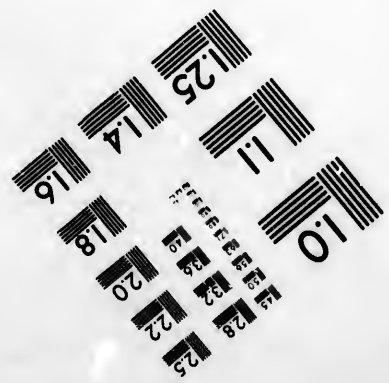
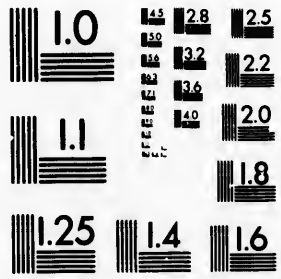


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions

Institut canadien de microreproductions historiques

1980

Technical Notes / Notes techniques

The Institute has attempted to obtain the best original copy available for filming. Physical features of this copy which may alter any of the images in the reproduction are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Certains défauts susceptibles de nuire à la qualité de la reproduction sont notés ci-dessous.

Coloured covers/
Couvertures de couleur

Coloured pages/
Pages de couleur

Coloured maps/
Cartes géographiques en couleur

Coloured plates/
Planches en couleur

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Show through/
Transparence

Tight binding (may cause shadows or distortion along interior margin)/
Reliure serré (peut causer de l'ombre ou de la distortion le long de la marge intérieure)

Pages damaged/
Pages endommagées

Additional comments/
Commentaires supplémentaires

Bibliographic Notes / Notes bibliographiques

Only edition available/
Seule édition disponible

Pagination incorrect/
Erreurs de pagination

Bound with other material/
Relié avec d'autres documents

Pages missing/
Des pages manquent

Cover title missing/
Le titre de couverture manque

Maps missing/
Des cartes géographiques manquent

Plates missing/
Des planches manquent

Additional comments/
Commentaires supplémentaires

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ∇ signifie "FIN".

The original copy was borrowed from, and filmed with, the kind consent of the following institution:

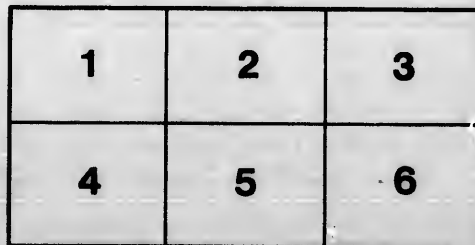
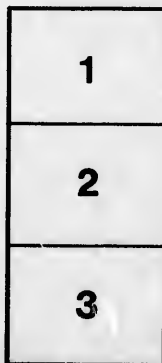
Library of the Public
Archives of Canada

L'exemplaire filmé fut reproduit grâce à la générosité de l'établissement prêteur suivant :

La bibliothèque des Archives
publiques du Canada

Maps or plates too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:

Les cartes ou les planches trop grandes pour être reproduites en un seul cliché sont filmées à partir de l'angle supérieure gauche, de gauche à droite et de haut en bas, en prenant le nombre d'images nécessaire. Le diagramme suivant illustre la méthode :



66-7-15
F. 5.

ALPHABETICAL RECORD.

ENGINEERS AND SUPERINTENDENTS, ETC.

AND THE

PRINCIPAL PUBLIC WORKS,

ON WHICH THEY HAVE REPORTED OR BEEN EMPLOYED,

CANADA,

1779 TO 1891.

BY

G. F. BAILLAIRGÉ

Deputy Minister of Public Works.

1891

(12)

98951

ENC

N.J.

627.041
B15

ALPHABETICAL RECORD.

—

ENGINEERS AND THEIR ASSISTANTS, ETC., EMPLOYED

ON

PUBLIC WORKS, CANADA,

1779 to 1891.

—

*N.B.—This Record does not contain the names of the Government Railway
Engineers.*

Em

Alli

Alm

And

Arm

L

Arm

Ast

Ath

Au

Ay

Ba

98951

ENGINEERS

Employed on Public Works, Canada, 1779 to 1891, so far as ascertained, exclusive of Railways.

Engineers.	Works.	Dates of Employment, &c.
Allison, J. C.....	Assistant Engineer, Harbours, Maritime Provinces. Resident Engineer, St. John, N.B.; Works and Surveys, King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg Counties, Nova Scotia	Oct., 1883-88. July, 1889-90.
Almoy, J.	Report on Saut-Ste-Marie Canal to Legislature, state of Michigan previous to <i>See</i> Report of Hon. H. H. Killaly	1847. 30th March, 1847.
Anderson, W. P.	Chief Engineer, Department of Marine and Fisheries. Member Canadian Society of Civil Engineers.	23rd Oct., 1874-91. 20th Jan'y, 1887.
Armstrong, Capt. Charles Logie.	Lake St. Peter, dredging, &c.	1857-67.
Arnoldi, John Roger.	Chief Mechanical Engineer. Superintendent dredge vessels and dredging, Ontario and Quebec Mechanical Engineer, Public Buildings, Ottawa. Member Canadian Society of Civil Engineers.	6th Dec., 1859. 1880-91. 7th July, 1883-91. 25th June, 1887.
Asterbrooks, Captain.	Engineer Royal Artillery, first attempt to place a cable for Suspension Bridge at Ottawa	1826.
Atherton, Charles.	Lake St. Peter, dredging, in charge of surveys and investigations Specification of dredge vessels, &c. Superintending Engineer, Lake St. Peter improvements.	1842-43. 9th Sept., 1842. Aug., 1843.
Austin, G. F.	Chantry Island breakwater, Lake Huron, &c. Harbour Surveys, Maritime Provinces River Ottawa bridge site survey at Portage du Fort, &c.	1875-82. 1883-84. 1885-86.
Aylmer, J. A.	Lachine Canal enlargement, engineering staff. St. Anne Lock do Resident Engineer, new locks and canals, River Trent—construction Member Canadian Society of Civil Engineers. A partner in the contracting firm of Manning & McDonald, Toronto.	July, 1873-79. do 1880-81. June, 1882-88. 20th Jan'y., 1887. 1888-91.
Baddeley, Capt. R. E.	Commissioner with Hon. John Macaulay, Surveyor General, and John S. Cartwright, under Act of Upper Canada Parliament, for ascertaining practicability of making a navigable communication between the Ottawa and Lake Huron. They reported to Sir George Arthur, subjoining thereto the report of David Taylor, David Thompson and William Hawkins, the persons they employed to survey the route. <i>See</i> subsequent reports on surveys by Walter Shanly and James Stewart, in 1857-58, and by Thomas C. Clarke, 1859-60. <i>See</i> Appendix 30, pages 837 to 847, by G. F. Bailairgé in General Report of Public Works, 1867-82.	4th March, 1837.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Baillaigé, Charles ...	Architect of numerous public buildings, churches, residences, mills, manufactories, &c. Architect and Engineer, Public Works, Quebec and Ottawa Architect of, and report on new gaol, Quebec. Joint Architect, Ottawa Parliament Buildings. Treatise on Geom., Trig., Rect. and Sp., with tables, &c., 900 pages. City Engineer, Quebec. New treatise on Stereometry. First medal of Society of Arts and Manufactures, Paris, and thirteen medals and seventeen diplomas awarded by France, United States, Russia, Spain, Italy, Japan, Brazil, Canada, &c. Princess Louise Docks, Quebec, plans submitted, &c. Inspecting Engineer North Shore Railway, Quebec to Montreal, and Piles Branch, River St. Maurice. Fellow Royal Canadian Academy of Arts. Fellow Royal Society of Canada. Member of Canadian Society of Civil Engineers. Inspecting Engineer of Quebec and Lake St. John Railway for Municipal Council of Quebec. Engineer of New Aqueduct, Quebec. Member of the Society of Sciences, Arts, Letters &c., London, Eng. Member of "l'Académie des Palmiers," France. Design for proposed London Tower, 1,600 feet high.	1840-60. 1860-63. 11th Feb., 1863. 1863-65. 1866. 6th Oct., 1866-91. 15th March, 1874 to 1884. 1874-76. 1875-81. 1880. 7th March, 1882. 3rd Feb., 1887. 1883-91. 1885-91. Dec., 1886. 12th May, 1889. 1890.
Baillaigé, George Fred. .	Canals, harbours, roads, Provinces of Quebec and Ontario. . First General Report on Public Works, with James Stewart, C. E. Laid out the first slides built on the River St. Maurice, at Grand-Mère and Shawenegan Falls. Surveys—Piers below Quebec, River l'Assomption, &c. Resident Engineer, Junction and Williamsburgh Canals. . Ordnance canals, survey and plans of hydraulic lots at Cascades, Split Rock, Cedars, and Côteau du Lac, with estimates. Chambly and Beauharnois Canals, surveys and claims. . Saguenay, Metapédic, Gaspe and Temiscouata Roads, &c. . Second General Report on Public Works. Cornwall, Beauharnois Canal weirs, &c. Channel sounded, River St. Lawrence, between Quebec and Montreal. Baie Verte Canal Survey, proposed route and design. . Location and design of lock, Lakes Muskoka and Rousseau. . Slides and booms, Rivers Saguenay, St. Maurice and Trent. . Assistant Chief Engineer Public Works, Canada. Proposed Cedars Canal and River St. Lawrence survey. . Fort Frances Lock, Rainy Lake, and survey harbour Works, Quebec. Superintending Engineer Canals, Province of Quebec. . Deputy Minister Public Works, Canada. Third General Report on Public Works. Classified collections of specifications of the Public Works of Canada, chiefly from. New Map of Canada, and Book of Reference containing Historical Synopsis—showing its resources, climate, &c., &c., and comprising the various Arctic discoveries up to. Member of Council, Canadian Society of Civil Engineers. .	22nd Scpt., 1844. Up to 1849. Sept.-Oct., 1852. 1846-1853. 1853-1856. 1857. 1849-1864. 1858 to 1866. 1st July, 1867. 1856-1870. 1863-1869. Aug., 1870-73. June, July, 1866. 1863-78. 5th July, 1871-79. 1872-73, 1875-76. 1875-76. 22nd June, 1877-79. 4th Oct., 1879-91. 1867-82. 1841 to 1890. 1890-91. 1889-90.
Bailey, C. E.	From Kingston, Ontario, Provincial Engineer, P.E.I. Died 1882. No successor appointed.	1877 to 1882.
Baird, N. H.	Engineering Staff, Rideau Canal. Member of Institute of Civil Engineers, England.	1828-32. 1831.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Baird, N. H.	Projected Murray Canal, Lake Ontario. Report on Beauharnois Canal project. do on River Trent navigation and Sup. Eng. of Works. Locks 134 by 33 feet; 5 feet water on sills. Work commenced 1837, and completed chiefly in 1844. do on Welland Canal enlargement. Work commenced 30th November, 1824. Canal first opened 30th November, 1829. Original wooden locks 110 by 22 feet, with 7½ feet of water on sills.	1833. 1835. 1833-43. 1837.
	Reports on Roads and Bridges, Eastern Townships, P.Q. Died, Aug., 1849, at Brattleboro', Vt.	1846-47-48.
Barclay, E. J.	Engineering Staff, St. Peter's Canal enlargement, Cape Breton	1875-81.
Barrett, Alfred.	Resident Superintending Engineer, Welland Canal. Report Burlington Bay Canal Report on inland navigation between Lakes St. Francis and Ontario, also on Rapide Plat Canal project Grand River Navigation—Report Lachine Canal, 1st enlargement, and St. Ours lock and dam, &c. Assistant Principal Engineer, locating Welland Canal Surveys, River St. Charles and bridges, River Ottawa, at Vaudreuil, &c. Died, 18th July, 1849, at Montreal.	10th May, 1826. 1826. 1830. 7th Oct., 1843. 1841. 1842-43. 1843-48.
Barry, P. J. S.	Royal Engineer Corps. Report and estimate proposed St. Peter's Canal, Cape Breton, N.S. Canal commenced by Nova Scotia Government. do completed by Dominion Government. This canal connects Great Bras-d'Or Lake and St. Peter's Bay, on the Atlantic. It is 2,400 feet in length, and has 1 tidal lock of 200 × 49½ × 18 feet depth of water on sills of lock, which has 4 gates. It was enlarged by Dominion Government, 1875 to Cost of construction \$ 156,523 32, to Cost of completion and enlargement 496,797 80, to Total \$653,321 12 (See General Report, Public Works, 1867-82.) \$677,267.27 was the total expenditure on this work to	31st Aug., 1853. 1854. 5th Aug., 1869. 30th April, 1881. 30th June, 1867. 30th June, 1882.
Bayfield, Admiral Henry W., R.N.	In charge of the Admiralty Survey of the River and Gulf of St. Lawrence. Made reports respecting the deepening of Lake St. Peter.	1817-60. 1831-35-46.
Beaudry, J. A. U.	Engineering Staff, Public Works, harbour surveys, P.Q. Member Canadian Society Civil Engineers.	1883. 20th Jan., 1887.
Beckwith, Adolphus G.	Engineer, Department Public Works, N.B. City Engineer, Fredericton, N.B. Provincial Engineer, New Brunswick Member Canadian Society Civil Engineers.	1872-91. 1872-91. 1881-91. 20th Jan., 1887.
Bélanger, Ernest.	Assistant Engineer, harbour surveys, P.Q.	1884-89.
Belcher, A. J.	Assistant Engineer, new canal works, River Trent.	1882-88.
Belcher, Thos. Deaves.	Superintending Engineer, River Trent, canals, locks, slides, dams and booms, from Trenton, Lake Ontario, up to Lake Scugog.	July, 1873, to 1884.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Bell, Andrew	Engineer.—Survey Carillon and Grenville Canals Enl. . . New Carillon Canal on north side, also new slide on south side of the River Ottawa, and dam across the River Ottawa, Resident Engineer	June, 1870-72. June, 1872, to Nov. '85 1885-1891.
Bell, Capt.	Superintending dredging ship channel, Lake St. Peter . . . Died fall of 1856.	1852-56.
Bellingham, A.	Assistant Resident Engineer, Lachine Canal, third enlarge- ment, upper division	1873 to 1878. Left service 1st October, 1878.
Bent, Capt., R. E.	Survey and Report Navigation St. John River, N.B.	1850.
Bender, E. P.	Engineering Staff, Public Works, harbours, Province of Quebec, &c.	1880 to 1887.
Bennett, William.	Resident Engineer, Esquimalt Graving Dock, Vancouver Island, British Columbia.	1st Sept., 1883, to Jan., 1888.
Berlinguet, F. X.	Member Canadian Society of Civil Engineers.	24th Feb., 1887.
Berlinguet, Thos.	Plans, specifications and estimates, Quebec Harbour Works First employed on survey Princess Louise Docks at Quebec. Survey, Harbour of Three River, &c., P.Q.	15th Dec., 1874. 1875-76. 1881-82.
	Assistant, Hydrographic Survey, Pointe aux Trembles to Cap Charles	July, 1883.
	Resident Engineer, River St. Maurice, and Engineer Har- bour Commissioners, Three Rivers, &c.	1884-89.
	Engineer in charge, lock and dam, River Yamaska, and various works at Sorel, River St. Francis, River Ni- colet, and the St. Maurice Works.	1888-91.
	Member Canadian Society of Civil Engineers.	24th Feb., 1887.
Bertrand, Joseph Têtu .	Engineering Staff, Public Works, Ottawa, and harbour surveys, &c.	1884-89.
	Assistant Engineer, Lévis Railway.	1886-87.
	Student Canadian Society of Civil Engineers.	20th Jan., 1887.
	Assistant Engineer Surveys, Public Works.	1889.
Bertrand, L. N.	Engineering Staff, Public Works, surveys, Quebec and Ontario	1884.
Billyard, W.	Assistant Engineer, Sarnia and Brantford Road, etc.	1843.
Blanchet	do do Chambly Canal.	1843-49.
Boivin, Elzéar	Harbour Survey, S.W. side, Lake St. John, P.Q.	1889.
Bolton, Capt. Daniel, R.E.	District Engineer, Rideau Canal (Bytown District) Report on tolls, Chaudière Bridge. Description of dam at Long Island, on the Rideau Canal, built in 1836. Was Major in 1839.	1832-35. 1833. 1839.
Bonnycastle, Capt. R.H. R.E.	Report on preservation of York harbour (Toronto)	14th Jan., 1854.
Boswell, St. G.	Engineering Staff, Graving dock at Lévis, and Princess Louise Basins, at Quebec. Member of Council, Canadian Society of Civil Engineers. . Resident Engineer, Quebec Harbour Works	1876-88. 1889. 1889-91.
Boulay, Philéas.	Engineering Staff, canals, &c. Assistant, Cedars' Canal survey. Lachine Canal enlargement. At head-quarters, Department Railways and Canals, &c. . Died, 16th January, 1890.	15th March, 1870-71. 1872-76. 1877-80. 1880-89.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Boxer, Capt., R. E.	Commander of H.M.S. "Hussar," surveying Gulf of St. Lawrence..... Survey and chart of River St. Lawrence—Report on St. Lawrence canals Report on Beauharnois Canal	1829. 1844. 4th June, 1845.
Boyd, John Edward ...	Resident Engineer, European and North American Railway, by Government of New Brunswick..... Chief Engineer and General Superintendent of E. and N.A. Railway..... Assistant Engineer, Department Public Works, Ottawa... Chief Engineer of Government Railways, Prince Edward Island, for Provincial Government..... Survey and report on navigation of River St. John, N.B.. Resident Engineer, North Shore Railway, by Government of Quebec	1856-60. Dec., 1860-67. 1st Sept., 1867-71. 10th May, 1871-75. 16th Nov., 1870. 1876 and 1879. May, 1880, to June, 1881. 1881-83. Sept., 1883, to Nov., 1887. Died at Quebec and interred at Ottawa, Nov., 1887.
Breen, Thomas	Engineering Staff, and afterwards in charge of various Public Works, harbours, &c., Province of Quebec..... Member Canadian Society of Civil Engineers.....	1882-91. 25th June, 1887.
Brophy, G. Patrick.....	Engineering Staff, Public Works..... Assistant Superintending Engineer, Ottawa River works.. Superintending Engineer do do	July, 1867. 1st July, 1873. 1st July, 1876-91.
Brophy, John Byrne....	J. B. Brophy acted as Superintendent, 1st July, 1879, to 1880, during absence of G. P. B., on C. P. R. Assistant Superintending Engineer, Ottawa slides and booms..... Superintending Engineer, Ottawa Slides and Booms	1st Jan., 1876. 1st April, 1879. 1st April, 1880. 28th June, 1886.
Brotherton, A. S.....	Resident Engineer on C. P. R. Railway..... Divisional Engineer, Cape Breton Railway.....	1881-82.
Brown, Edward.....	Engineering Staff, Public Works, harbour surveys, &c., below Quebec.....	1881-82.
Browne, Edward.....	Report on back-waters, Newcastle District	18th Feb., 1858.
Browne, J. V.....	Engineer for Contractors, Quebec Harbour Works	1875.
Brown, Gustavus A.....	Assistant Engineer, Public Works, Maritime Provinces... Resident Engineer, St. John, N.B., Public Works and surveys, Prince Edward Island, and the Counties of Cumberland, Colchester, Hants and Halifax, Nova Scotia.....	1st July, 1872-83. July, 1888-91.
Bruyères, Capt., R. E. ...	Report on claim in connection with Saut-St.-Marie Canal constructed on Canadian territory prior to 1802, by Messrs. McTavish, Frobisher & Co., on behalf of the "North-West Fur Trading Company"..... This claim was made by Messrs. Forsyth, Richardson & Co., and by Messrs. Parker, Gerrard, O'Gilvy & Co., of Montreal, 15th April, 1802, and by John Mure, of Quebec, 17th April, 1802. Report on progress of new canal at Cascades, to replace the two first canals built, on the same peninsula, between 1779 and 1783..... See Report Canadian Archives, by Douglas Brynner, Ottawa..... See By, Clarke, Donatti, Finlay, Mann, King and Twiss, herein.....	Prior to 23rd Dec., 1803. 16th Jan. 1805. 1886.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Buchanan, W. O.	Assistant Engineer Welland Canal	1843.
Buck, Walter M.	Provincial Engineer, Province of New Brunswick..... Engineer, Miramichi Section, I. C. R.	Prior to 1881. do 1876.
Burnett, Thomas.	British Engineer, made survey and plans of Lachine Canal. Superintending Engineer, Lachine Canal Works..... Canal commenced, 17th July, 1821. do opened in August, 1824. Depth, $4\frac{1}{2}$ feet water on lock sills. Stone locks, 100 by 20 feet	Spring of 1820. 1821-26.
Burwell	Survey of Goderich Harbour.....	1827.
By, Lieut.-Col., R.E.	Report on Cascades, Mill Rapids and Split Rock Canals... Superintending Engineer of Rideau Canal, Bytown (Ottawa) to Kingston..... Rideau Canal, commenced. Report on Canadian canals and defences of Canada..... do on the Rideau Canal..... First steamboat "The Pumper" passed through the Rideau Canal..... Rideau Canal completed..... 126 $\frac{1}{2}$ miles long, with 47 locks of 134 by 33 feet, and 5 feet water on sills of locks. Total ascent from Ottawa to Upper Rideau Lake, 292 feet 3 inches. Total descent from Upper Rideau Lake to King- ston, 165 feet 4 inches. Ottawa River, below Lake Ontario, per Royal Engineers, 128 feet 11 inches. Ottawa River, above the sea, 110 feet. Total cost of Rideau Canal to the British Govern- ment, according to Ordnance documents, in- cluding cost of land and pay of establishment, \$3,911,701.47.	24th April, 1805. Sept., 1826. 21st Sept., 1826. 1826. 6th July, 1827. 29th May, 1832. Aug., 1832.
	The Rideau Canal was under the superintendence of the following Royal Engineers, until it was transferred by the Imperial to the Canadian Government, viz. —	
	Major Bolton, Lieut.-Col. Thompson, Capt. Charles E. Ford, Lieut.-Col. Chater and Mr. Harvey.	1832 to 1857.
	The management of the Ottawa and Rideau Canals was transferred to the Department of Public Works by an Order in Council.	3rd March, 1857.
	J. S. Killaly, first Superintending Engineer, appointed by Canadian Government.	1857 to 1858.
	J. D. Slater, second Superintending Engineer, appointed by Canadian Government.	Oct., 1858 to Oct., 1872
	F. A. Wise, third Superintending Engineer, appointed by Canadian Government.	Oct. 1872-1891.
Carroll, Cyrus	Engineer on Staff, Public Works, harbours, Ontario.	1884-1886.
Cartwright, John S., R.E.	Commissioner with Hon. John Macaulay, Surveyor General of Upper Canada, and Capt. Baddeley, R.E., for ascertaining practicability of a navigable route between the Ottawa and Lake Huron..... See Baddeley, Hawkins, Macaulay, Taylor, Thomp- son, according to an Act of the Parliament of Upper Canada, of 4th March, 1837. See App. 30, pp. 837 to 847, by G. F. B., Public Works Report, 1867-82.	1837.
Casey, W. R.	Sub-Engineer on the Germantown and Philadelphia Rail- way and on the New York Crofton Water Works..... Assistant Engineer on the Long Island Railway, N.Y..... do Chamby Canal	Prior to 1834 do 1834.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Casey, W. R.	<p style="text-align: center;"><i>St. John's</i></p> Chief Engineer of Railway, St. John to Laprairie, from its commencement to its completion This was the first narrow-gauge railway constructed in Canada; its rails were of flat iron; passenger cars resembled those now used, but shorter and narrower. Made numerous surveys, both as Assistant and Chief Engineer, in various parts of Upper and Lower Canada and several of the United States Cedars Canal route proposed on north side of River St. Lawrence. Plan, profile and estimate	1834-36. Prior to 1842. 1842.
Chaloner, Charles E.	Public Works, surveys, Manitoba and North-West Territories, &c. Assistant of R. Steckel, Geodetic survey, River St. Lawrence, between Montreal and Quebec, and River Richelieu, &c., and in Office at Ottawa Member Canadian Society of Civil Engineers.	1882-83. 1884-91. 24th Feb., 1887.
Champion, A. J.	Engineering Staff, Public Works, Maritime Provinces.	1873-74.
Charbonneau, Maxime.	Engineering Staff, Public Works, Manitoba and North-West Territories, River North Saskatchewan. Died February, 1887.	1885-86.
Chater, Lieut.-Col.	Royal Engineer, succeeded Capt. Chas. E. Ford, R. E., as Superintending Engineer of Rideau Canal, under Imperial Government.	
Childe, Capt. John.	Member of Board of Examiners appointed to report on increased accommodation in the Harbour of Montreal and Navigation of the St. Lawrence, &c. Died February, 1858. <i>See Kirkwood and McAlpine.</i>	9th Nov., 1857.
Cimon, Simon.	Engineering Staff, Public Works, harbours, Quebec. Resigned 11th Aug., 1887. Elected member for Charlevoix for House of Commons, 28th Sept., 1887. Member Canadian Society of Civil Engineers.	1881-87. 20th Jan., 1887.
Clark, C.	Engineering Staff, New Canal Works, River Trent.	1882 to 1886.
Clarke, Isaac Winslow.	Deputy Commissary General. Superintendent, Cascades, Split Rock and Côteau du Lac Ordnance canals. Died 7th July, 1822. For details respecting these works, see Col. Gother, Mann and Lieut. Col. John By, &c., also General Report on Public Works, 1867. These canals were not built under the French, as stated according to tradition at that time.	1809-22.
Clarke, Thomas C.	Ottawa River navigation to Lake Huron, survey. Report on projected ship canal.	1859. 2nd Jan., 1860.
Cliff, John.	Superintendent Harbour Works, Montreal.	1832 to 1845.
Clowes, Samuel.	Rideau Canal, proposed works. Welland Canal do Galops, Rapide Plat, Farran's Point and Cornwall Canals, General Report and Estimates submitted.	1823. 1824. 1826.
Clowes, James.	Survey and Report on Welland Canal. do Rideau do	10th Aug., 1824. Sept., 1824.
Cole, Capt., R. E.	<p style="text-align: center;"><i>at Cornwall</i></p> Consulting Engineer, Cornwall Canal construction. Canal commenced in 1835, opened December, 1842, completed June, 1843.	1833.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Cole, Major P., R. E.	Report on causes of floods, River St. Lawrence, Montreal.	29th June, 1841.
Conway, John	Engineering Staff, Lachine Canal enlargement	1871-83.
	Assistant Engineer, St. Gabriel Basin, L.C.	1883-86.
	Engineer, electric light apparatus, Lachine Canal, Montreal.	1886-91.
Cornell, J.	Engineering Staff, Public Works, at Montreal, Lachine Canal enlargement.	1843-47.
Coste, Louis	Engineering Staff, Public Works, Harbours, &c., Prov. Ontario, Quebec and Manitoba.	1884-91.
	Acting for Chief Engineer, Public Works, Canada.	1890.
	Member Institution of Civil Engineers, Great Britain.	6th Feb., 1883.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Coutlée, Chas. R. F.	Graduated at Royal Military College, Kingston, Ontario.	June, 1886.
	Engineering Staff, Canadian Pacific Railway.	Oct., 1886, to Feb., 1887.
	Engineering Staff, International Railway. Short Line of C.P.R. from Montreal to Province Line, thence across State of Maine to New Brunswick.	May, 1887, to Oct., 1888.
	Engineering Staff, projected canal, Lake St. Francis to Lake St. Louis.	1st May, 1889-91.
	Student Canadian Society of Civil Engineers.	22nd March, 1888.
Cowley, J. G.	Sub. Assistant Engineer, Beauharnois Canal.	1843.
Crawford, William.	Survey, Beauharnois Canal, enlargement projected.	1872 to 1876.
	Assistant Engineer, Welland Canal, deepening to 14 feet.	1st June, 1886, to 1st August, 1887.
	Chief Asst. Resid. Eng. Saut-Ste.-Marie Canal, Canada. First survey made in 1852, by S. Keefer, Chief Engineer of Public Works.	August, 1887-91.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Crawley, Capt. H. O., R.E.	Reports on Baie Verte Canal project, to unite the Bay of Fundy with the Gulf of St. Lawrence.	19th Jan., 1843, and 14th and 19th Mar., 1843.
Cull, James.	Superintendent Yonge Street ^{and Toronto} Macadamised Road, Toronto	1836.
	Assistant Engineer, Sarnia and Brantford Roads, &c.	1843.
Cunningham, Granville C.	Resident Engineer, Prince Edward Island Railways, Assistant Engineer in charge of harbours, &c., Prince Edward Island, for Public Works Department.	April, 1875 to 1878.
	Member of Council Canadian Society of Civil Engineers.	1889.
Curran, Veysie	Assistant Resident Engineer, Southern Division, Welland Canal enlargement.	Nov., 1873, to 1st Jan., 1889.
	Asst. Resident Engineer, Saut-Ste.-Marie Canal, Canada.	1st March, 1889-91.
Cusack, Rheddy	Late Assistant Engineer to the Right Hon. the Director-General of Inland Navigation, Ireland. Surveys of Ottawa River and Welland Canal.	1824-27.
D'Amours, J. W.	Engineering Staff, Public Works, British Columbia, Victoria, &c. Survey mouth of Fraser River, British Columbia.	1885.
Dawson, Simon J.	River St. Maurice, slides and booms.	1852-57.
	Route Lake Superior to Fort Garry, survey commenced. Work commenced.	1857.
	Col. Wolsley and troops passed.	1857.
	Work completed for passage of immigrants.	1871.
	Member of the House of Commons for Algoma.	1878-91.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Deniel, Emile.....	Grenville Canal enlargement..... Panama Canal, Central America.....	Sept., '72, to Feb. '87. Jan., Feb., March, 1888.
	Chief Assistant of Thos. Monro,—examination of projected canal routes, Lake St. Francis to Lake St. Louis.....	1889-91.
	Member Canadian Society of Civil Engineers.....	20th Jan., 1887.
Denison, Lieut. W., R.E.	Description of Rideau Canal dams, locks, &c., and of bridges across the River Ottawa.....	1839.
Dérome, J. B.....	Piers, &c., Province of Quebec, Public Works Department	10th July, 1864.
Derbshire, Stewart.....	Engineering Staff, employed on harbours and roads.....	1873-77.
Desbarats, G. J.....	Carillon New Canal, slide and dam, River Ottawa..... Ste. Anne Lock, etc..... Headquarters, Depart. of Railways and Canals, Ottawa..	Aug., 1879-83. 1883-85 Jan., 1885-91.
Des Brisay, L. P. W....	Engineering Staff, Public Works, Calgary, Bow River bridge	18th March, 1887, to 30th April, 1888.
Desjardins, C.....	On survey ship channel between St. Roch and Ile aux Coudres..	1881.
Dickinson, John.....	Appointed Commissioner to enquire into cause of floods between Montreal and Quebec.....	4th Oct., 1873.
Dickinson, Jos. E., M.A., Trinity College, Dublin	Assistant Engineer, Northern Division, Welland Canal, 2nd enlargement..... Died in Europe.	15th July, 1874, to 30th Dec., 1879.
Dixon, G. G.....	Assistant Engineer St. Lawrence Canals.....	1843.
Donatti, L.....	Deputy Assistant Commissary General. Superintendent, Cascades, Split Rock and Côteau du Lac Ordnance Canals..... For details, see Bruyères, By, Clarke, Mann, Twiss, &c.....	July, 1820.
Doré, J. E.....	Engineering staff, canals, &c., P. Q..... St. Zotique road dyke, protection wall on north shore of Lake St. Francis..... Left service.....	1884-86. 1884-85. 1st Jan., 1886.
Douglas, Robert C.	Engineering Staff, Ottawa—canals, &c.....	July, 1872-91.
Drummond, —, R.E.....	Superintending Engineer, first Suspension bridge, Ottawa.	1826.
Duburger, C. C.....	Assistant Engineer, Public Works, harbour surveys, north shore River St. Lawrence, below Quebec.....	1881.
Duchesneau, A.....	Engineering Staff, Lachine Canal enlargement, &c., Montreal Division..... Superintending Engineer's office, Montreal.....	July, 1873-81. Nov., 1881-91.
Dumais, Horace.....	Harbour surveys, Lake St. John.....	1889-90.
Durnford, Elias Walker, Col., R. E.....	Lt.-Col., 1817-28; Col., 1828. Commanded R. Engineers on Ordnance Canals in Canada. Succeeded by Gustavus Nicolls.....	1827-31. July, 1831.
DuVernet, Lieut.-Col. Henry.....	Royal Staff Corps, Imperial Government..... Capt., 1820; Major, 1827, and Lieut.-Col..... General Superintending Engineer, construction of Grenville Canal, &c., under Imperial Government..... Report on Grenville Canal..... Report on Chute à Blondeau and Carillon Canals.....	1833. 1819-29. 20th Nov., 1820. 26th Dec., 1827.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
DuVernet, Lieut. - Col. Henry	<p>Grenville Canal, etc.....</p> <p>Left Canada.....</p> <p>The Grenville, Chute à Blondeau and Carillon Canals, on the north side of the River Ottawa, were designed and constructed by the Royal Staff Corps of Engineers for the Imperial Government. The records respecting these canals were kept in the Ordnance Office at Montreal, and were destroyed by fire in 1852. It appears, however, that the "Grenville Canal" was completed in 1829, the "Chute à Blondeau" in 1832, and the "Carillon" in 1833, and that on the 24th of April, 1834, they were opened, and the steamer "St. Andrew" made the first passage through them.</p> <p>These old canals were 8 miles in length, with 11 locks of 107 to 130½ feet, by 32 to 33 feet and 6 feet depth of water on sills of locks. Cost not ascertained.</p> <p>They were placed under control of Department of Public Works, Canada, 3rd March, 1857.</p> <p>They have since been enlarged, and are now 6½ miles in length, with 7 locks of 200 by 45 feet and 9 feet depth of water on lock sills.</p> <p>The enlargement was commenced in 1871 and completed 27th May, 1882.</p> <p>Cost of enlargement, up to 30th June, 1882, \$975,142.54.</p> <p>Report and estimates, proposed canal and lock at Ste. Anne, north side of River Ottawa, instead of old wooden lock between Ile Ferrot and Vaudreuil, built in 1816 by the St. Andrew's Steam Forwarding Company, for steamers of 20 horse power</p>	<p>1827-33. 1834.</p> <p>13th Dec., 1831.</p>
Eads, Jas. B., U.S.	Report on Toronto Harbour proposed improvements	14th March, 1882.
Elliot, Geo. Augustus ...	Arbitrator Rideau Canal Claims	15th Aug., 1833.
Elliot, J. S.	Resigned	1st Dec., 1834.
Elliot, J. S.	Ordnance Commissioner; negotiated purchase of lands for Rideau Canal prior to.....	1826.
Fafard, Eugène.....	Engineering Staff, Public Works, surveys, P.Q.....	1888-90.
Fafard, F. X	do do do	1881.
Faga, J. M.	do do do Ontario....	Sept., 1874-80.
Fairbanks, Charles Wm.	<p>Born at Halifax, N.S.</p> <p>Educated at King's College, Windsor, N.S.</p> <p>Entered office of Sir John McNeil, C.E., England.....</p> <p>Projected Halifax Waterworks.....</p> <p>Superintending Engineer—construction Halifax Waterworks</p> <p>Halifax waterworks commenced.....</p> <p>Water reached North-West Arm.....</p> <p>do used in the city, summer of</p> <p>Superintending Engineer—Shubenacadie (Chikabekakady) Canal.....</p> <p>Survey and Report on projected Canal, St. Peters, C.B.</p> <p>Consulting Engineer, waterworks, Charlottetown, P.E.I.</p> <p>Report on Tracadie Harbour to Government of N.S.</p> <p>do projected railways, N.S.....</p> <p>do plans and estimates, waterworks, St. John, N.B.</p> <p>Died at Halifax, N.S.</p>	<p>4th Dec., 1821.</p> <p>1840.</p> <p>1843.</p> <p>1845-1848.</p> <p>July, 1845.</p> <p>Nov., 1847.</p> <p>1848.</p> <p>1847-1858.</p> <p>1850-52.</p> <p>1850.</p> <p>1851.</p> <p>5th Nov., 1851.</p> <p>1851.</p> <p>11th January, 1885.</p>

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Work.	Dates of Employment, &c.
Fanshaw, Col., R. E....	Commissioner Rideau Canal.....	1828.
Farijana, F. C.....	Proposed Cedars Canal survey on north shore of River St. Lawrence House Harbour, Magdalen Islands, Gulf of St. Lawrence.. Harbours, Ontario, &c..... Died, May, 1882.	1872-73. 1874-75. 1875-81.
Faulkner, William.....	Assistant of C. W. Fairbanks on surveys projected rail-ways, N.S..... Report to Govt. of Nova Scotia on Shubenacadie (Chikabekakady) Canal.....	2nd June, 1851. 15th Dec., 1852.
Fellowes, Charles L....	Served on examination of part of Dawson Route..... Engineering Staff, surveys, &c., Welland Canal, 2nd enlargement..... Assistant Engineer, north division, Welland Canal, 2nd enlargement.....	1869. 1870-76. 1st July, 1876, to 30th May, 1882.
Finlay, John.....	Deputy Assistant Commissary General..... Superintendent Division Rideau Canal..... do St. Lawrence Canals, built by Imp. Govt.. Gives length and number of locks, &c., of the Cascades, Split Rock and Côteau du Lac Canals in a letter dated. See Canadian Archives, under D. Brymner's custody, at Ottawa, page 121, vol. 47.	1827. 1825 to 1829. 7th June, 1828.
Fleming, Peter.....	Recommends dredging River Richelieu so as to avoid building lock and dam at St. Ours..... Dredging of River Richelieu commenced..... Consulting Engineer, Williamsburgh and Cornwall Canals. Engineer employed by Commissioners of Chambly Canal.. These Commissioners were appointed by Act, 3rd Geo. IV, Cap. 41:—Samuel Hatt, W. Macrae, Gabriel Marchand, R. Boileau, Timothée Fracœur, 1829. Survey, plans and estimates submitted to Commissioners.. Probable cost estimated at £54,167 6 0..... This estimate submitted to an officer of the Royal Engineers, who reported thereon at the instance of Sir James Kempt, and estimated the probable cost at £96,745. This last estimate was submitted to Messrs. Hanlon and Hopkins, Civil Engineers, who estimated the probable cost at £60,300. Canal commenced..... Canal opened throughout, in the spring of..... Length, 12 miles; 9 locks, 118 to 125 by 23½ to 23 feet, with 7 feet depth of water on sills; breadth of canal, at bottom, 36 feet, at top, 60. In 1840, the total cost was estimated at \$404,000. The total cost of the works, from their commencement to the 30th June, 1867, including improvements, was \$634,711.76. The original estimate was based on locks 100 by 20 feet, with 5 feet of water on sills of locks.	1829. 1830-31. 1834. 1830. Oct., 1831. 1843.
Folsom, C. W.....	Engineer in charge of construction, St. Peter's Canal, Cape Breton, N.S.....	1854.
Forbes, W. B., Dep. Com. Gen.....	Superintendent St. Lawrence Canals, built by Imp. Govt } At Cascades, Split Rock, Côteau du Lac, etc..... }	1830 to 15 June 1847.
Ford, Capt. Chas. E., R. E.	Superintending Engineer, Grenville Canal..... Succeeded Lieut. Col. Thompson, R. E., as Superintending Engineer of the Rideau Canal, under Imperial Government. Left Canada.....	1846. 1853

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Forsyth, Robert	Superintending Engineer, Montreal Harbour and Ship Channel Improvement, River St. Lawrence, Montreal to Quebec.....	1855 to 1864.
Foulis, Robert....	Report on River St. John, from Fredericton to Grand Falls, New Brunswick.....	21st Aug., 1826.
Fraser Cecil	Assistant Engineer, Quebec Harbour Works.....	1875-82.
French, J. Barnard.....	Welland Canal Staff, north division, 2nd enlargement.	1876.
Frome, Lt. E. G., R.E..	Description of Rideau Canal and Chaudière bridge.....	28th Feb., 1837.
Gallwey, W. B.	Preliminary surveys, maps, profiles of projected Chats Canal, between Lake Chaudière and Lake des Chats, River Ottawa, 33 miles above the City of Ottawa..... See Report of John Page, Chief Engineer of Public Works, dated Quebec, 30th March, 1854. Work commenced by A. P. McDonald and F. Schram, contractors..... Unfinished since work was suspended..... Canal 2'83 miles long, designed with 6 locks, of 190 by 45 feet each, with 7 feet of water on the sills and a total lockage of 49'80 feet. Total expenditure, chiefly on rock excavation and preparing stone for locks, \$482,950.81, up to... See page 481, App. 30, by G. F. B., Public Works Report, 1867-82.	1852 to 1854. Aug., 1854. 15th Nov., 1856. 1st July, 1867.
Gamble, F. C.....	Assistant Engineer, Public Works, British Columbia..... do in charge of Public Works, British Columbia..... Member of Canadian Society of Civil Engineers..... Resident Engineer and Agent, Public Works Department, British Columbia.....	1st May, 1881-86. 1st Jan., 1886-88. 20th Jan., 1887. 1st Jan., 1888-91.
Gamble, S.....	Report on projected Caughnawaga Canal, between River St. Lawrence and Lake Champlain.....	1855-56.
Garon, L.	Assistant Engineer, Public Works, harbour surveys, Ontario	1880-81.
Gaudet, J. F.	Engineering Staff on survey, Dawson Route, from Thunder Bay, Lake Superior, to Fort Garry, Manitoba, 451 miles	1857-59.
Gauvreau, Pierre.....	Engineering and Architect staff, Province of Quebec, Public Works Department..... Subsequently employed by Provincial Government of Quebec until his decease, on the 16th May, 1884, at the age of 71.	1850-67.
Geddes, —.....	Consulting Engineer with Capt. Cole, R.E., and Fleming, Williamsburgh and Cornwall Canals.....	1834.
Gibbs, Alexander..	Assistant Superintending Engineer, Lachine Canal.....	1823.
Gisborne, F. N.....	Superintendent Government Telegraphs, Nova Scotia..... Laid Prince Edward Island Cable..... Superintendent Government Telegraph and Signal Service, Canada..... Laid Gulf of St. Lawrence and Bay of Fundy Cables..... Laid British Columbia Cables..... Mining Engineer and Electrician, &c..... Fellow Royal Society, Canada..... Member of Council Canadian Society of Civil Engineers...	1848-51. 1852. 1st May, 1879-91. 1880. 1881-84. 1882. 1888-89.
Gisborne, Hartley.....	Government Telegraph Constructing Engineer, British Columbia, &c..... District Superintendent Government Telegraphs, North-West Territories..... Associate member Canadian Society of Civil Engineers.... Located at Fort Qu'Appelle Telegraph Station.....	1880-82. 1st Oct., 1882-91. 9th June, 1887. 1889-91.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Gordon, Lieut., R.E.	Engineering Staff, Grenville Canal	1844.
Gore, T. S.	Assistant Engineer, Sarnia and Brantford Roads, &c.	1819.
Gourlay, Robert	His views respecting Cornwall and Welland proposed canals, and improvement of the River St. Lawrence "Statistical Account of Canada," with map, published in London, England Died in Edinburgh, Scotland, August, 1863.	1822.
Gouin, W. F.	Engineering Staff, Public Works, Ontario, Manitoba and North-West Territories	1884-91.
Grant, M.	Survey and Report on Navigation, St. John River, N.B. Commissioner in charge of works, St. John River, N.B.	1850. 1850-51-52.
Gregory, Charles Currie, C.E.	Assistant Engineer, Sarnia Branch Great Western Railway do European & North-Western—now Intercolonial Railway—Upper Salisbury Division Engineer, City of Fredericton, N.B. European & North American Railway. In charge Eastern Division Preliminary location, Carleton Branch Railway Chief Eng., for contractors, Prince Edward Island Railway Engineer in charge of alternative surveys North Shore Railway, Quebec Chief Engineer Eastern Extension, Nova Scotia Arbitrator in case—Canadian Pacific Ry. vs. The Queen	1857-59. 1859 to 1861. 1862 to 1867. 1867 to 1869. 1870. 1871 to 1875. 1876. 1876 to 1878. 1889-90.
Gray, Henry A.	Assistant Engineer, Intercolonial Railway do Public Works Department Examination and report, Neebish Rapids channel, Lake Huron Engineer in charge of harbours, Western Ontario Examination and report, Rideau River flood and proposed outlet by canal Assistant to Chief Engineer, Public Works, at Ottawa Examination and report on saw-dust obstructions, River Ottawa Resident Superintending Engineer, Public Works, Maritime Provinces Engineer in charge of harbours, Western Ontario Member Canadian Society of Civil Engineers	1867-74. 1878-80. 1880. 1881 to 1886. 1886. 1886 to 1888. 11th May, 1888. Aug., 1888-89. 1st July, 1889-91. 20th Jan., 1887.
Greene, D. M.—U.S.	Report on saw-dust in navigable streams	10th March, 1871.
Greenwood, H.	Engineering Staff, New Canal Works, River Trent	1883 to 1887.
Grondin, A. L.	Engineering Staff, Public Works, harbour surveys, north shore of River St. Lawrence	1883.
Guay, J. F.	Mechanical Engineer, Altoona Shops, Pennsylvania Railway, U.S. Assistant Engineer, North Shore Railway, Quebec to Montreal Engineer in charge of location and construction of Quebec and Lake St. John Railway Survey of projected railway from St. Alphonse, Baie des Ha! Ha!, River Saguenay, to Lake St. John Survey and plans for water works at Fraserville, Rivière du Loup Survey and plans for water works at Chicoutimi, River Saguenay Engineer in charge of construction, Montmorency and Charlevoix Railway, Quebec to Ste. Anne de Beaupré Engineer in charge of surveys for projected works, Lake St. John, Upper Ottawa, &c. Associate Member Canadian Society of Civil Engineers	1873 to 1878. 1878-79. 1880-87. 1882. 1885. 1887. 1887 to July, 1889. 1889-91. 25th June, 1887.

ENGINEERS Employed on Public Works, Canada--Continued.

Engineers	Works.	Dates of Employment, &c.
Guerin, Thomas.....	Engineering Staff, Head-quarters, Public Works..... Previously Professor Civil Engineering at McGill University, Montreal. Assistant Engineer of G. F. Baillairgé on Baie Verte Canal survey..... Hydraulic surveys, Montreal, Ottawa, Chaudière Falls and Manitoba, &c..... Member Canadian Society of Civil Engineers..... Died suddenly in his office at Ottawa, 7th May, 1887.	1st Sept., 1864-69. 1870 to 1873. 1883-87. 20th Jan., 1887.
Guy, A.	Sub-Assistant Engineer, Beauharnois Canal	1843.
Gzowski, Col. C. S.	Graduate of Engineering Military School of Krzemieniec, Russia. Engineer on the Pennsylvanian Canals, Lake Erie division, and on the construction of a portion of the New York and Erie Railway, terminating at Dunkirk, Lake Erie, U.S..... Superintending Engineer, roads, harbours, &c., Western Ontario..... Report on Burlington Bay Canal..... Chief Engineer, St. Lawrence and Atlantic Railway..... Consulting Engineer do do do do do harbour and works, at Montreal..... do do ship channel improvement between Montreal and Quebec..... Canal Commission, projected enlargement, &c..... International Bridge across the Niagara..... Report on proposed enlargement Welland Canal..... do do scheme Baie Verte Canal..... Third President Canadian Society of Civil Engineers..... Member of Royal Commission to examine and report on plans Montreal harbour improvements.....	1837 to 1841. 1841 to 1847. 16th Feb., 1848. 1848 to 1852. do do do 1850 to 1853. 1850 to 1853. 16th Nov., '70 to '71. 1871 to 1872. 14th Feb., 1873. 18th do 1873. 1889-90. 10th April, 1890.
Hadden, Lieut., R.E....	Engineering Staff, Grenville Canal.....	1834.
Hale, W. D.....	Specification for extension of piers at Port Stanley, Lake Erie.....	2nd Nov., 1849.
Hall, Major, Royal Staff Corps	Engineering Staff, Carillon Canal.....	1832.
Hall, Francis Benj....	Assistant Engineer, with Mr. Telford, construction of Tweed Bridge, Rockliff, G.B. Assistant Engineer, calculations, designs and execution Menai Bridge, Anglesea, Great Britain. Designed suspension bridge at Newcombe, across the Mersey, Great Britain. Welland Canal route, with Messrs. Clowes and Roberts... Shubenacadie (Chikabekakady) Canal, N.S., commenced... <i>See App. 30, p. 902, by G. F. B., Public Works Report, 1867-82, and Public Works, Canada, and their Engineers,—Canals—1779-1891.</i> Superintendent construction, Burlington Bay Canal..... Report on Baie Verte Canal project..... Report on proposed St. Peter's Canal, Cape Breton, N.S..... Proposed suspension bridge across Niagara River..... Roads, Ontario..... NOTE—Welland Canal commenced 30th November, 1824, Opened 30th November, 1829, for vessels drawing 7½ feet of water, and of 21½ feet beam. Wooden locks, 110 by 22 feet.	1824. 25th July, 1826. 1825 to 1832. 1825. 1826. March, 1836. July, 1845.
Hamel, Amédée.....	Engineering Staff, Culbute Canal..... Assistant Engineer, Canadian Pacific Railway survey..... do do River St. Louis improvement..... Head-quarters, Railways and Canals.....	1874. 1879. 1886. 1890-91.

2.

1879-1892

ENGINEERS Employed on Public Works, Canada—Continued.

of nt, &c.	Engineers	Works.	Dates of Employment, &c.
64-69.	Hamel, Félix M.	Engineering Staff, Public Works, harbours, &c. do Intercolonial Railway, until. do Public Works, at Head-quarters, until. do Canadian Pacific Railway do .. do Culbute Canal, River Ottawa do ..	1st March, 1867, to 1st Sept., 1868. 1st Sept., 1870. 10th June, 1871. January, 1874. August, 1874.
387.		Eng. in charge. Lock, &c., Rivières du Lièvre and Iron Bridge, Chaudière Falls. Member Canadian Society of Civil Engineers.	1887-91. 20th Jan., 1887.
	Hanlon, —	This Engineer and W. R. Hopkins, "Persons possessing much professional talent," were consulted by Chambly Canal Commissioners respecting the estimate of Peter Fleming, £54,167 6s., which they increased to £80,300, for the construction of this canal, with locks of 100 by 20 feet, with 5 feet water on sills. Canal commenced. Canal opened to navigation with locks 118 to 125 × 23½ feet with 7 feet water on the sills.	1830-31. Oct., 1831. 17th Nov., 1843.
848.	Harrington, Thos. W.	Engineering Staff, St. Lawrence and Ottawa Canals. Assistant Engineer, Lachine, Chambly, Culbute Canals. Assistant Superintending Engineer, Canals, Province of Quebec. Member Canadian Society of Civil Engineers. Died 26th October, 1887.	19th July, 1870. 1st October, 1870. 1st May, 1875-87. 20th Jan., 1887.
70 to '71.	Harris, Major, Cha., R.E.	Rideau Canal, Report and Estimate jointly made with Col. J. C. Smith and Sir George Hoste. Locks to be 108 × 20 × 5 feet water on sills. (Afterwards built 133 × 33 × 5 on sills.) Work commenced in 1826, and completed 29th May, 1832, under Lieut.-Col. By, R. E.	1825.
1890.	Harris, John	Master Royal Navy. Survey and Estimate, Burlington Bay Canal. Superintending Engineer, Burlington Bay Canal.	1825 to Oct., 1827. 1827.
1849.	Harvey, Charles, R.E.	The last of the Superintending Engineers of the Rideau Canal, under the Imperial Government, until the canal was transferred to the Department of Public Works of Canada by Order in Council. See "Lieut.-Col. By" for his predecessors.	3rd March, 1857.
1826.	Hawkins, William	Survey with David Taylor and David Thompson, of canal route Lake Huron to Ottawa River. See Baddeley, Cartwright, Clarke, Walter Shanly, James Stewart, David Taylor, David Thomp- son, and App. 30, p. 837 to 847, by G. F. B., in General Report Public Works, 1867-82.	1837.
32.	Haycock, Sam. H.	Engineering Staff, Galops Canal enlargement.	August, 1879.
36.	Hayes, Capt., Royal Staff Corps	Engineering Staff, Grenville Canal.	1834.
	Hayne, Capt. R.	Royal Staff Corps. Superintending Engineer, Carillon Canal. Superintendent, construction of Ottawa River Canals.	1832. 1833-34.
	Hazlewood, Samuel.	District Engineer on Intercolonial and Canadian Pacific Railways. In charge of Fort Frances Canal works, at foot of Rainy Lake. See Baillairgé, Mortimer, Sutherland, H. Thompson.	1875.
	Heckman, J. W.	Engineering Staff, Public Works, river improvements. Member Canadian Society of Civil Engineers.	1886. 24th Feb., 1887.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Hegan, J. B.	Assistant Engineer, Intercolonial Railway. Assistant Engineer, Public Works, Maritime Provinces.	1869 to 1873. 1873 to 1880. 1882 to Sept., 1883. Acting Engineer in charge of Public Works do Sept., '83 to July, '88. Member Canadian Society of Civil Engineers. 17th May, 1888. Resident Engineer at St. John, Public Works, N.B. July, 1889-91.
Henry George W.	Lachine Canal enlargement, Lachine Division.	July, 1880-85. Left service July, 1885, for C.P.R.
Henshaw, George H.	Resident Engineer, new lock and channel Sts. Anne de Bellevue, River Ottawa, north side. Paper on floods of River St. Lawrence. Paper on frazil ice, its nature and prevention, to the Canadian Society of Civil Engineers. Member Canadian Society of Civil Engineers.	October, 1873-83. 1884. 1887. 22nd March, 1888.
Heyland, A. R.	Engineering Staff, Public Works, British Columbia.	1st Oct., 1885, to 19th Nov., 1888.
Hill, A. E. B.	Engineering Staff, Public Works, British Columbia. Bachelor of Applied Sciences, member Canadian Society of Civil Engineers.	1st Oct., 1887-89. 25th June, 1887.
Hopkins, W. R.	Resident Engineer, Chambly Canal. Chambly Canal commenced. Locks 118 to 125 \times 234, with 7 feet of water on sills. Chambly Canal open to navigation. St. Ours Lock and Dam proposed.	1831-34. Oct., 1831. 17th Nov., 1843. 1835
Hoste, Lieut.-Col. Sir Geo., R.E.	Rideau Canal, report and estimates. Locks to be 108 \times 20 and 5 feet depth on sills. (Altered to 133 \times 33 \times 5). Work commenced 1826, and completed 29th May, 1832, under Lieut. Col. By, R. E.	1825.
Holloway, Col. Wm. Cuthbert Elphington, C. B. Commander R.E.	Survey and report on navigation of Richelieu, St. Lawrence and Ottawa Rivers. Report on Welland Canal. Testimony re Rideau Canal lands.	1845. June, 1845. 4th June, 1845. 15th March, 1845.
Hounslow, T.; F. W., R.E.D.	Description of method of raising buildings by screws in Canada and the United States.	18th Sept., 1841.
Howorth, Lieut., R.E.	Engineering Staff, Grenville Canal.	1836.
Hughes, J.	Report on proposed arbitration, St. Lawrence Canals.	31st Oct., 1834.
Hunter, William.	Resident Engineer, Lake St. Peter.	15th Feb., 1843, to 1th Dec., 1844.
Inglis, William.	Consulting Engineer, Richelieu Nav. Co., &c. Born at Ottawa, Ont. Died at Bolton, England.	1836. 22nd April, 1890.
Irving, J. L.	Assistant Engineer to H. A. Gray, Western Ontario.	26th May, 1884-88.
James, C.	On southern division, Welland Canal, 2nd enlargement.	1875.
Jackson, John.	Report, &c., for Grand River (Ottawa) Navigation Co.	1st Nov., 1845.
Jervis, J. B.	Report on projected Caughnawaga Canal from River St. Lawrence to Lake Champlain, and from Caughnawaga to St. John, recommending its construction, as proposed by J. B. Mills, 19th February, 1848.	13th Feb., 1855.
Jebo, Capt., R.E.	Routes for Rideau Canal proposed between Ottawa and Kingston.	1815 to 1817.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Jonah, Frank G.	Engineer in charge of soundings and borings for subway, from Prince Edward Island to mainland at Cape Tormentine	1885.
Jeslin, H. K.	Lachine Canal, 2nd enlargement, Res. Eng., Montreal Div. Left service 1st May, 1882. Died in Nov., 1887.	July, 1872-82.
Keating, E. H.	City Engineer, and Engineer and Superintendent water works, Halifax, N.S. Engineering Staff Pictou Ry. Chief Draughtsman, Windsor and Annapolis Railway Asst. Engineer, Intercolonial railway..... Div. Engineer, Can. Pac. Ry. explorations..... Member of the Institution of Civil Engineers, London.... Engineer for various water and sewerage works. Resident Chief Engineer, Halifax Graving Dock..... Constructed by Halifax Dry Dock Company, incorporated in England. Agreement with Public Works Depart., Canada, signed... Length, 585 feet; width, at coping level, 102 feet; width on bottom, 72 feet; width of entrance, 89½ feet; depth on sill, ordinary spring tides, 30 feet— (spring tides rise 6 feet; neap tides, 3 feet). Work commenced.....	— to 1891. 1864-67. 1867. 1868-1872. 1872. 1878. 1886-1891. 13th Feb., 1886. 1st May, 1886.
	Opened for use by Vice-Admiral Watson, Commander-in-Chief North American and West India Station, H.M.S. "Canada" docked..... Subsidy by Dominion Government, Imperial Government, and City of Halifax, each \$10,000 per annum, for 20 years. Contractors—Messrs. Pearson, Son & Brookfield. Local Contractor, Samuel M. Brookfield. Cost, about \$1,000,000. Approved by H. F. Perley, Chief Engineer, Public Works Department.....	20th Sept., 1889. 21st Sept., 1889.
Keefer, George.	Engineer, Welland Canal Co	1833.
	Res. Eng., first construction of lower div. of Cornwall Canal	1834-43.
	Resident Engineer in charge of Chambly Canal, completion and improvements.....	1844-47.
	Member of Council, Canadian Society of Civil Engineers..	1889.
Keefer, Samuel H.	Secretary and Asst. Engineer, Public Works, Upper Canada Chief Engineer, Public Works, Ontario and Quebec..... Superintending Engineer, Welland Canal..... Survey Saut-Ste. Marie projected canal, Canada..... Chief Superintending Engineer, Grand Trunk Railway.... Inspector of railways..... Assistant Commissioner of Public Works..... Canal Commission	28th March, 1833-41. 17th Aug., 1841-52. 24th June, 1846. 1852. 1853 to 1859. 1857-64. 6th May, 1859-64. 16th Nov., 1870-71. 14th Feb., 1873. 18th Feb., 1873. 1888.
	Report on proposed Welland Canal enlargement.....	14th Feb., 1873.
	do Baie Verte Canal route, &c.....	18th Feb., 1873.
	Second Past-President Canadian Society of Civil Engineers	1888.
	Born at Thorold, 22nd Jan., 1811. Died at Brockville, 7th Jan., 1890.	
Keefer, Thos. C.	Assistant Engineer, Welland Canal..... River Ottawa slides and booms..... River St. Lawrence improvements..... Survey and design for Victoria Bridge..... Consulting Engineer, Ship Channel and Montreal Harbour Hamilton Water Works..... Georgian Bay Canal project, report..... Chief, Executive Committee of Canada at Paris Exhibition Montreal Water Works, &c..... First Past-President Canadian Society of Civil Engineers.. President American Society of Civil Engineers..... Montreal Flood Commission.....	1842-45. 1846 to 1849. 1849 to 1851. 1851-52. 1853 to 1855. 1857-59. 1863. 1878. 1878 to 1887. 24th June, 1887. 1888. 1886-88

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Keeley, D. H.	Assistant Superintendent Government Telegraph Lines of Canada.	1st March, 1882-91.
	Associate Member of Canadian Society of Civil Engineers.	25th June, 1887.
	Patent for multiplex system of telegraphing	1890.
Keller, Capt. L.	Engineering Staff, Public Works, hydrographic survey, Pointe-aux-Trembles to Cap Charles, River St. Lawrence, &c.	1892-84.
Kelly, Athol D.	Engineering Staff, Welland Canal enlargement, North Division	
Kennedy, John	Chief Engineer, harbour improvements, Montreal, and	
	dredging of River St. Lawrence, Montreal to Quebec.	20th April, 1875-91.
	Vice-President Canadian Society of Civil Engineers.	24th June, 1887.
	Montreal Flood Commission	1886-88.
	Vice-President, Canadian Society of Civil Engineers.	1890.
Kerr, Robert W.	Report on macadamized road, Dundee to Guelph, Ont.	23rd March, 1839.
Ketchum, H. G. C.	Superintending Engineer, construction of Ship Railway Bay of Fundy, to Baie Verte, Gulf of St. Lawrence.	1887-91.
	Member Council Can. Soc. of Civil Engineers.	16th Oct., 1887.
Kierkowski, A.	Engineering Staff, Beauharnois Canal.	1842 to 1845.
	Died towards 1871.	
Killaly, John S.	Educated in Europe for the civil and mining branches of the profession; chose the North American States as a field of operation.	
	He was subsequently engaged in Canada, upon the construction of the Cornwall Canal, which was commenced in 1834 and completed in 1843.	
	Enlargement with locks, 270 x 45 x 14 feet water on lock sills; commenced 1876, unfinished 1890.	
	Superintending Engineer of the Rideau Canal.	Jan., '57, to April, '58.
	He was the first Superintending Engineer appointed on this work by the Government of Canada; all previous engineers thereon having been appointed by the Imperial Government. (See Lieut.-Col. By, R.E.)	1832 to 1857.
	Returned to the United States where he has been engaged on various works, chiefly, of late years, upon the canals of the State of New York.	1858-89.
	Resides at Booneville, Oneida County, N.Y.	Dec., 1889.
	Brother of Hon. H. H. Killaly, chairman of the Board of Works, Canada, 29th Dec., 1841, to 8th June, 1846.	
Killaly, Hon. H. H.	Entered Trinity College, Dublin, in 1815; graduated there in 1819, when he commenced the practice of civil engineering, superintending the construction of the Custom House at that city. Was afterwards associated with his father until the death of the latter in 1832, and was engaged in the construction of roads, bridges, canals, and the improvement of the River Shannon, &c., most of which works being situated in the western part of Ireland. His father was, for many years, Government Engineer for the Board of Works of Ireland, under Gen. Sir Geo. Burgoyne, R.E.	
	Resigned his position in Ireland and came to Canada where he settled near New London, Ont.	1834.
	Survey with N. H. Baird for first enlargement of Welland Canal	1837.
	Chairman Board of Works, Ontario and Quebec.	29th Dec., 1841,
		8th June, 1846.
	Specification of works at Windsor Harbour, Lake Ontario.	1st May, 1843.
	Special reports on Saint-Ste.-Marie, Goderich Harbour, piers below Quebec, Lake St. Peter, Pointe Pelée lighthouse, &c.	1846 to 1862.
	Assistant Commissioner of Public Works.	15 Feb., 1851.
	Died 28th March, 1874, aged 72.	

ENGINEERS Employed on Public Works, Canada—Continued.

of nt, &c.	Engineers.	Works.	Dates of Employment, &c.
1882-91. 1887.	Killaly, H. H., jun.	Resident Engineer, upper division of Lachine Canal, 2nd enlargement Cornwall Canal enlargement, upper half Rapide Plat Canal, &c., enlargement, &c. Member Canadian Society of Civil Engineers.	Feb., 1876-85. 1st July, 1885-91. Dec., 1884-88. 20th Jan., 1887.
	King, Chetwood Henry Waters	Engineering Staff, southern division, Welland Canal enlargement A physician, practising at Cohoes, N.Y., U.S.A.	Feb., '83 to Nov., '88. 1890.
	King, William	Assistant Mechanical Engineer, Ottawa, &c. Public buildings and dredges.	20th Dec., 1878-91.
1875-91. 1887.	King, Capt. William	Royal Staff Corps. Grenville Canal Superintending Engineer, Cascades, Split Rock, Côteau du Lac—Ordnance Canals See By, Mann, &c.	1825. 1826.
1839.	Kingsford, William, C. E., L.L.D.	Survey, map and description Lachine Canal Engineer in charge of preliminary surveys, G. T. Railway, Cornwall to Dickinson's Landing, Brockville, <i>via</i> Lynn, Farmerville, Lyndard, and flats of Rideau Canal, to Kingston; permanently located line from Montreal to Cornwall	1847. 1852-54.
1887.		Author and publisher of a work entitled "The Canadian Canals, their History and Cost," with arguments recommending their enlargement.	1864-65.
		Special examination, with confidential report, on Champlain Canal, in the State of New York, in connection with projected Caughnawaga and Champlain Canal, establishing, that propellers of large size, leaving the St. Lawrence and reaching Lake Champlain, could not find any exit.	1871.
April, '58.		Examination, report, designs and estimate of the cost of making River Gananoque navigable.	1872.
		Prepared map of Rideau Canal, from Ottawa to Kingston, showing area of water sheds, &c.	1872.
7.		Engineer in charge of harbour and river improvements, breakwaters and piers, in the Provinces of Ontario and Quebec, from Lake Superior to the Gulf of St. Lawrence; commenced removal of Rock Shoal, Kingston Harbour; designed and partly completed new channel through Neebish Rapids; examination and report, with estimate on causes of inundation, Chenal du Moine, &c.; report on harbours of refuge, Lower St. Lawrence; designed improvements and constructed breakwater, Collingwood Harbour; designed improvements, Penetanguishene waters, and entrance to River Kamanistiquia, etc.	1873-80.
		Survey and Report on the condition of Toronto Harbour, also on waters of Sarnia and Oakville.	1873-80.
		Report, estimates and drawings of proposed tunnel under Detroit River, from Amherstburgh to United States shore.	1873-80.
		Directed several important surveys, making reports, maps and estimates.	1873-80.
		Prepared Annual Report, Department of Public Works, several years prior to	1880.
1841, 1846, 1843.		Connection with Department of Public Works ceased, 1st March, 1880, when H. F. Perley was recalled to headquarters, and was assigned to the duty of Engineer of this Department.	
		A gratuity equal to 6 months' salary (\$1,650) voted by Parliament in 1881, as compensation for loss of employment, and paid to Mr. Kingsford.	
		Member Canadian Society of Civil Engineers.	20th Jan., 1887.
2. 1851.	Kinipple & Morris.	Members' Institution of Civil Engineers, Great Britain. /	

ENGINEERS Emplo, ed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Kinipple & Morris	<p>Engineers—Docks at entrance of River St. Charles, Quebec Works authorized by Act 36 Vic., chap. 32, sec. 17</p> <p>Princess Louise embankment and quay wall on north side of 1st projected series of docks, 3,960 feet long and 330 wide.</p> <p>Outer or tidal basin, 20 acres in area, and 29 feet deep at low water of ordinary spring tides.</p> <p>Inner basin, 36 acres in area, and 25 feet deep at high water lowest neap tides.</p> <p>Sprung tides rise 18 and neaps 13 feet.</p> <p>Work commenced under Harbour Commissioners, Quebec</p> <p>Quay wall and outer basin, nearly completed.</p> <p>Cross-wall between inner and outer basins, commenced in 1883, under H. F. Perley, Chief Engineer, Public Works, and completed with gates, etc., and south wall, along St. Andrew's Street. For Contractor's, etc., see page 88.</p> <p>Expenditure on construction, \$3,874,400, to</p>	<p>1875-82. 1873.</p> <p>23th May, 1877. Dec., 1882.</p> <p>1889.</p> <p>30th June, 1890.</p>
	<p>Engineers—Lévis Graving Dock, opposite Quebec.</p> <p>Length, 495 feet, with a circular head of 31 feet radius, and a square offset of 19 feet on each side.</p> <p>Width at coping level 100, and at bottom 73 feet.</p> <p>Entrance width, 62 feet.</p> <p>Depth of water on sill at high water of ordinary spring tides, 25½ feet, and at low water, 7½ feet</p> <p>Depth of water on sill at high water of ordinary neap tides, 23 feet, and at low water, 10 feet..</p> <p>Work authorized by Act 38 Vic., chap. 56.</p> <p>Site chosen by an Order in Council.</p> <p>Work commenced under Harbour Commissioners, Quebec</p> <p>Work continued and completed under H. F. Perley, Chief Engineer, Public Works.</p> <p>For Contractor's, etc., see page 87.</p> <p>Expenditure on construction, \$912,194.90 up to</p>	<p>1875-82.</p> <p>1875.</p> <p>May, 1877.</p> <p>1878.</p> <p>Sept., 1883-89.</p> <p>30th June, 1890.</p>
	<p>Engineers—Esquimalt Graving Dock, about 3 miles below Victoria, Vancouver Island, B.C. Plans and specifications prepared and on exhibition at Victoria, &c., by Provincial Government of British Columbia</p> <p>Plans of the caisson furnished by them.</p> <p>Act of Provincial Government, B.C., authorizing construction of graving dock, 43 Vic., chap. 8.</p> <p>Agreement between Dominion Government and Government of British Columbia, under sanction of Imperial Government, respecting construction of graving dock, signed subsequently to Contract awarded to McNamee & Nish by Government of British Columbia</p> <p>This contract was cancelled by Government of British Columbia.</p> <p>Work continued by day's labour.</p> <p>Hon. J. W. Trutch appointed Engineer in charge and W. Bennett, as Resident Engineer.</p> <p>Work under Dominion Government authorized by Act 47 Vic., chap. 6.</p> <p>The graving dock and its grounds to be transferred to Dominion Government in virtue of this Act</p> <p>Work continued and completed under H. F. Perley, Chief Engineer, Public Works.</p> <p>Contract for completion of graving dock signed by Larkin, Murphy & Connolly, \$581,841.43.</p>	<p>18th Nov., 1879.</p> <p>1st Dec., 1882.</p> <p>1880.</p> <p>12th July, 1880.</p> <p>1880.</p> <p>1882.</p> <p>1882-83.</p> <p>24th Nov., 1883.</p> <p>1884.</p> <p>1884-87.</p> <p>8th Nov., 1884</p>

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Kinipple & Morris.....	Contract for caisson, "Dominion Bridge Co.," Montreal. \$53,729.54, to..... Dock completed and opened by entrance of H.M.S. "Cormorant"..... Expenditure—Provincial Government, British Columbia.....\$384,512 66 do Imperial Government 243,333 33 do Dominion do 529,214 42 Total.....\$1,157,060 41 up to Dimensions of graving dock as completed up to... Length at centre.....430 feet Width at bottom.....41 " do coping level.....90 " do entrance.....65 " Depth of water on sill, 26½ feet at high water springs. Springs rise 7 to 10 feet, per Capt. Richards. R.N. Neaps rise 5 to 8 "	10th July, 1885. July, 1887. 17th Dec., 1889. 1890.
Kirkwood, James P....	Member of Board of Engineers, appointed to report on Montreal Harbour and Navigation, &c., of the River St. Lawrence.....	9th Nov., 1857.
Kuper, Augustus.....	Report on Montreal Harbour and Navigation, &c., of the River St. Lawrence.....	24th March, 1858.
Kuper, Augustus.....	Prepared plans and specifications for improvements Riche- lieu River.....	1831.
Lafleur, Eugène D.....	Engineering Staff, Public Works at Ottawa.....	27th Sept., 1881.
Lafleur, Eugène D.....	Assistant Engineer, hydrographic survey, River St. Law- rence.....	July, 1883-84.
Lafleur, Eugène D.....	Harbour works, Ontario, Quebec and New Brunswick.....	1884-91.
Lafleur, Eugène D.....	Member Canadian Society of Civil Engineers.....	20th Jan., 1887.
Langevin, H. Laforce....	Princess Louise Basins, Quebec, and Point Lévis Graving Dock.....	1884-88.
Langevin, H. Laforce....	Assistant Engineer, harbour works, Quebec and Lévis.....	1889-91.
Langevin, H. Laforce....	Associate member Canadian Society of Civil Engineers.....	27th June, 1888.
Languedoc, G. de G.....	Grenville Canal enlargement.....	May, 1879 to 1887.
Languedoc, G. de G.....	Associate member Canadian Society of Civil Engineers.....	24th Feb., 1887.
Lantier, E.....	Engineering Staff, survey proposed Cedars Canal.....	1872-73.
Lantier, E.....	Member Canadian Society Civil Engineer.....	14th Oct., 1889.
Lapham.....	Assistant Engineer, Welland Canal Co.....	Aug., 1827.
Larocque, A. B.....	Junior Sub-Assistant Engineer, Beauharnois Canal.....	1843.
Larue, Adolphe.....	Provincial Land Surveyor, P.Q., Survey of Lake St. Louis. Assistant of H. G. Thompson.....	1836. 1836.
Larue, Adolphe.....	Report on claims for damages, Beauharnois Canal.....	9th Feb., 1856.
Laurie, James.....	Report and estimates, St. Peter's Canal, Cape Breton, N.S.	July, 1858.
Lawson, W.....	Assistant Engineer, Sarnia and Brantford Roads.....	1843.
Lefebvre, Jean.....	Engineering Staff, Metapediao Road, S. Division, assistant to G. F. Baillargé.....	1857 to 1867.
Legge, Charles.....	Engineering Staff at Head-quarters, Montreal, and on weirs, &c., of canals below Prescott..... Afterwards on railway service, &c. Died.....	1846 to 1854.
Lepage, J. B.....	Engineering Staff, Public Works, harbour surveys and river improvements, occasionally..... Previously in charge of Colonization roads since 1857.	1880-90.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Lepage, Samuel.....	Engineering Staff, Public Works, harbour surveys below Quebec.....	1883.
Leprohon, C. de B.....	Engineering Staff, Lachine Canal enlargement, Lachine Division..... Left service July, 1885, for Corporation. Montreal.	Oct., 1875-85.
Leslie, William Lewis...	Engineering Staff, S. Division, Welland Canal enlargement do do Head-quarters, Ottawa.....	Oct., 1872, Nov. 30, '88 Feb., 1889-91.
Lewis, Col., R. E.....	Commissioner, Rideau Canal.....	Spring, 1828.
Light, Alex. L.....	Assistant Engineer on western roads, Ontario, under Col. C. S. Gzowski.....	1842 to 1848.
Lightfoot, F. C.....	Engineering Staff, surveys of harbours and rivers..... Employed in Chief Engineer's Office.....	July, 1874-77. 1877-91.
Lindsay, John.....	Engineer—Survey head-waters, River Ottawa..... Died 28th Sept., 1880, at Mat.....	15th June, 1880.
Long, Major Andrews...	Royal Staff Corps of Engineers, Imperial Government. Construction and repairs, Cascades, Split Rock and Côteau du Lac—military canals..... See By, Mann, &c.	1817.
Lyons, James.....	Superintending Engineer, River Trent Works—improvements; light-houses, River St. Lawrence, &c.....	1843-55.
Macdonald, J. Frobisher	Cornwall Canal, &c..... Superintending Engineers, canals, Lachine, Chambly, St. Ours, &c..... Piers below Quebec..... River St. Maurice, slides and booms..... Témiscouata Road, commenced 1856, opened 1861, completed 1866, under Joseph Rosa his assistant..... Died at Toronto in the autumn of 1857.	1842-43. 1848-52. 1849-50. 1851-52. 1853.
Macedougall, Alan.....	Engineering Staff, Public Works, harbours, &c., Ontario..... Member Canadian Society of Civil Engineers.....	Sept., 1873. 20th Jan., 1887.
Maillefert.....	Submarine Engineer, examined River St. Lawrence Rapids from Lake Ontario to foot of Lake St. Louis at Lachine.....	1854.
Maine, Charles.....	Engineering Staff, Harbour of Three Rivers, River St. Maurice slides, dams and booms, River Yamaska, Nicolet, &c..... Previously on Public Works in France, &c.	1886-91.
Maingy, Robert.....	Mining and Civil Engineer, Superintending Engineer, Hamilton and Brantford Road.....	1837.
Mann, Col. Gother.....	Royal Engineer Corps, Imperial Government. Letter to Messrs. Forsyth, Richardson & Co., opponents to McTavish, Frobisher & Co., respecting Saut-Ste.-Marie Canal, prior to..... Saut-Ste.-Marie Canal, on Canadian territory, 3,000 feet long, with a lock, raising the water 9 feet, between Lakes Huron and Superior; survey made by order of the firm of Messrs. McTavish, Frobisher & Co., on behalf of the North-West Company..... Canal constructed by them, prior to..... See Capt. Bruyeres, Royal Engineer. Report on the state of the first canals built between 1779 and 1783, at the Cascades and Mill Rapid, Split Rock, "Trou du Moulin" at Longueuil's Mill and at Côteau du Lac, recommending their enlargement.....	18th April, 1803. 1797. April, 1802. 24th Dec., 1800.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mann, Col. Gother.	<p>He recommended to enlarge the original locks, which were 7 feet wide at Côteau du Lac, and 6 feet at Split Rock, to 9½ feet, between the gates, to increase the depth of water 1½ feet in the canals and on the lock sills, then about 2 feet, to 3½ feet, to widen the lock chambers 4 feet and the canals 2 feet.</p> <p>At Mill Rapid and Cascades, at Cascades Point, he recommended the construction of one instead of two canals, and to sink the bottom at each entrance thereof to a depth of 3 feet below the lowest water for the passage of the largest boats. Canal to be 10 feet wide, with 3 locks 20 feet wide in the chamber and 120 feet long, so as to allow the passage of 6 boats at a time.</p> <p>Frederick Haldimand, Lieut. Governor of Canada, 1778-1785, wrote to Lord Geo. Germain that a very complete canal was completed and in operation at Côteau du Lac. See letter in Canadian Archives. See Ottawa, D. Brymner, Archivist, dated</p> <p>The locks at "Split Rock" and "Côteau du Lac" were partly rebuilt and a new canal, about half a mile in length, with 3 locks and a total rise of 13½ feet was built at the Cascades.</p> <p>All the locks were probably then enlarged to 9½ feet between the gates, as suggested by him.</p> <p>The locks of the Cascades, Split Rock and Côteau du Lac Canals were enlarged by the Royal Staff Corps, to 12 feet between the gates, and the depth of water on the lock sills was increased to 3½ feet, for the passage of Durham boats, with from 80 to 100 barrels of flour, instead of the former boats with 30 to 40 barrels.</p> <p>From 1815 to 1834, both years inclusive, the gross revenue on these canals was £31,580 13 4; the cost of repairs, &c., £10,102 15 2½, and the net revenue, £21,470 17 1½.</p> <p>Report on navigation of St. Lawrence at Longueuil Mill "Trou du Moulin" and between that point and Cedars.</p> <p>Consulting Engineer of Grenville Canal which was commenced in summer of</p> <p>G. F. Baillaigé, the present Deputy Minister of Public Works, made surveys and plans of the canals at the Cascades, Split Rock and Côteau du Lac, the locks and gates of which were then entire; the width between the gates of the locks was 12 feet, and the depth of water on the sills from 3 to 4 feet.</p> <p>He also measured one of the canals built between 1779 and 1783, on Cascades Point, which had been used as a flume for a mill then in ruins; the width between the lock gates was 6 feet.</p> <p>From 1857 to 1890, the masonry of the locks, &c., at the Cascades and Split Rock, has been partly demolished by persons in want of cut stone for building purposes.</p> <p>At Côteau du Lac, the old canal has been used most of the time up to 1881 as a flume for a mill erected thereon by George Beaudet, the lessee.</p> <p>For further details, see General Report of Public Works, 1867; also, Report on Canadian Archives, 1886, by Douglas Brymner, Archivist.</p> <p>These canals were not previously constructed by the French, as was believed in 1867.</p>	<p>25th Oct., 1780.</p> <p>1804.</p> <p>1817.</p> <p>1815 to 1834.</p> <p>25th Sept., 1818</p> <p>1819.</p> <p>1857.</p> <p>1st June, 1871, to 1st Feb., 1881.</p>

Engineers Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mann, Capt. J. W.	Royal Staff Corps of Engineers. Report on navigation of St. Lawrence..... Engineer in charge at construction of Grenville Canal.....	25th Sept., 1818. 1819.
Marceau, Ernest.....	Lachine Canal enlargement..... Grenville Canal and Ste. Anne Lock enlargement..... Asst. Superintending Engineer, Ottawa River canals, &c..... Member Canadian Society of Civil Engineers.....	July, 1876-77. Aug., 1877-80. May, 1881-91. 12th May, 1887.
McAlpine, Hon. W. J. ... United States.....	Appointed with Messrs. Childe and Kirkwood to report on Montreal Harbour, and navigation and trade of the St. Lawrence..... Report on do do..... Report on saw-dust in Ottawa River, &c..... Report on proposed Welland Canal enlargement.....	9th Nov., 1857. 24th March, 1858. 1st March, 1871. 14th Feb., 1873.
McCarthy, Charles.....	Engineering Staff, Public Works, at Head-quarters, &c. In charge of plans specifications, etc..... Superannuated 1st July, 1884.	1857-84.
McCarthy, C. H.....	Engineering Staff, Public Works, roads, canals, &c.....	Sept., 1872.
McCarthy, James M....	Engineering Staff, Public Works, under Thos. Guerin.... Bachelor of Applied Sciences. Student Canadian Society of Civil Engineers.....	1883-84. 20th Jan., 1887.
McCarthy, William....	Engineering Staff, Public Works, river works, &c..... Previously employed on railways. Member Canadian Society of Civil Engineers.....	1884-86. 22nd March, 1888.
McCordock, W. J.....	Engineering Staff, Superintendent of Dredging, Maritime Provinces.....	1870-91. 1821.
McDouall, Robert....	Assistant Superintending Engineer. Lachine Canal.....	1881-83.
McGreevy, Charles....	Engineering Staff, Public Works, harbour surveys..... Assistant Engineer, Quebec Harbour Works..... do Princess Louise Basin, Quebec, to..... Associate member Canadian Society of Civil Engineers....	1883-89. 1st Aug., 1890. 9th Feb., 1888.
McGreevy, Robert....	Engineering Staff, Public Works, harbour surveys.....	1881-86.
McKay, William.....	Survey report and plans Baie Verte Canal for Government of Nova Scotia.....	1838.
McKay, E. B.....	Assistant Engineer on Cowichan River, British Columbia.	1st Sept., 1887, to 2nd Feb., 1888.
McLaughlin, Geo. E....	Assistant Engineer, Public Works, Maritime Provinces.... Engineer in charge Public Works, Maritime Provinces.... Died 6th October, 1883.	1872-81. 1881 to 1883.
McLauchlan, Mr....	Superintending Engineer, navigation improvements, St. John River, N.B.....	1853-56.
McNab, Alexander....	Engineer in charge construction of St. Peter's Canal for Government of Nova Scotia..... Report on Grand River, West Arichat, and Barrasois Har- bours, Co. Richmond, N. S..... Transferred to Department Public Works..... Appointed Engineer of Intercolonial Railway, in operation. Canal commenced by N. S. Gov., 1854. Canal completed by Dom. Gov., 5th August, 1869. Enlarged 1875-81.	July, 1865-67. 1st March, 1866. July, 1867. Nov., 1872.
McNab, Dugald B....	Was engaged on surveys of Crown Lands, and laying out roads, etc., in Cape Breton from about..... Now residing at Winslow, Maine, U.S.A. Age 97.	1828 to 1880.
McNaughton, Chas. E..	Engineering Staff, Welland Canal enlargement, Northern Division..... Assistant Engineer to H. A. Gray, Western Ontario.....	1875. 1883.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
McTaggart, John, R. E.	Clerk of Works, Rideau Canal:..... Examination and report on Rideau Canal. Survey and report on Burlington Bay Canal.	1826. 1827-28. 30th Mar., 1827.
Melhuish, Capt., R. E.	Account of demolition of Glacière Bastion, Quebec. Consulting Engineer, Chambly Canal.	1828. 1831.
Merrill, Horace	Superintending Engineer, Ottawa River slides and booms. St. Maurice slides at Shawenegan and Grand Mère, first designed by him and laid out by G. F. Baillargé. Carillon dam across the River Ottawa. Died 22nd May, 1883.	20th Jan., 1849, to 22nd July, 1875. 1852. June, 1879, to 1883.
Merritt, Thomas	Engineering Staff, Welland Canal enlargement, Northern Division.	1875.
Michaud, C. E.	Assistant Engineer of G. F. Baillargé on survey of Gaspé and Ste. Anne des Monts road, north shore, Gulf of St. Lawrence. Engineering Staff, Public Works, harbour works, &c. On Pacific Railway survey, British Columbia. Resident Engineer, lock and dam, River Yamaska, Rivers St. Francis and Nicolet, dredging and improvement. Resident Engineer, harbour works, south shore, River St. Lawrence.	1861-62. 1st Nov., 1864-70. 1871 to 1873. 1877 to 1888. 1888-91.
Michaud, Cléophas	Engineering Staff, Public Works, harbour surveys. do do do.	June, 1873. 1884-85, 1887-88. 90.
Mignault, J. O. C., B.A.	Engineering Staff, Public Works, do. Reconnaissance of Gatineau River, and upper waters of the Ottawa Valley.	1884-87-88. 1889.
Millidge, E. G.	Resident Engineer, St. Peter's Canal, Enl. Cape Breton, &c. Canal commenced by Nova Scotia Government in September, 1854, suspended 1856, resumed in 1866, and completed in 1869. Enl. 1875-1881. Total cost to 30th June, 1889, \$677,267.27. Assistant Engineer, Public Works, Maritime Provinces. Resident Engineer, Antigonish,—Public Works and sur- veys, Cape Breton, Guysborough, Antigonish and Pictou Counties, Nova Scotia. Member Canadian Society of Civil Engineers.	1875 to 1881. 1872 to 1888. July, 1889-91. 11th Nov., 1887.
Mills, J. B.	Engineer on the first construction and afterwards on en- largement of the Delaware, Hudson and Erie Canals. Projected Cedars Canal. Cornwall and Williamsburgh Canals. Chief Engineer, Beauharnois Canal. Projected Caughnawaga Canal. Chief Engineer of the Genesee Valley Canal, afterwards on the Kanawha projection in Virginia, U.S., after his departure from Canada. Consulting Engineer and vice-president of the Pottsville and Danville road, in Pennsylvania. Consulting Engineer on the Adirondack Railway, State of New York. Afterwards retired to his home in Peekskill, on the Hudson, N.Y. Born in Chester, 27th March, 1800. Died at Peekskill, N.Y., 29th June, 1871.	1833. 1833-47. 1843. 1847-48.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mills, J. B.— <i>Cont.</i>	NOTE.—John Jonas, Hon. John Hamilton, John Macaulay, Philip Vanquoghnet, Hiram Norton, George Longley and Peter Shaver were appointed Commissioners to report on improvement of navigation of the St. Lawrence, 1833. John Jonas, President. Samuel Keefer appointed secretary to the Commissioners, 28th March, 1833. The Commissioners' first report is dated 13th Dec., 1833.	
Minnitte, R. O.	Baie Verte Canal, first survey for a canal of about 4 feet draught, to be fed by fresh water, through valley of Au Lac to the Missiguash Lakes and thence to River Tidnish.....	Oct., 1822.
Moberley, Frank.....	Engineer, Collingwood Harbour Works Previously employed on Railways.	8th Aug., 1890.
Monro, Thomas.....	On Grand Trunk Railway, surveys and construction, Montreal to Kingston, and St. Lawrence Bridge Survey, Montreal; also, Water Works survey and plan, Montreal On Toronto and Georgian Bay, proposed canal, in charge of summit level survey Assistant Engineer, Hamilton Water Works; Resident Engineer, Hamilton and Port Dover Railway..... Public Works, Ontario, &c., Harbours of Refuge; water supply to Public Buildings, Ottawa, &c. One of the Government Inspectors of Railways..... Engineer of Water Works, Pit Hole City, Pennsylvania... Survey, Lake Shebandowan on the Dawson route..... Welland Canal enlargement, survey and location Engineer in charge of Welland Canal Resident Engineer, Northern Division, Welland Canal enlargement Invited to International Congress of Navigation at Brussels Member of Institution of Civil Engineers, Great Britain.. Member Canadian Society of Civil Engineers..... Aqueducts, Merritton, Simcoe and Niagara Falls..... Examination and report, projected enlargement of Beauharnois Canal, and on projected new canal, north shore, County of Soulanges, and preliminary location survey, &c.....	1850 to 1857. 1857. 1857 to 1859. Feb., 1860-69. 1st May, 1863. 1865. 1869. 1870-71. July, 1872, to 31st Jan., 1873. 1873-88. 30th April, 1885. 20th Jan., 1887. 1888. 1890-91.
<i>Died 19 March 1903</i>		
Moody, Lieut., R. E.	Survey of Lake St. Peter with Capt. Boxer.....	1844.
Mooney, William.....	Engineering Staff, Lachine Canal enlargement, Montreal Division Yamaska lock and dam, &c., Assistant Engineer..... Died 2nd January, 1885.	1873. 1880-84.
Moore, Robert, Master Mariner.....	Report with John McTaggart on Burlington Bay Canal...	30th March, 1827.
Morris, Wm., M.I.C.E. .	Engineer with Kinipple. Princess Louise Docks, Quebec and Lévis Graving Dock.. Esquimalt Graving Dock <i>See Kinipple & Morris.</i>	1875-82. 1879-83.
Mortimer, Henry J.	Assistant of Samuel Hazlewood, District Engineer, Canadian Pacific Railway. Profile and location Lock—Fort Frances Canal, at foot of Rainy Lake, on the Dawson Route..... Plan of Lock, &c., afterwards modified by G. F. Baillaigé, Assistant Chief Engineer, Public Works..... <i>See Baillaigé, Hazlewood, Sutherland, H. Thompson.</i>	1875. 1876.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mothersill, George A....	Loudon and South-West Railway, England Missouri Pacific Railway, and M. K. and Texas Railway; Contracting Intercolonial Railway; Engineering Staff and Sub-Contractor With Chief Engineer of Canals at Head-quarters, Ottawa	1859-63. 1868-69. 1869-72. 1873-91.
Monro, Alex., P.L.S....	Assistant Engineer, Baie Verte Canal. Survey by G. F. Baillairge..... One of the Historians of New Brunswick and Nova Scotia.	1871-1873. 1885.
Murdoch, William	Collingwood Breakwater, Lake Huron..... Port Arthur, River Kaministiquia, &c., Ontario, harbour works, Resident Engineer, Public Works, Lake Superior..... Previously employed, chiefly on the Canadian Pacific, Picton and Trenton, Manitoba and South-Western, North-West Central and Hudson Bay Railways, as Resident, District or Chief Engineer..... Member Canadian Society of Civil Engineers.....	1871. 15th Oct., 1884-91. 1871 to 1884. 20th Jan., 1887.
Murphy, Martin.....	Provincial Engineer, Nova Scotia..... Member Canadian Society of Civil Engineers.....	1867-91. 3rd Feb., 1887.
Nagle, Gerald J.....	First Superintendent, Ottawa River slides and booms..... Specification, River Trent slides and booms.....	to 1846. June, 1843.
Nelson, J. M.....	Floods at Montreal, Assistant Harbour Engineer.....	1884.
Nichol, Col. Robert, Commanding R. E.....	Rideau Canal route surveyed under his orders by Captain Jebb, R. E.....	1815.
Nicolls, Gustavus, Col., R. E. (Lt. Col., 1816, Col., 1832).....	Succeeded Col. Elias Walker Durnford in command of R. E. and Ordnance Canals..... Special Report, Carillon Canal.....	1831. 5th May, 1834.
Nish, A. G.....	Chief Engineer, harbour works of Montreal, and ship channel, River St. Lawrence, Montreal to Quebec..... Afterwards contractor on Government works at Esquimalt graving dock, British Columbia, &c., up to 1883. Died 31st January, 1888.	1864 to 1875. 24th Feb., 1880-83.
Norman, Thomas E.....	Chats Canal, north side River Ottawa Report on survey of the islands and on the water power of the Chats Rapids, River Ottawa.....	1853. 1st March, 1858.
Normand, J. B.....	River St. Maurice, slides, booms, dams, piers..... Appointed Commissioner to report on cause of floods between Quebec and Montreal. Report on causes of floods..... Acting Superintendent, River St. Maurice slides and booms.	1853-89. 4th Oct., 1873. 21st Feb., 1874. 1875-78.
Odlum, Ed. John.....	Assistant Engineer, Welland Canal enlargement, Southern Division..... Engineer in charge, improvements Welland Canal.....	Nov., 1872-88. June, 1889-91.
Oldfield, Lieut.-Col. J., Commanding R. E.....	Report on experiments, blowing in gates at Quebec.....	11th, 13th July, 1840.
Ostell, John	Architect, Surveyor and Engineer, Montreal	1847-48.
Page, John, sen.....	Assistant Engineer and draughtsman, Welland Canal Assistant to Chief Engineer, Welland Canal..... Consulting Engineer, Welland Canal..... Resident Engineer, Junction and Williamsburgh Canals... Superintending Engineer, canals below Kingston.....	1842. Sept., 1842. 1846. 1850-51. 1852-53.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Pilkington, Woodford, M. I. C. E.	Resident Engineer, harbour works, Quebec, and graving dock, Lévis.....	1876 to 1883. 1889.
Piper, Capt. R. E.	Now employed in India	1830-32.
Piper, Capt. R. E.	Commissioner, harbour works, Montreal.....	1830-32.
Plunkett, E. W.	Plans, estimates, etc., Harbour Works, Quebec.....	15th Dec., 1874.
Pound, Nicholas.....	Engineering Staff, Public Works, harbour surveys.....	1888, 89, 90.
Power, Samuel.....	Principal Engineer on Welland Canal.....	1842-45.
Power, Samuel.....	Specification for construction of lock gates, Welland Canal.	Oct., 1843.
Pringle, Thomas.....	Member of Commission to report on Water Power, Lachine Canal.....	1887.
Pritchard, M. B.....	Assistant Engineer, Welland Canal.....	1843-44.
Rauslef, Col. de, Russian Engineer.....	Submarine Engineer. Examined River St. Lawrence rapids from Lake Ontario down to foot of Lake St. Louis, at Lachine, with Maillefert.....	1854.
Raney, G. W.....	Superintending Engineer, River Trent canals, slides, dams, and booms, from Trenton, Lake Ontario, up to Lake Scugog, inclusive.....	4th May, '55, to July, 1873.
Raney, G. W.....	Member Canadian Society of Civil Engineers.....	20th Jan., 1887.
Read, Capt. J. M.	Royal Staff Corps of Engineers, Imperial Government. In charge of Grenville Canal construction.....	1824.
Rendall, James M.....	"A Civil Engineer of considerable eminence." Consulting Engineer with Hon. H. H. Killaly, Capt. Bayfield and Capt. Beaufort, on the Lake St. Peter navigation project.—See Killaly's Report, 1843-44. Report on Welland Canal—in progress.....	31st May, 1830.
Rhéaume, L. N.....	Engineering Staff, Lachine Canal, second enlargement ..	1st Nov., 1877-84.
Rhéaume, L. N.....	Rapide Plat Canal enlargement.....	Dec., 1884.
Rhéaume, L. N.....	Cornwall Canal do	1st July, 1885-91.
Rhéaume, L. N.....	Member Canadian Society Civil Engineers	20th Jan., 1887.
Richard, J. F.....	Harbour surveys, Province of Quebec.....	1881-89-91.
Richards, G. H., Capt. R. N.....	Admiralty Charts, British Columbia, Pacific coast.....	1858-63.
Rigney, James.....	Engineering Staff, roads, Eastern Townships, P.Q.....	1842.
Rigney, James.....	Superintending Engineer, Cornwall Canal.....	1843.
Rigney, James.....	Assistant Engineer, River Trent works at Bobcaygeon, &c. Died in California, 6th August, 1863. Interred at London, Ontario.	1843-49.
Ritchie, Thomas.....	Engineering Staff, Maritime Provinces.....	1888.
Roberts, Nathan S. Eng.	Assistant Engineer, with Benjamin Wright, on Erie Canal. Examination of route for projected Welland Canal with Messrs. Hall and Clowes, British engineers.....	1816. 1824.
Roberts, Nathan S. Eng.	Report on projected Welland Canal.....	Aug., 28, 1824.
Roberts, Nathan S. Eng.	Engineering Staff, construction Welland Canal—appointed Canal commenced 30th Nov., 1824. do opened 30th Nov., 1829. Wooden locks 110 by 22; 7½ feet water on sills. First Directors Welland Canal Co., appointed 15th May, 1824. Sir John Henry Dunn, Wm. H. Merrit, John Decou, Samuel Clowes and George Keefer, Chairman.	1st April, 1825.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Robertson, G. E.	Engineering Staff, Lachine Canal, second enlargement, Lower or Montreal Division, &c. Cornwall Canal enlargement, upper half Member Canadian Society of Civil Engineers.	Aug., 1873-85. July, 1885-91. 20th Jan., 1887.
Robinson, Arthur G.	Assistant Engineer, Lachine and Chambly Canals.	1843-48.
Rogers, R. B.	Assistant Engineer, River Trent slides, booms and canals. do Midland Division, Grand Trunk Railway do Survey Trent Valley Canal. Superintending Engineer, River Trent slides, booms and locks Bachelor of Applied Sciences and member Canadian Society of Civil Engineers.	1878 to 1881. 1881 to 1882. 1882 to 1883. 1st July, 1884-91. 12th May, 1888.
Rosa, Joseph	Engineering Staff, roads, bridges, piers, harbours and river improvements, &c., Province of Quebec. Assistant Engineer, Baie Verte Canal Survey. do Cedars' Canal Survey.	29th May, 1856-91. 1870-72. 1872-75.
Rosamond, Joseph A.	Report, River St. Francis, Pierreville Mills. Engineering Staff, Lachine Canal enlargement. Resident Engineer, Murray Canal, Lake Ontario. Member Canadian Society of Civil Engineers.	13th July, 1875. June, 1876-82. June, 1882, to 1891. 24th Feb., 1887.
Ross, John LeBreton.	Engineering Staff, Public Works, Ontario and Quebec. Died, May, 1876.	December, 1856-76.
Rowan, James H.	Engineering Staff, Public Works, canals and railways. Subsequently District Engineer, Canadian Pacific Railway, Manitoba.	May, 1860-72. 1872 to 1882.
Roy, Charles F.	Harbours, Province of Quebec and Maritime Provinces. Ship channel between St. Roch and Ile-aux-Condres. Was elected for the County of Kamouraska as Member of the House of Commons, 1877-78. Died, 13th April, 1882.	1870-80. 1881.
Roy, Thomas.	Report on Roads, Province of Ontario.	March, 1839.
Roy, George P.	Engineering Staff, Public Works, harbours, Quebec.	1881-82, 1884.
Roy, Joseph R.	Engineering Staff, Public Works, river and harbour surveys, Quebec. Associate Member of Canadian Society of Civil Engineers.	1883-84. 24th Feb., 1887.
Royal Staff Corps, Imperial Government.	Caseades, Split Rock, Coteau du Lac, Old Fort. Canals enlarged, locks 12 feet wide, water $3\frac{1}{2}$ feet Ordnance canals, north side River Ottawa, at Carillon, Chute à Blondeau and Grenville. Locks 108 by 20 and 130 $\frac{1}{2}$ by 32 $\frac{1}{2}$, with 6 feet water on sills, designed. Completed.	1817. 1819. 1833.
Rubidge, F. P.	Surveyor, Eng., &c., River Trent and other works Assistant Chief Engineer, Public Works, and Architect of Canada prior to and after Confederation. Report on proposed landing piers below Quebec. In charge of surveys and investigations, &c., Lake St. Peter. Report on River L'Assomption lock, dam and dredging. do bridges, &c., Province of Quebec, &c. Plans of bridges constructed across Rivers St. Maurice, Champlain, Ste. Anne de la Pérade, Jacques Cartier, on Provincial Highway, north shore of St. Lawrence, and Rivers Etchemin, Becancour, Godfroi, Nicolet, Melbourne, Chateaugay, &c., on Main Roads, south side of St. Lawrence. Projected docks at "Cap Rouge," above Quebec. Survey and report.	1836-41. 15th Dec., 1841, to July, 1871. 15th Nov., 1846. 1847. 27th Dec., 1848. 29th Nov., 1848. 1843 to 1849. 1846.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Rubidge, F. P.	Construction and improvements Parliament buildings and residence of Governors General, &c., at Quebec, Montreal and Toronto.	1844 to 1865.
	Fourteen District Court Houses and Jails constructed in Province of Quebec.	1859 to 1862.
	Commission of Enquiry, Ottawa Parliament and Departmental Buildings.	1862-63.
	Improvements—Governor General's residence, at Rideau Hall, Ottawa.	1865-1871.
	Reports on buildings and other works.	1846 to 1871.
	Superannuated.	July, 1871.
	Residing in Montreal.	Dec. 1890.
Rubidge, ^{Tom} Thomas S.	Engineering Staff, Williamsburgh Canal, construction.	1844-48.
	Superintending Engineer, deepening Galops Rapids, work commenced 1876 and completed 1882.	1877 to 1882.
	Superintending Engineer, Murray Canal, between Bay of Quinte and Presqu'île Bay, north shore Lake Ontario.	1881 to 1886.
	Superintending Engineer, Burleigh Canal, Buckhorn Canal, Fenelon Falls Canal, &c., on the River Trent, works commenced 1882, completed 1888.	1881 to 1888.
	Superintending Engineer, Williamsburgh Canals. Enlargement, &c.	1880.
	Superintending Engineer, Cornwall Canal enlargement, &c. Work commenced 1876 on lower half from Cornwall upwards.	1876-1891.
Russell, Lindsay A.	Engineering Staff, Public Works, survey Dawson Route. Fort William on River Kaministiquia near Thunder Bay, Lake Superior, to Fort Garry (Winnipeg), Manitoba.	1857-1859.
Russell, Alexander J.	Superintending Engineer, roads and bridges along north shore Baie des Chaleurs from Cross Point to Gaspé Basin.	1841 to June, 1846.
	Kimouski bridge contract, S. Bradley, and Jos. Garon.	23rd Nov. 1844.
	Died 12th November, 1887.	
Scott, David.	Assistant Engineer, Ottawa River slides and booms.	1st Oct., 1854-91.
Scott, William.	Report on foundation works, Point Pelee Light House.	1855-56-58.
	Report and Estimates, Rondeau Harbour.	1857.
Scott, W. R.	Sub-Assistant Engineer, Welland Canal.	1843.
Scott, W. L.	Assistant Engineer, Montreal Harbour Commissioners.	19th May, 1875.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Secord, William F.	Engineering Staff, S. Division, Welland Canal enlargement	Oct., 1872, to Nov., 1888.
Shanly, Frank.	Formerly City Engineer of Toronto. Appointed Chief Engineer, Intercolonial Railway.	23rd June, 1880.
	Died 13th Sept., 1882.	
Shanly, Robert.	Canal survey, Ottawa to Lake Huron.	1857-58.
Shanly, Walter.	Superintending Engineer, Beauharnois Canal construction.	1812-48.
	Consulting Engineer, Welland Canal.	Jan., 1846.
	Chief Engineer Bytown and Prescott Railway.	1851-54.
	Report, Welland Canal enlargement.	11th Oct., 1854.
	Proposed ship canals, River Ottawa, Montreal to Lake Huron.	1857-58.
	Inspector of railways, and Engineer on various works.	29th Oct., 1864-91.
	Elected Member of the House of Commons, 1863-72, July, 1885-90.	
	Engineer of Royal Commission to examine and report on plans for the improvement of Montreal Harbour.	1890-91.
	Member Canadian Society of Civil Engineers.	24th Feb., 1887.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Shaw, W. M.	Specifications, &c., Hamilton and Port Dover Road, London and Brantford, Brantford and Woodstock	1842-44.
Simmons, Lieut. J. A., Royal Engineer.....	Report of an experiment made at Quebec, 13th July, 1840, to destroy a barrier gate by gunpowder.....	17th July, 1840.
Sims, A. H.....	Reports on roads, &c., District of Gaspé.....	1847-48.
Simpson, Frank.....	Engineering Staff, Welland Canal, N. Division.....	1876.
Sippell, John G.....	Superintending Engineer, canals, Province of Quebec, excepting Ottawa Ordnance Canals, until 1857..... Superintending Engineer, Lachine and Ottawa Canals enlargement	July, 1853 to 1877.
	Consulting Engineer, Lachine and Ottawa Canals	1870 to 1877.
	Died, 26th September, 1879.	1877-79.
Sirois, Joseph Eustache..	Engineering Staff, harbour works, below Quebec, and straightening of ship channel between Quebec and Heaux-Condres	1881-90.
Slater, James Dyson....	Welland Canal, Assistant Engineer..... Assistant Engineer on the Ottawa River slides and booms. Engineer on macadamized roads, Ottawa to Aylmer and Bell's Corners..... Resident Engineer, location and construction of Bytown and Prescott Railway, under Walter Shanly, Chief Engineer..... Montreal, Bytown and Pembroke Railway surveys..... Ottawa ship canal survey, with James Stewart, C.E., &c., Robert Shanly, G. H. Perry, T. E. Norman and Mackenzie..... Superintending Engineer, Rideau Canal, &c.....	1842-46. 1846 to 1849.
	Resigned on 12th September, 1872. Died, 26th October, 1876.	1849-51. 1851-54. 1854-56.
	Died, 26th October, 1876.	1857-58. 10th June, 1858, to 1st Oct., 1872.
Smith, D. C.	Superintendent of light-houses above Montreal	21st June, 1855-80.
	Died, 1st May, 1880.	
Smyth, Major General Sir J. Carmichael.....	Born in London..... Commissioned in Royal Artillery..... Transferred to Royal Engineers..... Married to Harriet, daughter of Gen. Robert Morse, R.E. Baronet..... Major General..... Report on Welland Canal	22nd Feb., 1779. 1794. 1795. 28th May, 1816. 1821. 1825.
	Joint report and estimate of proposed Rideau Canal works, together with Lieut.-Col. Sir G. Hoste and Major Harris, R.E., recommending locks 108 by 20 feet, with a depth of 5 feet water.	1825.
	Reported to the Board of Ordnance adverse to Col. By's "enlarged views" touching the construction of projected canals. Col. By wrote to General Mann, 13th July, 1826, recommending that for commercial and military purposes it was expedient to construct the canals of sufficient size to admit the passage of steamers 110 to 130 feet in length, 40 to 50 feet wide, and drawing 8 feet of water. The following were the canals referred to by Col. By, and his estimate of their cost, viz. :—	
	Welland Canal, £400,000; Rideau, £400,000; Grenville, £100,000; north side Island of Montreal, £150,000; Richelieu, £150,000. In deference to Major General Sir James Carmichael Smyth's Report, the canals were ordered to be constructed on the limited dimensions first determined on.	
	See Mr. Douglas Brymner, Archivist's Report, 1889	

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Smyth, Major General Sir J. Carmichael.....	Author of "Précis of Wars in Canada, 1755 to Treaty of Ghent, 1814." Published for private use by order of the Duke of Wellington..... And afterwards by his son, Sir James Carmichael Smyth.. Appointed Governor of British Guiana..... Died at British Guiana, 4th of March, 1838.	1826. 1862. 1833.
Snow, W. B.....	Engineering Staff, Public Works, Ottawa..... Harbour surveys, Ontario, Quebec and Maritime Provinces Previously employed chiefly on railways and other important works in England where he acted as agent to the Bishop of Durham, after which he was employed in Africa..... On various works in Canada.....	1st Aug., 1880-91. 1882 to 1887. 1837 to 1876. 1876 to 1880.
Scare, W. F.....	Engineering Staff, Public Works, harbours, Ontario..... Died at Port Stanley, 1889.	1885.
Spence, J. B.....	Engineering Staff, Railways and Canals, Ottawa, &c.....	Oct., 1876-91.
Stark, David.....	Sub-Assistant Engineer, Welland Canal..... Secretary, Commission of Enquiry, Ottawa Parliament Buildings..... Report on supplementary survey, Baie Verte Canal..... Superintending Engineer, River Ottawa canals..... do River Trent, new works, completion.	1843. 1862-63. 27th Dec., 1872. 1st May, 1880-90. April, 1887-88.
St. George, Percival W.....	On Flood Commission, Montreal..... Engineer and road surveyor, Corporation of Montreal..... Member of Council, Canadian Society of Civil Engineers..	1886-88. 3rd Dec., 1883-91. 1887-91.
<i>S/LA</i> Larent, Arthur.....	Engineering Staff, Public Works, harbour surveys, Province of Quebec..... Employed as draughtman at head-quarters.....	1885-89. 1889-91.
Steckel, Louis Joseph René.....	Assistant Engineer of G. F. Baillairgé on survey of south shore St. Lawrence, Gulf Road, Ste. Anne des Monts to Cape Rosiers and Gaspé Basin..... Engineering Staff, Public Works, Ontario and Quebec..... Chief Assistant Cedars Canal Survey..... Survey and borings, Princess Louise Basins, Quebec..... Engineering Staff, Chief Clerk, Canada..... Hydrographic survey and Geodetic levels, Rivers St. Lawrence and Richelieu..... Member Canadian Society of Civil Engineers.....	Jan., 1861-62. April, 1863-74. 1874-75. 1875-76. 1st July, 1880. July, 1881-90. 9th Feb., 1888.
Stehelin, Captain, R.E..	Assistant General Superintending Engineer, construction Grenville Canal.....	1819-33.
Stevenson, Alexander...	Survey with André Trudeau for projected canal between Lakes St. Francis and St. Louis..... Report on projected Beauharnois Canal by A. Stevenson and N. H. Baird Adopted on recommendation of Samuel Keefer in his report, 17th February, 1842.	1830-31. 1835.
Stewart, James.....	Engineering Staff, Public Works, &c., on various works... Map of ice shoves at Montreal, St. Ours Lock, Beauharnois Canal..... Road proposed from Malbaie to Ha! Ha! Bay, Saguenay. Survey and plans, proposed piers below Quebec..... First General Report on Public Works up to..... Beauharnois and Lachine Canals surveys and new works... On Grand Trunk Railway..... Ottawa and Lake Huron proposed ship canal survey..... See Walter Shanly's Report, 22nd March, 1858.	1843 to 1858. 1843-44-45. 1847. 1846-47. 1849. 1847-54. 1854-55-56. 1857-58.
Stoker, George.....	Assistant Engineer, Welland Canal.....	1864.

Engineers Employed on Public Works, Canada—*Continued.*

Engineers.	Works.	Dates of Employment, &c.
Strong, W. O.	Engineer in charge, under H. F. Perley, Chief Engineer of Public Works, of Craving or Dry Dock at Kingston, Lake Ontario. Plans and specification of dock, signed by H. F. Perley, Chief Engineer of Public Works. Length of dock, 280 feet. Width of dock, 79 feet at coping level; 47 ft. on floor. Entrance width of dock, 55 feet. Depth at entrance of dock, 15½ feet below the low water of Lake Ontario. Height of water varies 3 feet. Contract signed by N. K. and M. Connolly and commenced. Date of completion stipulated.	1st Dec., 1888-91. 14th Feb., 1889. 23rd April, 1889. 23rd April, 1891.
Sullivan, J. H.	Engineering Staff, Public Works, improvement of rivers, &c. Resident Engineer, deepening feeder, Lake St. Francis to River St. Louis. River Assiniboine improvement.	1880-87. 1883-85. 1886.
Summerville, Peter.	Assistant Engineer, Public Works, surveys Victoria Harbour and Fraser River, British Columbia. Member Canadian Society of Civil Engineers.	1st Aug., 1883, to 6th July, 1887. 9th Feb., 1888.
Sutcliffe, John.	Engineering Staff, Lachine Canal enlargement. do Ste. Anne Canal. St. Gabriel Basins, Lachine Canal. Left service, May, 1886. Member Canadian Society of Civil Engineers.	16th July, 1872-81. July, 1881-86. Aug., 1882-86. 27th June, 1888.
Sutherland, Hugh.	Superintending Engineer, Fort Frances Canal, at foot of Rainy Lake, on the Dawson route. Canal, 800 feet long, with a lock 200 feet by 36½ feet, and 7 feet depth of water on lower sill during low water, opening navigation from Kettle Falls, at Head of Rainy Lake, to N.-W. angle of Lake of the Woods, 164 miles. Work commenced. do completed, except lock gates. Cost of construction, \$288,278.51, to See Baillairgé, Hazelwood, Me-timer, H. Thompson.	1875-79. 14th June, 1875. 1878. 22nd Jan., 1879.
Swift, W. H. (from Boston, U.S.)	Consulting Engineer, Caughnawaga Canal, recommends route proposed by J. B. Mills, 19th February, 1848.	6th June, 1855.
Symmes, H. R.	Superintending Engineer, River St. Maurice, slides and booms, &c. Died 8th October, 1875.	24th Feb., 1858, to 8th Oct., 1875.
Taché, Joseph Charles.	Engineering Staff at Head-quarters. Chief Draughtsman. Harbour works, &c., below Quebec, surveys and construction.	29th Jan., 1872. 1st July, 1883-91. 1882 to 1889.
Taggart, Nathaniel.	Patentee of lock gates of solid timber for canals.	1843.
Tait, Charles Maitland.	Employed on survey of Beauharnois Canal.	1842-43.
Tait, T. M.	Engineer of harbour works, Montreal.	1845 to 1848.
Talcott, W. H.	Report on Shubenacadie (Chikabenakady) Canal. Survey, report and estimates, St. Peter's Canal.	1855-56. 1856.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Taylor, Thomas Dixon..	Assistant Engineer, construction Intercolonial Railway... Surveys and construction Canadian Pacific Railway. Also employed during part of Railway survey, Newfoundland Resident Engineer Tay Canal.....	May, '69, to Dec., '74. Feb., '75, to Sept., '77. 1878-79 and '80. July to Dec., 1880. March, 1882, to Jan., 1889.
Taylor, Mr.	Master attendant Kingston Dockyard prior to Survey of Lake St. Peter with Capt. Boxer.....	1845. 1844.
Taylor, David	Survey of canal route, Lake Huron to Ottawa River..... Reported thereon together with David Thompson and William Hawkins, to the Hon. John Macaulay, Surveyor General of Upper Canada, John S. Cartwright and Capt. Baddeley, Royal Engineers, according to an Act of the Parliament of Upper Canada, of 4th March, 1837. <i>See App. 30, pp. 837 to 847, by G. F. B., Public Works Report, 1867-82.</i>	1837.
Telford, Thomas.....	Founder of the Institution of Civil Engineers, Great Britain, incorporated 3rd June, 1828. Report on projected Shubenacadie Canal; and also on Baie Verte Canal, between Bay of Fundy and Gulf of St. Lawrence.....	1825-26.
Temple, E. B.....	Assistant Engineer, North Shore Railway..... do do by Govt. of Quebec..... Division Engineer, Location Newfoundland Govt. Railway..... do Toronto, Grey and Bruce Railway..... Assistant Engineer, Ontario Division, C.P.R..... Resident Engineer, Toronto Harbour Works, appointed..... Elected Member Canadian Society of Civil Engineers.....	May, '71, to Oct., '75. May, 1876, to Ap. '80. 1880. June, '81, to Oct., '83. Oct., '83, to Mar., '88. April, 1888. 23rd May, 1889.
Thom, G., Brevet Brig- adier General, U.S.A..	Report on saw-dust obstruction in navigable rivers.....	27th Aug., 1872.
Thompson, David.....	Astronomer and Surveyor, engaged in surveying and defin- ing boundary line, for Great Britain, between Canada and the United States..... In the report of the British and United States Commissioners appointed to trace the line of boundary under Art. VII of the Treaty of Ghent, dated 23rd Oct., 1826, Mr. Thompson is spoken of as principal surveyor to the Board and as signing in that capacity the 34 maps prepared. <i>See Hertlet's Commercial Treaties, vol. 13, page 906.</i> On the River St. Lawrence..... Survey of Lake of the Woods..... Principal consulting engineer Welland Canal..... Survey of Lake St. Francis, &c..... Survey of canal route, Lake Huron to Ottawa River..... Survey of Lake St. Peter channel and estimate of proposed dredging for ship channel.....	1816 to 1827. 1817. 1825. 1825-28. 1832-34. 1837. 1841.
Thompson, E. W.....	Assistant Engineer, Carillon Canal, new locks and dam...	July, 1872-78.
Thompson, H. W.....	Assistant Engineer of Hugh Sutherland, Fort Frances Canal, at the foot of Rainy Lake..... <i>See Baillairgé, Hazlewood, Mortimer, Sutherland.</i>	1875-79.
Thompson, H. B.....	Lachine Canal enlargement..... Assistant Resident Engineer, Culbute Canal, Upper Ottawa do do Carillon Canal Enlargement..	Dec., 1872. Sept., 1873-78. 1878-85.
Thompson, H. G.....	Reports on surveys and maps, with soundings of River St. Lawrence above Lake St. Louis.....	Sept. & Dec., 1836-42.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Thompson, Lieut.-Col...	Royal Engineer under the Imperial Government. Succeeded Major Bolton, R. E., as Superintending Engineer of the Rideau Canal.	1841.
Thompson, Major Francis Tengler	Testimony re Rideau Canal lands.	18th March, 1845.
Thompson, W. G. McNeil	Member of Institute, Civil Engineers, England. Resident Engineer, Southern Division, Welland Canal enlargement.	1872-88.
	Resident Engineer in charge, Saut-Ste.-Marie Canal, Canada.	Jan., 1889-91.
	Entered the service of the Dominion Government in April, 1868, as Division Engineer on surveys and location of the International Railway, and served in Nova Scotia, New Brunswick and Quebec Provinces until the spring of 1872.	
	In charge of the survey of Lake St. Louis.	Spring, 1872.
	Adolphe Larue, P.L.S., surveyed Lake St. Louis, 1836.	
Tibbett, Hiram	Description of a projected route for the Welland Canal.	1823.
Tomlinson, Joseph	Engineering Staff, Public Works, Canada	1st Jan., 1870.
	Superintending Engineer, light-houses, Canada	5th May, 1871-80.
	Inspector of bridges on railways, &c.	9th Feb., 1880-86.
	Superannuated	16th Oct., 1886.
Townsend, T. B.	Engineering Staff of Chief Engineer, Public Works, Ottawa Contractor for lock gates, Welland Canal enlargement.	Sept., 1872-80.
	Survey of projected Caughnawaga Canal route, from Lake St. Louis to Lake Champlain.	17th July, 1880, to 29th July, 1882.
Tracy, B. H.	See Mills, Jarvis, Gamble, Swift.	1854.
Tremblay, A. J.	Engineering Staff, harbour surveys below Quebec.	1888-89.
	Student Canadian Society of Civil Engineers	20th Jan., 1887.
Tremblay, W.	Engineering Staff, Harbour Surveys, Lake St. John.	1889-90.
Trudeau, André	Survey with Alex. Stevenson in connection with improvement of water communication between Lakes St. Francis and St. Louis.	1830-31.
Trudeau, Louis E.	Engineering Staff, harbour surveys, &c.	July, 1875-80.
	do canals, &c., Province of Quebec.	1880-91.
Trudeau, Toussaint	Assistant Engineer on railways, &c., Canada and United States	1846 to 1859.
	Appointed Secretary of Public Works, Ontario and Quebec.	13th Dec., 1859-64.
	Chief Engineer, Public Works	8th March, 1864.
	Assistant Commissioner, Public Works, Ontario and Quebec	15th March, 1864.
	Deputy Minister Public Works, Canada	May, 1868-79.
	do Railways and Canals, Canada	22nd Sept., 1879-91.
Trutch, Sir J. W., C.M.G.	In charge of Public Works, including Esquimalt Graving Dock, British Columbia	1881 to Jan., 1888.
	Previously Lieut.-Governor of British Columbia.	
	Member Canadian Society of Civil Engineers	17th Sept., 1887.
Tully, Kivas	Engineer, Toronto Harbour Commissioners.	1853-91.
	Proposed Georgian Bay Canal, Lake Ontario to Lake Huron	1845-51.
Twiss, Capt.	Commanding Officer of the Royal Engineers.	
	The first canals on the north side of the St. Lawrence, between Lakes St. Louis and St. Francis, were constructed under this engineer, as designed by Governor Haldimand, between the years.	1779 and 1783.

Engineers Employed on Public Works, Canada—Continued.

Names of Engineers, &c.	Engineers.	Works.	Dates of Employment, &c.
	Twiss, Capt.	They were located at the Cascades, Split Rock, Trou du Moulin and Côteau du Lac, the locks being from 6 to 7 feet in width between the gates with a depth of 2 to 2½ feet of water on the sills, for the passage of small boats, with from 39 to 40 barrels of flour. 263 bateaux, at 10s., 2 canoes and 1 boat, at 5s. each = £132 5 0, for tolls, passed through the then existing canals, during the season of 1781. See his report dated For further details subsequent to the above, see record of Col. Gother Mann, R.E.	3rd Dec., 1781.
h, 1845.	Valiquet, Ulric.....	Engineering Staff, Public Works, Ottawa and below Quebec In charge of various works below Quebec.....	May, 1873-89. 1887-90.
91.	Vaughan, Capt.	Engineer in charge, Lévis Graving Dock Superintendent of dredging, new straight channel, Lake St. Peter In charge of light-house at Belle-Ile..... Died at Quebec, 9th Dec., 1869.	13th Oct., 1890. 1844-46. 1855-61.
72.	Vavasour, Lieut., R.E..	Engineering Staff, Grenville Canal.....	1840.
870. 1871-80. 1880-86. 1886.	Walsh, Edmund J.	Assistant Engineer, Municipality and County Works, Province of Ontario..... Assistant Engineer, C. P. R., Rocky Mountain Division... do Northern Pacific Railway & O. T. Co. Assistant and Division Engineer, C. P. Railway..... Assistant Engineer, Cape Breton Railway—for Department of Railways and Canals..... Engineer in charge of Division on Harvey and Salisbury Location Surveys—for Department of Railways and Canals..... Appointed Engineer for Govt. of Antigua, W.I.....	1877-1880. 1881. 1882. 1882-1885. 1885 to 1889. 1889-1890. 1890.
2-80. 1880, to y, 1882.	Walton, D. S.	Engineering Staff, Lachine Canal enlargement, St. Ours lock and dam, Chambly Canal, roads, bridges, &c., Hull to Grenville, By-town to l'Original, &c.....	1843-49.
1887.	Weller, J. L.	Engineering Staff, New Trent Canals..... do Cornwall Canal enlargement, lower half.....	July, 1882-88. Aug., 1888-91.
	Wells, Alexander W. ...	Engineering Staff survey, proposed Dawson Route, from Fort William, on the River Kaminstiquia, Thunder Bay, Lake Superior, to Fort Garry or Winnipeg, Manitoba.....	1857 to 1859.
	Wells, Alphonse.....	Engineering Staff, fixing boundary line under Ashburton Treaty of 1842.	
59. 1850-64. 1864. h, 1864. 79. 1879-91.	Wells, Arthur.....	Engineering Staff, Public Works, Ontario and Quebec, roads, Eastern Townships, and Lachine Canal enlargement, &c.....	1846.
	West, James.....	Specification, bridge across westerly channel of the River Rideau, near its mouth..... Proposed Georgian Bay, Lake Huron and Ottawa Canal.....	5th July, 1845. 23rd Feb., 1856.
n., 1888. 1887.	Westmacott, Lieut. S., R.E.	Report on causes of floods in Montreal.....	29th June, 1841.
	White, Lieut. H.A., R.E.	Report on experiment made at Quebec to destroy Sally Port gates with gunpowder.....	11th July, 1840. 1844.
	Willet, Herbert A.....	Engineering Staff, Grenville Canal..... do South Div. Welland Canal Enlargement.....	Aug., 1881, to Nov., 1888.
	Williams, J. B.....	Engineering Staff, Public Works, River Saskatchewan improvement, &c., N.W.T.....	1885-87.
783.	Wise, Frederick Ashford Milbank.....	Engineering Staff, survey of route for proposed Sault-Ste. Marie Canal, under S. Keefer, Chief Engineer of Public Works, Canada.....	1852.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Wise Frederick Ashford Milbank.....	<p>On Engineering Staff, Grand Trunk Railway, construction and maintenance.....</p> <p>On Engineering Staff, Public Works, surveys, harbours, &c., Ontario.....</p> <p>Resident Engineer, on the construction of the Erie and Niagara Railway, and the Buffalo and Salamanca Branch of the Atlantic and Great Western Railway....</p> <p>Chief Engineer of the St. Lawrence and Ottawa Railway, and Assistant Engineer of the Ottawa Waterworks....</p> <p>Superintending Engineer, Rideau Canal, Ottawa to Kingston; and Tay Canal.....</p> <p>Superintending Engineer of the reconstruction of the Tay Canal, from Rideau Lake to the Town of Perth, Ontario. Old canal 8½ miles long, with 5 locks of 100 × 20 × 4 feet depth of water on sills. Total rise, 28 feet. Built 1831-34, by a private company, under Act William IV, Chap. 2, Sec. 1, and other Acts.....</p> <p>New canal 7 miles long, with two locks each of 13 feet lift, and 134 × 32, with 5½ feet depth of water on sills during low water of river and lakes. Built by Manning & Co., contractors..</p> <p>And by W. Davis & Co., contractors.....</p> <p>New canal opened.....</p> <p>Mr. Wise became a member of Canadian Society of Civil Engineers.....</p>	<p>1857 to 1860.</p> <p>1860-63.</p> <p>1864-66.</p> <p>1866-72.</p> <p>1st Oct., 1872-91.</p> <p>1882-91.</p> <p>1831..</p> <p>15th June, 1883, to 12th July, 1888.</p> <p>12th July, 1888-90.</p> <p>1890.</p> <p>20th Jan., 1887.</p>
Wolfe, Major Alex. Jos.	Superintending Engineer, Kempt Road, from St. Octave de Métis, near the River St. Lawrence, to Cross Point, Baie des Chaleurs.....	1830-32.
Wright, Benjamin.....	<p>Engineer in charge of Erie Canal, from Genesee to Albany.</p> <p>do Chesapeake and Delaware Canal.</p> <p>do Delaware and Hudson Canal.</p> <p>do Chesapeake and Ohio Canal.</p> <p>Engineer, New York and Harlem Railroad, prior to.....</p> <p>Report on Lake Francis, with map.....</p> <p>Projected Welland Canal enlargement.....</p> <p>do Williamsburgh Canals.....</p> <p>Consulting Engineer, Cornwall Canal.....</p> <p>Commanded R.E. in Canada.....</p> <p>Was appointed Col.....</p>	<p>1833.</p> <p>1833.</p> <p>1833.</p> <p>1833.</p> <p>1818</p> <p>1839.</p> <p>1875-80.</p> <p>19th Dec., 1833.</p> <p>21st April, 1834.</p> <p>1834.</p>
Wright, Lieut. Col., I.R.	Fraser River improvements, British Columbia, report.....	1875-80.
Wright, G. B.....	Report on St. Lawrence Canals.....	19th Dec., 1833.
Wright, Capt., R.E.....	do land required for Chambly Canal.....	21st April, 1834.
Senior Capt., R.E., Montreal Division.....		1834.
Yule, Capt. P., R.E.....	<p>Superintendent, construction and repairs of St. Lawrence Canals.....</p> <p>Report and estimate, St. Lawrence Canals.....</p> <p>Report on St. Lawrence Canals.....</p> <p>Report of reconnaissance ordered by Lord Aylmer to examine route to connect Quebec with the Atlantic Ocean by a railway through the State of Maine.....</p> <p>Plans, canal and lock proposed at Ste. Anne, south side River Ottawa, instead of old lock, built 1816, in Vaudreuil channel, between Ile Perrot and Vaudreuil, of wood.....</p> <p>New stone lock, north side of river, 190 × 45 feet, with 6 feet water on sills, built 1840-43.</p> <p>Enlarged stone lock, 200 × 45, with 9 feet water on sills and a new channel with crib work and embankment on each side, in the river below the lock, commenced in 1873 and completed towards 1883.</p>	<p>1830.</p> <p>30th May, 1832.</p> <p>1833.</p> <p>Aug., 1835.</p> <p>1835.</p>

SUPERINTENDENTS EMPLOYED
ON THE
PRINCIPAL PUBLIC WORKS
OF
CANADA,
EXCLUSIVE OF PUBLIC BUILDINGS AND RAILWAYS.

1779 to 1891.

SUR

Ada

Alex
Bail

Bar
Béit
Bele

Ben
Ben

Ber
Bill

Big

Bis

Pla
Boc

Boc
Boc
Hol
Bot
Bot
Bot

Bot

Bot

Bro

Br

Br
Br
Bu

SUPERINTENDENTS, &c.

SUPERINTENDENTS, &c., Employed on the Principal Public Works of Canada, exclusive of Public Buildings and Railways, 1779 to 1891.

Names.	Works.	Dates.
Adams, John.....	Asst. Superintendent, Lachine Canal.....	5th Sept., 1823.
	do Canal Locks, Lakes St. Louis and St. Francis	May, 1833.
Alchin, John.....	do Burlington Bay Canal.—Prior to.....	11th Oct., 1843.
Baillet-Latour, Geo. Fred....	Superintending Engineer, various roads, bridges, harbours and canals, Quebec, Ontario and Maritime Provinces..	1853-79.
	Superintending Engineer, River Trent Canals, slides, &c., and Rivers St. Maurice and Saguenay slides, booms, &c..	1863-76.
	Superintending Engineer, Ottawa, Richelieu and St. Lawrence Canals.....	1877-78.
	For intermediate dates on respective works—See "Record of Engineers."	
Barrett, John.....	Superintendent, Ste. Anne's Lock	April, 1849.
Béique, Joseph Flavien..	do Beauharnois Canal.....	26th March, 1874-91.
Belcher, Thomas Deaves.	Superintending Engineer, Trent River Works.....	July, 1873-84.
	Superannuated.....	1st July, 1885.
	Died.....	12th April, 1886.
Benoit, Pierre Basile....	Superintendent, Chambly Canal.....	1886-88.
Bennett, W.....	Superintending Engineer, Construction Esquimalt Graving Dock	
	Superintendent, Lévis Graving Dock	24th Nov., 1883.
Bernier, Capt. J. E.....	Assistant Superintendent, Sarnia, Brantford and Chatham and Amherstburgh roads.	1st April, 1887-90.
Billyard, W.....	Assistant Superintendent, Burlington Bay Canal.....	1843.
	do Port Dover harbour.....	1872-74.
Biggar, W. F.....	Superintendent, Lachine Canal.....	1872.
	Died.....	1849 to Jan., 1868.
Bissett, Alexander....	Superintendent, Gosford road.....	August, 1865.
Blaklock, F. W.....	do Welland Canal.....	1843.
Bodwell, E. V.....	do Burlington Bay Canal.....	1874 to 1st Jan., 1880.
	do Beauharnois Canal.....	1875.
Booth, Thomas.....	do do	1850 to July, 1854.
Booth, Thomas D.....	do do	July, '54, to Feb., '57.
Bolton, Major R. E.....	do Rideau Canal.....	1839.
Bonaëina, ———	do (pro tem) Chambly Canal.....	1853-54.
Borne, Michel.....	do Chambly Canal (Chambly Division).....	31st May, 1843-53.
Bouchard, Pascal.....	do Road Ste. Agnes de Malbaie to Baie des Ha! Ha!, Saguenay	1856-58.
Bou langer, Damaso....	Superintendent, slides and booms, at foot Lake St. John, and head of River Saguenay	1st May, 1860-81.
	Superannuated.....	19th May, 1881.
	Died.....	March, 1882.
Bou langer, Arthur....	Superintendent, slides, booms, dams, at foot Lake St. John, and head of River Saguenay	19th May, 1881-91.
Brophy, John Byrne....	Superintendent, Ottawa River Works.....	1st April, 1879, to 1st April, 1880.
	Lockmaster, Carillon and Grenville Canals.....	12th June, 1872, to 1st April, 1879.
Brophy, G. Patrick....	Assistant Superintendent, Ottawa River Works	6th July, 1873, to 22nd July, 1875.
	Superintendent, Ottawa River Works.....	22nd July, 1875, to 1st April 1879, 1st April, 1880-91.
Brunel, A.....	do Welland Canal.....	1871 to 1874.
Bruyères, Capt. R. E....	do Construction, Cascades Canal.....	Jan., 1804.
Burnett, Thomas.....	Superintending Engineer, Lachine Canal.....	1821-26.
	Died.....	1826.

SUPERINTENDENTS &c., Principal Works, &c., Canada,—Continued.

Names.	Works.	Dates.
Burnett, John	Superintendent of Works, Lachine Canal.	1826.
By, Lt.-Col. John, R.E.	Superintending Engineer, Rideau Canal construction.	1826-32.
Callahan, —	do Division, Welland Canal.	1836.
Carmichael, Daniel	Superintendent, Lachine Canal	1844-46.
	Died.	1846.
Chaloux, François.	Superintendent, (<i>pro tem</i>) Beauharnois Canal.	31st May to Aug. 1873
Chartier, P. Téléphore.	do Chambly Canal.	1854-63.
Chater, Lt.-Col., R.E.	Superintending Engineer, Rideau Canal.	Date not ascertained.
	Succeeded Capt. Chas. E. Ford, who succeeded Lt.-Col. Thompson as Superintending Engineers under Imperial Government, between	1832 and 1852.
Clarke, Isaac Winslow, Dep. Com. Gen.	Superintendent, Cascades, Split Rock and Côteau du Lac Canals, under Imperial Government.	1809-1822.
	Died	7th July, 1822.
Cliff, John	Superintendent, Harbour Works, Montreal.	1832-45.
Codère, Alfred.	do St. Ours Lock and Dam.	Appointed. 1st Sept., 1838.
Coffin, Lt.-Col. W.	General Agent Ordnance property, including the Rideau, Carillon, Chute à Blondeau, Cascades, Split Rock, Côteau du Lac Canals, &c. Appointed.	Sept., 1856.
	Died.	28th January, 1878.
	The last named works were maintained at expense of Provincial Government from 1st Oct., 1853. Their transfer from Imperial Government accepted by Order in Council, 25th January, 1856. Transfer ratified by Prov. Act, 19 Vic., cap. 45.	
Conway, Michael.	Engineering Staff, etc., Lachine Canal.	19th June, 1856.
	Acting Superintendent	1844 to 1868.
	Superintendent	1868.
	Died	1st April 1869 90.
Cotton, James.	Superintendent East and West York and Yonge street roads from Toronto; also roads Hamilton to Port Dover, Dundas, Brantford, &c.	15th Oct., 1890.
	Toronto roads sold to United Counties of York and Peel by Order in Council.	7th June, 1864, to 5th July, 1865.
Cull, James.	Superintendent, (with P. Talbot) Samia, Brantford, Chatham and Amherstburgh roads.	5th July, 1865.
		1843.
Daoust, Joseph Lumina.	Superintendent, Ste. Anne's Lock.	18th Dec., 1878-91.
Dawson, Simon L.	do St. Maurice slides, dams, booms, &c.	1852-57.
	do Route, Lake Superior to Fort Garry.	1857-71.
Devereux, Capt. James.	do Esquimalt graving dock, British Columbia. Previously in charge of Provincial Government Steamer "Sir James Douglas."	17th Sept., 1887-91.
Donaldson, John	Superintendent of Works, Welland Canal (under Commissioners)	23rd February, 1833.
Donatti, L., Dep. Asst. Com. Gen.	Superintendent, Cascades, Split Rock Canals, &c.	1822.
Drummond, —, R. E.	Superintending Engineer, first Suspension Bridge, Ottawa.	1826.
Dunlop, Mathew.	Acting Superintendent, St. Peter's Canal.	1869 to June, 1870.
Dunlop, —	Superintendent, Lachine Canal.	1846-49.
	Died.	1849.
DuVernet, Lt.-Col. Royal Staff Corps.	General Superintendent, Construction Grenville Canal.	1819-29.
	See "Record of Engineers."	
Dwyer, W. O.	Assistant Superintendent, Cascades Road.	1843.
Ellis, William	Superintendent, Burlington Bay Canal.	1st January, 1880-91.
	do Welland Canal.	1st January, 1880-91.
Evatt, H. B.	do Côteau du Lac Canal.	1832 to May, 1833
Finlay, John	do Construction, Ordnance Canals.	1823-29.
Fairbanks, L. P.	do and proprietor Shub-nacadie Canal, (Chikabenakady) N.S.	1855-89.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

Names.	Works.	Dates.
Farnsworth, S. H.	Superintendent, Assistant on repairs, &c., Welland Canal.	March, 1833.
Fleming, Peter	Superintending and Consulting Engineer, St. Ours and Chambly Canals.	1829-31.
	Superintending and Consulting Engineer, Williamsburgh and Cornwall Canals.	1834.
	Superintending Engineer, Bridges between Montreal and Quebec	1843.
	<i>See "Record of Engineers."</i>	
Forbes, W. B., Deputy Com'ry-Gen'l	Superintendent, St. Lawrence Canals.—Old canals built by Imperial Government	1830.
Forbes, William Bilsbury	do Carillon and Grenville Canals.	1st May, 1867, to May, 1889.
	Previously employed in other capacities.	15th April, 1855.
	Died	20th May, 1889.
Ford, Capt. Chas. E., R.E.	Superintendent of Works, Grenville Canal.	1846.
	Superintending Engineer, Rideau Canal	
	(Succeeded Col. Thompson under Imperial Government subsequent to 1832.)	
Foreman, Thomas.	Superintendent, Ste. Anne's Lock	1877.
	Previously Lockmaster, Grenville Canals, since	1st April, 1868.
Gerard, Arsène	Superintendent, Ste. Anne's Lock	1877—1st Dec., 1878.
Grant, Donald M., C.E.	do nav. improvements, St. John River, N.B.	1850-53.
Gibbs, Alex'r	Assistant Superintendent, Lachine Canal.	1st June to 31st Oct., 1823.
Gisborne, F. N., M.E., F.R.S., Canada.	Superintendent General, Government Telegraph and Signal Service	1st May, 1879-91.
	<i>See "Record of Engineers."</i>	
Gisborne, Hartley	Superintendent, Government Telegraph lines, North-West Territory	1st Oct., 1882-90.
Godfrey, Thomas	Superintendent, Cornwall Canal	1843-49.
	do Beauharnois Canal.	1849-50.
Gore, T. S.	Superintending Engineer, Sarnia and Chatham Roads	1843.
Guécard, Jos.	Superintendent, Bridges between Montreal and Quebec	1843.
Gzowski, Lt.-Col. C. S.	Superintending Engineer, Roads and Harbours, Western Ontario	1842-48.
	<i>See "Record of Engineers."</i>	
Hall, Francis Benjamin	Superintending Engineer, Burlington Bay Canal.	1825-32.
	<i>See "Record of Engineers."</i>	
Harrison, Robert Newton	Superintendent, St. Ours Lock and Dam	6th August, 1851.
Harvey, Charles, R.E.	Superintending Engineer, Rideau Canal, prior to	1857.
	(Mr. Harvey was the last Superintendent of this canal under the Imperial Government.)	
	For transfer by Imperial to Provincial Government, <i>see</i> Lt.-Col. W. Coffin, General Agent Ordnance Property.	
Hatt, Augustus	Superintendent, St. Ours Lock and Dam.	11th March, 1853-57.
	Died	28th Feb., 1858.
Hayne, Capt., R. S. Corps	Superintendent construction Ottawa River Canals	1833-34.
Heard, John	do works, Otonabee River	16th Nov., 1833.
Hindmarsh, J.	do Lachine Canal	1842.
Kavanagh, Wallace Morgan	Superintendent St. Peter's Canal, Cape Breton, N.S.	3rd June, 1870-91.
Kefer, Samuel H.	Superintending Engineer, Construction Welland Canal	24th June, 1846.
	<i>See "Record of Engineers."</i> Died.	7th Jan., 1890.
Keeler, T. P.	Superintendent Murray Canal, O.C.	Aug., 1889.
Kennedy, Edward	Superintendent Lachine Canal, appointed.	8th Nov., 1890.
Kerr, William	Superintendent, Works, Burlington Bay Canal, and Secretary to Board of Commissioners, appointed.	March, 1827.
Killaly, J. S.	Superintending Engineer, Rideau Canal	1st Jan., 1857, to 6th April, 1858.
	<i>See "Record of Engineers."</i>	
Kildy, Daniel	Superintendent and Paymaster, Chambly Canal	1843-47.
King, Capt. Wm., R.S.C.	Superintending Engineer, Grenville, Cascades, Split Rock, and Côteau du Lac Canals.	1825-26.
Lewis, Richard	Superintendent bridges between Montreal and Quebec	1843.
Lander, Mr.	Superintendent Montreal Harbour, prior to	1834.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

Names.	Works.	Dates.
Lajoie, Charles	Superintendent, St. Maurice Slides and Booms, &c.	7th Oct., 1878-91.
Larue, Lévis	do St. Ours Lock and Dam	24th April, 1858-88.
	Superannuated	1st Sept., 1888.
Laurencel, Pierre	Superintendent Beauharnois Canal	10th Feb., 1857, to 30th April, 1871.
Lawson, W.	Assistant Superintendent Sarnia, Brantford, Chatham and Amherstburgh roads	1843.
Lee, Andrew	Superintendent, Burlington Bay Canal on the	11th Oct., 1843.
Light, A.	Assistant Superintendent, Burlington Bay Canal, on the	11th Oct., 1843.
Long, Maj. André, Royal Staff Corps	Superintendent, Construction and repairs to Cascades, Split Rock and Côteau du Lac Canals	1817.
Lyons, James	Superintending Engineer, River Trent Works and Light-houses, River St. Lawrence	1843-55.
Maeaulay, John	Commissioner, superintending expenditure Welland Canal.	13th Feb., 1833.
Macdonald, Alexander	Superintendent, East and West York and Yonge street Roads from Toronto; also, Roads, Hamilton to Port Dover, Dundee, Brantford, &c.	18th May, 1863-64.
	Toronto Roads sold to United Counties of York and Peel, by Order in Council	5th July, 1865.
Macdonald, Jos. Frobisher	Superintending Engineer, Lachine and other canals.	1848-52.
	do Temiscouata Road	1853-56.
	Died, autumn.	1857.
	See "Record of Engineers."	
Macdonell, Duncan Allan	Superintendent, Beauharnois Canal	March, 1846 to 27th Aug., 1849.
	do Cornwall Canal	27th Aug., 1849 to 1st July, 1889
	Resigned	1st July, 1889.
	Previously employed on Public Works	Oct., 1834 to March, 1846.
Macdonell, Alex. Greenfield	Superintendent, Williamsburgh Canals	26th April, 1875-89.
	Died	27th January, 1889.
Mackay, —	Superintendent, Fort Garry and Lake of the Woods Roads	1872.
Mann, Capt. J. W., Royal Staff Corps	do Construction, Grenville Canal	1819.
	Report on Navigation of the St. Lawrence	25th Sept., 1818.
Mann, Col. Gother, R.E.	Superintendent-General, Report on Cascades, Cedars and Côteau du Lac Canals	24th Dec., 1800.
	See "Record of Engineers."	
March, S.	Superintendent, Bridges between Montreal and Quebec	1843.
Masse, Joseph A.	do Beauharnois Canal	1st May, 1871 to 31st May, 1873.
McCordock, W. J.	do Dredging, Maritime Provinces	1870-91.
McDonall, Robert	do Assistant, Lachine Canal	1821-23.
McGrath, Thomas	do Works, Newcastle District	Oct., 1843.
McIntyre, Capt. John	do of Lighthouses	1848.
McKay, Mr.	do Fort Garry and Lake of the Woods Road	1872.
McLaughlan, —	do Nav. Improvements, St. John River, N.B.	1863-56.
McNab, Alex.	Superintending Engineer, St. Peter's Canal, N.S.	July, 1865 to July, 1867.
McPherson, David	Dock Master or Manager, Halifax Graving Dock	Feb., 1889-91.
McRae, A. M. F.	Superintendent, Chambly Canal (at St. John)	15th April, 1842 to 18th June, 1843.
	do Ottawa Slides, Booms, &c.	20th Jan., 1849, 22nd July, 1875.
	do Construction, Grand Mère and Shawenigan Slides, River St. Maurice	Sept., 1852.
	Superintendent Construction, new Carillon Slide and Dam	June, 1879-83.
	Died	22nd May, 1883.
Mills, J. B.	Superintending Engineer, Williamsburgh Canals	1849 to 15th June, 1847.
	See Farran Point, Rapide Plat, Point Iroquois and Galops.	
Morin, Louis	Superintendent, Beauharnois Canal	1st Aug., 1873 to 1st April, 1874.
Nagle, Gerald J.	do Construction, Ottawa River Slides, &c.	1843-44.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

tes.	Names.	Works.	Dates.
1878-91. 1858-88. 1888. 1857, to ril, 1871.	Normand, J. B	Boom-Master at Mouth of St. Maurice	1853-91.
		Acting Superintendent, St. Maurice Slides and Booms	1875-78.
	Ouimet, Louis	Superintendent, Chambly Canal	1877-79.
	Paquet, M	do Bridges between Montreal and Quebec	1843.
	Page, John, son	Superintending Engineer, St. Lawrence Canals	1852-53.
		See "Record of Engineers."	
1843. 1843.	Parent, Etienne Henri	Superintending Engineer, Carillon and Grenville Canals	1879-80.
		Lachine, Beauharnois, Chambly, St. Ours Lock and Dam	1880-91.
		See "Record of Engineers."	
	Perley, Henry F	Superintending Engineer, Works, Mar. Prov	1872-80.
		See "Record of Engineers."	
	Perry, George H	Superintending Engineer, Culbute Canal	1873-87.
		Died. See "Record of Engineers."	1888.
	Phelan, Daniel	Superintendent Chambly Canal (at St. John) appointed	18th June, 1843.
	Préfontaine, Christopher	Superintendent Chambly Canal	15th Oct., 1863-77.
1833.	Ranney, George W	do Trent Canals, Slides, Booms, &c	4th May, 1855, July, 1873.
		See "Record of Engineers."	
1863-64.	Redpath, Peter	Superintendent of Works, Chambly Canal (at St. Johns) ..	Prior to 1844.
	Reid, John	do Williamsburgh Canals, appointed	18th Oct., 1839.
		Died	13th May, 1890.
1865.	Reid, John D	Acting Superintendent	1st May, 1890.
	Rigney, James	Superintendent Cascades Road	1843.
	Robinson, William B	do (Commissioner) Welland Canal	13th February, 1833.
		do Welland Canal	1st October, 1837.
		do Lachine do	1841.
		do Beauharnois Canal	1845 to March, 1846.
		do Trent River Works	1st July, 1884-91.
		See "Record of Engineers."	
16 to 27th 49. 1849 to 1889 889. to March, 1875-89, ary, 1889.	Rogers, Richard B	Superintendent various Harbour works and Roads, Province of Quebec	29th May, 1856-91.
		See "Record of Engineers."	
	Rose, Isaac	Superintendent Williamsburgh Canals	4th November, 1853, to 26th April, 1875.
	Ross, A. P	Superintendent Cornwall Canal	1st July, 1889-91. 1881-86.
	Rubidge, Thomas S	Superintending Engineer, Murray Canal	
		See "Record of Engineers."	
1818. 1800.	Russell, Alex. J	Superintendent, Construction Gaspé roads, Baie des Chaleurs	1841, June, 1846.
		Transferred to Crown Timber Office	June, 1846, to Octo- ber, 1882.
		Previously in Commissariat Dept., Imperial Govt ..	1830-41.
		Died	12th Nov., 1887.
87 to 31st 73.	Shade, Absalom	Commissioner superintending expenditure Welland Canal ..	13th February, 1833.
	Sinms, A. H	Assistant Superintendent, Baie des Chaleurs road	1843.
		Commissioner, Gaspé roads, &c	1846-48.
	Simpson, George	Superintendent, Grenville and Carillon Canals	18th Oct., 1889-91.
	Sippell, John G	Superintending Engineer Canals, Province Quebec, except- ing River Ottawa Canals, until 1857	July, 1853-77.
		Superintending Engineer (Consulting), Canals, Prov. Quebec ..	22nd June, 1877-79.
		Died	26th September, 1879.
		See "Record of Engineers."	
5 to July, -91. 1, 1842 to ne, 1843. 1849, 22nd 75. -83. 1883. 5th June,	Slater, James Dyson	Superintending Engineer, Rideau Canal, &c	10th June, 1858, to October, 1872.
		Died	26th October, 1876.
		See "Record of Engineers."	
	Smith, D. C	Superintendent Lighthouses above Montreal	21st June, 1855-80.
		Died	1st May, 1880.
	Stark, David	Superintending Engineer, Ottawa River Canals	1st May, 1880.
		do Trent River, new canals, &c	1888-90.
		See "Record of Engineers."	
	Stehelin, Captain, R. E	Superintending Engineer, construction Grenville Canal ..	1819-33.
	Strong, W. O	do do Kingston Graving Dock	1st Dec., 1888-91.
	Sutherland, Hugh	Superintendent Construction Fort Frances Canal Lock	1875-78.
1873 to 1st 374.	Symmes, Henry R	do St. Maurice slides, booms and other works	24th Feb., 1858-75.
		Died	8th October, 1875.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—*Concluded.*

Names.	Works.	Dates.
Talbot, F	Superintendent Sarnia, Brantford, Chatham and Amherst- burgh Roads	1843.
Thompson, W. H.	Superintendent (Asst.) construction Fort Frances Lock	1870-78.
Thompson, John	do Carillon and Grenville Canals	15th July, 1859, to 30th April, 1867.
	Died, 30th April, 1867	
Thompson, Lt.-Col., R. E.	Superintending Engineer, Rideau Canal	Date not ascertained.
	Succeeded Major Bolton, under Imperial Govt	
Twiss, Captain, R. E.	Superintending Engineer, Cascades, Split Rock, Trou du Moulin and Côteau du Lac Canals	1779 to 1783.
Ulrich, Corneille	Superintendent Chambly Canal	1st May, 1879-85.
Vanderburgh, John	do Locks, &c., Welland Canal	1833.
Vaughan, Captain A. H.	do Lake St. Peter straight channel dredging	1844-46.
	do Belle Isle lighthouse	1855-61.
	Died at Quebec	9th December, 1869.
Walton, D. S.	Superintendent Engineer, Ottawa River works	October, 1843.
Wilson, Thomas	do of works, Trent River and Newcastle Dis- tricts	1844.
Wise, Frederick Ashford Milbank	Superintending Engineer, Rideau Canal	1st Oct., 1872-91.
Woodly, J.	Assistant Superintendent, Baie des Chaleurs road	1843.
Woodruff, Samuel D.	Superintendent Welland Canal	1839-71.
	do Burlington Bay Canal	1869.
Yule, Capt. Patrick, R. E.	do Construction and repairs of St. Lawrence Canals, St. Anne's Lock, &c.	1830-35.
	See "Record of Engineers."	

uded.

Dates.

3.
6-78.
h July, 1859, to
0th April, 1867.
te not ascertained.

9 to 1783.
May, 1879-85.
3.
4-46.
5-61.
December, 1869.
ober, 1843.

4.
Oct., 1872-91.
3.
9-71.
9.
0-35.

PUBLIC WORKS AND THEIR ENGINEERS, &c.

CANADA.

—
CANALS.—GRAVING DOCKS.

—
1779 TO 1891.

P

For

Loc
Len
Bre
Wa

Rec
Len
Bre
Wa

Rec
Len
Bre
Wa

Wh
Len
Loc
Loc
Len
Bre
Wa

Ha
Co
\$

Ha
c

PUBLIC WORKS AND THEIR ENGINEERS, ETC.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891.

Works.	Engineers, &c.	Services.	Dates.
BAIE VERTE CANAL (Projected).			
(Marine railway, instead of canal being built, from Bay of Fundy to Baie Verte) 1887-91.)			
For navigation, 4 feet.	Minnitie, Robt., P.L.S.	Survey and report to New Brunswick Govt. on Au Lac and Tidnish routes..	Oct., 1822.
Locks required, 6. Length of locks, 105½ ft. Breadth of locks, 20½ ft. Water on sills, 8 ft.	Hall, Francis, Benjamin, C.E.	Report to Govt. New Brunswick on Minnitie's survey, and on routes Shediac to Peticodiac Bend, and Shediac to Dorchester.....	Oct., 1825.
Recommended locks. Length, 150 feet. Breadth, 40 feet. Water on sills, 13 feet.	Telford, Thomas, C.E.,	Founder of the Institute of Civil Engineers, G.B., incorporated 3rd June, 1828..... Report to Govt. New Brunswick, with plans, recommendations, &c.	1826.
Recommends locks. Length, 150 ft. Breadth, 40 feet. Water on sills, 9 feet.	Crawley, Capt. H. O., R.E.	Survey and report, for Govt. of New Brunswick.....	Jan. 19, 1843
	do do ..	Report to Govt. of New Brunswick on Messrs. Hall and Telford's schemes....	Mar. 14 1843 Mar. 19, 1843
	Page, John, Chief Engineer Public Works....	Report on previous surveys and recommends another survey.....	May 7, 1869.
Whole-tide canal. Length, 21½ miles. Locks, Bay of Fundy, 4. Locks, Baie Verte, 2. Length of locks, 270 ft. Breadth of locks, 40 ft. Water on sills, 15 ft.	Bailairgé, George Fred., Asst. Chief Engineer Public Works.....	Survey and report with plans and estimates to J. Page, Chief Eng. P.W....	Apr. 8, 1872.
	Guerin, Thomas, C.E....	Assistant to G. F. Bailairgé.....	1870-73.
	Steckel, René, C.E.	do do ..	1870-73.
	Monro, Alex., P.L.S.	do do ..	1870-73.
	Rosa, Joseph, C.E.	do do ..	1870-73.
	Gzowski, Col. C. S., and Keefe, Saml. H., C.E.	Joint report on G. F. Bailairgé's report Recommend certain modifications.....	May 2, 1872.
	Stark, David, C.E.	Report on supplementary survey.....	Dec. 27, 1872
Half-tide canal. Cost estimated at \$5,317,000.	Gzowski, Col. C. S., and Keefe, Saml. H., C.E.	Joint report recommending a half-tide canal through Laplanche Valley.....	Feb. 18, 1873
Half-tide, also whole-tide canal.	Bailairgé, G. F., Asst. Eng. Public Works....	Estimates, &c., for half-tide and whole-tide canals, &c.....	Apr. 12, 1873

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Baie Verte Canal</i> —Con.			
Estimated cost of located line, Missiguash Valley.	Baillairgé, G. F., Asst. Eng. Public Works....	Report on location survey through Missiguash Valley.....	Nov. 17, 1873
Half-tide canal, \$7,700,000			
Three-quarters-tide..... 8,100,000	Page, John, Chief Eng. Public Works.....	Report on Messrs. Keefer and Baillairgé's projects; approves latter.....	Dec. 10, 1873
Full tide..... 8,500,000			

BEAUHARNOIS CANAL (River St. Lawrence.)

Commenced, 1842.	Stevenson, Alexander....	Survey with A. Trudeau.....	1830-31.
Completed, 1845.	Trudeau, André.....	Assistant of Alex. Stevenson on survey..	1830-31.
Opens communication from Lake St. Francis to Lake St. Louis, avoiding rapids at "The Cascades," "The Cedars," and "The Côteau," River St. Lawrence.	Mills, J. B.....	Surveys and reports. North Shore Route.	1833.
	do.....	Chief Engineer. South Shore Route....	1843.
	Thompson, David.....	Assisted Mr. Mills, survey.....	1833.
	Stevenson, Alexander....	Report on canal project. South Shore..	1835.
Length, 11½ miles.	Baird, N. H.....	do do do ..	1835.
No. of locks, 9.	Thompson, Henry G....	Survey of part of the River St. Lawrence above Lake St. Louis. Sept. and Dec.	1836-42.
Length do 260 feet.	Larue, Adolphe.....	Survey and Map of Lake St. Louis	1836.
Breadth do 45 do	Phillipotts, Lt.-Col., R.E.	Report to Imp. Gov.; on Inland Nav....	Dec. 1839. Aug. 1840.
Water on sills, 9 do	Killaly, Hamilton H....	Chairman, Board of Works.....	1841-46.
Rise or lockage, 82½ feet.	Keefer, Samuel.....	Chief Engineer, Public Works	1841-52.
First vessel to pass through was the "Albion," in Oct., 1845.	Tait, Charles Maitland..	Report, &c., on survey Beauh. Canal ..	1842-43.
This Canal is to be enlarged or a new one built, with a navigable depth of 14 feet of water on sills, on N. shore.	Casey, Wm. R.....	do on Cedars Canal Route.....	1842.
Expenditure by Provincial Government up to 30th June, 1867, \$1,611,424.11.	Keefer, Samuel.....	Report approving Mr. Stevenson's route—adopted.....	17th Feb., '42
Expenditure by Dominion Government from 1st July, 1867, to 30th June, 1889, \$124,290.47.	Shanly, Walter.....	Superintending Engineer. Construction..	1842-48.
Total expenditure to 30th June, 1889, \$1,735,714.58.	Kierkowski, A.....	Engineering staff. do ..	1842-45.
	Cowley, J. G.....	Assistant Sub. Engineer do ..	1843.
	Larocque, A. B.....	Jun. Assistant Engineer de ..	1843.
	Guy, A.....	Assistant Sub. Engineer do ..	1843.
	Stewart, James.....	Map of "Ice Shoves" at Montreal, also St. Ours' Lock and Beauharnois Canals	1843-4-5.
	Robinson, William B....	Superintendent of Canal.....	1845 to Mar., 1846.
	Macdonnel, Duncan Allan	do do	Mar., '46, to 27th Aug., 1849.

-Continued.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Beauharnois Canal—Con.</i>			
Nov. 17, 1873		Stewart, James.....	Survey new works, Beauharnois, and rapids of River St. Lawrence, between Lakes St. Louis and St. Francis; also, Government property and crown'd lands	1847-54. 1849-50.
		Godfrey, Thomas	Superintendent.....	
Dec. 10, 1873		Baillairgé, Geo. Fred ...	Canal Survey and reports on claims, &c., Superintending Engineer.....	1851-64. 22nd June, 1877-79.
		Booth, Thomas.....	Superintendent.....	1850 to July, 1854.
		Legge, Charles.....	Engineering staff.....	1850-51.
		Sippell, John G.....	Superintending Engineer	July, 1853-77
1830-31.		Booth, Thomas D.....	Superintendent.....	July, 1854, to Feb., 1857.
1830-31.		Page, John, sen.....	Chief Engineer.....	1853-90.
1833.		Laurence, Pierre.....	Superintendent.....	10th Feb., '57, to 30th Apr., 1871.
1843.		Masse, Joseph A.....	Superintendent.....	1st May, '71, to 31st May, 1873.
1835.		Crawford, Wm.....	Surveys projected enlargement.....	1872-76.
1835.		Thompson, Wm. G. McNeil	Charge of survey, Lake St. Louis.....	1872.
1836-42.		Chaloux, François.....	Superintendent (<i>pro tem</i>).....	31st May to 6th Aug. '73
1836.		Morin, Louis.....	do	Aug., '73, to Apr., 1874.
Dec. 1839. Aug. 1840. 1841-46.		Béique, Joseph Flavien..	do	26th March, 1874-91.
1841-52.		Harrington, Thos. W....	Assistant Superintending Engineer.....	1st May, 1875 to 1887.
1842-43.		Parent, E. H.....	Superintending Engineer.....	12th May, 1880-91.
1842.		Sullivan, J. H.....	Resident Engineer, deepening River St. Louis and Feeder.....	1883-85.
		Doré, J. E.....	Engineering Staff	1884-86.
17th Feb., '42		Monro, Thomas.....	Examination and report, projected enlargement and North Shore Route.....	1889-90.

NEWCASTLE DISTRICT OR RIVER TRENT CANALS.

BOBCAYGEON LOCK, &c.

1843.	Part of Trent River Navigation designed to connect Bay of Quinté, Lake Ontario, with Lake Huron.*	John G. Bethune..... Robert Brown..... John Hall..... Thomas Reed..... A. McDonell..... Baird, N. H.....	Commissioners appointed to superintend Newcastle District works on the River Trent and its Tributaries.....	1833.
1843-4-5.		do		1833.
1845 to Mar., 1846. Mar., '46, to 27th Aug., 1849.		do	Superintending Engineer.....	1833-43.
		Rubidge, F. P.....	Compiled map, Trent River, &c.....	1836.

* Distance direct, 112 miles; *via* proposed route, 235 miles; Lockage rise, 589½ ft., and fall, 243½ ft.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Bobcaygeon Lock—Con.</i>			
Commenced, 1833.	Killaly, Hon. H. H.	Report on works prior to.....	1843.
Completed, 1835.	Keefer, Samuel H.	Chief Engineer.....	1841-52.
Contractors, Dumble and Hoar.	Lyons, James.	Superintending Eng., R. Trent Wks., etc.	1843-55.
Contract dated 25th July, 1833.	Rigney, James.	Assistant Engineer do do ..	1843-49.
Dimensions of wooden locks, 128 x 28 x 10 feet.	Page, John, sen.	Chief Engineer, Canals, etc.....	1853-90.
Replaced by stone, 1857.	Perley, H. F.	do Pub. Works	1879-91.
Length, 134 feet.	Wilson, Thomas.....	Superintendent works, Newcastle District and Trent River.....	1844.
Breadth, 33 do	Ranney, G. W.	Superintending Engineer	4th May, '55, to July, '73
Depth of water, 5 feet.	Baillairgé, Geo. Fred....	Reports, Estimates, &c., R. Trent Works.	1863-74.
Expenditure, Trent River Navigation, prior to 1st July, 1867, \$309,371.31.	do	Deputy Minister, Public Works	1879-91.
From 1st July, 1867, to 30th June, 1889, \$751,238.48.	Belcher, Thomas Deaves.	Superintending Engineer	1873-84.
Total expenditure to 30th June, 1889, \$1,060,609.79.	Rogers, Richard B . .	Assistant do	1878-81.
	do	do Trent Valley survey	1882-83.
	do	Superintending Engineer	1st July, 1884-91.
	Trudeau, Toussaint....	Deputy Minister, Canals, etc.....	1864-90.

BUCKHORN CANAL (River Trent).

Overcomes rapids between Deer Bay and Buckhorn Lakes. Part of Trent River Navigation, Bay of Quinté to Lake Huron. Commenced, 1882. Completed, 3rd May, 1888.	Baird, N. H.	Report on River Trent navigation project.....	1835-36.
	Belcher, Thomas Deaves.	Superintending Engineer, Trent River works	July, 1873-84
	Page, John, sen.	Chief Engineer.....	1881-90.
	Rubidge, Thos. S.	Superintending Engineer.....	1881-86.
	Aylmer, J. A.	Resident Engineer.....	June, 1882-88
	Clark, C.	Engineering staff.....	1882-86.
	Weller, J. L.	do	1882-88.
	Belcher, A. J.	do	1882-88.
	Greenwood, H.	do	1883-87.
	Stark, David.....	Superintending completion new works....	1887-88.
Length, about $\frac{1}{2}$ mile.			
No. of locks, 1.			
Length of locks, 134 ft.			
Breadth do 33 ft.			
Water on sills, 5 ft.			
Contract for construction signed 27th Sept., 1882.			
George Goodwin, contractor.			
See cost; Bobcaygeon Canal.			

BURLEIGH LOCK AND DAMS (Trent River).

Part of projected Trent River navigation, to connect Bay of Quinté, Lake Ontario, with Lake Huron.	Belcher, Thos. Deaves..	Superintending Engineer, Trent River works	1873-84.
	Page, John, sen.	Chief Engineer.....	1881-89.
	Rubidge, Thos. S.	Superintending Engineer.....	1881-86.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891.—Continued.

Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Burleigh Lock, &c—Con.</i>			
43.	Commenced, 1882.	Clarke, C.....	Engineering Staff.....	1882-86.
41-52.	Completed, 3rd May, '88.	Weller, J. L.....	do	1882-88.
43-55.	Length of canal, 2½ miles.	Belcher, A. J.....	do	1882-88.
43-49.	No. of locks, 3.	Greenwood, H.....	do	1883-87.
53-90.	Dimensions, 134 x 33 x 5 feet.			
79-91.	Lift, two locks of 14 ft. and one of 6 feet.	Stark, I. vid.	Superintending completion new works...	1887-88.
44.	See cost; Bobcaygeon Canal.			

BURLINGTON BAY CANAL (Lake Ontario to Burlington Bay.) (St. Lawrence Canals.)

78-81.	Act authorising construction passed 19th March, 1823.	Clark, Hon. Thomas		
82-83.		Crooks, James.....	Commissioners for superintending work.	1823.
84-90.		Overfield, Manuel.....		
		Chisholm, William.....		
	Commenced, 1825.	Wilson, John.....	Contractors—Contract signed.....	June, 1824.
	Opened, 1830.	Strowbridge, G.....		
	Completed, 1832.	Hayes, John W.....		
85-36.	Length of canal, ½ mile.	McKeen, John.....	Superintending constructor	1825-32.
	Has no locks.	Hall, Francis Benjamin..		
	Breadth, 103 feet.	Barrett, Alfred.....	Report.....	1826.
	Depth of water, 11 feet.	Moore, Robert, Master	Survey, report, &c	30 Mar., '27.
87-84.	James Russell, original contractor, abandoned work.	Mariner		
	Expenditure on works previous to 10th Feb., 1841, \$124,356.08; from 1841 to 1st July, 1847, \$308,328.32.	McTaggart, John, R.E..		
81-90.	Total to 1st July, 1867, \$432,684.40.	Kerr, Wm. J., C.E.	Examined works.....	1824-25-26-27
81-86.	Total to 1st July, 1889, \$489,523.60.	do	Secretary Board of Commissioners.	27 Feb., 1828.
82-86.		do	Superintendent of works.....	1829.
82-88.	Gives access to port of Hamilton and Town of Dundas, <i>vid</i> Desjardins Canal.	Harris, John, Surveyor and Master Royal Navy	Report, survey and estimate and Sup....	1825-27.
83-87.		Lee, Andrew.....	Superintendent of works..... on the	11th Oct., '43.
87-88.		Alchin, John.....	Assistant do	do
		Gzowski, Col. C. S.....	Engineer in charge—Report.....	16th Feb. '48.
		Biggar, W. F.....	Superintendent.....	1872-74.
		Bodwell, E. V.....	do	1875.
73-84.		Page, John,	Chief Engineer of Public Works.....	15 Mar., 1864 to 1879.
81-89.		do	do Canals.....	1879-90.
81-86.		Ellis, William.....	Superintendent, appointed.....	1 Jan., 1880-91.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
CARILLON CANAL (River Ottawa.)			
Overcomes "Carillon Rapids," Ottawa River.	Royal Staff Corps Imp.	Designed and constructed by	1819-33.
Designed, 1819.	DuVernet, Lieut.-Col. Henry do do	General Superintending Engineer Report to Imperial Government	1819-29. 26 Dec. 1827
Commenced, 1826. Completed, 1833.	McKay, Wm. and Criehton, Alex.	Contractors; contract dated	17th Jan., '32
Length of canal, 2½ miles	Hall, Major	Engineering staff	1832.
Locks rising, 2. do falling, 1.	Hayne, Capt., R.S. Corps	Supt. Construction Ottawa River Canals.	1833-34.
Length of locks, 126½ ft. Breadth do 32½ ft.	Baird, N. H.	Reports on works for contractors	Jan., 1833, 13th July '33
Lockage, 34½, viz., 21½ ft. upwards and 13 ft. downwards.	Nicolls, Gustavus, Col.	Special Report	5th May, '34.
Water on sills, 6 ft.	Page, John, sen.	Chief Engineer	1857-1890.
Enlargement— Commenced, 1871. Completed, 27th May, '82	Sippell, John G. do	Superintending Engineer Superintending Engineer, Enlargement.	1857-1877. 1870-77.
Length of canal, ¾ mile. No. of locks, 2.	do	Consulting Engineer	1877-79.
Length do 200 ft. Breadth do 45 ft.	do	Died	26 Sept., '79.
Water on sills, 9 ft.	Coffin, Lieut.-Col. W.	General Agent, Ordnance Property	Sept., 1856.
Exp. prior to 1 July, 1867, Carillon and Grenville Canals, \$63,053.64.†	Thompson, John	Superintendent (Died, 30th April, 1867)	15 July '59 to 1st May, '67, May, 1889.
Exp. from 1st July, 1867, to 30th June, 1889, \$3,977,920.07.	Forbes, William Bilsbury	do	19 July, 1870
Total cost to 30th June, 1889, \$4,040,973.71.	Harrington, Thomas W.	Engineering Staff	June '70, to Nov., '85.
The Str. "St. Andrew" was the first vessel that passed through this canal.	Bell, Andrew	Resident Engineer	July, 1872-78 1878-85.
Ordnance canals were maintained at the expense of the Prov. Govt. since 1st Oct., 1853; their transfer from the Imp. Govt. was accepted by Order in Council, 25th Jan., 1856. Transfer ratified by Prov. Act, 19 Vic., cap. 45, 19th June, 1856.	Thompson, E. W. Thompson, H. B. Baillaige, Geo. Fred.	Assistant Engineer, new locks and dam do do Superintending Engineer	22 June, '77- '79. June, 79-83.
	Merrill, Horace	Superintending Engineer, Carillon Dam.	June, 79-83.
	Parent, E. H.	Superintending Engineer	4 Feb., '79 to 1th May, '80
	Desbarats, G. J.	Engineering Staff, canal slide and dam	Aug., 1879 . .
	Stark, David	Superintending Engineer	1 May, '80-90
Placed under D.P.W., by O.C., 3rd March, 1857.	Marecau, Ernest George Simpson	Assistant Superintending Engineer Superintendent—Appointed, O.C.	May, '80-91. 18 Oct., 1889
CASCADES CANAL (River St. Lawrence.)			
Overcomes the "Cascade Rapids," on the River St. Lawrence.	Twiss, Capt., R.E.	Superintending Engineer	1779 to 1783.
Designed by Gov. Haldimand.	Mann, Col. Gother, R.E.	Report on Works to Imp. Govt., recommending enlargement	24 Dec., 1800

† Expenditure by Imp. Gov. on Carillon, Châte à Blondeau and Grenville Canals, not ascertained, records having been destroyed by fire in Montreal, in 1852.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

tinued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Cascades Canal—Con.</i>			
19-33.	Length of 1st canal, 400 ft. Commenced and completed between 1779 and 1783.	Clarke, Isaac Winslow, Dep. Commissary Gen.	Superintending Engineer	1809-22.
19-29. Dec. 1827	Breadth, between 6 and 7 feet.	Bruyères, Capt., R. E.	{ Superintendent construction Report to Imp. Govt. on progress of new canal at Cascades	Jan., 1804. 16 Jan., 1805
h Jan., '32	Water from 2 to 2½ ft.	By, Lt.-Col., R. E.	Report on works	24 Apr., 1805
32.	Second or new Canal completed, 1804.	Long, Major Andrew, R. F.	Superintendent Enlargement and Repairs	1817.
33-34.	Length of canal, ½ mile. No. of locks, 3.	Donatti, L., Dep. Asst. Commissary General	Superintendent	July, 1820.
n., 1833. h July '33 1 May, '34.	Rise or lockage, 13½ ft. Length of locks, 120 ft. Breadth about 9½ ft. Depth of water (lowest) 3 feet.	King, Capt. Wm., R. E.	Superintending Engineer	1826.
57-1890.	Enlargement of New Canal, completed, 1817.	Forbes, W. B., Dep. Com. Gen.	Superintendent St. Lawrence Canals	1830.
57 1877.	Breadth of locks, 12 ft. Water on sills (lowest) 3½ feet.	Yule, Capt. Patrick, R. E.	Superintendent Construction and Repairs, St. Lawrence Canals	1830-35.
70-77.	The construction of the Beauharnois Canal rendered this work unnecessary for navigation of St. Lawrence.	Adams, John	Report on works	10 Sept., '35
77-79. Sept., '79. pt., 1856.	See Col. Gotther Mann, "Record of Engineers."	Coffin, Lieut.-Col.	General Agent, Ordnance property	Sept., 1856-78.
July '59 to Apr., '67. May, '67, May, 1889. July, 1870		Baillairge, G. G. Fred.	Survey and Plans of Ordnance Canals along the River St. Lawrence, with estimates of water power	1857.

CAUGHNAWAGA CANAL (River St. Lawrence and Lake Champlain.)

me '70, to Nov., '85.	Projected, to connect Lake Champlain with River St. Lawrence, near Montreal.	Mills, J. B. Tracy, B. H.	Projected canal Survey projected route, Lake St. Louis to Lake Champlain	1847-48. 1854.
July, 1872-78 '78-85. June, '77-9. ine, '79-83.	Mr. Mills' project. Length of Canal (including Chambly 8½) would be 32½ miles.	Jervis, J. B. Gamble, S.	Four routes surveyed under his direction. Report on projected canal	1854-55. 1855-56.
Feb. '79 to th May, '80 ug., 1879..	Locks, 200 x 45 x 9 ft. Estimated cost, \$1,814,400.	Swift, W. H. (From Boston, U.S.A.)	Consulting Engineer, recommends Mills' Route	1855.
May, '80-90	(See General Report Pub. Works, '67.)	Jervis, J. B. Kingsford, Wm.	Report on projected work do Report, in connection with Champlain Can.	13 Feb., 1855. 1871.

CEDARS CANAL (Projected). (River St. Lawrence, North Shore.)

79 to 1783.	Mr. G. F. Baillairge's estimated cost of Canal—"Gully Line," \$3,650,000, for 14 ft. draught of water.	Mills, J. B.	Projected canal (Explorations, Surveys, &c., for the projected canal between Lake St. Louis and St. Francis, were made by Messrs. Stevenson, Trudeau, Thompson, Larue, Casey, between 1833 and 1842.)	1833.
Dec., 1800	Inland Line, \$4,136,589, for 14 ft. draught of water.	Casey, Wm. R.	Plan, profile and estimate	1842.
ascertained,	Length—Gully Line, 13-95 miles. Length—Inland Line, 14-20 miles.	Page, John, Sen.	Chief Engineer Public Works	1853-90.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Cedars Canal—Con.</i>			
Dimensions of proposed locks, 270 x 45 x 14 ft.	Baillairgé, Geo. Fred..	{ Assistant Chief Engineer Public Works } { Report on projected work from survey } { by F. C. Farjana..... }	1872-73.
See Report G. F. Baillairgé, Assistant Chief Engineer Pub. Works, 24th August, '75. (General Report Public Works, Canada, 1867-1882, page 835.)	do do	Plans, profiles and estimates..	17 Sept., 1874
	do do	Estimates for a 14-foot navigation.....	24 Aug., 1875
	Farjana, F. C.	Survey of Projected Cedars Canal.....	6 Nov., 1872, 12 April, 1873.
	Rosa, Joseph	Assistant on survey do	1872-75.
	Boulay, Phileas.....	do do do	1872-76. (Died 16th January, 1890.)
	Lantier, E.	Engineering staff, survey.	1872-73.
	Steckel, L. J. R.	Chief Assistant to Mr. Baillairgé.	1874-75.
	Mouro, Thomas.	Examination, report and Location Survey	1889-90.

CHAMBLY CANAL. (River Richelieu.)

On Richelieu River, overcomes rapids between Chambly and St. John, and opens communication between the St. Lawrence and Hudson rivers, <i>via</i> Lake Champlain, Whitehall and New York and Champlain Canals.	Deane, Silas.	Observations, suggestions, &c., to Lord Dorchester <i>re</i> Canal—Lake Champlain to St. Lawrence	25 Oct., 1785
	do	Observations, &c., to Lord Sydney <i>re</i> Canal—Lake Champlain to St. Lawrence.....	26 Mar., 1787
	Lymburner, Adam.....	Proposed construction to Imperial Govt.	1791.
Commenced, Oct., 1831. Suspended, 1835. Resumed, 1840. Opened, 17th Nov., 1843.	Allen, Ira	Of Vermont, recommended construction to Duke of Portland.....	19 Mar., 1796
		(See Mr. Douglas Brymner, Archivist's Report.).....	1889.
Length of Canal, 12 miles No. of locks, 9, Length of locks, 118 to 125 ft. Breadth of locks, 22½ to 24 ft. Rise or lockage, 74 ft. Water on sills, 7 ft.	Fleming, Peter.....	Survey, plans and estimates for Commissioners.....	1830.
	Hopkins, W. R.	Resident Engineer.....	1830-34.
	Hanlon, —	Consulting do	1830-31.
	Melhuish, Capt., R.E.	do do	1831.
Expenditure by Provincial Government prior to 1st July, 1867, \$634,711.78. Dominion Government, from 1st July, 1867, to 30th June, 1889, \$276,061.07. Total expenditure to 30th June, 1889, \$910,773.73.	Keefer, George.....	Superintending Engineer.....	1844-47.
	Casey, W. R.	Assistant do	1834.
	McRae, A. M. F.	Superintendent at St. John.....	18 Apr. '42 to 18 June, '43
	Walton, D. S.	Engineering staff, enlargement.....	1843-49.
	Phelan, Daniel.....	Superintendent (at St. John) appointed..	18 June, 1843.
Commissioners to superintend construction, appointed 1829: Samuel Hat, W. Macrae, G. Marchand, R. Boileau and Timothée Fraucour.	Robinson, Arthur G.	Assistant Engineer.....	1843-48.
	Blanchet, —	do	1843-49.
	Redpath, Peter.....	Superintendent of Works (at St. John) ..	Prior to 1844
	Baillairgé, Geo. Fred...	Superintending Engineer.....	1877-79.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Chambly Canal—Con.</i>			
		Baillairgé, Geo. Fred....	Surveys of Canal and drowned lands ...	1849-50.
2-73.		Kildy, Daniel.....	Superintendent and Paymaster.....	1843-47.
		Borne, Michael.....	Superintendent.....	31 May, 1843-'53.
Sept., 1874		McDonald, J. Frobisher.	Superintending Engineer.....	1848-52.
Aug., 1875		Bonacina, —.....	Superintendent (<i>pro tem</i>).....	1853-54.
Nov., 1872,		Sippell, John G.....	Superintending Engineer.....	1853-77.
2 April, 1873,		Chartier, P. Téléphore..	Superintendent.....	1854-63.
2-75.		Page, John, Sen.....	Chief Engineer.....	1853-90.
2-76.		Préfontaine, Christophe.	Superintendent.....	15 Oct., 1863-'77.
2-73.		Harrington, Thos. W...	Assistant Engineer.....	1 Oct., 1870-'75.
4-75.		do do	do Superintending Engineer.....	1 May, 1875-'87.
9-90.		Ouimet, Louis.....	Superintendent.....	1877-79.
		Ulric, Corneille.....	Superintendent.....	1 May, 1879-'85.
		Parent, E. H.....	Superintending Engineer.....	12 May, 1880-'91.
Oct., 1785		Papineau, L. G.....	Engineering staff.....	1881-83.
		Benoit, Pierre Basile....	Superintendent.....	1886-88.

CHATS CANAL (Upper Ottawa).

	Designed to avoid the "Rapide des Chats," and as a link in navigation of Ottawa River from Montreal to Lake Huron.	Gallwey, W. B.....	Preliminary survey, Lake des Chats Canal.....	1852-54.
		Perry, Capt. George H..	Survey, &c.....	1853-58.
		Norman, Thomas E.....	Engineering staff.....	1853.
	Commenced, August, 1854	Page, John, sen.....	Chief Engineer.....	1853-90.
	Work suspended 15th November, 1856.	do.....	Report.....	30th March, 1854.
	Dimensions of proposed locks, 190 x 45 x 7 ft.	McDonald, A. P.....	Contractors, commenced work.....	Aug., 1854.
	Total lockage, 49'80 ft.	Schram, F.....		
	Expenditure to 1856, \$482,950.81.			

CHISHOLM'S RAPIDS, LOCK, &c. (Trent River).

		Baird, N. H.....	Report on project.....	1833-36.
	Commenced, 1837.	Rubidge, F. P.....	Compiled map Trent River.....	1836.
	Completed, 1844.	Baird, N. H.....	Superintending Engineer.....	1837-41.
	Length of canal, 3,060 ft.	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	do lock, 133½ ft.			
	Breadth of do 32½ ft.			
	Water on sills, 5 ft.			
	No. of locks, 1.			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Chisholm's Rapids, Lock, &c.</i> —Continued.			
Part of "Trent River Navigation," to connect Bay of Quinté, Lake Ontario, with Lake Huron.	do	Special Report	1846.
Total lockage required : Rise, 589½ feet. Fall, 243½ do 832½ do	Killaly, Hon. H. H.	Report on works prior to	1843.
Distance direct, 112 miles do proposed line, 235 miles.	Lyons, James	Superintending Engineer	1843-55.
For cost, see "Bobcaygeon Canal."	Rigney, James	Assistant Engineer	1843-49.
	Page, John, sen	Chief Engineer	1853-90.
	Ranney, G. W.	Superintending Engineer	4th May '55, to July, '73.
	Baillairgé, George Fred.	Assistant Chief Engineer	1877-79.
	Belcher, Thomas Deaves.	Superintending Engineer	1873-84.
	Rogers, Richard B.	Assistant do	1878-81.
	do	do do survey	1882-83.
	do	Superintending do	1st July, '84-91.

CHUTE A BLONDEAU CANAL (River Ottawa).

Constructed to avoid "Chute à Blondeau" Rapids. Designed, 1819. Commenced, 1826. Completed, 1832. Length of canal, ½ mile. No. of locks, 1. Length of locks, 130½ ft. Breadth do 32½ ft. Water on sills, 6 ft. Rise or lockage, 3¾ ft. Placed under control Department Pub. Works, Canada, 3rd Mar., 1857. Construction of Carillon Dam has obviated use of this canal. See General Report Pub. Works by G. F. B., 1867 to 1872, page 815. The steamer "St. Andrew" was the first vessel that passed through the first canal.	Royal Staff Corps	Designed and constructed by	1819-33.
	Du Vernet, Lt.-Cl. Henry	General Superintending Engineer	1819-29. 26th Dec., 1827.
	do	Report to Imperial Government	1827.
	Hayne, Capt., R.S. Corps	Supt. construction, Ottawa River Canals	1833-34.
	Page, John, sen	Chief Engineer	1857-90.
	Thompson, John	Superintendent	1859-67.
	Sippell, John G.	Superintending Engineer	1857-77.
	Coffin, Lieut.-Col. W	General Agent, Ordnance property	Sept., 1856.
	Sippell, John G.	Consulting Engineer	1877-79.
	Forbes, W. B.	Superintendent	1867-89.
	Harrington, Thomas M.	Engineering staff	10th July, 1870.
	Baillairgé, George F.	Superintending Engineer	22nd June, 1877-79.
	rarent, E. H.	Resident Engineer	4th Feb., '79.
	Stark, David	Superintending Engineer	1st May, '80-90.
	Marceau Ernest,	Assistant Engineer	May, 1880-89.

CORNWALL CANAL (River St. Lawrence.)

Enables vessels to avoid "Long Saut Rapids." Sir John Beverly Robinson cut first sod, 1834. Opened December, 1842.	Gourlay, Robert	Views respecting proposed canal. (Died August, 1863, in Edinburgh, Scot.)	1819.
	Clowes, Samuel	Report and estimate	1826.
	Barrett, Alfred	Report, &c.	1830.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Cornwall Canal—Con.</i>			
Completed 10th April, 1843.	Wright, Benjamin.....	Consulting Engineer.....	1833.
	Mills, J. B.	Chief Engineer.....	1833-48.
Length of canal, 11½ miles.	Cole, Capt., R.E.....	Consulting Engineer.....	1833.
No. of locks, 6.	Fleming, Peter.....	do.....	1834.
	Geddes, —.....	do.....	1834.
Length of locks, 4 of 200 ft. and 2 of 270 ft.	Keefer, George.....	Resident Engineer, Lower Division, first construction.....	1834-43.
Breadth do 45 ft.	Killaly, John S.....	Engineering staff.....	1834-43.
Rise or lockage, 48 ft.	Phillpotts, Lt. Col., R.E.	Engineer in charge of construction.....	1836.
Water on sills, 9 ft.	Killaly, Hon. Hamilton H.	Chairman, Board of Works.....	20 Dec., 1841-46.
The steamer "Highlander" was the first vessel that used the canal, in Nov., 1842.	McDonald, J. Frobisher.	Engineer, &c., Survey and Plan of Canal.	1842-43.
This canal is being deepened to a navigable depth of 14 feet with locks of 270 x 45, since 1876.	Rigney, James.....	Superintending Engineer.....	11, Oct. 1843.
	Godfrey, Thomas.....	Superintendent.....	1843-49.
	Legge, Charles.....	Engineering staff.....	1846-54.
Expenditure prior to 1st July, '67, \$1,933,152.69;	McDonell, Duncan Allan	Superintendent.....	27 Aug., '49.
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,056,135.84;	Page, John, sen.....	Chief Engineer.....	1853-1890.
Total expenditure to 30th June, 1889, \$2,989,288.53.	Baillaigé, Geo. Fred....	Superintending construction of weirs, &c.	1856-70.
	Rubidge, Thos. S.....	Superintending Engineer, enlargement..	1876-91.
	Page, John, jun.....	Assistant Engineer.....	1880-85.
	Killaly, H. H., jun.....	Resident Engineer, enlargement, upper half.....	1 July, 1885-91.
	Rhéaume, L. N.....	Engineering staff, enlargement, upper half	1 July, 1885-91.
	Robertson, G. E.....	do do lower half.	1 July, 1885-91.
	Weller, J. L.....	do do do	Aug., 88-91.
	Ross, A. P.....	Superintendent.....	1 July, 1889-91.

COTEAU DU LAC CANAL (River St. Lawrence.)

To avoid "Côteau du Lac Rapids."	Royal Staff Corps, Imperial.....	Designed and constructed by.	
Length of canal, 900 ft.	Twiss, Capt., R.E.....	Superintending Engineer.....	1779-83.
No. of locks, 2.	Mann, Col. Gother, R.E.	Report on works.....	24 Dec., 1800
Commenced and completed between 1779 and 1783.	By, Lt. Col., R.E.....	do.....	24 Apl., 1805
	Bruyères, Capt., R.E....	Report on progress new canal at Cascades.	16 Jan., 1805
Breadth of locks, 6 to 7 ft.	Clarke, Isaac Winslow, Dep. Com. General....	Superintending Engineer.....	1809-1822.
Depth of water, 2 to 2½ ft.	Long, Major Andrew, R.E.....	Construction and repairs.....	1817.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Côteau de Lac Canal</i> —Continued.			
1st enlargement, 1804.	Donatti, L., Asst. Commissary General.....	Superintendent.....	July, 1820.
Length of locks, 120 ft.	King, Capt. William,		
Breadth, about 9½ ft.	R. E.....	Superintending Engineer.....	1826.
Depth water on sills, 3 ft.			
2nd enlargement, 1817.	Forbes, W. B., Deputy Commissary General..	Superintendent, St. Lawrence Canals...	1830.
Length of locks, 120 ft.	Yule, Capt. Patrick, R. E.	Superintendent, construction and repairs, St. Lawrence Canals.....	1830-35.
Breadth do 12 ft.			
Water on sills (lowest), 3½ ft.	Evatt, H. B.....	Superintendent of Locks.....	1832.
This canal has not been used for purposes of navigation, since the Beauharnois Canal was constructed. <i>Vide Col. Gother Mann, "Record of Engineers."</i>	Brandson, Mr.....	Contractor.....	1832.
	Adams, John.....	Superintendent of Locks.....	15 Nov., 1853
	Page, John, sen..	Chief Engineer.....	1853-90.
	Coffin, Lt. Col. W.....	General Agent, Ordnance property.....	Sept., 1856-78.
	Baillairgé, Geo. Fred....	Survey and plans of Ordnance canals, along the River St. Lawrence with estimates of works to utilize water power at each.....	1857.

CROOK'S RAPIDS, NOW HASTINGS (Trent River.)

Lock, &c.	Baird, N. H.....	Report of project.....	Nov., 1833.
A part of the Trent River navigation, designed to connect Bay of Quinté, Lake Ontario, with Lake Huron. Distance direct, 112 miles; <i>via</i> projected route, 235 miles.	do.....	do.....	1835-36.
Lockage rise, 589½ feet.	do.....	Superintending Engineer.....	1837-41.
Fall, 243½ do	Rubidge, F. R.....	Compiled map of Trent River.....	1836.
Total, 832½ do	Killaly, Hon. H. H.....	Report, prior to.....	1843.
Commenced, 1837.	Keefer, Samuel.....	Chief Engineer.....	1841-52.
Completed, 1844.	Rigney, James.....	Assistant Engineer.....	1843-49.
Length of lock, 134 ft.	Lyons, James.....	Superintending do.....	1843-55.
Breadth do 33 ft.	Keefer, Samuel.....	Special report.....	1846.
Water on sills, 5 ft.	Page, John, sen.....	Chief Engineer Canals, &c.....	1853-80.
For cost, Trent River Navigation improvements, see Bobcaygeon Canal.	Ranney, G. W.....	Superintending Engineer.....	1855-73.
	Baillairgé, G. F.....	Reports and Estimates on Trent River navigation.....	1863-74.
	Belcher, Thomas D.....	Superintending Engineer.....	July, 1873-1884.
	Rogers, Richard B.....	Assistant Superintending Engineer.....	1873-81.
	Pedley, Henry F.....	Chief Engineer, Public Works.....	Nov., 1880-91.
	Rogers, Richard B.....	Survey, Trent Valley District.....	1882-83.
	do.....	Superintending Engineer.....	1st July, 1884-91.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
--------	-----------------	-----------	--------

CULBUTE CANAL (Upper Ottawa.)

108 miles above Ottawa City. Overcomes L'Islet Rapids; opens communication from Bryson to Aberdeen, a distance of 70 miles.	Page, J. C. sen.	Chief Engineer.....	1872-90.
Commenced, 1873. Completed, 1876.	Sippell, John G.	Superintending Engineer.....	1873-77.
Length of canal, $\frac{1}{4}$ mile. No. of locks combined, 2. Material, wood. Length of locks, 200 ft. Breadth do 45 ft. Rise or lockage, low water, 14 ft. Rise or lockage, high water, 18 ft. Water on sills (lowest) 6 ft.	do	Consulting do	1877-79.
A link of projected navigation, Montreal and Lake Huron, <i>via</i> River Ottawa.	Perry, Capt. G. H.	Resident do	1873-87.
See Ottawa and Lake Huron projected canals, and General Report Pub. Works 1867-82 Page 828.	Thompson, H. B.	Assist. Resident do	Sept., 1873-78.
Total expenditure from 1st July, 1867, to 30th June, 1889, \$413,717.48.	Hamel, Amédée.	Engineering staff.....	Aug., 1874.
	Hamel, Félix M.	do	do 1874.
	Harrington, Thos. W.	Assistant Engineer.....	1873-80.
	do	Assistant Superintending Engineer.....	1st May, 1875-87.
	Baillaigé, G. F.	Superintending do	1877-78.
	Parent, E. H.	do do	4th Feb., 79, to 1st May, 1880.
	Stark, David.	Superintending Engineer.....	1st May, 1880-90.

DESJARDINS CANAL. (Burlington Bay.)

Prolongs navigation from Burlington Bay <i>via</i> "Coote's Paradise," to town of Dundas.	Desjardins, P.	Obtained Act of incorporation for construction.....	30th Jan., 1826.
Opened 16th Aug., 1837. Dimensions, originally— Length of canal, 3.68 miles. No locks. Breadth 33 ft. Depth of water, originally $7\frac{1}{2}$ ft.	Baldwin, Robert.	Was chosen as Director of the Desjardins Canal, in place of P. Desjardins, deceased, Nov. 1827.	
Cost \$98,684, of which Government advanced \$68,000 prior to 1837. Total cost to 30 June 1867. Govt. funds,— loan . . . \$120,263 93 Other than Govt's funds, loan 30,684 00 \$150,947 93	Stewart, James.	Report on condition of works, &c.	3rd Feb., 1849.
John Patterson, President of Company, and John Dickie, Secretary, 1841.		(See general report on Public Works, 1867 by G. F. Baillaigé, pages 573-574.)	

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
FARRAN'S POINT CANAL. (River St. Lawrence.)			
River St. Lawrence (one of the Williamsburgh Canals). Commenced, 1844. Opened, June, 1847. Completed, 1848. Length of canal, $\frac{3}{4}$ mile. No. of locks, 1. Length of lock, 200 ft. Breadth do 45 ft. Water on sill (ordinary) 9 ft. Rise or lockage, 4 ft. This canal is to be deepened to a navigable depth of 14 feet, with a lock of 270 x 45 ft. and 14 ft. water on sills. For cost of construction, See Williamsburgh Canals.	Clowes, Samuel.....	Report and estimate.....	1826.
	Barrett, Alfred.....	do	1830.
	Forbes, W. B., Dep. Com. Genl.....	Superintendent, St. Lawrence Canals....	1830, to 15th June, 1847
	Mills, J. B.....	Surveys, reports and superintending construction.....	1833-47.
	Phillipotts, Lt.-Col., R.E.	Report to Imperial Government.....	1839-40.
	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	Baillairgé, G. F.....	Resident Superintending Engineer.....	1853-56.
	Rose, Isaac.....	Superintendent, Williamsburgh Canals.....	4th Nov., '53, to 26th Apr., 1875.
	Page, John, sen.....	Chief Engineer.....	1853-90.
	Macdonell, Alex. Greenfield.....	Superintendent.....	26th April, 1875-89.
		Died.....	27 Jan., '89.
	Rubidge, Thomas, S....	Superintending Engineer, enlargement ..	1880.
	Killaly, H. H., jun.....	Resident do	Dec., 1884-88
	Reid, John.....	Superintendent.....	18th Oct, '89
	Died.....	13th May, '90	
Reid, John D.....	Acting Superintendent.....	1st May, '90.	
FENELON FALLS CANAL, &c. (River Trent.)			
Part of Trent River, navigation to connect Bay of Quinté, Lake Ontario, with Lake Huron.	Page, John, sen.....	Chief Engineer, Railways and Canals ...	1880-90.
	Rubidge, Thos. S.....	Superintending Engineer.	1881-86.
Commenced, 16th Oct., 1882.	Clark, C.....	Engineering staff.....	1882-86.
	Weller, J. L.....	do	July, 1882-89
Completed, 22nd Oct., 1885.	Greenwood, H.	do	1883-87.
	Stark, David	Superintending completion of works....	1887-90.
Length of canal, $\frac{1}{4}$ mile. Length of locks, 134 ft. Breadth do 33 ft. Water on sills, 5 ft. Two lift locks. This canal connects Sturgeon Lake with Cameron Lake. For cost, Trent River Navigation, See "Bobcaygeon Canal."			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, etc.	Services.	Dates.
FORT FRANCES LOCK, &c. (River Lapluie, Dawson Route.)				
	Projected to permit navigation from Kettle Falls, Rainy Lake, to Lake of the Woods, 164 miles.	Page, John, sen.....	Chief Engineer, Public Works.....	1853-79.
	Commenced, 1st July, 1875.	do	Prepared plan of lock	1876.
	Completed except lock gates, 1878.	Fleming, Sanford.....	Consulting Engineer.....	1875.
	Cost up to 22nd Jan., 1879, \$288,278.51.	Hazlewood, Sam.....	Survey, report, &c.....	1875.
	Length of canal, 800 ft.	do	Superintending Engineer.....	1875-78.
	do lock, 200 ft.	Sutherland, Hugh.....	Resident Engineer and Superintendent of Works	11th May, 1875-78.
	Breadth of do 364 ft.	Mortimer, Henry J.....	Profile, selected location, &c.....	1875.
	Water on sill (lowest) 7 ft.	do	Assistant Engineer.....	1875-78.
		Cuddy, E. C.....	Plans of Fort Frances.	1875.
		Thompson, W. H.....	Asst. Resident Engineer and Superintendent of Works.....	1875-79.
		Baillairgé, Geo. Fred....	Plan of lock and gates modified, and work laid out accordingly	Aug.-Sept., 1876.
GALOPS CANAL (One of the Williamsburgh Canals.)—River St. Lawrence.				
	Overcomes the "Galops Rapids," River St. Lawrence.	Clowes, Samuel.....	Submitted report and estimate.....	1826.
	Commenced, 1844.	Wright, Benjamin	Survey and report.....	1833.
	Completed, Nov., 1846.	Killaly, Hamilton H....	Chairman Board of Works.....	1841.
	Length of canal, 2½ miles.	Mills, J. B.....	Surveys, reports, &c	1833 to 1843.
	No. of locks, 2.	do	Superintending Engineer.....	1843 to 15th June, 1847
	Length of locks, 200 feet.	Phillipotts, Lt.-Col, R.E.	Approved plans, &c	1843.
	Breadth do 45 do	Rose, Isaac.....	Superintendent.....	4th Nov., '53, to 26th April, '75.
	Lift do 8 do	Page, John, sen.....	Chief Engineer.....	1853-90.
	The "Galops" and "Iroquois" Canals were connected by the "Junction." The three are now known as the "Galops Canal."	Maconnell, Alexander Greenfield.....	Special report.....	1880.
	Length of canal, 7½ miles.		Superintendent Williamsburgh Canals... Died.....	26th April, 1875-89, 27th Jan., '89
	No. of locks, 3.	Rubidge, Thos. S.....	Super'tending Engineer, deepening rapids.	1875-82.
	Length of locks, 200 feet.			
	Breadth do 45 do	Haycock, Sam. H.....	Engineering staff, enlargement.....	Aug., 1879.
	Water on sills 9 do	Reid, John.....	Superintendent—Appointed..... Died.....	18th Oct., '89 13th May, '90
	Rise or lockage 15½ do	Reid, John D.....	Acting Superintendent.....	1st May '90

NOTE.—This Canal is being deepened to a navigable depth of 14 feet with locks of 270 x 45 ft.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Date.
<i>Galops Canal—Con.</i>			
"Junction" commenced, 1851.	John Page.....	Resident, Superintending Engineer.....	1850-53.
"Junction" completed, 1856.	G. F. Baillairgé.....	do do	1853-56.
For cost of construction, See "Williamsburgh Canals."			

GEORGIAN BAY CANAL (Lake Ontario to Lake Huron.)

Projected. See Ottawa and Lake Huron projected canals, General Report of Public Works Department, 1867 to 1882, page 844.	Tully, Kivas.....	Proposed canal, Lake Ontario to Lake Huron	1845-51.
	West, James.....	Proposed Georgian Bay, Lake Huron and Ottawa Canal.	23rd Feb., 1856.
	Monro, Thomas.....	In charge of summer level survey, projected canal.....	1857.
	Keefer, Thomas. <i>C.</i>	Report on project.....	1863.

GRENVILLE CANAL (River Ottawa-)

Carries navigation round "Long Saut Rapids," Ottawa River.	Mann, Col. Gother, R.E.	Consulting Engineer, Ordnance Canals.	1819-33.
	Stehelin, Capt., R.E....	Asist. General Superintending Engineer, construction.....	1819-33.
Commenced, summer 1819.	Mann, Capt. J. W., R.E.	Engineer in charge of construction.....	1819.
Durham boats passed 1st August, 1832.	DuVernet, Lt.-Col., R.E.	General Superintending Engineer.....	1819-33.
Completed, 1833.	do do ..	Report on works to Imperial Government	20th Nov., 1820.
Length of canal, 5½ miles.	Read, Capt. J. M.	Asst. Engineer in charge construction. . .	1824.
No. of locks, 7.	King, Capt. Wm., R.E..	Superintending Engineer.....	1825.
Locks varied in length from 107 to 130½, and in breadth from 19 to 32½ ft., with 6 ft. of water on sills.	By, Lt.-Col.	Letter to General Mann, recommending enlargement.....	13th July, 1826.
Enlargement commenced, 1871.	Smyth, Major General Sir J. Carmichael.....	Report to General Mann adverse to enlargement.....	1826.
Completed, 27th May, 1882.	Hayne, Capt., R.S. Corps	Superintending construction Ottawa River Canals.....	1833-34.
Length new works, 5½ miles.	Hadden, Lieut., R.E....	Engineering staff.....	1834.
No. of locks, 5.	Hayes, Capt., R.S. Corps.	do	1834.
Length of locks, 200 feet.	Howorth, Lieut., R.E... .	do	1836.
Breadth do 45 do			
Water on sills 9 do			
Rise or lockage 45½ do	Vavasour, Lieut., R.E.. .	do	1840.
For cost of works, See Carillon Canal.	White, Lieut., R.E.....	do	1844.
Ordnance canals were maintained at the expense of the Provincial Government since 1st	Gordon, Lieut., R.E... .	do	1844.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Grenville Canal—Con.</i>			
<p>October, 1853. Their transfer from the Imperial Government was accepted by Order in Council 25th January, 1856. Transfer ratified by Provincial Act, 19 vic. cap. 45, 19th June, 1856.</p> <p>The steamer "St. Andrew" was the first craft that passed through this canal, when it was first constructed.</p>	Ford, Capt. Chas. E., R.E.	Superintendent of works.....	1846.
	Page, John, sen.....	Chief Engineer, Public Works, &c., Canada	1853-1890.
	Thompson, John.....	Superintendent.....	15th July, '59, to 30th April, '67.
	Forbes, William Bilsbury	do.....	1st May, '67, to May, '89
	Sippell, John G.....	Died.....	29th May, '89
		Superintending Engineer.....	1857-77.
		Consulting do.....	1877-79.
	Bell, Andrew.....	Assistant Engineer.....	1871-85.
	Deniel, Emile.....	Assistant Engineer, enlargement.....	Sept., 1872, to 1887.
	Parent, E. H.....	Resident Engineer.....	July, 1872-78
		Superintending Engineer.....	4th Feb., '79, to 1st May, 1880.
	Baillairgé, Geo. Fred....	Superintending Engineer.....	1877-79.
	Languedoc, G. de G....	Engineering staff.....	May, 1879-87
Stark, David.....	Superintending Engineer.....	1st May, 1880-90.	
Marceau, Ernest.....	Assistant Superintending Engineer.....	May, '80-'90.	
Simpson, George.....	Superintendent—Appointed, O.C.....	18th Oct., '89	
IROQUOIS POINT CANAL (River St. Lawrence.)			
<p>River St. Lawrence. One of the Williamsburgh Canals—Overcomes Rapids at Iroquois Point. Commenced, 1844. Completed, Sept., 1847. Length of lock, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Lift of lock, 3½ ft.</p> <p>The "Iroquois Point" and "Galops" Canals were in 1851-56, joined, by the Junction Canal. The three are now known as the Galops Canal; its dimensions are—</p> <p>Length of Canal, 7½ miles No. of locks, 3. Length of locks, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Rise or lockage, 15½ ft. For cost of construction, See "Williamsburgh Canal."</p>	Clowes, Samuel.....	Submitted report and estimate.....	1826.
	Wright, Benjamin.....	Survey and report.....	1833.
	Killaly, Hon. H. H.....	Chairman, Board of Works.....	1841.
		Reports, surveys, &c.....	1833-43.
	Mills, J. B.....	Superintending Engineer.....	1843 to June 15, 1847.
	Phillipotts, Lt.-Col., R.E.	Report approving plans, &c.....	1843.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
JUNCTION CANAL (River St. Lawrence.)			
<p>One of the Williamsburgh Canals, about 2 mls long. Connects the Iroquois and Galops Canals on the River St. Lawrence. Commenced, 1851. Completed, 1856. Those three Canals are now known as the Galops Canal. Length of Canal, 7½ miles. No. of locks, 3. Length of locks, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Rise or lockage, 15¾ ft.</p> <p>This canal is being deepened to a navigable depth of 14 ft. with locks of 270 x 45 ft.</p>	Page, John, sen.....	Resident Superintending Engineer.....	1850-53.
	do	Chief Engineer, Public Works	1853-80.
	do	do Canals	1880-90.
	Baillairgé, G. F.....	Resident Superintending Engineer.....	1853-56.
	Rose, Isaac.....	Superintendent.....	4 Nov., 1853 to 26 April, 1875.
	Macdonnel, Alex. Greenfield.....	Superintendent.....	Apr. 26, 1875-'89.
		Died.....	27th Jan., '89
	Rubidge, Thomas S.....	Superintending Engineer, enlargement..	1880.
	Reid, John.....	Superintendent, appointed.....	18 Oct., '89.
		Died.....	13 May, '90.
	Reid, John D.....	Acting Superintendent.....	1 May, '90.
LACHINE CANAL (River St. Lawrence.)			
<p>Overcomes Lachine or Saut-St-Louis Rapids, River St. Lawrence. Commenced, 17th July, 1821. Opened in 1824. Completed in 1825.</p> <p>Length of canal, 8 miles 718 yards. No. of locks, 7. Length of locks, 100 ft. Breadth " 20 ft. Water on sills 5 ft.</p> <p>Cost until 1826, \$438,404.15.</p> <p>1st Enlargement. Commenced, 1843. Completed, 1849.</p> <p>Length of canal, 8½ miles locks, 45 ft. Breadth " 45 ft. Rise or lockage, 44¾ ft. No. of locks, 5. Water on sills at two lower locks, 16 feet. Water on sills at 3 locks, 9 feet. Old locks are used as weirs</p>	Lymburner, Mr.....	Proposed canal, Montreal to Lachine.... (See Mr. Byrner, archivist's report, 1889) Bill providing for construction introduced in Assembly by M. P. for Montreal..	1791. Dec., 1792.
	Prevost, Sir George.....	Recommended construction.....	1815.
	Burnett, Thomas.....	Survey and plan.....	Spring, 1820.
	McDowall, Robert.....	Superintending Engineer.....	1821-26.
		Assistant Superintendent of work.....	1821.
	Gibbs, Alexander.....	Assistant Superintendent do.....	1st June, to 1st Oct., '23
	Finlay, John, Dep. Com. General.....	Superintending Engineer (construction).	1823-29.
	Adams, John.....	Superintendent.....	5th Sep., 1823
	Burnett, Thomas.....	Superintendent.....	1821-26.
	Burnett, John.....	Superintendent.....	1826.
	Forbes, — Dep. Com. Gen.	Superintendent St. Lawrence Canals....	1830.
	Barrett, Alfred.....	Report on 1st enlargement.....	1841-48.
	Rubidge, F. P.....	Assistant Chief Engineer.....	1841-71.
	Hindmarsh, J.....	Superintendent.....	1842.
	Cornell, John.....	Engineering staff, enlargement.....	1843-47.
	Robinson, Arthur G.....	Assistant Engineer.....	1843-48.
	Walton, D. S.....	Engineering staff, enlargement.....	1843-49.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Lachine Canal—Con.</i>			
2nd Enlargement.	Carmichael, Daniel.....	Superintendent.....	1844-46.
Length of canal, 8½ miles	Wells, Arthur.....	Engineering staff, enlargement.....	1846.
" new locks, 270ft			
Breadth " 45 ft	Dunlop, —.....	Superintendent.....	1846-49
Wat'ron sills 3 upper, 14ft			
" " 2 lower, 18ft	Kingsford, Wm.....	Survey, map and description.....	1847.
No. of locks, 5.	Stewart, James.....	Survey new works.....	1847-54.
Rise or lockage, 45 ft.	McDonald, J. Frobisher.	Superintending Engineer.....	1848-52.
Works commenced, 1873.			
" completed, 1881.	Bissett, Alexander.....	Superintendent.....	1849 to Jan., 1868.
Commissioners appoint'd, 1823 :—	Sippell, John G.....	Superintending Engineer.....	1853-77.
Richardson, John--Chair- man.			
Grant, C. W.		Superintending Engineer, enlargement..	1870-77.
Porteous, T.			
Garden, Geo.	G. F. Baillaigé.....	Consulting Engineer do	1877 79.
Ross, David.		Superintending Engineer do	1877-79.
Desrivieres, François.			
Commissioners to provide for care and manage- ment of Lachine Canal, January, 1831 :—	Page, John, sen.....	Chief Engineer.....	1853-90.
John Richardson.		Special report.....	1880.
C. W. Grant.	Conway, Michael.....	Superintendent and Assistant Engineer..	Apr., 1868-90
T. Pothier.	Harrington, Thos. W....	Engineering staff.....	July 18, 1870
	do	Assistant Superintending Engineer.....	1st Oct., 1875- 87.
Expenditure by Imperial Government, \$40,000.00	Conway, John.....	Engineering staff, enlargement.....	1871-83.
Expenditure by Provin- cial Government prior to 1st July, 1867, \$2,- 547,532.85.		Engineer, electric light apparatus.....	1886-91.
Expenditure, 1st July, 1867, to 30th June, 1889, \$6,633,681.87.	Joslin, H. K.....	Resident Engineer, Montreal Division, 2nd enlargement.....	July, 1872-82
Total Expenditure to 30th June, 1889, \$9,221,214.72	Sutcliffe, John.....	Engineering staff, enlargement.....	15th July, 1872-86.
	Thompson, H. B.....	do do	Dec., 1872.
	Aylmer, J. A.....	do do	1873-79.
	Bellingham, A.....	Assistant Resident Engineer, 2nd en- largement, Upper Division.....	1873-78.
	Mooney, Wm.....	Engineering Staff, enlargement, Mon- treal Division.....	1873.
	Robertson, G. E.....	Engineering Staff, Lower Division, 2nd enlargement.....	1873-85.
	Leprohon, C. de B.....	Engineering Staff, enlargement, Lachine Division.....	1875-85.
	Page, John, jun.....	Engineering Staff, enlargement.....	April, 1876- 79.
	Marceau, Ernest.....	do do	July, 1876-77
	Killaly, H. H., jun.....	Resident Engineer, Upper Division, 2nd enlargement.....	Feb., 1876-85
	Rosamond, Joseph A....	Engineering Staff, enlargement.....	1876-82.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers etc.	Services.	Dates.
<i>Lachine Canal—Con.</i>	Boulay, Philéas.....	Assistant Engineer, enlargement.....	1877-80.
	Rhéaume, L. N.....	Assistant Engineer, enlargement.....	1877-84.
	Henry, Geo. W.....	Enlargement Lachine Canal.....	1880-85.
	Parent, E. H.....	Superintending Engineer.....	12th May, 1880-91.
	Duchsneau, A.....	Superintending Engineer's Office, Mon- treal. Eng. Staff and draughtman.....	1872-91.
	Sutcliffe, John.....	Engineering staff, enlargement St. Gabriel's Basin.....	1882-86.
	Doré, J. E.....	Engineering staff.....	1884-85.

LINDSAY LOCK, &c. (Lake Scugog).

Part of projected Trent River navigation—Bay of Quinté-Lake Ontario, to Lake Huron—	Baird, N. H.....	Report on Lake Scugog, &c.....	1835.
	do	Superintending Engineer.....	1837-41.
Commenced, 1837. Completed, 1844.	Killaly, Hon. H. H.....	Report prior to.....	1843.
	Keefer, Samuel.....	Chief Engineer.....	1841-52.
Length of canal, 345 feet. do lock, 134 do	Lyons, James.....	Superintending Engineer.....	1843-55.
	Rigney, James.....	Assistant Engineer.....	1843-49.
Breadth of do 34 do	Ranney, G. W.....	Superintending Engineer.....	4 May, 1855 to July, '73.
Water on sills, 5 do	Page, John, sen.....	Chief Engineer.....	1853-90.
Lift of lock, 8 do			
Converted into a slide in 1859.	Baillairgé, Geo. Fred....	Assistant Chief Engineer Reports and Estimates, Trent River Works.....	1863-74.
Rebuilt in 1870 by Govt. of Ontario, who control it.	Belcher, Thos. Deaves...	Superintending Engineer.....	July, '73-84.
For cost, Trent River Navigation, See "Bob- caygeon Canal."	Rogers, Richard B.....	Assistant Engineer.....	1878-81.
	do	Survey, Trent Valley Canals.....	1882-83.
	do	Superintending Engineer.....	July, '84-91.

MILL RAPIDS CANAL (Cascades Point, River St. Lawrence.)

Not in use for purposes of navigation since con- struction of Beauhar- nois Canal.	Royal Staff Corps.....	Imperial Government work. (Designed by Governor Haldimand).....	1779-83.
	Twiss, Capt. R. E.....	Superintending Engineer.....	1779-83.
Commenced and com- pleted between 1779 and 1783.	Mann, Col. Gother, com- manding R. E.....	Report recommending enlargement.....	24 Dec., 1800
Material—stone.	By, Lt-Col., R. E.....	Report on works.....	24 Apr., 1805
Breadth of lock, 6 feet.			
Lock rebuilt, 1804.	Clarke, Isaac Winslow, Depy. Com'r'y-Genl....	Superintendent.....	1809-22.
Length, 120 feet.			
Breadth, 9½ do			
Water, 3½ do			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Mill Rapids Canal—Con.</i>			
"Mill Rapids" and "Cascades" Canals were connected about this time by the construction of an additional lock, and became known as Cascades Canal.	DuVernet, Lt-Col., R. E.	Superintending Engineer.....	1819-24.
	Donatti, L., Depy. Asst. Com'y-Genl.....	Superintendent.....	July, 1820.
	King, Capt. W., R. E....	Superintending Engineer.....	1826.
	DuVernet, Lt.Col., R. E.	Report on works.....	1827-33.
	Baillairgé, Geo. F.....	Survey and plans of Ordnance Canals along the River St. Lawrence, with estimates of cost of utilizing water power at each.....	1857.

MURRAY CANAL (Lake Ontario).

(Between Head Waters, Bay of Quinté and Lake Ontario.)		(First official notice of this work occurs in a resolution adopted by the Lt-Gov. and Council, 1796.)	
Commenced, 1882.	Baird, N. H.....	Report on projected work.....	16 Nov., 1833
Contract signed, August, 1882.	Philpotts, Lt-Col., R. E..	do do.....	3 Aug., 1840.
J. D. Silcox & Co., contractors.	Keefer, Samuel.....	do do.....	1846.
Completed, 1889.	Page, John, sen.....	Chief Engineer.....	1853-90.
Length of canal and approaches, 9½ miles.	Rowan, James H.....	Survey, boring's, etc.....	1870-71.
Length of cut across isthmus, 4½ miles.	Rubidge, Thos. S.....	Superintending Engineer.....	1881-82.
Breadth of canal, 80 feet.	Rosamond, Joseph A....	Resident Engineer.....	June, 1882-91
Depth of water, lowest level of lake, 11 feet.	Keeler, T. P.....	Superintendent.....	Augt. '89-91
Ordinary depth, 12 feet.		NOTE.—For further particulars see Sessional Papers, No. 83, 6th March, 1883.	
It has no locks.			
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,043,046.41.			

OTTAWA AND LAKE HURON ROUTE.

Projected.	Taylor, David.....	Survey of projected canal route, under instructions of Commissioners, appointed by Parliament of Upper Canada, 4th March, 1837.....	
Shanly's Survey.	Thompson, David.....		
Distance, Montreal to Lake Huron <i>via</i> projected route, 430 miles.	Hawkins, Wm.....		
Obstructed by rapids, for about 60 miles.	For Commissioners. See Capt. Baddeley, R. E., "Record of Engineers."	Reported thereon to Hon. John Macaulay, surveyor general of Upper Canada, J. Cartwright and Capt. Baddeley, Royal Engineers.....	
Total rise Montreal to summit level 642 ft.	Page, John, sen.....	Chief Engineer, Public Works.....	1853-80.
Total fall from summit level to Lake Huron 83 ft.	do.....	do Canals.....	1880-90.
Of the 60 miles obstructed 22 are already improved.	West, James.....	Proposed Georgian Bay, Lake Huron and Ottawa Canal.....	23rd Feb., 1856.
Estimated cost, of Canals with locks 250 x 50 and 10 ft water on sills, by W. Shanly \$24,000,000.	Shanly, Walter.....	Proposed Ship Canal <i>via</i> River Ottawa, Montreal to Lake Huron.....	1857-58.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Ottawa and Lake Huron Canal Route—Con.</i>			
Clarke's estimate for canals and dams with locks 250 x 45 and 12 ft water on sills \$12,000,000. See Public Works Report 1867-82.	Stewart, James	Survey, Ottawa and Lake Huron, proposed Ship Canal	1857-58.
	Shanly, Robert	do do	1857-58.
	Slater, James Dyson	do do	1857-58.
	Clarke, Thomas C.	Survey, and report on project	1859.

RAPIDE-PLAT CANAL (River St. Lawrence.)

Overcomes "Rapide-Plat Rapids" River St. Lawrence—one of the Williamsburgh Canals. Commenced, 1844. Opened, Sept., 1847. Completed, 1848. Length of canal, 4 miles. Number of locks, 2. Length of locks, 200 ft. Breadth of locks, 45 ft. Water on sills, 9 ft. Rise or lockage, 11½ ft. Enlargement commenced, 1883, in progress. Dimensions 270' x 45' x 14'. For cost of construction see Williamsburgh Canals.	Clowes, Samuel	Report, estimate, and proposed line.	1826.
	Barrett, Alfred	Report, &c. do do	1830.
	Mills, J. B.	{ Surveys, reports, &c. do	1833-43.
			Superintending Engineer
	Phillipotts, Lt.-Col., R.E.	Report to Imperial Government	1839-40.
	Keefer, Samuel	Chief Engineer	1841-52.
	Baillaingé, Geo. Fred.	Resident Superintending Engineer	1853-56.
	Page, John	Chief Engineer	1853-90.
	Macdonell, A. Greenfield	Superintendent, Williamsburgh Canals.	26th April, 1875-89.
	Rubidge, Thomas S.	Died	27 Jan., '89.
		Superintending Engineer, enlargement	1880.
	Killaly, H. H., jun.	Resident Engineer, enlargement	Dec., 1884-88
	Rhéaume, L. N.	Engineering staff, enlargement	Dec., 1884.
	Reid, John	Superintendent	18th Oct., '89
		Died	13th May, '90
Reid, John D.	Acting Superintendent	1st May, '90.	

RIDEAU CANAL (Ottawa to Kingston.)

IMPERIAL GOVERNMENT WORK.

Connects River Ottawa at City of Ottawa, with Lake Ontario, at City of Kingston. Commenced, 21st September, 1826. Opened for 45 miles on 12th September, 1831. Formally opened 29th May, 1832. Completed, August, 1832 Length of Rideau navigation, 120½ miles.	Jebb, Capt., R.E.	Proposed route, Ottawa to Kingston	1815-17.
	Nichol, Col., R.E.	Ordered Capt. Jebb to survey Rideau Canal route	1815.
	Clowes, Samuel	Proposed works, &c.	1823.
	Smyth, Major-Gen. Sir J. C., R.E.	{ Joint report and estimate	182
	Hoste, Lt.-Col., Sir G. R. E.		
	Harris, Major, R. E.		

PUBLIC WORKS and their Engineers, &c Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Rideau Canal—Con.</i>			
Number of locks, 47.	Elliot, J. S	Ordnance Commissioner, obtained lands from Mr. Sparks for Rideau Canal purposes prior to 1826.	
Ottawa to Kingston, 33 locks ascend, and 14 descend.	Finlay, John	Dep. Asst. Commissary Gen., Supt. Div.	1827.
Lockage, 446½ ft.			1828.
Rise, 282½ ft.			
Fall, 164 ft.	By, Lt.-Col., R. E.	Superintending Engineer	Sept., 1826, to 1832.
Length of locks, 134 ft.	McTaggart, J.	Examination and Report for Imperial Government.	1827-28.
Breadth do 33 ft.			
Water on sills, 4½ to 5 ft.			
Expenditure prior to 1st July, 1807—	Lewis, Col., R. E.	Commissioner, Rideau Canal const. Spring	1828.
Imp. Govt. \$3,911,701.47	Fanshaw, Col., R. E.	do do do	1828.
Prov. do 153,062.60	Rudyard, L.	Postmaster, Rideau Canal	1830.
Dom. Govt. up to 30th June, 1889. 121,097.76	Hagerman, Joseph N.	Solicitor, Rideau Canal.	1st Nov., 1831.
Total cost to 30th June, 1889. . . \$4,185,861.83	Baird, N. H.	Engineering staff	July, 1828-1832.
The "Pumper" was the name of the first craft that steamed up this canal.	Bolton, Major		1832-39-41.
Ordnance canals were maintained at the expense of the Provincial Government from 1st Oct., 1853. Their transfer from Imp. Govt. was accepted by Order in Council 25th Jan., 1856. Transfer ratified by Prov. Act, 19th Vic. Cap. 45, 19th June, 1856.	Thompson, Lt.-Col.		1841.
The first stone of the Locks of this Canal, weighing above 1½ ton, was laid by Captain Frankin (afterwards Sir John), at 4 P.M. on the 16th of August 1827, after his return from the Mackenzie River and the Polar Sea.	Ford, Capt. Chas. E.	Royal Engineers, or Ordnance Officers, who controlled the Canal from 1832 to 1857, as nearly as can be ascertained.	1846.
	Chater, Lt.-Col.		1853.
	Harvey, Charles.		To 1857.
	Burrows, J.	Overseer of works.	1832.
	Tughill, M.		
	Kelly, W.	Assistant Surgeons	1833.
	Frome, Lt.-Col., E. G., R. E.	Description of works	28th Feb., 1837.
	Bolton, Major D., R. E.	Description Long Island dam, built 1836.	1839.
	Holloway, Col. William Cuthbert Elphinstone, C.B.	Testimony re Rideau Canal lands.	15 Mar., 45.
	Thompson, Maj. Francis Renglet, R.E.	Testimony re Rideau Canal lands.	18 Mar., 45.
	Denison, Lieut. W., R.E.	Description of dams, locks, &c	1839.
	Page, John, sen.	Chief Engineer.	1853-90.
	Coffin, Lt.-Col., W.	General Agent, Ordnance property.	Sept., 1856. Jan., 1878.
	Killaly, J. S.	superintending Engineer	Jan., 1857, to Apr., 1858.
	Slater, James Dyson	do do	10th June, 1858, to 1st Oct., 1872.
	Wise, Frederick, Ashworth, Millbank	do do	1st Oct., 1872-1891.
	Kingsford, William	Prepared Map of Canal showing area of water-sheds, &c.	1872.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
RIVIÈRE DU LIÈVRE LOCK AND DAM.			
This river falls into the Ottawa, 12 miles below Ottawa City. The lock, etc., is constructed to overcome "Little Rapids," 10 miles above Buckingham. Work in progress, 1890. Dimensions of Lock— Length, 162½ ft. Breadth, 32½ ft. Water on sill, 8 ft. Rise or lockage, 14 ft. Commenced in 1887— Expenditure to 1st July, 1890, \$182,186.72.	Perley, Henry F.	Chief Engineer, Public Works	1886-91.
	Hamel, Félix M.	Engineer in charge. Contract signed 29th December, 1886. Messrs. Thompson & Poupore, contractors.	1887-91.

SAUT-STE-MARIE CANAL (Between Lakes Huron and Superior.)

Through St. Mary's Island, to connect Lake Huron with Lake Superior, overcoming Saut-Sainte-Marie Rapids.	Bruyères, Capt., R.E. ...	Report on claims, &c., in connection with a Canal constructed at Saut-Ste-Marie, on Canadian Territory before April 1802.	Prior to 23rd Dec., 1803.
Commenced by Govt. of Canada, 1887.	Mann, Col. Gother, R.E.	Correspondence, &c., <i>re</i> Canal. <i>See</i> "Record of Engineers"..... Also Mr. Brymner, Archivist's Report	18th April, 1803. 1889. 1886.
In progress 1890-91. Length of canal, $\frac{2}{3}$ of a mile. Length of lock, 600 ft. Breadth do 85 ft. Water on sills 18 ft. Lift, about 18 ft. To be completed, May, 1892.	Almoy, J.	Report on Saut-Ste-Marie Canal to Legislature, State of Michigan, U.S.A., prior to.....	1847.
	Killaly, Hon. H. H.	Special Report.....	30th Mar., 1847.
	Keefer, Samuel H.	Chief Engineer, Public Works, survey...	1852.
	Wise, Fred. A. M.	Engineering staff survey proposed canal.	1852.
	Page, John, son.....	Chief Engineer.....	1853-90.
Expenditure to 30th June, 1889, \$42,164.01.	Crawford, Wm.	Chief Assistant Resident Engineer ...	1887-91.
	Curran, Veysie	Assistant Resident Engineer.....	1st Mar., 1889-91.
	Thompson, W. G. McNeil.....	Resident Engineer in charge	Jan., 1889-91

SHUBENACADIE CANAL (Halifax to Bay of Fundy.)

Commenced by Shubenacadie Canal Co. 25th July, 1826. Capital of Co., £60,000, N. S. Currency. N. S. Govt. grant £15,000, and an annuity of £1,500, after 1829, for ten years.	Hall, Francis Benjamin.	Reports, &c.....	1825-26.
	Telford, Thomas	Founder of the Institution of Civil Engineers, Great Britain incorporated 3rd June, 1828. Stockholder, Shubenacadie Canal for £450. Report on plans, &c.	1825.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Shubenacadie Canal</i> —Continued.			
<i>Original Design.</i>	Earl of Dalhousie.....	Turned first sod.	25th July, 1826.
Length of canal from Halifax Harbour to mouth of Shubenacadie River, Basin of Minas, 53 miles, 10 1/2 yards per Keating.	Sir James Kempt.		
No. of locks, 15.	Sir Howard Douglas.....		
Length of locks, 87 ft.	Rear Admiral Lake.....		
Breadth do 22 1/2 ft.	Maj.-Gen. Sir James Keane.....	Engineer in charge.....	1847-58.
Depth of water 8 ft.	Fairbanks, Charles Wm.	Report to N. S. Govt.....	15th Dec., 1852.
Lockage, ascend'g, 95' 10"	Faulkner, Wm.....	Report, plans, &c.....	1855-56.
do descend'g, 95' 4"	Talcott, W. H.....	Avery, James P.....	1856.
Total191' 2"	Avery, James P.....	Stairs, William } Gibson, John.. }	
See Stocklist, Journals—House Assembly, N.S., 1836.	Stairs, William } Gibson, John.. }	Directors... }	
NOTE.—The canal was purchased by the Halifax Land Improvement Co. in 1889. It was never completed according to the original design, although a small steamer passed through it from end to end.	Gray, Samuel.....	Secretary... }	1855-89.
	Fairbanks, L. P.....	Superintendent and Proprietor.....	
	Keating, E. H.....	Paper on Shubenacadie Canal read before American Society Civil Engineers.....	21st Nov., 1883.

SPLIT ROCK (River St. Lawrence.)

One of the old canals on St. Lawrence replaced by the Beauharnois Canal.	Twiss, Capt., R.E.....	Designed by Governor Haldimand.....	1779-83.
Commenced and completed between 1779 and 1783.	do	Superintending Engineer	1781.
Material, stone.	Mann, Col. Gother, commanding R.E.....	Report, to Imperial Government.....	24th Dec., 1800.
Length of canal, 260 ft.	By, Lieut.-Col., R.E....	Report on works	24th April, 1801.
Breadth, 6 ft.			
Water, about 2 ft.			
Lock rebuilt, 1804.	Clarke, Isaac Winslow, Dep. Com'ry-Genl....	Superintending Engineer	1809-22.
Length, 120 ft.			
Breadth, 9 1/2 ft.			
Water, about 3 ft.			
Enlarged, 1817.	Long, Maj. Andrew, R.E.	Superintendent, enlargement and repairs.	1817.
Breadth, 12 ft.			
Water, 3 1/2 ft.			
Portion of Lock still in existence, 1890.	Donatti, L., Dep. Asst. Com'ry-Genl.....	do	July, 1820.
	King, Capt. Wm., R.E..	Superintending Engineer	1826.
	Forbes, W. B., Dep. Com'ry-Genl.....	Superintendent, St. Lawrence Canals...	1830.
This Lock was constructed by the Royal Staff Corps and was transferred by the Imperial to the Pro-	Yule, Capt. Patrick, R.E.	do construction and repairs, St. Lawrence Canals.....	1830-35.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Split Rock</i> —Continued.			
vincial Govern'm't with other works. Transfer authorized by Canadian Parliament, 30th May, 1855, and accepted by O.C., 25th Jan., 1856.	Adams, John	Superintendent, Report on works.	10th Sept., 1835.
	Coffin, Lieut.-Col. W.	General Agent, Ordnance property	Sept., 1856, to Jan. '78.
	Baillairgé, Geo. Fred.	Survey plans and report, Water Power.	1857.

STE-ANNE LOCK (Junction River St. Lawrence and Ottawa.)

Overcomes Ste. Anne Rapid, on Ottawa River, between Lake "Two Mountains" and River St. Lawrence. Commenced 1816.	DuVernet, Lt.-Col., R.E.	Report and estimates of proposed canal and lock to replace wooden lock of 1816.	13th Dec., 1831.
Lock built of wood, in Vaudreuil channel, by St. Andrews' Steam Forwarding Co.; to pass steamers of 20 horse-power.	Hayne, Capt., R. S. Corps	Superintending construction Ottawa River Canal.	1833-34.
Rebuilt, 1832-33, by Ottawa Forwarding Co. Material, wood. Size, same as Grenville Canal.	Yule, Capt. Patrick, R.E.	Plans canal and lock	1835.
Second enlargement commenced 18th May, 1840.	Barrett, John	Superintendent, St. Anne's Lock.	April, 1849.
New stone lock, north side of river, 190 x 45 ft. 6 ft. water on sills at l. w. Opened June 22, 1843. Completed, Nov. 24, 1843.	Sippell, John G.	Superintending Engineer.	1853-77.
Third enlargement commenced in 1873.	do	Consulting Engineer	1877-1879.
Length of lock, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Completed towards 1883.	Page, John, sen.	Chief Engineer	1853-90.
Expenditure to 1st July, 1867, \$134,456.51.	Henshaw, Geo. H.	Resident Engineer.	Oct., 1873-83.
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,039,514.24.	Gerard, Arsène.	Superintendent, St. Anne's Lock.	1877 to Dec., 1878.
Total expenditure to 30th June, 1889, \$1,173,570.75.	Baillairgé, G. F.	Superintending Engineer	22nd June, 1877-79.
	Foreman, Thomas.	Superintendent.	1877.
	Marceau, Ernest.	Engineering staff, enlargement.	Aug., '77-80.
	Daoust, Joseph Lumina.	Superintendent	18th Dec., 1878-91.
	Stark, David.	Superintending Engineer	1st May, 1880-90.
	Aylmer, J. A.	Engineering staff	1880-81.
	Sutcliffe, John.	do	July, 1881-86
	Marceau, Ernest.	Assistant Engineer.	Nov., 1880-90

ST-OURS' CANAL, LOCK AND DAM (River Richelieu.)

On Richelieu River. Raised the river from 4 to 7 ft., enabling vessels to enter Chambly Canal, 32 miles distant. Commenced, 1844. Completed, 1st Sept., 1849. Length of canal, $\frac{1}{2}$ mile. Number of locks, 1. Length of lock, 200 ft. Breadth of lock, 45 ft.	Fleming, Peter.	Report recommending dredging Richelieu River to avoid building lock and dam at St. Ours.	1829.
	Hopkins, W. R.	Proposed lock and dam at St. Ours.	1835.
	Barrett, Alfred	Report on project	1841.
	Walton, D. S.	Engineering staff, enlargement.	1843-49.
	McDonald, J. F.	Superintending Engineer	1848-52.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891.—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>St. Ours' Canal, Lock and Dam—Continued.</i>			
Water on sills (lowest) 7 ft.	Harrison, Robert Newton	Superintendent, St. Ours Lock and Dam.	6th August, 1851.
Rise or lockage, 5 ft.	Sippell, John G.	Superintending Engineer.	July, 1853-77
Expenditure prior to 1st July, 1867, \$121,537.65;	Hatt, Augustus	Superintendent, St. Ours Lock and Dam.	11th March, 1853-57.
from 1st July, 1867, to 30th June, 1889, \$45,174.58; total expenditure to 30th June, 1889, \$166,712.23.	Page, John, sen.	Chief Engineer.	1853-90.
	Larue, Lewis	Superintendent, St. Ours Lock and Dam.	Apr. 24, 1858-88.
	Baillaigé, G. F.	Superintending Engineer.	June 22, 77-79.
	Parent, E. H.	do	May 12, '80. 91.
	Codère, Alfred	Superintendent, appointed.	Sept. 1, '88.
	Papineau, L. G.	Resident Assistant Engineer.	1889-91.

ST. PETER'S CANAL, C.B., N.S. (Atlantic Ocean.)

This canal, on the Island of Cape Breton, connects the Atlantic Ocean, at St. Peter's Bay with the Bras-d'Or.			
Dimensions proposed, 20 feet wide at bottom, and 12 feet water.—Estimated cost, £17,150 4s. 5d.	Hall, Francis Benjamin	Survey	1825.
Estimate for canal 22 ft. wide at bottom and 13 ft. deep, £17,751 4s. 0d. Plans adopted.	do do	Report, &c., to Nova Scotia Government.	1826.
Dimensions proposed, width of canal at 10 ft. deep, 20 ft.; slopes, 1½ to 1; depth of water, 13 ft.; width at water line, 50 ft. Est. cost to complete, £34,000.	Barry, P. J. S., R. E.	Report and estimates to Nova Scotia Government.	31 Aug., '53.
Estimated cost of completion if 22 ft. wide at the bottom, \$125,943.62; if 45 ft. wide at base, \$170,005.25.	Laurie, James	Report and estimate.	16th July, '58
Commenced, 7th Sept., 1854, suspended, 1856, resumed, 1865. Completed, 5th Aug., 1869	Perley, Henry F	Report and Estimate cost of completion.	8th Feb., '65.
Length of canal, 2,400 ft. No. of locks, 1. Length of lock, 122 ft. Breadth do 26 ft. Water on sills, 13 ft. Enlarged, 1875-81. Length, 2,400 ft.	do	Engineer in charge.	July, 1880-90
	Fairbanks, Charles W.	Report and estimates.	1850-52.
	Folsom, C. W.	Engineer in charge of construction	1854.
	Fuller, Thomas H.	Commissioners Report on progress of work	31st Dec., '56
	Martell, Henry		
	Munro, Hugh		
	Talcott, W. H.	Report, &c., on works.	1856.
	McNab, Alex.	Engineer in charge.	July, 1865, to July, 1867
	Dunlop, Mathew	Acting Superintendent.	1869, to June 1870.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>St. Peter's Canal, C.B., N.S.—Continued.</i>			
Length of lock, 200 ft.	Kavanagh, Wallace Morgan.	Superintendent	June 3, 1870 to 1891.
Breadth of lock, 49½ ft.			
Water on sills, 18 ft. at l.w.			
Rise of tide, 4 ft.	Page, John, sen.	Chief Engineer	1867-90.
Cost of construction to 30th June, 1867, \$156,523.32.	Barclay, E. J.	Engineering staff, enlargement	1875-81.
Completion and enlargement to 30th June, 1889, \$520,743.95.	Millidge, E. G.	Resident Engineer do	1875-81.
Total to 30th June, 1889, \$677,267.27.	Perley, H. I.	Superintending Engineer	May 1, 1872-90.
Contractors— John McLeod, 1855; work suspended, 7th Sept., 1856. Brooks, Foster & Co., contract dated 6th June, 1865. Patrick Purcell, 1867-69 S. Parker Tuck, enlargement, 1875-77. Assignees of Tuck and Government, 1877-81.			

TAY CANAL (Branch of Rideau Canal.)

Connects the town of Perth with the Rideau Canal <i>via</i> River Tay. Constructed by Tay Navigation Co.		Commenced in 1831 by an incorporated company.	
Length of canal, 8½ miles.			
No. of locks, 5.			
Dimensions, 101' x 20' x 4'.			
Material, stone.			
Lift of locks, 28 ft.			
Commenced 1831.			
Opened 1834.	Page, John, sr.	Chief Engineer	1855-99.
See General Report, Department Public Works, 1867.			
Enlargement and new works commenced 1883; completed 1889.	Wise, F. A. M. do	Survey and Report. Superintending Engineer, reconstruction.	1882-91.
W. Davis & Sons, contractors.	Taylor, Thomas Dixon.	Resident Engineer	March, '82, to Jan. '89.
Length, 6 miles.			
No. of locks, 2.			
Length of locks, 134 ft.			
Breadth do 32 ft.			
Depth of water, 5½ ft.			
Lockage, 25 ft.			
Expenditure from 1st July, 1867, to 30th June, 1889, \$407,764.72.			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
TROU DU MOULIN (River St. Lawrence.)			
One of the old River St. Lawrence canals. Length, 200 ft. Water, 2 to 2½ ft. on sills. Commenced and completed between 1779 and 1783.	Transferred by Imp. Govt. to Prov. Govt. with the other ordnance canals— accep. by O. C. 25 Jan. '56 Twiss, Capt., R. E. do Mann, Col. Gother, R. E.	This work was designed by Governor Haldimand; was re-placed by another canal at the foot of the Cascades Rapids in 1804. Superintending Engineer..... Report on canals to Imperial Government. do do	1779-1783. 1781. 24th Decem-ber, 1800.

WELLAND CANAL (Between Lakes Ontario and Erie.)

Connects Lakes Ontario and Erie, carrying navigation around the Falls of Niagara.	Gourlay, Robert	Views respecting projected canal	1819.
Commenced 30th Nov., 1824. Completed, 30th Nov., '29.	do	"Statistical account of Canada," with map of district, and necessity for the canal, published in London	1822.
Constructed by a company with Imperial and Provincial aid.	Tibbet, Hiran..... Clowes, Samuel	Description of a projected canal. Proposed works	1823. 1824.
No. of locks, 40. (Wooden), Dimensions, 100'x22'x7½'. Length of canal, 23 miles. Rise or lockage, 330 ft. Depth of water prop, 8 ft. Resolution to purchase stock of company passed Assembly, April, 1839.	Clowes, James..... Cusack, Rheddy..... Roberts, Nathan S. (Eng.) do	Survey and report... .. Reports on levels, surveys, etc..... Examined route with Clowes and Hall. Report..... Engineering Staff construction, appointed	10th August, 1824. 10th and 24th May, 1824. 1824. Aug. 28, '24. 1st April, '25.
Canal became public property 5th July, 1841.	Hall, Francis Benjamin.. Smyth, Major Gen. Sir Jas. Carmichael	Examined projected canal route with Messrs. Clowes and Roberts. Examined works, reported favorably....	1824. Prior to 1826.
<i>First Enlargement.</i>	Barrett, Alfred... ..	Resident Superintending Engineer, appointed.	10th May, 1826.
Commenced 1841. Completed 1845 to Port Maitland and in 1850, to Port Colborne.	Lapham, Mr. Thompson, David.....	Asst. Engineer Welland Canal Co..... Principal Consulting Engineer	Augt. 1827. 1824-28.
Length of canal, 27½ miles. No. of locks, 27. Material, stone.	Rendall, James M. ... Keefer, Geo., jr.....	Report on progress..... Superintending Engineer.....	31st May, '30. 1833.
Dimensions, 150 x 26½ x 8½, except guard lock, Port Colborne, 290 x 45, and 2 locks between Lake Ontario and St. Catharines, 200 x 45 feet. Water on sills 9 feet.	Donaldson, John... .. Farnsworth, S. H..... Wright, Benjamin	Superintendent of works..... Assistant Superintendent of works..... Projected enlargement	23rd Feb., 1833. March, 1833. 1833.
In 1853-54 the depth of water was increased to 10½ feet by raising banks and dredging.	Callahan, —..... Baird, N. H..... Robinson, William B.....	Superintendent. Division of Canal.... Report on projected enlargement..... Superintendent	36. 1837. 1st Oct., '37.
<i>Second Enlargement.</i>	Killaly, Hamilton H....	Survey with N. H. Baird for enlargement	1837.
Commenced 1873. Completed 1882 to 12 ft. Completed 1887 to 14 ft.	Woodruff, Samuel D.... Phillipotts, Lt.-Col., R.E.	Superintendent	1839-71.
6***	Report on proposed enlargement		1841.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Welland Canal—Con.</i>			
Length of canal, 26 $\frac{3}{4}$ miles.	Keefer, Samuel.....	Chief Engineer, Public Works	1841-52.
No. of locks, 27.		do	Report on proposed enlargement
Length of locks, 270 ft.	Keefer, Thos. C.....	Assistant Engineer.....	1842-45.
Breadth do 45 ft.			
Water on sills, 14 ft.			
Rise or lockage, 326 $\frac{3}{4}$ ft.			
<i>Branches Welland Canal.</i>			
	Page, John, sr.....	Asstt. Engineer and Draughtsman	1842.
River Branches—Length $\frac{3}{4}$ mile; two locks 150 x 26 x 9 $\frac{3}{4}$ feet.	do	Consulting Engineer.....	1846.
Grand River Feeder—Length 21 miles, two locks, one 200 x 45 x 9 and the other 150 x 26 $\frac{1}{2}$ x 9 feet.	do	Chief Engineer.....	1854-90.
Port Maitland Branch—Length 1 $\frac{3}{4}$ miles, one lock 185 x 45 x 11 feet.	do	Survey proposed enlargement begun.....	1870.
	Buchanan, W. O.....	Reports on enlargement of Canals, Lake Erie to Montreal.. ..	1872-77.
	Slater, J. D.....	Assistant Engineer	1843.
		Engineering Staff.....	1842-46.
Expenditure by Imperial Government, \$222,220.00; expenditure by Provincial Government prior to 1st July, 1867, \$7,416,019.82; expenditure from 1st July, 1867, to 30th June, 1889, \$16,149,710.47. Total expenditure to 30th June, 1889, \$23,787,950.30.	Barrett, Alfred.....	Asst. Chief Engineer, locating works...	1826, 42-43.
	Power, Samuel.....	Principal Engineer.....	1842-45.
	do	Specifications for construction of locks ...	Oct., 1843.
	Pritchard, M. B.....	Assistant Engineer, Welland Canal.....	1843-44.
	Keefer, Samuel H.....	Superintending Engineer construction...	24th June, 1846.
	Shanly, Walter.....	Consulting Engineer... ..	1846.
		Report plan and estimate.....	Oct., 1854.
	Stoker, Geo.....	Assistant Engineer.....	1864.
	Monro, Thomas... ..	Survey and locating enlargement.....	1870-71.
Directors Welland Canal Company, appointed 15th May, 1824:— Hon. Sir John Henry Dunn, Wm. H. Merritt, Geo. Keefer, Joha Decou, Samuel Clowes.	Fellowes, Chas. L.....	Engineering staff, enlargement.....	1870-76.
	Brunel, A.....	Superintendent.	1871 to 1874.
	Thompson, Wm. G. McN.	Resident Engineer, South Division, enlargement.....	1872-88.
	Secord, Wm. F.	Engineering staff, South Division, enlargement.....	Oct., 1872.
Commissioners to superintend expenditure of money, Welland Canal, appointed 13th February, 1833:— Wm. B. Robinson, Absalon Shade, John McAulay.	Leslie, William Lewis..	do do	Oct., 1872.
	Odlum, John Ed.....	Asst. Engineer, South Division, enlargement.....	1872-1888.
	Monro, Thomas.	Engineer in charge of works	July, 1872 to 31st Jan'y, 1873.
The first vessels that passed through the Welland Canal, from Lake Ontario to the Welland River, were the "Annie and Jare" and "R. H. Boughton," 30th November, 1829.	Gzowski, Col. C. S.....	Report on proposed enlargement	14th Feb., 73
	McAlpine, Hon. W. T., of U. S. A.	do do	14th Feb., 73
	Monro, Thomas.....	Resident Engineer, North Division, enlargement.....	1873-1888.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Welland Canal—Con.</i>			
<p>Note.—Oliver Phelps was contractor for the works on the 4th of August, 1827.</p>	Curran, Veysie.	Asst. Engineer, South Division, enlargement	Nov., 1873 to 1st Jan., '89
	Dickinson, Jos. E.	Asst. Engineer, North Division, enlargement	15th July, 74 to 30th Dec., 1879.
	Bodwell, E. V.	Superintendent.	1874 to 1st Jan., 1830.
	James, C.	Engineer, South Division, enlargement ..	1875.
	Kelly, Athol D.	Engineering staff, North Division, enlargement	1875.
	McNaughton, Chas E. ...	do do	1875.
	Merritt, Thomas	do do	1875.
	Simpson, Frank.	do do	1876.
	King, Chetwood Henry Waters.	Engineering staff, South Division, enlargement	Feb., 1883, to Nov., 1888.
	French, Barnard J.	Engineering staff, North Division, enlargement	1876.
	Fellowes, Chas. L.	Engineering Staff, Surveys	1870-76.
		Asst. Engineer, North Division, enlargement	1st July, 76-1882.
	Townsend, T. B.	Contractor, lock gates.	1880.
Ellis, William	Superintendent, appointed	1st Jan., '80.	
Willet, Herbert Alfred ..	Engineering Staff, South Division, enlargement	Aug., 1881-88	
Crawford, William.	Asst. Engineer, deepening to 14 feet	1st June, '86 to 1st Aug., 1887.	

WHITLAS RAPIDS, LOCK, &c. (River Trent.)

<p>Part of Trent River navigation, to connect Bay of Quinté, Lake Ontario, with Lake Huron, distance direct, 112 miles; <i>vid</i> proposed river route, 235 miles; lockage rise, 589$\frac{1}{2}$; fall, 243$\frac{1}{2}$ feet; total, 832$\frac{1}{2}$ feet. Commenced, 1837. Completed, 1843. Dimensions of lock, 133$\frac{1}{2}$ x 33 x 5 ft.</p>	Bethune, J. G.	<p>Commissioners superintending Newcastle District Works.</p>	1833.
	Brown, Robert.		
	Hall, John.		
	Reed, Thomas		
	McDonell, A.		
	Baird, N. H.	Reports, &c.	1833-43.
	Rubidge, F. P.	Compiled map Trent River.	1836.
Baird, N. H.	Superintending Engineer.	1837.	
Killaly, Hamilton H.	Report, prior to.	1843	

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Services.	Dates.
<i>Whittas Rapids, Lock, &c.</i> —Continued.			
For cost Trent River Navigation, <i>See</i> "Bobcaygeon Canal."	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	do	Special report.....	1846.
	Rigney, James.....	Asst. Engineer.....	1843-49.
	Lyons, James.....	do	1843-49.
	Page, John, sen.....	Chief Engineer.....	1853-90.
	Ranney, G. W.....	Superintending Engineer.....	1855-73.
	Baillaigé, G. F.....	Assistant Chief Engineer.....	1871-79.
		Reports and Estimates, Trent R. Works.	1863-74.
	Belcher, Thomas D.....	Superintending Engineer.....	1873-84.
	Rogers, R. B.....	Asst. Engineer.....	1878-81.
	do	Survey Trent Valley District	1882-83.
	do	Superintending Engineer.....	1st July, '84-1891.
	Perley, H. F.....	Chief Engineer.....	1880-91.

WIDOW HARRIS OR NINE-MILE RAPIDS (River Trent).

Part of projected Trent River navigation, Bay of Quinté, Lake Ontario, to Lake Huron—	Bethune, J. G.....	Commissioners superintending Newcastle District works.....	1833.
	Brown, Robert.....		
	Hall, John.....		
	Reed, Thomas.....		
	McDonell, A.....		
From Trenton, up to this locality, the Trent is a continuous rapid for 9 miles; thence to Chisholm's Lock, navigation commences.	Baird, N. H.....	Report on project	1833-36.
	do	Superintending Engineer.....	1837-41.
	Rabidge, F. P.....	Compiled map Trent River.....	1836.
For cost of Trent River Navigation, <i>See</i> "Bobcaygeon Canal."	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	Killaly, H. H., sen.....	Report prior to	1843.
	Rigney, James	Assistant Engineer	1843-49.
	Lyons, James	Superintending Engineer	1843-55.
	Page, John, sen.....	Chief do	1854-80.
	Ranney, G. W.....	Superintending do	1855-73.
	Baillaigé, Geo. Fred...	Assistant Chief Engineer.	1871-79.
		Reports and Estimates, Trent R. Works.	1863-74.
	Rogers, R. B.....	Asst. Superintendent	1878-81.
do	Survey Trent Valley Canal	1882-83.	
do	Superintending Engineer.....	1884-88.	
Perley, Henry F.....	Chief Engineer.....	1880-91.	

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779—1891—Continued.

Works.	Engineers, etc.	Service.	Dates.
WILLIAMSBURGH CANALS (River St. Lawrence.)			
<p>See Farran Point, Rapide Plat, Point Iroquois, Galops and Junction Canals.</p> <p>Commenced, 1844. Completed, 1847.</p> <p>Expenditure by Provincial Government prior to 1st July, 1867, \$1,320,655.54.</p> <p>Expenditure from 1st July, 1867, to 30th June, 1889, \$504,098.68.</p> <p>Total expenditure to 30th June, 1889, \$1,824,754.22.</p>	Mills, J. B.	Reports and surveys, projected works.	1833-43.
	do	Superintending Engineer.	1843 to June, 1847.
	Wright, Benjamin.	Projected canals	1833.
	Geddes, —	Consulting Engineer.	1834.
	Fleming, Peter.	Superintending and Consulting Engineer	1834.
	Killaly, H. H., sen.	Chairman Board of Works.	1841-46.
	Keefer, Samuel.	Chief Engineer Public Works.	1841-52.
	Phillpotts, Col. R. E.	Report, &c.	1843.
	Rubidge, Thos. S.	Engineering staff.	1844-48.
	Page, John, sen.	Resident Superintending Engineer	1850-53.
	do	Chief Engineer	1853-90.
	Baillairgé, G. F.	Resident Superintending Engineer	1853-56.
	Macdonell, Alex. G.	Assistant Chief Engineer.	1871-79.
	do	Superintendent	26th April, 1875-1889, 27th Jan., '89
	Rubidge, Thomas S.	Superintending Engineer, enlargement.	1880.
Reid, John.	Superintendent, appointed.	18th Oct., '89	
do	Died	13th May, '90	
Reid, John D.	Acting Superintendent	1st May, '90.	
YAMASKA RIVER (South side of River St. Lawrence.)			
<p>Lock and dam at Ile à Cardin, enables vessels to ascend Yamaska River 20 miles to 'Rapide de la Grosse Roche.'</p> <p>Commenced, Aug., 1881. Opened, 2nd Sept., 1885.</p> <p>Length of lock, 162½ ft. Breadth do 31 ft.</p> <p>Depth of water— Lowest, 5½ ft. Highest, 10½ ft.</p> <p>Expenditure to 1st July, 1890, \$124,792.39.</p>	Perley, Henry F.	Chief Engineer.	1880-91.
	Michaud, C. E.	Resident Engineer.	1880-88.
	Mooney, Wm.	Assistant do (Died 2nd January, 1885).	1880-84.
	Berlinguet, Thos	Engineer in charge.	1888-91.
do	The first contract for this work was signed Messrs. Goherty, Brecken and Davis, contractors. They abandoned the work, and a contract was entered into with Messrs. McCannon & Cameron on the	Aug., 1881.	
do	Lock completed and in working order.	3th July, '84. 2th Sep., '85.	

PUBLIC WORKS and their Engineers, &c., Canada—Graving or Dry Docks.

Works.	Dimensions and Expenditure.	Engineers, Contractors, &c.	Dates.
<p style="text-align: center;"><i>Esquimaux Graving Dock.</i></p> <p>Work authorized by Act of Provincial Government of British Columbia, 43 Vic., cap. 8. Situate on Vancouver Island, about three miles below Victoria. Plans of dock and caisson prepared and furnished by Government of British Columbia—and exhibited, former, 18th Nov.; latter, 1st Dec., 1882. Completion by Dominion Government, authorized by Act 47 Vic., cap. 6. Agreement between Dominion Government and Government of British Columbia under sanction of Imperial Government, respecting construction, signed, subsequent to 12th July, 1880. Graving dock and ground transferred to Dominion Government, and work commenced, under authority of Act 47 cap. 6.</p>	<p>As completed up to 1880— Length at centre, 430 feet. Width at bottom, 41 do on floor. do coping level, 90 feet. do entrance, 65 do Depth of water on sills, 26½ feet at H. W. Sillings. Spring tides, rise, 7 to 10 feet. Neap tides rise, 5 to 8 feet.</p> <p>Expenditure— Pro. Govt., B. Columbia... \$384,512 66 Imperial Government..... 243,333 33 Dominion Government..... 529,214 42 Total to 17th Dec., 1889, \$1,157,060 41</p>	<p>Trutch, Hon. J. W., Engineer in charge..... Beunett, W., Resident Engineer..... Perley, Henry F., Chief Engineer Public Works.....</p> <p style="text-align: center;"><i>Contractors.</i></p> <p>McNane & Nish, under British Columbia Government Their contract cancelled by Government of British Columbia and work carried on by day's labour... Larkin, Murphy & Conolly, for completion of work under the Dominion Government; contract signed. Dominion Bridge Co., Montreal, for caisson..... Watt, James, & Co., London, Great Britain, pumping machinery.</p>	<p>24th Nov., 1883 do 1884-91. 1880. 1882-83. 8th Nov., 1884. 10th July, 1885. 17th Sept., 1887. 1st April, 1887. 1st Dec., 1887.</p>
<p>Dock completed and opened to H. M. S. "Cormorant," in July, 1887.</p>		<p>Devereux, John, Dockmaster..... Muir, A., C. Engineer..... Grieve, A. D., Carpenter.....</p>	

PUBLIC WORKS and their Engineers, &c., Canada—Graving or Dry Docks—Continued.

Works.	Dimensions and Expenditure.	Engineers, Contractors, &c.	Dates.
<p><i>Halifax Graving Dock.</i></p> <p>Situate at Halifax, N. S. Constructed by Halifax Dry Dock Company, incorporated in Great Britain. Agreement with Public Works Department, Canada, signed 13th February, 1886. Work commenced 1st May, 1886. Opened by Admiral Watson, Commander-in-Chief N. A. and W. I. Station, C.M.S. "Canada," docked 26th September, 1889. Approved by Henry F. Perley, Chief Engineer, Public Works Department, 21st September, 1889.</p>	<p>Length, 585 feet. Width at coping level, 102 feet. do entrance 89½ do do bottom 72 do Water on sills— Ordinary spring tides, 30 feet. Spring tides rise 6 do Neap do 3 do Subsides— Imperial Government, per annum for 20 years, \$10,000. Dominion Government, per annum for 20 years, \$10,000. City of Halifax, per annum for 20 years, \$10,000. Total cost, about \$1,000,000.</p>	<p>Keating, E. H., Superintending Engineer construction. 1886-89. do Resident Chief Engineer. 1889-91. Perley, Henry F., Chief Engineer, Public Works Department. 1889-90. Pearson & Son and Brookfield, Messrs., contractors. 1886. Brookfield, Samuel M., local contractor. 1886-89. McPherson, David, Dockmaster. 1889-91.</p>	<p>1886-89. 1889-91. 1889-90. 1886. 1886-89. 1889-91.</p>
<p><i>Kingston Graving Dock.</i></p> <p>Situate at the City of Kingston, north side Lake Ontario. Commenced 23rd April, 1889. Estimated date of completion, 23rd April, 1891. Estimated cost, \$260,680.75.</p>	<p>Length on floor, 280 feet. Width at coping level, 79 feet. do entrance 55 do Width on floor, 47 feet. Depth from coping to floor, 26 feet. do of water on sills at low water, 15½ ft. Height of water varies 3½ feet.</p>	<p>Strong, W. O., Engineer in charge. 1st Dec., 1888-91. Perley, George F., Assistant Engineer. June, 1888-91. Perley, H. F., Chief Engineer Public Works Contractors. Connolly, N. K. } Connolly, M. }</p>	<p>1st Dec., 1888-91. June, 1888-91. 1880-91. 23rd April, 1889.</p>

