT.—M. Morris proposes erecting a building on Queen street.
 CHIPMAN, N. B.—Mr. Purvis, of St. John, intends building a saw mill here.
 SHELBURNE, ONT.—Morrison Rooney intends building a new residence on Eliza beth street.
 ST. BARTHELEMI, QUE.—A large portion of the town has been destroyed by recent floods.

RICHMOND, QUE.—The Board of Trade is advocating the construction of permanent pavements.
 THORNBURY, ONT.—P. C. Heuser has purchased the planing mill here and will put in new machinery.
 HULL, QUE.—An effort will be made to secure the erection of another R. C. church in the west end.
 STONEWALL, MAN.—J. W. Fullbank is making arrangements to erect a stone building on Main street.
 ST. JOHN, N. B.—The School Trustees have not yet selected a plan for the proposed High School building.

MAGOG, QUE.—The corporation invites tenders for electric street lighting. Address A. H. S. Bessette, mayor.
 NEWMARKET, ONT.—The by-law to raise \$9,000 for the purchase of an electric light plant was defeated by the electors.
 BROCKVILLE, ONT.—A three-story opera house, to cost \$52,000, will probably be erected. Particulars from G. A. Allen, architect.
 THAMESVILLE, ONT.—The construction of an iron bridge, with stone piers, across the Cornwall creek on Ann street is spoken of.
 WALKERVILLE, ONT.—Hiram Walker is said to be negotiating for the erection of a large saw mill on the site of the old sugar refinery.
 ST. CATHARINES, ONT.—A committee of the City Council has reported in favor of the purchase of a municipal lighting plant, to cost \$9,125.
 OSHAWA, ONT.—It is said the promoters of Demill Ladies' College, which was recently burned, will make efforts to rebuild the structure.
 ARNPRIOR, ONT.—In all probability the new post-office and C. P. R. station will be erected here this summer. The station will be built of sandstone.
 NEWCASTLE, ONT.—Robert Barfett will receive tenders until the 1st of May for erecting a brick building, comprising

three stores, plans for which may be seen at his store.

GUELPH, ONT.—The Board of Works have recommended that \$1,300 be placed in the estimates for a bridge over the Speed river, and \$3,300 for a stone bridge over the same river, known as Gow's bridge.

IROQUOIS, ONT.—The ratepayers will vote on a by-law to authorize the installation of an electric light plant.—Mountain township will build a steel bridge over the Nation river.

MILVERTON, ONT.—Plans for the proposed new school are in the hands of the secretary of the board, W. D. Weir. It will be two stories high, four rooms, with seating capacity for 300.

BELMONT, N. S.—Tenders will be received by Leander Dearmond until noon on Friday, May 8th, for erecting a Presbyterian church. Plans may be seen at the office of Dougald Henderson, architect, Truro.

WOODSTOCK, ONT.—W. M. Davis, C. E., writes. A by-law to raise \$8,000 for a sanitary sewer for the north part of the town will be submitted to the ratepayers on May 11th. Length of sewer, 7,000 ft., size of pipe 15", 12" and 10".

HILLSDALE, ONT.—Tenders are invited until noon on Tuesday, May 5th, for the erection of a brick Presbyterian church in this town. Plans may be seen at the office of Shortreed Bros., Hillsdale, or Henry Simpson, architect, Toronto.

ST. THOMAS, ONT.—As a result of the decision of the City Council not to submit a by-law to the ratepayers for the proposed extension of the Lake Erie and Detroit River Railway from Ridgetown to this city, the company have decided not to build the line.

CORNWALL, ONT.—The executors of the estate of the late John Purcell have decided to purchase a site for the hospital at the corner of Second and Marlborough sts. A Montreal architect has been engaged to prepare plans, and it is intended to have the building ready for occupation by the end of the summer.

HALIFAX, N. S.—Gordon & Keith are considering plans prepared by Mr. White-way, architect, for their new building. The site is being prepared.—Elliott & Hopson, architects, of this city, have prepared plans for a residence to be erected at Charlottetown, for G. D. Longworth.

QUEBEC, QUE.—It is proposed to construct a wharf at the south end of the Louise Basin, extending from gas works to the Lake St. John railway station.—A deputation of the Quebec Geological Society has requested the Provincial government to make a survey of the Hanna river and the country through which it flows.

KINGSTON, ONT.—Plans have been submitted for a new building for the Kingston Yacht Club, to be 40x40 ft., two stories high, frame on cedars, sheathed and battened, cottage roof, with balconies. Estimated cost \$1,250. It is proposed to form a joint stock company, and Messrs. H. W. Richardson, F. Strange and J. H. McKee have been appointed trustees.

STRATFORD, ONT.—W. T. Maxwell is preparing to build a brick residence on the Chown property. Cost \$3,000.—Work has been commenced on the construction on the main sewers, for which purpose the sum of \$30,000 was recently voted by the ratepayers.—The Board of Works has been instructed to get estimates of the different classes of pavements.

CAMPBELLTON, N. B.—Debentures have been issued for \$15,000 for the purpose of erecting a new school house on Patterson street.—The Bank of Nova Scotia has purchased a site and will erect a brick and stone building.—Engineers Jack & O'Myra are completing the surveys of the Restigouche and Victoria railway.

The president of the company states that 35 miles of this road will be constructed this summer.—The council is advertising for tenders for supplying the town with a system of waterworks.

LONDON, ONT.—The Building Committee of the Wortley Road Baptist church have revived the proposal to build a new church, and it is expected that definite action will shortly be taken.—State Sanitary Engineer Goodnough, of Boston, Mass., was in the city recently to look over the plans and ground for the proposed sewage farm. A similar system to that in use at Boston is proposed to be adopted.—M. L. Buffy, architect, of this city, is preparing plans for new public buildings at Tilsonburg.—The Building Committee of the Southern Congregational Church have decided that, owing to the cost of the contemplated building, they will call for tenders for a less expensive building. The plans will be drawn, however, with a view to future enlargement.

WINNIPEG, MAN.—A by-law granting \$30,000 to the Winnipeg Industrial Exhibition Association, for the purpose of erecting new buildings, has been carried by the electors.—The site is being prepared for the new opera house to be built by the Pantheon Company. The cost is placed at \$100,000. Information may be received from Mr. E. D. Martin.—Tenders will be received by J. C. Sproule, Chairman Finance Committee, until the 5th of June, for the purchase of \$70,634.21 of city debentures, bearing interest at 5 per cent. per annum. Offers are also requested until the 19th of June for the purchase of \$46,500 of debentures bearing interest at 4½ per cent.—The city engineer has prepared plans for a steam sterilizing apparatus, and an effort will be made to have an appropriation put in the estimates this year for its construction.—The congregation of Maple street church will probably undertake extensive improvements this year. A new basement, stone foundation, and a larger auditorium are among the considerations.—The owners of property on the west side of Main street, between McDermott and Bannatyne avenues, resident in England, have under consideration the erection of a brick and stone block. A decision will be reached this week.

MONTREAL, QUE.—The Department of Agriculture at Quebec have asked the Market Committee to provide accommodation in the Bonsecours market building. It is proposed to establish a Bureau of Colonization, and to lease part of the west wing on the ground floor, which will be converted into offices at a cost of several thousand dollars.—It is stated that the agreement between the city and the Canadian Pacific Railway Company in connection with the new east end depot will be signed this week, and the work will be proceeded with at once.—J. Alcide Chaussé, architect, is preparing plans for an agricultural college, 60x40 feet, five stories, to be erected at L'Assomption, Que. Same architect is preparing plans for a chapel of the Sacred Heart, Ste Brigid church, on Maisonneuve street.—Gamelin & Huot, architects, are preparing plans for a private residence to be erected at Montreal Annex. Tenders will be received in a few days. Estimated cost, \$10,000.—Building permits have been granted as follows: One three-storey building, 75x28, on Wellington street, for H. A. Wilder & Co., Park & Thomas, architects, cost \$4,000; one two-storey wood house, lined in brick, on St. Rose st., for F. Desantels; one three-storey house, stone front, on Bishop st., for N. Deslauriers & Co., cost \$8,000.—The by-law voted on by the municipality of St. Henri to grant a bonus to the Montreal Brussels Carpet Co. for establishing a factory has been defeated.—The Church

of the Advent have decided to extend the church as far as Luke street in front, with a chancel extension on the north-west. The improvements will be carried out during the summer.—An effort will be made to raise funds to enlarge St. Matthias church.—The Congregationalists of Westmount will shortly commence the erection of a new church.—The Melville Presbyterian church authorities are considering the erection of a new church. It is proposed to erect a stone structure in front of the present edifice, at a cost of \$30,000, the present church to be converted into a Sunday school and meeting rooms.—The old Henry Morgan stores on St. James street are to be converted into offices.

HAMILTON, ONT.—Building permits have been granted as follows: E. Healey, two storey brick dwelling on Herkimer street, cost \$2,000; James Dunmop, brick dwelling on John street south, cost \$3,500; Thomas Allen, 2 two-storey brick dwellings on Morden street, cost \$2,000; A. W. Peene, architect, 3 two-storey brick dwellings, corner Duke street and Caroline, for W. S. Duffield, cost \$5,000; W. P. Witton, brick dwelling on Hanna street for J. H. Park, cost \$3,000.—The Sewers Committee have decided to construct a pipe sewer on York street, between Sophia and Dundurn streets, at a cost of \$1,125, and tenders for the work will be invited. The petition for a sewer on Nelson street has been laid over.—It is stated that the work will be commenced early in July on the conversion of the Hamilton and Dundas railway from steam to electricity. The rolling stock of the road will also be improved, and the total cost is placed at \$10,000.—Mr. Beckley, president of the Toronto, Hamilton and Buffalo Railway Company, states that work will be commenced on the spur connecting the G. T. R. and T. H. & B. as soon as the route is approved. The distance is 1¾ miles, and the estimated cost \$200,000.—The civic deputation who visited Canton, Ohio, to inspect the sewage system have returned, and are convinced that the system could be adopted for Hamilton. The City Engineer will present a report and make recommendations at the next meeting of the Sewers Committee.

OTTAWA, ONT.—In all probability a new residence will be erected for Bishop Hamilton.—Building permits have recently been granted as follows: James Ouellette, frame house on Lett st.; G. W. Robb, brick veneered dwelling on Argyle ave.; K. Poole, frame dwelling on Mutchmor st.; Patrick Burke, frame dwelling on Archibald st., W. F. Bradley, frame building on Charles st., Thos. Gordon, frame building on Eccles st.; Miss M. McMahon, double brick veneered dwelling on Lisgar st.; Mrs. Annie Mathewson, brick house on Albert st.; A. S. Robertson, frame cottage on Elgin st.; Patrick Kennedy, brick house on Albert st.; E. A. Monk, frame dwelling on First avenue.—The City Council have engaged Messrs. Davey & Keefer to prepare plans for a main sewerage system. The plans will be prepared for a combined system, with storm and sanitary sewer in one, and when completed will be submitted to the Provincial Board of Health for approval, after which the by-law to authorize the work will be submitted to the electors, probably in July.—The following bills were passed at the recent session of the Dominion parliament: Respecting the Guelph Junction Railway Company; respecting the South Ontario Pacific Railway Company; respecting the Lake Erie & Detroit River Company; respecting the St. Lawrence & Adirondack Railway Company; respecting the Nelson & Fort Sheppard Railway Company; respecting the Brandon & Southwestern Railway Company; respecting the Lindsay, Bobcaygeon & Pontypool Railway Company; respecting the St. Lawrence

& Ottawa Railway Company; to incorporate the Queenston Heights Bridge Company; respecting the Montreal and Ottawa Railway Company; respecting the Canada and Michigan Bridge and Tunnel Company, respecting the South-western Railway Company and the St. Lawrence and Adirondack Railway Company; respecting the Winnipeg Great Northern Company; to incorporate the South Shore Suburban Railway Company; respecting the Montreal Island Belt Line Railway Company; respecting the Toronto, Hamilton & Buffalo Railway Company; respecting the Thousand Islands Railway Company; to incorporate the Schomberg & Aurora Railway Company; respecting the Pontiac Pacific Junction Railway Company; respecting the Montreal Park and Island Railway Company; respecting the Kingston, Smith's Falls and Ottawa Railway Company; to incorporate the Huron and Ottawa Railway Company; to incorporate the Edmonton District Railway Company; to incorporate the Montreal & Province Line Railway Company.

TORONTO, ONT.—J. N. Connelly will erect a residence on Jamieson avenue, south of King street, to cost \$5,000.—It is the intention of W. Luke to commence the erection of four detached residences on west side of Maynard avenue, north of King street.—Gordon & Helliwell, architects, 26 King street east, are receiving tenders until noon to-day (Thursday), for erecting a dwelling house at St. Catharines.—Charles A. Walton, architect, has prepared plans for an up-town hotel. The building will be 7 stories, and is estimated to cost \$100,000, and \$25,000 additional for furnishings. A company is being formed to undertake the work. The corner of College and Queen's Park avenue is spoken of as the probable site.—Tenders are invited by the Public School Board until Friday next for window shades, garden hose and fire extinguishers.—The Canadian Pacific Railway Co. are asking for tenders for removing the building on York street formerly known as the St. James hotel.—The City Council has given notice of its intention to construct an asphalt roadway on Berkeley street, from Gerrard to Carlton streets., at a cost of \$5,630.—A deputation from this city has requested the Dominion government to take steps to develop the business in dressed meats between Canada and Great Britain. The special object of the deputation was to secure the erection of abattoirs in this city.—The Toronto Ferry Co. propose adding a dining hall to the hotel at the island.—Petitions for brick pavements on Yorkville avenue and on Yonge street, from Bloor to Davenport road, are insufficiently signed, and an effort will be made to secure the necessary signatures.—Members of the York Township Council last week inspected the Rosedale bridge, owned by the Scottish & Manitoba Loan Co., with a view to strengthening the structure sufficiently to permit the running of electric cars. The cost of the work is placed at \$2,700.—The City Engineer has reported to the Property Committee that the cost of paving the covered squares on the east and west sides of the St. Lawrence market will be as follows: For rock asphalt, \$5,306; Trinidad asphalt, \$4,420; brick on concrete foundation, \$3,183. A macadam pavement will be constructed on Jarvis street, from King to Queen street.—Jas. A. Ellis, architect, is preparing plans for the reconstruction of W. O. Doran's residence at Niagara Falls, Ont., which was destroyed by fire a few weeks ago.—The Ontario government will construct a 12-foot granolithic walk from the parliament buildings to the statue of Sir John Macdonald.—Strickland & Symons, architects, are receiving tenders for alterations to the National Club House on Bay street, including the remodelling of the

present building and a brick addition in rear.—Henry Simpson, architect, is preparing plans for an addition to residence at Grimsby for Mrs. Makepeace.—Plans of the new Methodist church to be built at Grand Valley are on view at the office of Strickland & Symons, in this city. It will be brick, with stone foundation, body 50x50, exclusive of choir, gallery and porches, schoolroom below, besides several class rooms, stained glass windows and slate roof.—A building permit has been granted to the Land Security Co. for a 4th additional story to warehouse, 49 Front st. w., cost \$2,000.

FIRES.

A storage building at Blenheim, Ont., owned by A. L. Bisnett, was burned on the 22nd inst.—Fire at Nova Scotia last week destroyed two large sheds on Tower road belonging to the Exhibition Association. Loss, \$5,000; no insurance.—At Stouffville, Ont., on the 24th inst., fire destroyed D. A. Sypher's hotel and Thomas Hill's dwelling, also Robert Hill's shop. The loss in each case is heavy.—The planing mill at Listowel, Ont., owned by Jacob Large, was partially destroyed by fire on the 23rd inst. Insurance, \$2,000, which will fully cover the loss.—The brick residence of J. H. Lyon, at Carberry, Man., has been totally consumed by fire. Loss \$6,000; insurance \$3,000.—Fire at the Imperial Oil Works, Petrolia, Ont., on the 22nd inst., destroyed two bleachers, two buildings used for the manufacture of wax, one paraffine shed, one grease works building and two large storage tanks. Loss \$25,000, covered by insurance.—Fire at Ainsworth, B. C., has destroyed the Windsor Hotel, the Ainsworth Hotel, the Vancouver Hotel, the Club Saloon, Giegrich & Co.'s store, Ainsworth Trading Co.'s store and a number of residences. The loss is estimated at \$50,000.—McConnell & Harding's store and stock at Country Harbor, N. S., have been burned. Loss about \$7,000; no insurance.—The Turtle brewery in Dartmouth, N. S., with large warehouses adjoining, was completely destroyed by fire on Monday last. The loss is placed at \$100,000.

CONTRACTS AWARDED.

SELKIRK, MAN.—The contract for erecting a Methodist church has been let to Mr. Moncrieff.

YORK, ONT.—The contract has been let for a brick church to be built here. A. W. Peene, Hamilton, architect.

QUEBEC, QUE.—Vandry & Matte will place heating apparatus in the residence of C. E. L. Dionne, advocate, Rimouski.

CAMPBELLTON, N. B.—The Confederation Life Association, of Toronto, are the successful tenderers for \$15,000 of school debentures.

SANDWICH, ONT.—The Chanteloup

Manufacturing Co., of Montreal, have received the contract for non work and heating apparatus in connection with the jail improvements.

MCDONALD, MAN.—The contracts for building a Methodist church have been awarded to Mr. Stacey, of Portage la Prairie, A. L. Ashdown securing the heating contract. Contract price, \$1,500.

HUNTINGDON, QUE.—Mr. LaPalme is the sub-contractor for the proposed sewerage and water works system for this village, the franchise for which is held by the Stadacona Water and Power Co.

COLLINGWOOD, ONT.—The Bryan Mfg. Co. have been awarded the following contracts: Two-story residence for P. Mullen, cottage for Capt. Geo. Collins, and remodelling Capt. P. M. Campbell's residence.

KINGSTON, ONT.—Contracts for annual supplies for the Board of Works have been awarded as follows: Plank sidewalks, Silas Grimshaw; crossings, A. Lalonde; drain tile, Ontario Sewer Pipe Co., at 8 cts. per foot for 6" pipe, 13 cts. for 8"; 21 cts. for 12"; 32 cts. for 15" and 4-½ cts. for 18", with junctions extra.

STRATFORD, ONT.—The county council recently accepted the tender of McBeth Bros., of Strathroy, for the erection of the new House of Refuge. It has since been discovered that the tender was not complete, and upon reconsideration the contract has been awarded to William Clark, of Toronto, at the price of \$15,990.

HALIFAX, N. S.—Tenders for a loan of \$213,000 were received by the city as follows: H. O'Hara & Co., of Toronto, 101-14; J. C. Mackintosh, Halifax, 102.12-52; Aemilus Jarvis & Co., Toronto, 101.76; Confederation Life Association, Toronto, 100.075; R. Wilson Smith, Montreal, 101.01; Bank of B. N. A., 101.55; J. A. Meldrum, Toronto, 102.31. The tender of J. A. Meldrum has been accepted. Offers for a loan of \$6,000 were received as follows: Thos. Ritchie, 4½ p. c. interest; J. C. Mackintosh, at \$2½ premium, interest at 4½ p. c.; Halifax Fire Insurance Company, 5 p. c. interest; Nelson Murphy, Matland, 4 p. c. interest, (accepted); Bank British North America, 4¾ p. c. interest.

MONTREAL, QUE.—Chas. Chaussé, architect, has awarded contracts as follows: one three-storey building, St. Denis Ward, for Dme. H. Haw; Masonry, L. Vermette; carpenter and joiner's work, A. Dufresne; roofing and plumbing not let; plastering, painting and glazing, A. Dufresne; brick, A. Vermette.—A. C. Hutchison, architect, has awarded contracts as follows: one manufactory, two stories, on Ontario street, for Watson & Foster. Masonry, M. Desjardins; carpenter and joiner's work, J. Shearer; roofing, Campbell & Gilday;

(Concluded on Page 4.)



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BRIDGE BUILDERS

BELLEVILLE, ONT.

brick, W. Lavers; painting and glazing, Geo. Kimber.—Murphy & McGuire, of this city, have the contract to construct a railway between St. Remi and Stottsville.

TORONTO, ONT.—Tenders for annual supplies were last week opened by the Board of Works. Some were referred to the City Engineer for a report. The following were accepted: Cement, 57½ cents in bags, 62 cents in barrels, Rathbun Co., Deseronto; bricks, \$5.95, east of Yonge, Walker Morley, \$6.30, west of Yonge, David Wagstaff; lumber, pine, \$13.17, hemlock, \$8.90, pine timber, 12x12x12, \$12.80, 12x12x16, \$12.80, 12x12x20, \$12.90, 12x12x24, \$16; hemlock timber, 12x12x12, \$9, 12x12x16, \$9, 12x12x20, \$9.50, 12x12x24, \$11, to J. W. P. Bryce; stop cock boxes, valve boxes, \$1.40 and \$1.45, service boxes, 65 cents small and \$1.15 large, St. Lawrence Foundry Co.; lead pipe, \$4.10 per hundred pounds, Ontario Barb Wire Co.; iron castings, \$1.70 per 100 lbs., Galloway, Taylor & Co.; general hardware, the Aikenhead Company; brass work, James Morrison Company; coal and wood, Conger Coal Company; brass and bronze castings, John Dean.—The following contracts have been awarded in connection with the proposed consumptive sanitorium at Gravenhurst: Stonework, Page & Co.; woodwork, R. Robson. The balance of the contracts will be let at a later date.

SUGGESTIONS FOR STONE MASONS.

A poor stone wall has been the cause of ruining many a noble and otherwise perfect edifice. "Let me give my brother mason a few pointers on laying stone," says R. N. Buell in a late issue of the Brickbuilder—"not that I shall attempt an exhaustive treatise on the subject, but simply to place before him a few simple rules, which may possibly be the means of saving him many dollars. Of whatever quality the stone may be which a wall is to be built, it should consist as much of stone and as little of mortar as possible. If it be inferior in durability of power in resisting the action of the atmosphere, etc., to the mortar, besides the certain fact that the mortar will yield until it has set hard, and so far act injuriously, no ulterior good is gained; and if the stone be the more durable material, the more of it that enters the wall the better. Indeed, in rough walling, if the stones be laid so that the most prominent angles on their faces come into actual contact, the interstices being occupied by mortar, it will be better than if a thick, yielding mass were allowed to remain between them. Absolute contact, however, should not be permitted any more than in brick work, lest the shrinkage of the mortar in drying

leave the stones to such unequal bearing as the prominent parts alone would afford. Stone being generally of a less absorbent nature than brick, it is not a matter of so much importance that it be wetted before setting. Nevertheless, adhesion on the part of the mortar is more certain and more complete if the stones be worked in, at least, in a damp state.

Bond is of not less importance in stone walling than in bricklaying. Instead of carefully making the joints recur one over the other, in alternate courses, as with bricks and gauged stones, the joints should as carefully be made to lock so as to give the strength of two or three courses or layers between a joint in one course and one that may occur vertically over it in another. In bonding through a wall or transversely it is much better that many stones should reach two-thirds across alternately from the opposite than that there should be a few through stones, or stones extending the whole thickness of the wall. Indeed, one of the many faults of stone masons is that of making a wall consist of two scales or thin sides with through stones now and then laid across to bind them together, the core being made of mortar and small rubble merely. This is a mode of structure that should be carefully guarded against. There is no better test of a workman's tact and judgment in rubble walling than is afforded by the building of a dry wall, or a wall without mortar. Walls are frequently built with mortar that without it would have fallen down under their own weight in a height of six feet, in consequence of their defective construction, thus rendering it evident that they are only

held together by the tenacity of the mortar, which is very seldom an equivalent for proper bond of stone.

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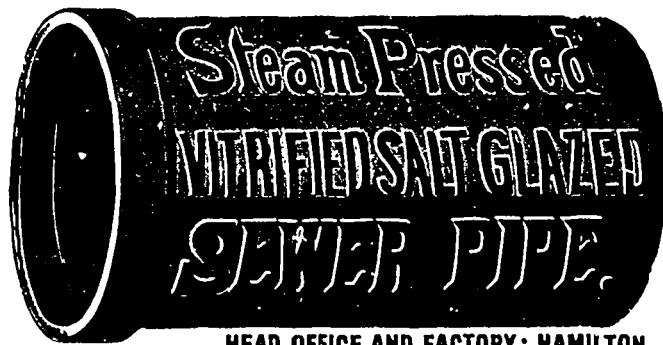
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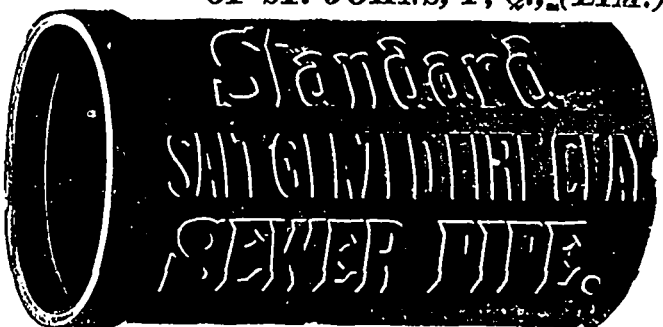


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MUNICIPAL DEPARTMENT

COSTS OF PIPELAYING.*

The following memoranda were obtained by the writer during the summer of 1893.

CASE I.—Pay of laborers, 15 cents per hour; pipe handlers, 16 cents to 17½ cents; foreman 20 cents to 25 cents. In a paved street. Paving, cedar blocks on plank and sand. Backfilling all pounded in layers when loose not more than 4 inches thick. Material, mostly clay; a few feet of sandy loam. Depth of trench 4 to 5½ feet. Size of pipe 24 inches, laid on 4x4-inch blocks. Specials about every 300 feet. Length of line 2,500 feet. Total of connections: 12"=56'; 10"=14'; 8"=27'; 6"=89'; 4"=.21'. Estimated=2,550 feet of 24-inch pipe.

Estimated earth excavated, 2,709.4 cubic yards.

Cost per foot: Digging, 27.25 cents; pipelaying, 24.80 cents; bell holes, 15 cents; shovelling in, 17.9 cents; pounding, 79.27 cents; loading earth, 8.95 cents; teaming earth, 6.36 cents; total, \$1.7953.

Cost per cubic yard: Digging, 25.62 cents; shovelling in, 16.84; pounding, 74.61 cents.

Surplus earth was hauled at 17 cents per load of 1.4 cubic yards loose.

CASE II.—In an unpaved street. Backfilling for 1,356 feet done by laying tiles, two lines, one of 4-inch at bottom of trench and one of 3-inch at half the depth, both connected to sewers, and filling in layers 12 to 20 inches thick, each thoroughly slushed from above before next was put on to within 6 inches of top. Top 6 inches thoroughly pounded after bottom had dried at least 24 hours.

The remaining 790 feet filled as above. Material as above.

Total length of 24-inch pipe, 2,032 feet. Total of connections: 12-inch=19 feet; 8"=52'; 6"=99'; 4"=21'. Estimated=2,100 feet of 24-inch pipe.

Estimated earth excavated, 1,963.4. Total length of trench dug and filled, 2,200 feet.

Other data as in Case I.

Cost per foot: Digging, 33.3 cents; pipelaying, 18.2 cents; bell holes, 12.8 cents; shovelling in, wet, 19.1 cents; pounding, wet, 10.7 cents, dry, 46.4 cents; tile, hose work, etc.,† wet, 7.4 cents, dry, 2.1 cents; loading earth, wet, 4.6 cents, dry, 4.4 cents; teaming earth, wet, 5.5 cents, dry, 3.8 cents; total, wet, \$1.117, dry, \$1.401.

Cost per cubic yard excavated: Digging, 37.3 cents, shovelling in, wet, 21.6 cents, dry, 19.9 cents; pounding, wet, 12.1 cents, dry, 48.1 cents; tile, hose work, etc., wet, 8.4 cents, dry, 2.1 cents.

* G. S. W., '88, in The Technic.

† Tile, etc., includes cost of tiling.

Surplus earth was hauled at 17 cents per load of 1.4 cubic yards loose. Or considering the filling alone the cost per foot for wet work was 47¾ cents, and for pounding work was 75¾ cents.

As to the results of the backfilling experiment other than the reduced cost, it was found that the filling in the wet way required two or three days longer than in the dry way. So far as the condition of the trench and roadway were concerned in an unpaved street, the filling was rounded up about 4 inches above the grade of the rest of the street both in the wet and the dry work, and this has been sufficient to provide for the settlement in both cases. The dry work shows itself somewhat more smooth than the wet, but hardly sufficiently so to be noticeable in driving over the ground.

CASE IV.—Pay of laborers as previously. In paved streets, mainly cedar on sand. Material, clay. Backfilling as in Case I. Lime composed of 24"=17'; 16"=4,121'; 12"=1,615'. Connections, 12"=10'; 10"=25'; 6"=179'; 4"=195'. Estimated=6,241 feet 12x15-inch pipe.

Cost per foot: Digging, 20.60 cents; pipelaying, 20.89 cents; bell holes, 9.54 cents; shovelling in, 12.28 cents; pounding, 28.96 cents; loading earth, 3.58 cents; teaming, 6.35 cents; total \$1.0318.

Cost per cubic yard: Digging, 37.36 cents; shovelling in, 22.26 cents; pounding, 54.34 cents.

Estimated excavation, 3,441 cubic yards. Surplus earth hauled at 40 cents per load.

CASE V.—Pay of laborers as above. In unpaved streets, backfilling, wet, as in Case II. Material, clay. Pipe, laid on blocks. Other data as previously. Size of pipe 10 inches. Connections, 4"=98'; 3"=4'; Estimated=8,969 feet of 10-inch pipe. Estimated excavation, 4,508 cubic yards. Earth pounded on top and for street crossings, 1,376 cubic yards.

Cost per foot: Digging, 24.16 cents; pipelaying, 9.39 cents; bell holes, 0.98 cent; shovelling in, 13.60 cents; pounding, 13.22 cents; tile,* hose work, etc., 2 cents; loading, 0.52 cent; teaming, 0.46 cent; total, 64.33 cents.

Cost per cubic yard: Digging, 48.07 cents; shovelling in, 27.06 cents; pounding, 86.18 cents.

Surplus earth hauled at 17 cents per load.

On this work great pains were taken with the grading of the tile, one row being at the bottom and another half-way up, and all were connected to sewers. As a result, from the time the work was completed the ditch has been the best part of the street, and especially so in muddy seasons.

In the above memoranda there are developed some relations between earth in the ground and earth in wagon boxes.

In Case I., of 24-inch pipe, the pipe volume was about 110 cubic yards, but the quantity of earth hauled away from the trench by wagon load measurement was about 1,300 cubic yards, or 2,709 cubic yards, swelled 1,190 cubic yards in

handling, amounting to about 44 per cent.

In Case II., of 24-inch pipe, the pipe volume in slush work was about 55 cubic yards, and there was hauled about 611 cubic yards of surplus. For the pounded work the pipe volume was about 28 cubic yards, and the surplus about 252 cubic yards. Or the amount of the swelling in former instance was 556 cubic yards in 1,200, or about 44½ per cent., and in the latter it was 224 cubic yards in 763, or about 30 per cent.

In Case IV., of 16-inch and 12-inch pipe, the pipe volumes were about 355 cubic yards and the surplus was about 1,030. The swelling, therefore, was 675 cubic yards in 3,441 cubic yards, or about 20 per cent.

CASE VI.—Laborers paid \$1.25 for eight hours. In a paved street. All backfilling pounded. Connections every 300 feet. Size of pipe 12 inches. Length of line 1,048 feet. Depth 5 feet.

Cost per foot: Digging, 18.6 cents; laying, 25.7 cents; filling 45 cents; hauling surplus earth, 1.4 cents; total, 90.7 cents.

CASE VII.—Same as above except length=2,475 feet.

Cost per foot: Digging, 13.4 cents; laying 16.2 cents; filling, 39 cents; hauling surplus earth, 1.1 cents; total, 69.73 cents.

CASE VIII.—Same as above, except size=10 inches, and length=2,592 feet.

Cost per foot: Digging, 19.20 cents; laying, 12.18 cents; filling 39.49 cents; hauling surplus earth, 1.01 cents; total, 71.88 cents.

CASE IX.—Same as above, except size=8 inches, and length=2,049 feet.

Cost per foot: Digging, 14.42 cents; laying, 6.78 cents; filling 36.32 cents; hauling surplus earth, —; total, 57.46 cents.

In all the foregoing each connection made was with a line already in service, and therefore involving a more or less complicated shut-off. Besides this, in almost every case, there was a pre-existing pipe which had to be removed. In Cases I. to V. inclusive, a record of the cost of this labor was kept and deducted, but in the remaining cases no account was taken of it either way.

PERSONAL.

Mr. Thomas Huston, who for thirty-three years has held the position of town clerk of Whitby, Ont., died on the 20th inst.

Mr. A. W. Campbell, C. E., of St. Thomas, has received from the Ontario government the appointment of inspector in roadmaking. He will be attached to the Department of Agriculture, with headquarters at the Parliament Buildings, Toronto, where he may be consulted by the municipal authorities and others as to the proper methods of road construction and maintenance. Mr. Campbell has made a special study of roadmaking, and in his present capacity will without doubt prove to be a very efficient and valuable public official.

* Item "Tile" includes cost of tile itself.

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CONDITION OF THE MARKET.

TORONTO: In some lines of builders' supplies there is a marked improvement, chief among which may be mentioned plumbers' supplies and iron pipe. A fair inquiry is also reported for soil pipe, lead pipe and galvanized iron. There is little activity in nails, notwithstanding the approaching advance. Glass and paints and oils rule steady at unchanged quotations.

MONTREAL: The demand for builders' supplies has slightly improved. There is a steady increase in the movement of plumbers' supplies. A few small orders are being placed for cement for shipment at the opening of navigation. In paints and oils the market is moderately active, and prices are well maintained.

LUMBER.

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Table listing lumber prices for Toronto and Montreal, including items like clear picks, Am ins., 1 inch clear, 1 x 10 and 12 dressing, etc.

VAFD QUOTATIONS.

Table listing Vafd quotations for items like Mill cull boards and scantling, Shipping cull boards, Hemlock scantling and joist, etc.

B. M.

Table listing B. M. prices for items like 1 1/2 in. flooring, dressed, F. M., 1 1/2 inch flooring, rough, F. M., etc.

BRICK—M

Table listing brick prices for Common Walling, Good Facing, Sewer, Pressed Brick, Per M, etc.

Toronto. Montreal.

Table listing various building materials like Sewer, Hard Building, Roof Tiles, Hip Tile, Ridge Tile, etc.

SAND.

Table listing sand prices: Per Load of 1 1/2 Cubic Yards.

STONE.

Table listing stone prices: Common Rubble, Large flat Rubble, Foundation Blocks, Kent Freestone Quarries, etc.

OHIO FREESTONE, FROM THE GRAPTON STONE CO.'S QUARRIES.

Table listing Ohio freestone prices: No. 1 Buff Promiscuous, No. 1 Buff Dimension, No. 1 Blue Promiscuous, etc.

SLATE.

Table listing slate prices: Roofing (square), red, purple, untanding green, black, Terra Cotta Tile, etc.

PAINTS. (In oil, lb.)

Table listing paint prices: White lead, zinc, Red lead, venetian, vermilion, Indian, Yellow ochre, etc.

CEMENT, LIME, etc.

Table listing cement and lime prices: Portland Cements—Germar, London, Newcastle, etc.

Toronto. Montreal.

Table listing Portland Cements, Hydraulic Cements, Keene's Coarse Whites, Fire Bricks, etc.

HARDWARE.

Table listing hardware prices: Cut nails, 50d & 60d, per keg; Steel nails.

CUT NAILS, PRNCE AND CUT SPIKES.

Table listing cut nails and spikes prices: 40d, hot cut, per 100 lbs; 20d, 16d and 12d, hot cut, per 100 lbs, etc.

FINE BLIND NAILS.

Table listing fine blind nails prices: 3d, per 100 lbs.

CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.

Table listing casing and box nails prices: 12d to 30d, per 100 lbs.

FINISHING NAILS.

Table listing finishing nails prices: 3 inch, per 100 lbs.

SLATING NAILS.

Table listing slating nails prices: 5d, per 100 lbs.

COMMON BARREL NAILS.

Table listing common barrel nails prices: 1 inch, per 100 lbs.

CLINCH NAILS.

Table listing clinch nails prices: 3 inch, per 100 lbs.

SHARP AND FLAT DRESSED NAILS.

Table listing sharp and flat dressed nails prices: 3 inch, per 100 lbs.

STEEL WIRE NAILS.

Table listing steel wire nails prices: Steel Wire Nails, 75 % discount from printed list.

Iron Pipe:

Table listing iron pipe prices: Iron pipe, 1/2 inch, per foot.

Toronto, 65 per cent. discount. Montreal, 60 to 65 per cent. discount.

Lead Pipe:

Table listing lead pipe prices: Lead pipe, per lb.

Galvanized Iron:

Table listing galvanized iron prices: Adam's—Mar's Best and Queen's Head; 16 to 24 gauge, per lb.

Structural Iron:

Table listing structural iron prices: Steel Beams, per 100 lbs.