PROVINCE OF BRITISH COLUMBIA

Minister of Public Works

REPORT

FOR THE FISCAL YEAR

1956-57

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in the right of the Province of British Columbia.
1957

To His Honour FRANK MACKENZIE ROSS, C.M.G., M.C.,
Lieutenant-Governor of the Province of British Columbia.

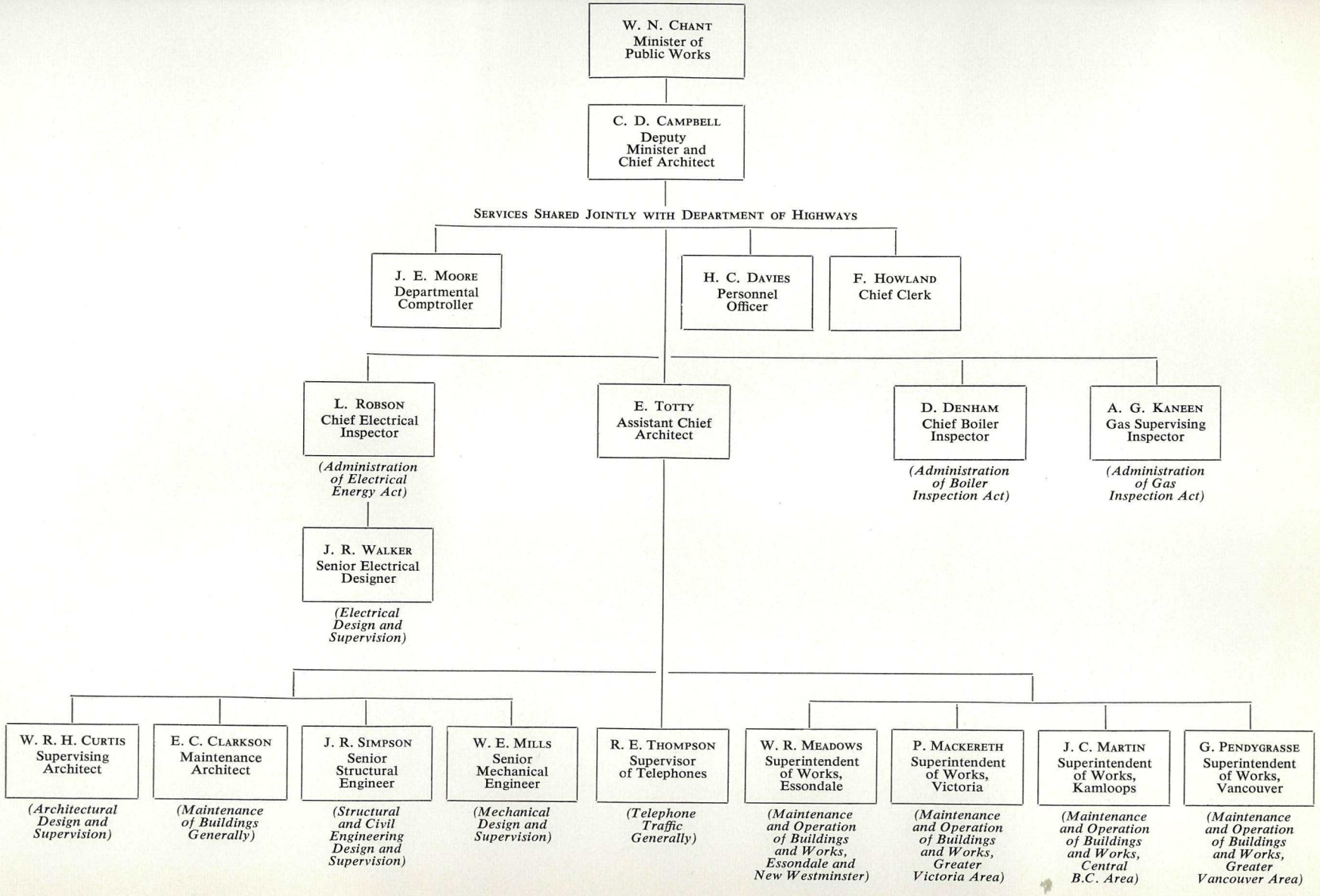
MAY IT PLEASE YOUR HONOUR:

Herewith I beg respectfully to submit the Annual Report of the Department of Public Works for the fiscal year ended March 31st, 1957, in compliance with the provisions of the "Public Works Act."

W. N. CHANT,
Minister of Public Works.

Office of the Minister of Public Works,
Parliament Buildings, October 9th, 1956.

ORGANIZATIONAL CHART AS OF MARCH 31ST, 1957



PUBLIC WORKS REPORT

REPORT OF THE DEPUTY MINISTER

VICTORIA, B.C., October 9th, 1957.

The Honourable W. N. Chant,
Minister of Public Works,
Parliament Buildings, Victoria, B.C.

SIR,—The fiscal year 1956–57 was the second year of operation of this Department, and I have pleasure in submitting herewith for your approval and consideration the Annual Report on its activities during that year.

You will see by studying the following reports from the various branches concerned that good progress was made in all fields of activity.

New construction advanced well throughout the year with the completion of several large projects, and commencement with good progress being made on many others.

The Design Divisions have been kept very busy on planning of a varied nature for projects which it is hoped to commence in the relatively near future.

Industrial development and expansion throughout the Province was reflected in the increased activity and necessary expansion of the Inspection Divisions for Electrical Energy, Boiler and Pressure-vessels, and especially the comparatively new Gas Inspection Division, which is faced with the imminent distribution of natural gas throughout a major portion of the Province.

C. D. CAMPBELL,
Deputy Minister and Chief Architect.

REPORT OF THE ASSISTANT CHIEF ARCHITECT

Satisfactory progress was made with the building programme during the fiscal year 1956–57. Several major projects under construction last year have been completed, and plans and specifications are nearing completion for several projects to be tendered early in the coming fiscal year.

A total of 157 buildings and mechanical projects were completed or undertaken during the fiscal year 1956–57, at a total expenditure of $9,078,885.33. The more important of the projects which were completed are as follows:—

Major Projects Completed

Location	Building	Total Cost
Atlin	New Court-house	$26,626.65
Dawson Creek	New library	153,480.00
Dawson Creek	Dwellings, Department of Mines	54,617.00
Essondale	Construction of reservoir	25,260.00
Essondale	New water-line	57,947.00
Fort St. John	New Government office building	339,176.00
Kamloops	Addition to Land Registry Office	43,568.00
Nanaimo	New wing to Court-house	407,037.00
Vancouver	Deaf and Blind School	860,243.00
New Westminster	300-bed unit, The Woodlands School	1,787,097.72

Some of the larger or more important projects which were under construction at the end of the fiscal year 1956–57 are as follows:—

Major Projects under Construction

Project	Location	Percentage Completed	Building	Estimated Total Cost
123-B	Haney	99	B.C. Correctional Institution	$4,900,000.00
5-B-53	Port Coquitlam	40	300-bed Home for the Aged	1,897,195.00
5-B-21	Essondale	50	100-bed nurses' home	1,000 000.00
205-B	Kamloops	90	Addition to Government office building	250 000.00
245-B	Kamloops	99	New equipment-shed	70,000.00
201-B	Prince George	28	New Court-house	1,600,000.00
208-B	Vancouver	25	New Girls' Industrial School	1,400,000.00

In addition to the aforementioned projects, there are a number of larger projects which are in an advanced stage of planning and will be ready to let for tender early in the coming fiscal year. These are as follows:—

Location	Project	Estimated Cost
Abbotsford	Random poultry test-houses	$100,000.00
Burnaby	New vocational school	300,000.00
Burnaby	Sewage-disposal plant	60,000.00
Essondale	New boilers and extension to boiler-house	1,000,000.00

The major building projects have been completed with a minimum of delay, and the projects under construction are progressing satisfactorily; this is due primarily to the excellent job being done by our clerks of works and the co-operation received from the general contractors.

E. TOTTY,
Assistant Chief Architect.

REPORT OF THE SUPERVISING ARCHITECT

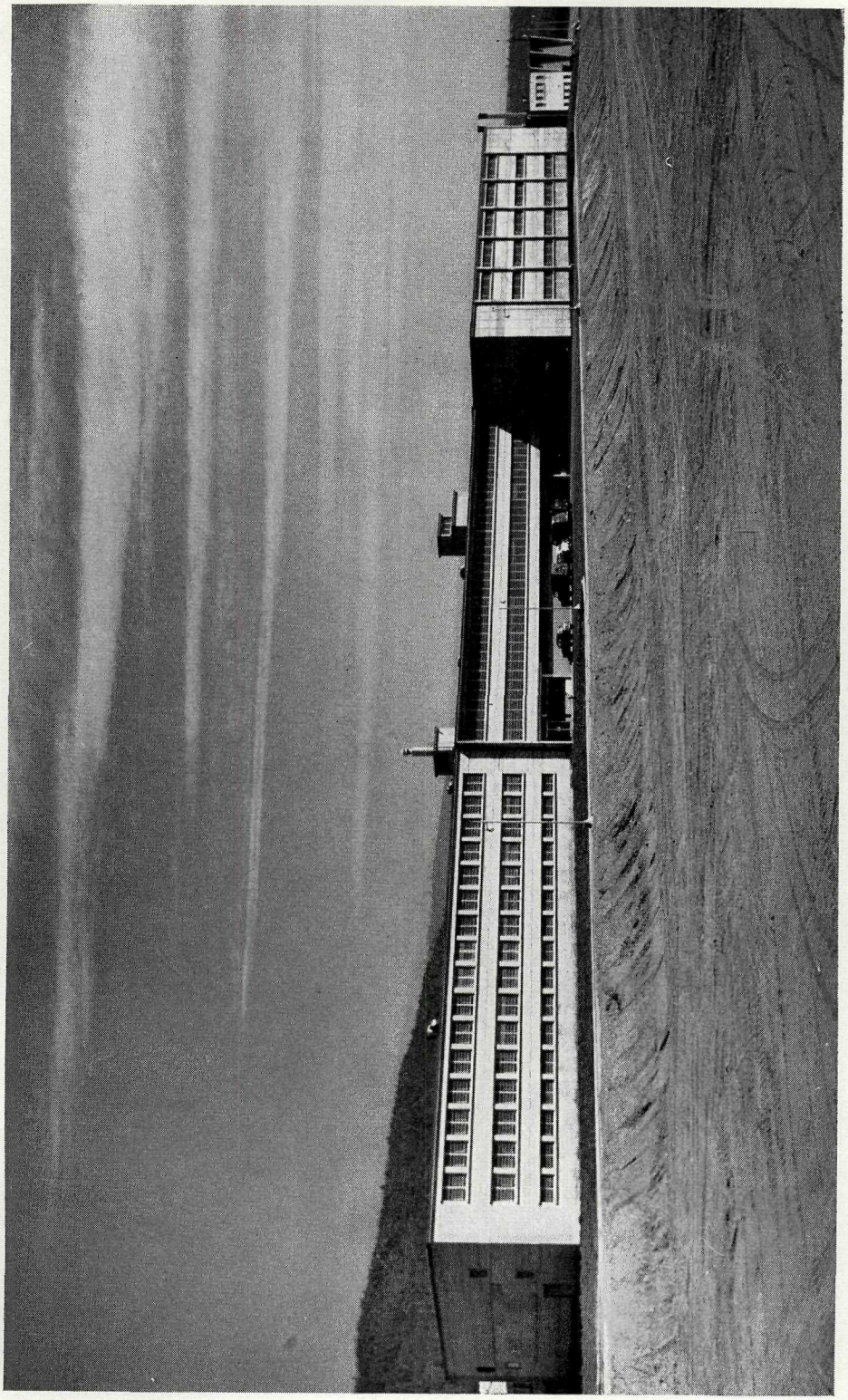
Details of major projects completed, major projects under construction, and tenders received and contracts awarded for buildings, during the fiscal year 1956–57 are to be found elsewhere in the Public Works Report.

This report is primarily concerned with the internal operation of the Architectural Branch of the Department, under the direction of the Deputy Minister and Chief Architect.

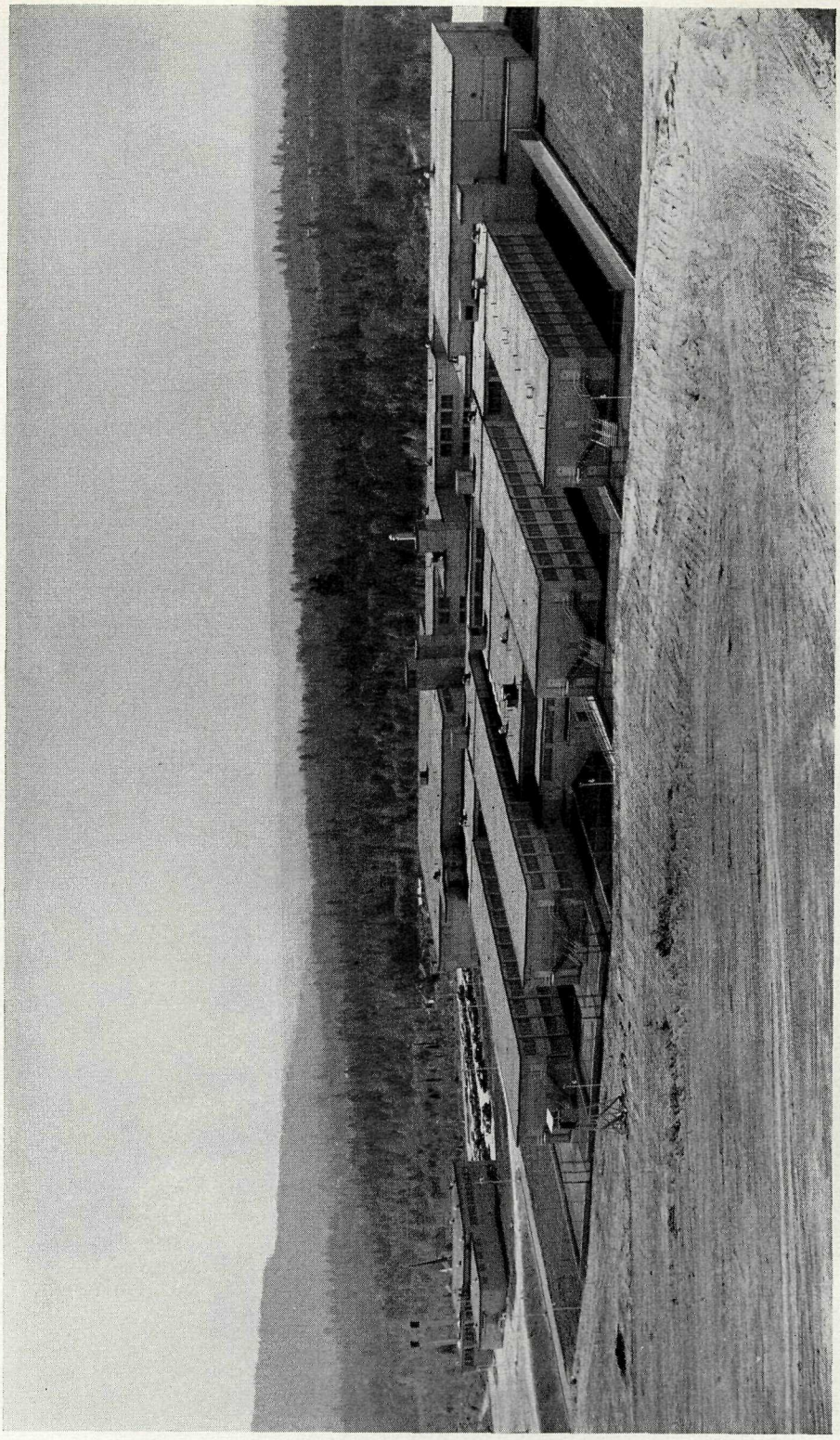
Staff was maintained throughout the year at approximately the same numerical level as in the previous fiscal year, with eight architects, two specification-writers, one town-planner, one landscape architect, and eight to ten draughtsmen.

It can be stated that the general level of good design and methods of construction has been well maintained. While the over-all standard in both these phases of the work falls short of perfection, it may safely be said that the buildings now produced by the Architectural Branch are vastly superior to those conceived ten or fifteen years ago. The technical difficulties presented by the mechanically complex structures being erected to-day are being coped with in a diligent and efficient manner.

The division engaged in specification writing is actively occupied, apart from its routine work, in research into new materials, new building techniques, and in the production of more stream-line specification clauses. The system of preparing projects for tendering by lump-sum contract is still maintained, though bidding on the basis of a bill of quantities would produce a closer control on pricing both prior and subsequent to the



British Columbia Correctional Institution, Haney.



British Columbia Correctional Institution, Haney.

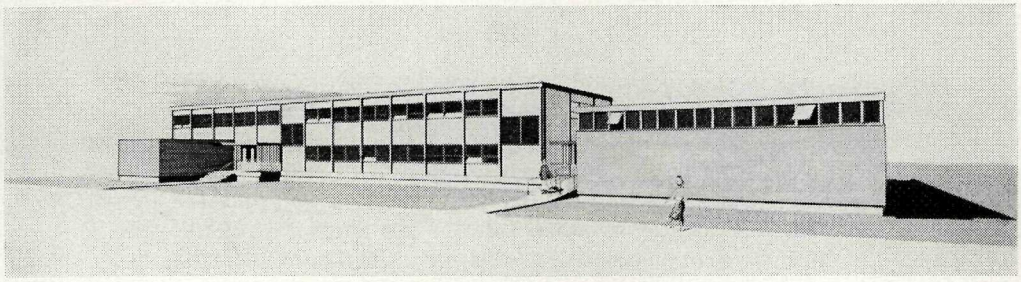
receipt of tenders. Only by accurate quantity measurement can cost variation in extra or omitted work in the field be checked properly and contractors' claims and credit offers be satisfactorily assessed. However, the present organization of the Architectural Branch does not permit the introduction of this method.

It may be noted with satisfaction that co-operation with other Government departments has been maintained at its customary high level, by means of small and large planning committees, to the advantage of all concerned.

The more important projects planned during the period April 1st, 1956, to March 31st, 1957, were the Girls' Industrial School, Burnaby; the 209-bed Pearson Tuberculosis Hospital, Vancouver; the new Court-house, Prince George; new Government office buildings at Fort St. John and Kamloops; the addition to the Men's Gaol, Prince George; the new 300-bed South Lawn Hospital, Essondale; and the new vocational school, Prince George.

In summary, a satisfactory year's work has been accomplished.

W. R. H. CURTIS,
Supervising Architect.



Fort St. John Government Building.

REPORT OF THE MAINTENANCE ARCHITECT

The total expenditure for maintenance of Government buildings throughout the Province was $2,299,697.85. This total includes expenditures on Court-houses, institutions, residences, laboratories, clinics, gaols, R.C.M.P. detachments, and sundry buildings.

The programme of renovations and modernization (where practical) is being continued in Court-houses, and general maintenance is being maintained in all Government buildings. Major renovations have been carried out in the Vancouver area, such as 411 Dunsmuir Street, Normal School, and 636 Burrard Street.

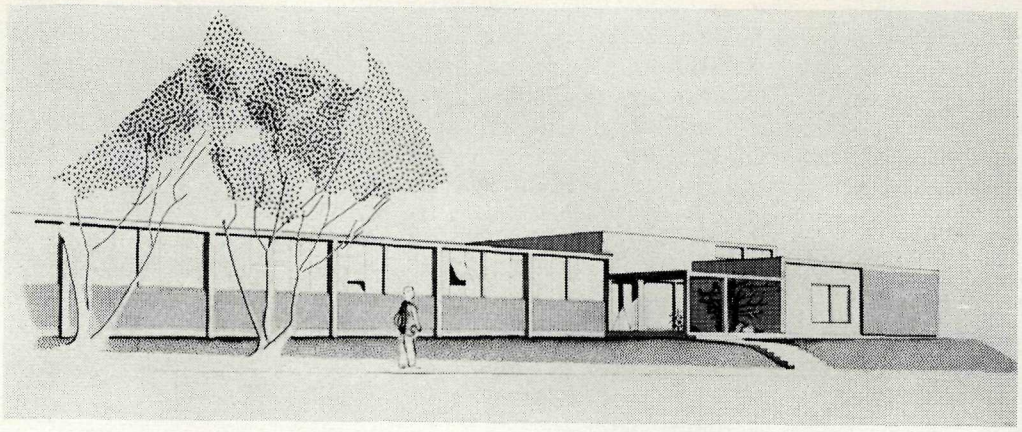
Regular inspection trips have been carried out during the year, and it has been found that Government Agents, who act as our representatives, have co-operated at all times with this Department.

Certain Government buildings are now very old and have fulfilled their usefulness; in these cases no attempt is being made to renovate, but in all cases the premises are being kept clean, painted, etc.

Regarding Government residences and R.C.M.P. detachments, these premises are receiving continued attention.

I should like to add that the Public Works Superintendents located at Essondale, Tranquille, Vancouver, and Victoria have given me their full co-operation during the past year.

E. C. CLARKSON,
Maintenance Architect.



Materials Testing Laboratory, Victoria.

REPORT OF THE MECHANICAL ENGINEER

GENERAL

During the year the Section continued work at a high level of activity. Capacity of the Section was very much increased with a move to more spacious quarters. In September the Section, along with the Structural Section, moved into a rejuvenated house at 526 Michigan Street. The additional space allowed of better organization of filing and reference material and the increasing of the staff by one engineer and two draughtsmen. This increase in capacity was utilized during the latter part of the year.

The use of consulting engineers' services was continued on many of the larger capital projects. During the year the trend toward more fully ventilated spaces in both office and institutional buildings mentioned in last year's Report continued, in fact gained momentum. Summer cooling as well as winter heating is now considered a necessity in most new buildings; however, only the provision for summer cooling was installed in the capital buildings constructed this year.

The change to fully automatic heating units in the smaller institutions and Courthouses continued. In this way minimum staffs operating and maintaining the buildings can be maintained. Serious consideration was given to the use of natural-gas fuel in many buildings and institutions in the areas where it will be available.

CAPITAL PROJECTS

Again this year the Section worked in conjunction with the other branches of the Chief Architect's Office in most of the capital projects handled by the Department.

A few of the major projects handled directly by the Section are:—

(1) Investigation and study into the steam and emergency or standing electrical requirements of the Provincial Mental Hospital at Essondale. Additional capital building at this hospital in the last few years has brought the winter steam demand up to the installed capacity in the boiler plant, thus leaving no reserve capacity.

(2) Continued improvements to the distribution of the steam at the Hospital. Service to the easterly portion of the Hospital was immeasurably improved by a new underground distribution main.

(3) Air-conditioning of the Polio Pavilion at the Pearson Tuberculosis Hospital, Vancouver.

MAINTENANCE

Again maintenance of mechanical equipment was carried out throughout the year. With the gradual increase in the number of buildings, maintenance is gradually increasing.

Some of the more outstanding work done under maintenance was:—

(1) Renewal of the heating unit, conversion to oil firing, and the repiping of the Court-house, Kamloops.

(2) Renovation of the old heating system at the Court-house, Nanaimo, and the tie into the new addition to this Court-house.

Much attention was given to the proper disposal of waste materials from all types of buildings. To this end, a number of closely designed incinerators were installed in an attempt to cut down on the fly ash, odour, and smoke nuisance.

SUPERVISION OF PLANT OPERATION AND OPERATING PERSONNEL

Again this year numerous field-trips to the various heating plants were made. One of the major difficulties encountered this year was the recruitment of certified stationery engineers suitable for institutional work. With industry making large demands on the available labour force, it was difficult to keep the establishments filled.

W. E. MILLS,
Senior Mechanical Engineer.

REPORT OF THE STRUCTURAL ENGINEER

The Structural Section of the Chief Architect's Branch had a very busy year during 1956–57, and a brief description of the work completed and designed follows.

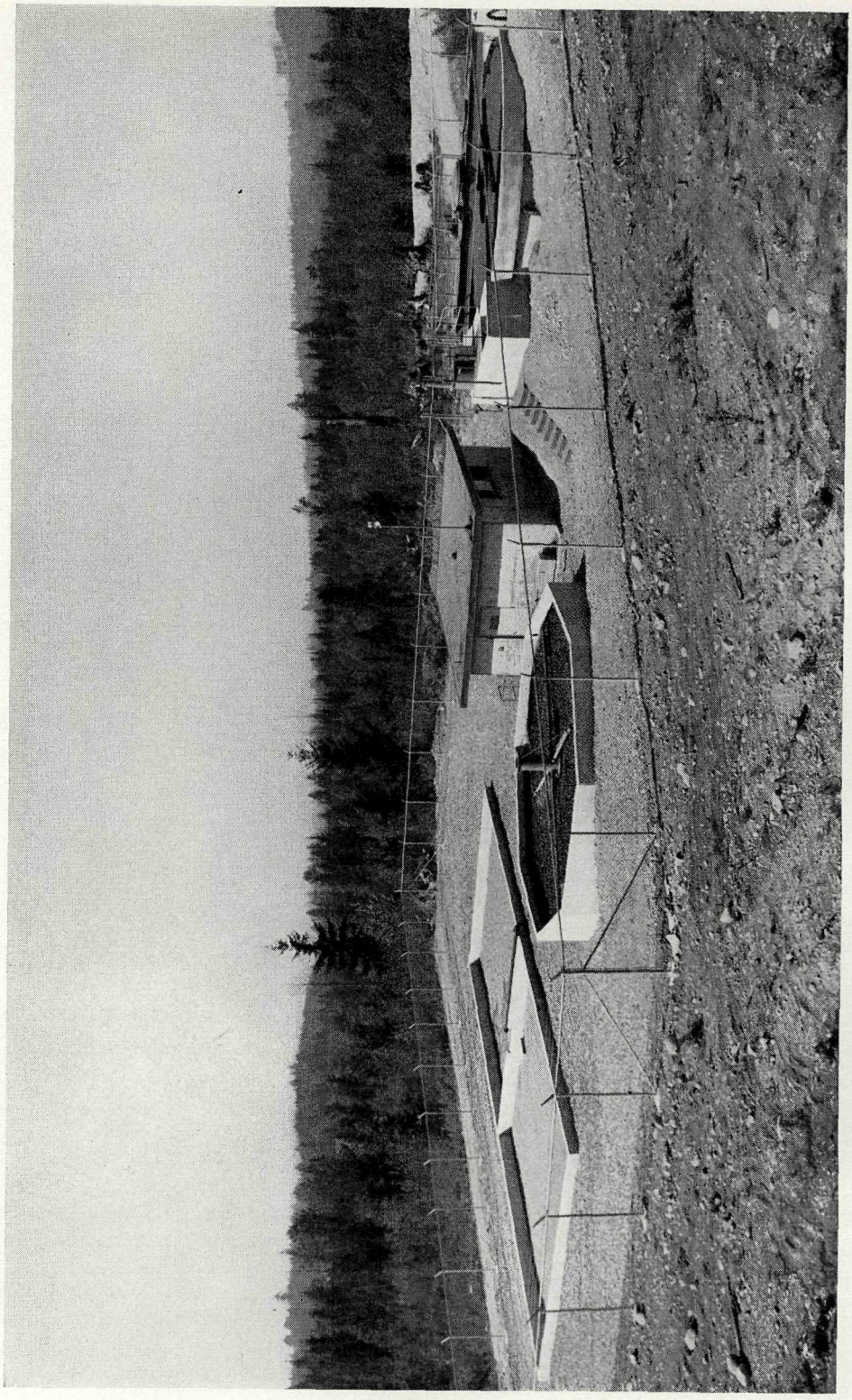
STRUCTURAL DESIGN AND SUPERVISION

Many large buildings were designed and supervised during the past year, mainly in reinforced-concrete construction. Examples of this type of construction are the 300-bed unit at Essondale; British Columbia Correctional Institution, Haney; Girls' Industrial School, Burnaby; Deaf and Blind School, Vancouver; Materials Testing Laboratory, Victoria; and the auditorium at The Woodlands School. The Prince George Court-house was let out to private consulting enginers due to pressure of work in this office.

In addition, the following jobs were designed but not let out to tender during the year: Prince George Gaol addition, Dawson Creek Laboratory Building, Crease Clinic addition, and Industrial Therapy Building, Essondale.

An interesting application of glued laminated-timber arches was made in the chapel at Essondale, and produced a very attractive and economical building. Another example of glued laminated timber was in the 50-foot span beams over the swimming-pool at the Girls' Industrial School, Burnaby.

Structural steel played an important part in many of our buildings, being used mainly in roof structures. Tubular-steel welded trusses were used in the gymnasium at the British Columbia Correctional Institution, Haney, and present a pleasing appearance exposed, thus saving the cost of suspended ceilings which normally are used to hide the usual steel or wood trusses. Another example of a carefully designed and finished truss is in the auditorium at The Woodlands School, New Westminster. These trusses are curved and support a steel roof deck, and without a suspended ceiling present a spacious and pleasing appearance.



Sewage plant, British Columbia Correctional Institution, Haney.

DRAINAGE AND SEWAGE-DISPOSAL SYSTEMS FOR BUILDINGS

The most important job under this heading was the completion of the sewage-disposal plant at the British Columbia Correctional Institution, Haney. The construction of this plant was necessitated by the need to protect the potable water-supply of private residents in the district, the water-supply for the Institution itself, and the need to prevent pollution of the Alouette River. This installation is a fully mechanized bio-filtration plant with chlorination and sludge-drying facilities, the first plant of its type in Western Canada. The plant has been operating for some months and has proved very efficient, both from the purification of the effluent and the complete lack of obnoxious odours.

An addition has been made to the sewage-disposal plant at Oakalla Prison, due to the heavy increase in population over the last few years. A temporary sewage-disposal plant has been designed to serve the Girls' Industrial School, Child Guidance Centre, and proposed Vocational Training School in Burnaby. The plant has been made largely out of wood-stave tanks in order to save money, as the Municipality of Burnaby expects to have sewers in the area in from five to ten years' time.

The main storm-drain at Essondale has been replaced with reinforced-concrete pipe, due to the corrosion of the old drain which had been in for many years.

WATER-SUPPLY AND IRRIGATION SYSTEMS

The pumping-station and water-main to the new reservoir at Essondale was completed during the present year. This means that Essondale has now an independent source of water for fire-fighting or drinking purposes in case of a break in the Greater Vancouver Water Board mains.

J. R. SIMPSON, P.ENG.,
Structural Engineer.

TENDERS RECEIVED AND CONTRACTS AWARDED FOR BUILDINGS

Description of Work and Names of Tenderers	Amount	Remarks
100-BED NURSES' HOME AND TRAINING CENTRE, ESSONDALE:		
John Laing & Son (Canada) Ltd.	$1,089,039.00	
Commonwealth Construction Co. Ltd.	1,033,700.00	
A. R. Grimwood Ltd.	1,004,130.00	
Beaver Construction Co. Ltd.	998,713.00	
E. H. Shockley & Son Ltd.	985,667.00	Awarded.
CONVERSION OF QUONSET LOAFING-BARNS, COLONY FARM, ESSONDALE:		
E. H. Shockley & Son Ltd.	45,713.00	
Mainland Construction Co. Ltd.	45,972.00	
Lickley Construction Co. Ltd.	43,210.00	Awarded.
Hansen Construction Co. Ltd.	29,942.00	Bid withdrawn.
NEW LIBRARY, DAWSON CREEK:		
Narod Construction Ltd.	144,387.00	
Bennett & White Construction Co. Ltd.	143,809.00	Awarded.
Overland Construction Ltd.	149,196.00	
AIR-CONDITIONING OF WARDS, POLIOMYELITIS PAVILION, VANCOUVER:		
Ben's Plumbing & Heating Ltd.	24,773.00	
Acme Plumbing & Heating Co. Ltd.	21,644.00	
Leek & Co. Ltd.	20,722.00	
Lockerbie & Hole Western Ltd.	19,844.00	Awarded.
AUDITORIUM, WOODLANDS SCHOOL, NEW WESTMINSTER:		
Overland Construction Ltd.	458,821.00	
Dawson & Hall Ltd.	445,725.00	
Narod Construction Ltd.	442,675.00	
C. J. Oliver Ltd.	431,300.00	
Halse-Martin Construction Co. Ltd.	430,402.00	
Pyke & White Construction Co. Ltd.	424,544.00	
A. R. Grimwood Ltd.	416,870.00	
Kennett Construction Ltd.	415,655.00	Awarded.

TENDERS RECEIVED AND CONTRACTS AWARDED FOR BUILDINGS—*Continued*

Description of Work and Names of Tenderers	Amount	Remarks
NEW EQUIPMENT-SHED, KAMLOOPS:		
Marpole Construction Co. Ltd.	$76,313.00	
Taylor & Son Ltd.	72,737.00	
Sorenson Construction Co. Ltd.	69,863.00	Awarded.
MATERIALS AND TRAFFIC ENGINEERS' OFFICES AND SHOPS, DEPARTMENT OF HIGHWAYS, VICTORIA:		
J. A. Pollard Construction	179,209.00	
G. H. Wheaton Ltd.	167,830.00	
Parfitt Construction Co. Ltd.	164,741.00	
Farmer Construction Ltd.	158,485.00	Awarded.
ADDITION TO GOVERNMENT OFFICE BUILDING, KAMLOOPS:		
Bennett & White Construction Co. Ltd.	320,872.00	
Overland Construction Ltd.	306,896.00	
Sorenson Construction Co. Ltd.	268,423.00	
Marpole Construction Co. Ltd.	265,481.00	
Taylor & Son Ltd.	251,179.00	Awarded.
TURBO-GENERATOR FOR POWER PLANT, BRITISH COLUMBIA CORRECTIONAL INSTITUTION, HANEY:		
Walkem Machinery & Equipment Ltd.	29,707.65	
Canadian General Electric	27,947.00	
Fred McMeans & Co.	24,265.95	Awarded.
NEW COURT-HOUSE, FORT ST. JOHN:		
Bennett & White Construction Co. Ltd.	382,300.00	
Overland Construction Ltd.	376,799.00	
Cloverdale Construction Co. Ltd.	325,214.00	Awarded.
THREE-BAY EQUIPMENT-SHED AND OIL-HOUSE, NORTH VANCOUVER:		
Moncrieff Construction Co. Ltd.	37,733.00	
Pearson Construction Co. Ltd.	37,473.00	
Navin Construction Ltd.	34,754.00	
Lickley Construction Co. Ltd.	34,345.00	Awarded.
NEW COURT-HOUSE, PRINCE GEORGE:		
Narod Construction Ltd.	1,599,666.00	Awarded.
GIRLS' INDUSTRIAL SCHOOL, BURNABY:		
Commonwealth Construction Co. Ltd.	1,565,590.00	
Manson Bros Ltd.	1,529,607.00	
Turnbull & Gale Construction Co. Ltd.	1,523,403.00	
Smith Bros. and Wilson Ltd.	1,470,300.00	
A. R. Grimwood Ltd.	1,446,419.00	
Beaver Construction Co. Ltd.	1,432,424.00	Awarded.
NEW GYMNASIUM, NEW HAVEN:		
Turnbull & Gale Construction Co. Ltd.	43,756.00	
Greenall Bros. Ltd.	43,682.00	
Sorenson Construction Co. Ltd.	42,423.00	
Amundson Construction Co. Ltd.	42,344.00	
Lickley Construction Co. Ltd.	39,758.00	
H. J. Henningson & Sons	39,400.00	Awarded.
HEATING AND ELECTRICAL WORK FOR NEW GARAGE, FORT ST. JOHN:		
Ben's Plumbing & Heating Ltd. and Stanroy Construction Ltd.	10,882.00	Awarded.
J. H. McRae Co. Ltd.	18,535.00	
Canadian Comstock Co. Ltd.	20,990.00	
Acme Electric (Dawson Creek) Ltd. (electrical only)	6,754.00	
PIPING FOR TWO OIL-FIRED BOILERS, BRITISH COLUMBIA CORRECTIONAL INSTITUTION, HANEY:		
Keith Plumbing & Heating Co. Ltd.	81,730.00	
Vancouver Pipe & Engine Works Ltd.	77,795.00	
Boiler & Power Plant Contractors Ltd.	66,843.00	
Fred Welsh & Sons Ltd.	59,558.00	
The Bay Company (B.C.) Ltd.	59,150.00	Awarded.
SEWAGE-DISPOSAL PLANT, BRITISH COLUMBIA CORRECTIONAL INSTITUTION, HANEY:		
Holand Construction Ltd.	184,000.00	
Dawson & Hall Ltd.	105,052.00	Awarded.
A. R. Grimwood Ltd.	109,400.00	

TENDERS RECEIVED AND CONTRACTS AWARDED FOR BUILDINGS—*Continued*

Description of Work and Names of Tenderers	Amount	Remarks
ADDITIONS AND ALTERATIONS TO WOMEN'S GAOL, OAKALLA:		
Sorenson Construction Co. Ltd.	$202,425.00	
George Born	201,259.00	
Manson Bros Ltd.	199,585.00	Awarded.
TEN-BAY EQUIPMENT-SHED AND OIL-HOUSE, CRANBROOK:		
Narod Construction Ltd.	148,989.00	
A. E. Jones Co. Ltd.	139,797.00	
C. J. Oliver Ltd.	133,349.00	Awarded.
TEN-BAY EQUIPMENT-SHED, LILLOOET:		
Bennett & White Construction Co. Ltd.	141,615.00	
Gilmour Construction & Engineering Co. Ltd.	141,711.00	
Narod Construction Ltd.	139,184.00	Awarded.
SUPPLY AND INSTALLATION OF TWO COAL-FIRED BOILERS, PROVINCIAL MENTAL HOSPITAL, ESSONDALE:		
Foster-Wheeler Ltd.	579,110.00	
Vancouver Iron Works Ltd.	565,021.00	
C. C. Moore & Co., Engineers, Inc.	543,035.00	Awarded.
Dominion Bridge Co. Ltd.	530,000.00	
Bumstead-Woolford Ltd.	528,149.00	
TWO-1,500-KVA.-UNIT SUBSTATION FOR ESSONDALE MENTAL HOSPITAL:		
Cemco Electrical Manufacturing Co. Ltd.—		
Proposal No. 1	87,955.00	
Proposal No. 2	91,985.00	
Electric Power Equipment Ltd.—		
Proposal A	88,000.00	
Proposal B	91,200.00	
Pioneer Electric Ltd.—		
Proposal No. 1	99,925.00	
Alternative to Proposal No. 1	104,225.00	
Proposal No. 2	91,925.00	
Alternative to Proposal No. 2	97,075.00	
Johnson & Phillips (Canadian Sales) Ltd.	84,955.00	Awarded.
HEATING AND VENTILATION, NEW GYMNASIUM, BORSTAL, NEW HAVEN, BURNABY:		
The Bay Company (B.C.) Ltd.	22,675.00	
Warner Plumbing & Heating Co. Ltd.	21,892.00	
B. Boe Ltd.	21,472.00	
Fred Welsh & Son Ltd.	20,575.00	
Keith Plumbing & Heating Co. Ltd.	19,150.00	Awarded.
ALTERATIONS AND ADDITIONS TO CHILD GUIDANCE CENTRE AND DAY-HOSPITAL, BURNABY:		
Manson Bros Ltd.	28,955.00	
Holand Construction Ltd.	28,872.00	
Klassen Construction Ltd.	27,990.00	
Lickley Construction Co. Ltd.	27,572.00	
Beaver Construction Co. Ltd.	26,627.00	
Mainland Construction Co. Ltd.	25,935.00	Awarded.
SEWAGE-TREATMENT PLANT, OAKALLA PRISON FARM:		
Gilmour Construction & Engineering Co. Ltd.	51,861.00	
The Bay Company (B.C.) Ltd.	48,634.00	
Holand Construction Ltd.	46,685.00	
Manson Bros. Ltd.	44,774.50	
Mainland Construction Co. Ltd.	43,975.00	
Turnbull & Gale Construction Co. Ltd.	41,326.00	Awarded.
SUPPLY, FABRICATION, AND ERECTION OF STRUCTURAL STEELWORK, BOILER-HOUSE, PROVINCIAL MENTAL HOSPITAL, ESSONDALE:		
Western Bridge & Steel Fabricators Ltd.	70,000.00	
The Bay Company (B.C.) Ltd.	95,705.00	
Royal City Welding & Iron Works Ltd.	96,630.00	
Dominion Bridge Co. Ltd.	67,014.00	
Burrard Dry Dock Co. Ltd.	67,985.85	
Blain Boiler Works Ltd.	81,350.80	
Tryson & Son Iron Works Ltd.	56,890.00	Awarded.
HEATING FOR NEW GARAGE, EXISTING GARAGE, EQUIPMENT-SHED, AND PLANT SHOP, DEPARTMENT OF HIGHWAYS, KAMLOOPS:		
McKinnon Plumbing & Heating Co. Ltd.	27,672.00	Awarded.

TENDERS RECEIVED AND CONTRACTS AWARDED FOR BUILDINGS—*Continued*

Description of Work and Names of Tenderers	Amount	Remarks
RESERVOIR, PIPE-LINE, AND PUMP-HOUSE, PROVINCIAL MENTAL HOSPITAL, ESSONDALE:		
General Pipe Contractors	$23,965.00	Awarded.
Surrey Excavating Co. Ltd.	24,447.68	
Keith Plumbing & Heating Co.	24,498.00	
Gilmour Construction & Engineering Co. Ltd.	24,947.00	
Mainland Construction Co. Ltd.	27,309.00	
Craig & Ralston Construction Co. Ltd.	30,499.00	

REPORT OF SUPERVISOR OF TELEPHONES

Herewith is submitted the annual report of the Telephone Branch, Department of Public Works, covering fiscal year ended March 31st, 1957.

This Branch processed and completed 981 orders, an increase of 439 over the previous year. This was mostly due to reorganization of the Highways Department and moves within the Parliament Buildings. The orders placed were as follows:—

	Type of Service	
	Business	Switchboards
Installations	124	291
Moves	44	174
Take-outs	14	95
Changes	8	80
Seasonal installations	151	------

Business Exchange Service.—Key telephone units which have been found to give excellent service to small groups of offices in a centrally located area have been installed in several health units and district offices of the Welfare Department. These units allow the answering point to pick up two to five lines and supply the office with a common intercommunication circuit.

Switchboard Service.—Cuts were completed on the following:—

Jericho Hill School: One-position No. 555 switchboard replacing ten-line cord switchboard.

The Woodlands School: Two-position No. 555 switchboard replacing one-position No. 551-B.

Forest Service: One-position No. 555 switchboard replacing one-position No. 550-C.

Nanaimo Court-house: One-position No. 555 switchboard replacing individual business service.

Trunking Facilities.—Additional trunking was added to switchboards at the Parliament Buildings, Vancouver Court-house, and Kamloops Administration Building. All of these switchboards have now reached maximum trunking capacity.

Switchboard Surveys in Progress.—Parliament Buildings: Complete traffic study for cabling, load-cut, and increase station line requirements.

Pearson Tuberculosis Hospital: Increase in service for completion of new 209-bed hospital.

Provincial Mental Hospital, Essondale: Complete traffic study for conversion from manual to automatic switchboard.

Provincial Probation Offices: Requirements for new offices at 1075 Melville Street, Vancouver.

Haney Correctional Institution: Requirements for manual switchboard installation.

Kamloops Administration Building: Requirements for conversion of existing one-position switchboard to two-position board at completion of new building.

Prince George Court-house: Requirements for move of switchboard to new Court-house.

Kitimat Court-house: Requirements for service.

Business Service Surveys in Progress.—Girls' Industrial School, Vancouver, and Normal School, Vancouver.

Traffic.—Switchboard traffic has increased heavily in the past year on all switchboards. On the Parliament Buildings, total average has increased from 11,652 to 14,885 calls per day.

To date we now have a total of twenty-four switchboards in service, which require a staff of forty-six permanent operators and nine relief operators.

RUTH E. THOMPSON,
Supervisor of Telephones.

REPORT OF THE CHIEF INSPECTOR OF BOILERS AND MACHINERY

In accordance with the provisions of the "Boiler and Pressure-vessel Act," I have the honour to submit the fifty-fifth annual report of the operation of the Boilers and Machinery Inspection Division for the fiscal year ended March 31st, 1957.

THE ACT

At the Spring Session of the Legislature, subsection (3) of section 27 was amended by increasing the scope of second-class engineers from 900 to 1,000 horse-power. Section 54 was repealed to accommodate new methods of appointing and training Inspectors (*see* Personnel).

REGULATIONS

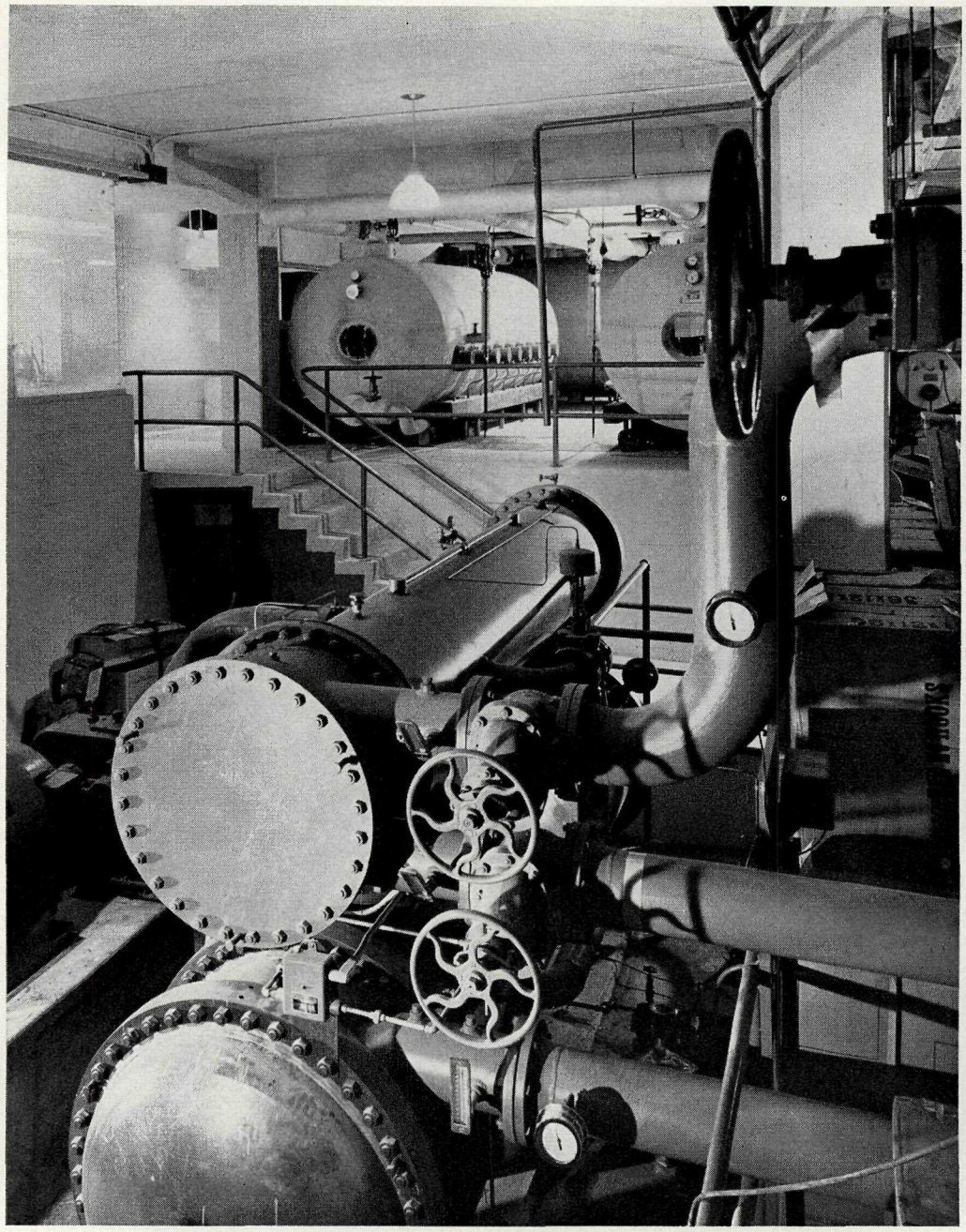
The introduction of natural gas to our cities and towns through high-pressure mains caused us to invoke the Pressure Piping Code ASA-B.31.8 to regulate the fabrication and installation of the mains within municipal boundaries. The piping plans of Nanaimo, Burnaby, Coquitlam, Abbotsford, Richmond, and Vancouver were examined and approved, and follow-up inspections were made. All welders on the municipal mains as well as the large transmission-lines were examined, making an increase of 82 per cent over last year.

NEW CONSTRUCTION

City gate and reducing-stations for natural gas were completed at Sumas and Surrey. At Port Alberni, McMillan & Bloedel Limited installed three steam generators with a total of 6,829 horse-power. At Campbell River the Elk Falls Company installed a 3,349-horsepower recovery-boiler and six digesters. At Port Alice the Alaska Pine & Cellulose installed an additional steam generator of 2,368 horse-power. In North Vancouver, Hooker Chemicals installed two steam generators totalling 2,238 horse-power. The Standard Oil refinery expansion project at Stanovan was completed.

Construction is under way on the following projects: B.C. Forest Products, Crofton, 3,416 horse-power; Pacific Petroleum, Fort St. John, 6,152 horse-power; and Jefferson Lake Sulphur Company, Fort St. John, 1,978 horse-power.

In addition to the steam generators mentioned, there were numerous pressure-vessels used in process, such as digesters, chemical retorts, reactors, cracking-columns, paper-machines, and related pressure piping.



High-temperature heating plant in new B.C. Electric Building, Vancouver.

ACCIDENTS AND REPAIRS

On July 31st, 1956, a small boiler (No. 14070-B.C.) was burned beyond repair through the failure of automatic controls. On January 15th, 1957, an air-receiver (No. 6936-B.C.) exploded and was projected 20 feet through a workshop. This was caused by frost sealing the safety-valve. No one was injured in these accidents.

Forty-one boilers were repaired under Inspectors' directions.

CANADIAN STANDARDS ASSOCIATION

The annual meeting of the Boiler and Pressure-vessel Committee was held in Toronto on September 18th to 20th. The C.S.A. Code B-51 was reviewed and amendments discussed in preparation for a 1957 edition.

This meeting was followed by a Code Seminar at the University of Toronto on September 21st, where there was considerable interest shown in the application of the A.S.M.E. pressure-vessel code to the design of pressure-vessels used in nuclear fission.

The code serves a valuable purpose in retaining uniform standards in design and construction throughout Canada. The annual meeting keeps all jurisdictions abreast of new developments in pressure-vessel engineering. The Chief Inspector continues to serve in the capacity of chairman.

STATIONARY ENGINEERS

The Division has assisted the Department of Education in the preparation of correspondence courses for all grades and continues its efforts to promote uniformity of examinations for engineers between the Provinces.

The trend in boiler design is to include large horse-power capacity in a single unit; therefore, it was deemed necessary to increase the scope of the second-class certificate to 1,000 horse-power, and the Act was amended accordingly.

Examinations indicate a gradual increase in quality of first- and second-class engineers, which is gratifying in view of the number of large new steam plants now operating and under construction in the Province.

PERSONNEL

With the repeal of section 54 of the Act, we can proceed with our plan to establish a Grade I category of Inspectors. These Inspectors will be subject to careful training for the Grade II position, and may then be transferred to Interior districts as resident Inspectors. The growth of industry on Vancouver Island and the Peace River and Nelson areas will soon warrant resident Inspectors.

Provision is also made for Inspectors of engineering graduate level to enter the design office for survey work. Currently two Inspectors have been drawn from the field to relieve the pressure of work in the design office and to examine welders and inspect the work on municipal gas-piping systems.

SUMMARY OF WORK

Revenue was $1,110.24 in excess of expenditure. In addition, inspections were made on Public Works boilers and pressure-vessels amounting to a revenue equivalent of $2,500.

New designs and amendments checked	913
Fees collected for designs	$9,000.00
Fees collected for work done in boiler-shop	$9,203.00
New boilers built in British Columbia	89
Second-hand boilers inspected	27
Total number of all boilers inspected	4,061
Plates inspected and tested	1,443
Number of engineers examined	511
Number of welders examined	1,901
Over-all cost of Division to Government	$106,169.24
Over-all total revenue	$107,279.48

Appended is a detailed list of all work done and an analysis of examinations.

INSPECTOR'S ANNUAL REPORT, 1956–57

	Steam	Hot Water
Number of drawings and specifications calculated for registration	913	7
Number of boilers on which calculations for W.P. were made in the field	4	----
As Engineer-Surveyor—		
Number of boiler-plates inspected and tested	1,443	----
Number of boiler-plates rejected	14	----
Number of visits to boiler-shops	476	57
Number of boilers tested built under Inspector's supervision	60	29
Miles travelled	6,520	2
First inspections—		
Number of new boilers inspected and tested built in Eastern Canada	19	12
Number of new boilers inspected and tested built in United States	22	70
Number of new boilers inspected and tested built in other countries	----	----
Total number of new boilers inspected	41	82
Total horse-power of new boilers inspected	12,919	971
Number of new boiler installations inspected	564	46
Number of second-hand boilers inspected and tested (first inspection) imported from Eastern Canada	26	41
Number of second-hand boilers inspected and tested (first inspection) imported from United States	15	----
Number of second-hand boilers inspected and tested (first inspection) imported from other countries	----	----
Total number of second-hand boilers inspected for first time	27	----
Total horse-power of second-hand boilers inspected for first time	1,752	----
Number of first installations of second-hand boilers inspected	23	1
Annual inspections—		
Number of annual inspections	2,294	1,198
Number of inspections, under steam	261	42
Number of boilers inspected (under 3 horse-power)	114	2
Number of boilers subjected to hydrostatic test	1,653	852
Number of visits in addition to annual inspection	289	39
Number of boilers on which pressure was reduced	37	4

INSPECTOR'S ANNUAL REPORT, 1956–57—*Continued*

Annual inspections—*Continued*	Steam	Hot Water
Number of boilers repaired under Inspector's directions	25	16
Number of boilers considered unfit for further use	5	----
Number of investigations	7	6
Total number of all boilers inspected	2,737	1,324
Total horse-power of all boilers inspected	298,905	38,147
Number of accidents to engines and boilers	3	----
Boilers taken out of service	13	2
Miles travelled by the Inspectors		82,036
Total travelling expenses		$14,866.85
Travelling expenses per mile		10.8¢

Results of Engineers' Examinations

Class	Number Examined	Passed	Failed
First	16	12	4
Second	48	40	8
Third	120	88	32
Fourth	225	165	60
Special heating H.P. " B "	23	16	7
Special heating L.P. " B "	79	49	30
Class A	17	----	----
Totals	511	370	141

Temporary, 390.

Welders' Tests

Class	Number Examined	Passed	Failed
Electric	973	804	169
Oxy-acetylene	662	532	130
Downhill	182	172	10
A.S.M.E.	84	78	6
Totals	1,901	1,586	315

Summary of Defects Observed

Nature of Defects	Number	Dangerous
Boilers with safety-valves overloaded	2	----
Boilers with safety-valves defective	6	2
Pressure-gauges defective or over 5 lb. error	55	----
Cases of insufficient staying or bracing	1	----
Cases of defective stays	12	----
Cases of defective riveting	4	----
Serious leakage in rivet-joints	10	----
Boilers with fractured plates	5	1
Boilers with burned plates	1	1
Boilers with bulged plates	9	----
Cases of internal corrosion	61	----

Summary of Defects Observed—*Continued*

Nature of Defects	Number	Dangerous
Cases of external corrosion	9	1
Cases of scale or encrustation	24	----
Cases of internal grooving	3	1
Cases of defective tubes	27	----
Defective main stop-valves	4	----
Defective blow-off pipes or cocks	20	----
Defective settings	1	----
Defective water-gauges	4	1
Cases of defective feed-water arrangement	1	----
Boilers damaged by low water	3	1
Cases of serious leakage of fittings	1	----
Cases of defective steam-pipes	4	----
Furnaces out of shape	1	----
Unclassified defects	24	----
Totals	292	8

Pressure-vessels Inspected

Number of pressure-vessels inspected in field	372
Number of pressure-vessels inspected during construction	1,820
Number of pressure-vessels inspected (imported from United States)	420
Number of pressure-vessels inspected (imported from Eastern Canada)	195
Number of pressure-vessels inspected (imported from other countries)	88

Refrigeration Plants

New plants inspected	7
Existing plants inspected for first time	4
Annual inspections made	14
Total tonnage of all plants inspected	1,430
Safety orders issued	4

Analysis of Examinations

Engineers

	Year Ended Mar. 31, 1956			Year Ended Mar. 31, 1957		
	Examined	Passed	Failed	Examined	Passed	Failed
First	14	6	8	16	12	4
Second	53	29	24	48	40	8
Third	145	94	51	120	88	32
Fourth	281	191	90	225	165	60
Class A	16	8	8	17	11	6
High pressure "B"	20	15	5	6	4	2
Low pressure "B"	76	57	19	79	49	30
Totals	605	400	205	511	369	142
Temporary	607	.....	.....	390	.....	.....

Welders

	1956			1957		
	Examined	Passed	Failed	Examined	Passed	Failed
Electric	768	681	87	1,057	882	169
Oxy-acetylene	241	213	28	662	532	136
Downhill	-----	-----	-----	182	172	10
Totals	1,009	894	115	1,901	1,586	315

Fees Received

	1956	1957
Engineers	$5,046.25	$3,175.00
Welders	4,400.00	10,801.50
Duplicate certificates	155.00	78.50
Total	$9,601.25	$14,055.00

D. DENHAM, P.ENG.
Chief Inspector of Boilers and Machinery.

REPORT OF THE CHIEF GAS INSPECTOR, GAS INSPECTION DIVISION

In accordance with the provisions of the "Gas Act," I have the honour to submit the third annual report of the operation of the Gas Inspection Division for the fiscal year ended March 31st, 1957.

THE ACT

The "Gas Act" was not amended during the 1957 Session of the Legislature.

THE DIVISION

At present the staff consists of the Chief Inspector, four Gas Inspectors, one Clerk—Grade III, and one stenographer.

A major part of the work of this Division consisted of education. Night classes were given in Vancouver, Victoria, Nanaimo, and Abbotsford. These schools were conducted jointly by the Division, the gas utility, and School Boards. Short courses were held in Quesnel, Williams Lake, Kamloops, Vernon, Kelowna, Penticton, Trail, and Nelson. These short courses, given in conjunction with the gas utility, were attended by more than 1,000 persons.

Natural gas was distributed for the first time on the Lower Mainland and was turned into the 18-inch B.C. Electric transmission-line at Huntingdon on November 6th, 1956. The following day conversion started in New Westminster and, without any serious incidents, was completed three months later at the B.C. Electric manufactured-gas plant in Vancouver.

On November 8th, 1956, natural gas was turned into the distribution mains of the Village of Abbotsford and the Municipalities of Matsqui and Sumas.

The rate of natural-gas installations in all municipalities has exceeded the most optimistic estimates, and indications are that it will continue to do so.

The British Columbia Research Council is now testing gas appliances in its newly equipped gas laboratory.

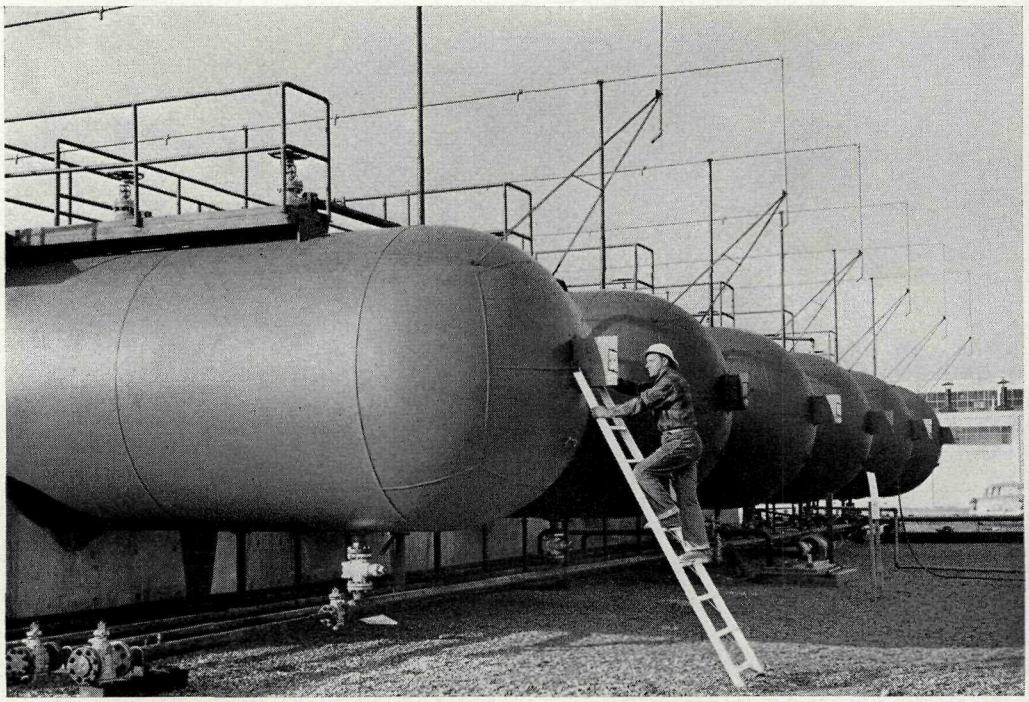
REGULATIONS

In order to accommodate developments in the gas industry, the regulations were amended by the following Orders in Council:—

Order in Council No. 190, Regulations for Interim Approval and Interim Listing of Gas Appliances in British Columbia, amended and approved January 30th, 1957.

Order in Council No. 191, Regulations Governing the Installations of Gas Piping, Appliances, and Venting, approved January 30th, 1957.

Order in Council No. 192, Regulations respecting Gas-fitters, Contractors, and Dealers, approved January 30th, 1957.



High-pressure butane storage-vessels, natural-gas reducing-station, Surrey.

ACCIDENTS

During the fiscal year there were no major explosions. There were 135 incidents of gas poisoning; ninety-seven persons survived, but there were twenty accidental deaths and seventeen suicides.

Two of the accidental deaths were caused by incomplete combustion of natural gas and poor venting of the appliance. For the last two and a half months, however, there have been no incidents.

SUMMARY OF WORK

New designs checked, interim approval	18
New designs checked, industrial approved	25
Number of Gas Codes distributed	1,749
Gas-fitters' licences issued	279
Contractors' licences issued	217
Provisional licences issued	573
Number of gas-fitters examined	259

SUMMARY OF WORK—*Continued*

Number of gas-fitters passed examination	93
Number of permits issued, municipalities	13,064
Provincial gas inspection	348

FEES COLLECTED

Examination fees	$3,705.00
Provisional licence fees	3,565.00
Contractors' licence fees	2,820.00
Renewal gas-fitters' licence fees	754.00
Sale of Gas Codes	996.50
Interim approval fees	455.00
Industrial approval fees	260.00
Interim approval seals	11,319.00
Resale approval seals	2,737.50
Identification tags (gas-fitters')	125.20
Permits	1,481.50
Total revenue	$28,387.16
Over-all cost of department to Government	$27,408.17

A. G. KANEEN, P.ENG.,
Chief Gas Inspector.

REPORT OF THE INSPECTOR OF ELECTRICAL ENERGY

In accordance with the "Electrical Energy Inspection Act," I have the honour to submit my annual report for the fiscal year ended March 31st, 1957.

BOARD OF EXAMINERS FOR ELECTRICAL CONTRACTORS

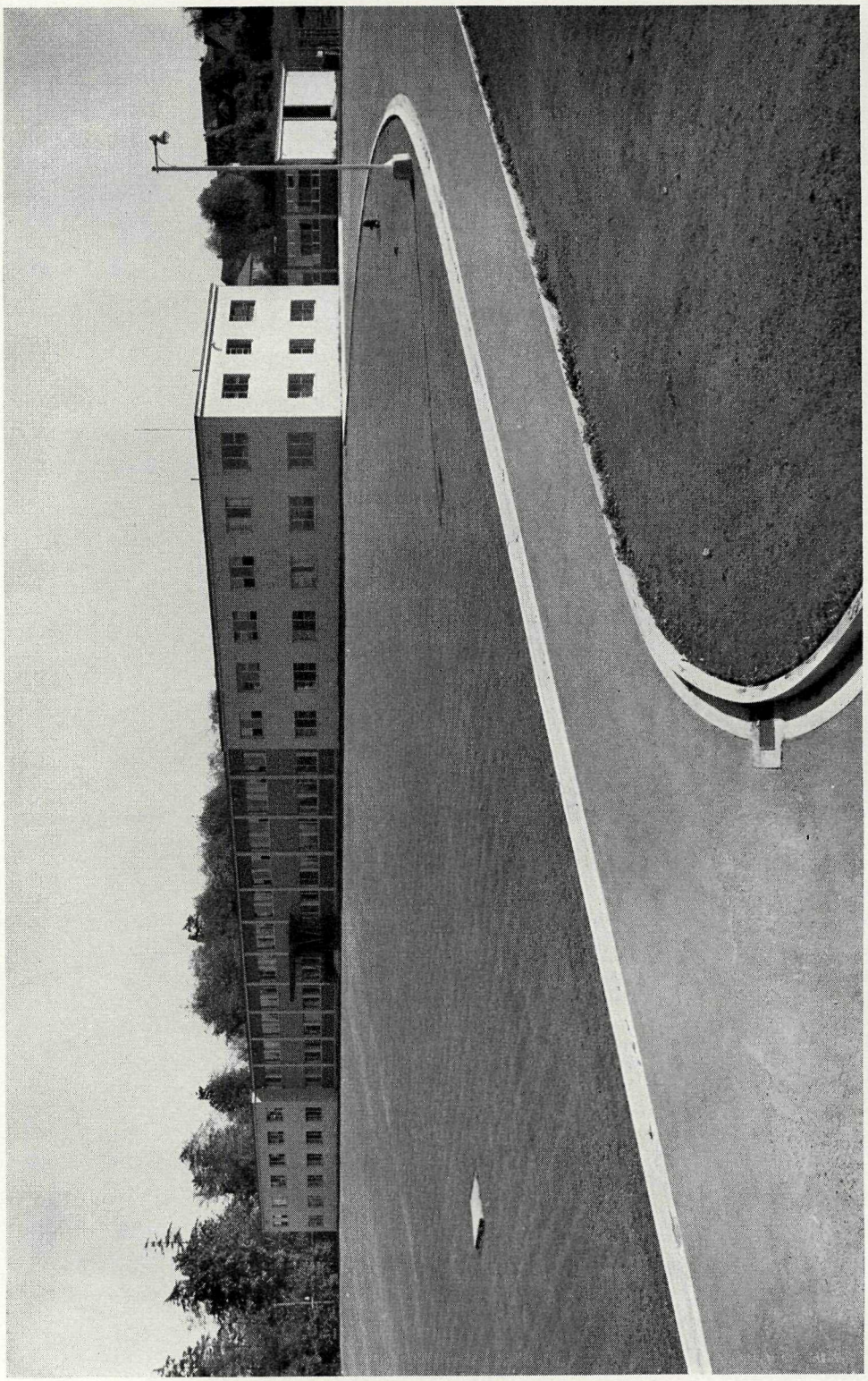
The Honourable the Minister of Public Works has been pleased to appoint the following members to the Board, effective January 1st, 1957: L. G. Sewell, electrical contractor, representing the Associated Electrical Contractors of British Columbia; R. Beaumont, electrical contractor, representing the Vancouver Electrical Association; and P. Rive, Electrical Inspector for the City of Vancouver, representing cities and municipalities. Other members of the Board are L. Robson, Inspector of Electrical Energy (Chairman), and L. Handy, Assistant Inspector of Electrical Energy. Eleven meetings were held throughout the year.

The total number of certificates in effect during the year is as follows:—

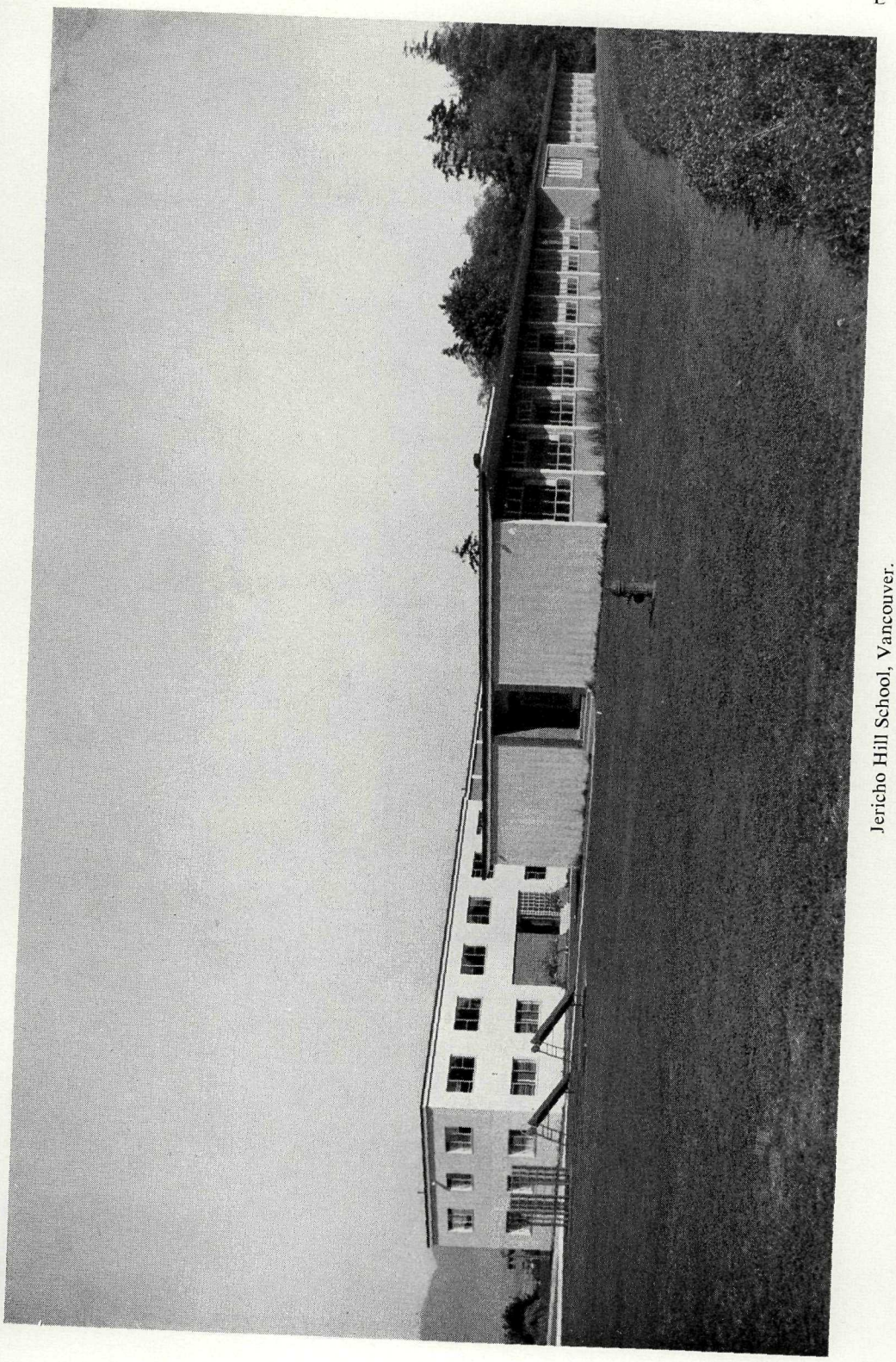
Class A	137
Class B	342
Class C	365
Class PA	51
Class PB	140
Class PC	230
Class TC	1
Total	1,266

A total of 229 candidates sat for examination, with the following results:—

	Number of Candidates	Passed	Failed
Class A	25	11	14
Class B	84	38	46
Class C	120	80	40
Totals	229	129	100



Jericho Hill School, Vancouver.



Jericho Hill School, Vancouver.

STATEMENT OF REVENUE AND EXPENDITURE

Revenue—			
Regular permits	$222,185.45		
Annual permits	16,755.00		
Public utilities	15,365.80		
Certificates of competency	11,186.25		
Examination fees	3,020.00		
Sale of publications	1,997.43		
Plan checking	1,451.00		
Miscellaneous inspections	185.85		
Approval of equipment	60.00		
Collection of social services tax	93.79		
Suspense, pending refund	1,185.19		
Suspense, pending distribution	7,756.36		
Gross revenue		$281,242.12	
Less—			
Suspense refunds	$1,185.19		
Revenue refunds	3,115.89		
Social services tax	93.79		
Suspense	7,306.53		
Total debits to revenue		11,701.40	
Net revenue			$269,540.72
Gross operating expenses (Vote 329, Electrical Energy Inspection)		$248,056.80	
Less—			
Credit for preparation of plans and specifications on behalf of Chief Architect and Traffic Engineer, J.V. No. 94	$23,491.00		
Credit to salaries *re* expenditure from Block Vote J.V. Nos. 2412 and 3517	13,876.51		
Credit to salaries *re* Steam-boiler Inspection share of charges for stenographic service, J.V. No. 88	1,149.00		
Credit to salaries *re* Department of Lands and Forests share of charges for stenographic service, D.N. No. 86	1,164.59		
Total credits		39,681.10	
Net operating expenses		$208,375.70	
Operating surplus		61,165.02	
		$269,540.72	$269,540.72

PERMITS

The total number of permits issued during the year was as follows:—

April, 1956	2,640	November, 1956	3,062
May, 1956	3,137	December, 1956	2,085
June, 1956	3,167	January, 1957	1,965
July, 1956	2,558	February, 1957	1,693
August, 1956	3,146	March, 1957	2,682
September, 1956	2,877		
October, 1956	3,736	Total	32,748

This represents an increase of 4,802 permits over the previous year, or an increase of 17 per cent.

DISTRICT OFFICES

District offices are maintained at the following centres: Abbotsford, Alberni, Chilliwack, Courtenay, Cranbrook, Dawson Creek, Duncan, Kamloops, Langley, Nanaimo, Nelson, New Westminster,* Penticton, Powell River, Prince George, Prince Rupert, Quesnel, Richmond, Vancouver,† Vernon, and Victoria.

New district offices were opened during the year at the following locations: Duncan, effective September, 1956; New Westminster, effective October, 1956; Nelson,‡ effective August, 1956; Powell River, effective April, 1956; Quesnel, effective September, 1956; and Richmond, effective October, 1956.

INSPECTIONS

The following is a record of inspections undertaken during the year:—

Office	Number of Inspections
Abbotsford	2,646
Alberni	2,860
Chilliwack	2,476
Courtenay	2,204
Cranbrook	2,531
Dawson Creek	2,474
Duncan	1,433
Kamloops	2,310
Langley	1,836
Nanaimo	2,255
Nelson	1,871
New Westminster	2,383
Penticton	2,000
Powell River	2,160
Prince George (two Inspectors)	5,011
Prince Rupert	2,353
Quesnel	1,091
Richmond	3,018
Vancouver (two Inspectors)	1,407
Vernon	1,920
Victoria (three Inspectors)	7,026
Total	53,265

* The Inspector working from this office inspects the following areas: Port Coquitlam, Coquitlam, Ioco, Pitt Meadows, Port Moody, and District Lot 172.

† Two Inspectors work from this office and inspect the following areas: West Coast, including Alert Bay, Howe Sound, Squamish, Lillooet, and Gulf Islands.

‡ The office at Trail was closed and the Inspector transferred to the new office at Nelson.

The total number of inspections completed during the year represents an increase of 10,080 or 23 per cent over the preceding year.

PROSECUTIONS

Three prosecutions were initiated during the year.

EXAMINATION OF MOTION-PICTURE PROJECTIONISTS

This Division assisted the Provincial Fire Marshal in conducting twenty-three examinations for projectionists. The regulations covering such examinations provide that the Inspector of Electrical Energy be a member of this Examining Board in company with the Fire Marshal. In this connection all fees arising from these examinations accrue to the credit of the Fire Marshal's department.

CANADIAN STANDARDS ASSOCIATION

The Chief Inspector continued to represent the Province on the Approvals Council of the Canadian Standards Association and on continuing committees on the Canadian Electrical Code.

Two meetings were attended, one of which was held in Saskatoon, Sask., during the month of April and the other in Toronto during the month of November. New subject-matter is continually before the Canadian Electrical Code, Part I, Committee due to the continuance of the development of new materials and practices relating to these materials. Uniformity of practice and application in electrical systems throughout Canada is being gradually brought about to the extent that it is now considered that any variations of the requirements which may be in effect in different Provinces are usually of a minor nature. The Committee during this year has continued its study of demand factors which may be applied to service-entrance conductors for different types of occupancies. This study resulted in adopting a new series of demand factors at the November meeting. It is anticipated that this will result in more economical installations and provide greater use for the investment which an individual is required to make in order to obtain electrical service. This has been done without sacrificing in any way any of the safety factors. It is anticipated that a recommendation will be made to the Government to adopt these new rules in the very near future. It is also anticipated that an entire revision of the Canadian Electrical Code, Part I, will be available for publication early in 1958.

In September of this year, two Orders in Council were approved. Order in Council No. 2460 was passed extending the definition of the term " approved." It is now possible under the extended definition to obtain approval for the use of electrical equipment in this Province through the British Columbia Research Council and through the facilities of the office of the Inspector of Electrical Energy for such equipment as is not ordinarily processed through the Canadian Standards Association. Order in Council No. 2459 was also approved in September of this year and provides for the control of the sale of electrical equipment. In essence, the Order in Council provides that equipment which is not approved in accordance with the regulations which govern may not be advertised, displayed, or offered for sale within the Province.

Investigation is being continued with respect to the advisability of further amending the definition of the term "approved" to recognize the seal of approval of the Canadian Gas Association for gas-burning devices. It is anticipated that this will be finalized in the near future.

POLE-LINE PERMITS

This Division during the year checked 585 applications for the erection of pole-lines on Crown lands or Provincial highways. This represents an increase of eighteen over the previous year. Recommendations on each application were forwarded to the Regional Engineer of the Department of Highways.

PUBLIC WORKS AND HIGHWAYS

This Division during the year continued to prepare electrical plans and specifications for this Department and the Department of Highways. In addition to the preparation of plans and specifications, supervision was also exercised over each contract during construction. This Division also acted in a consulting capacity to other Government departments.

The total value of work carried out during this year was as follows:—

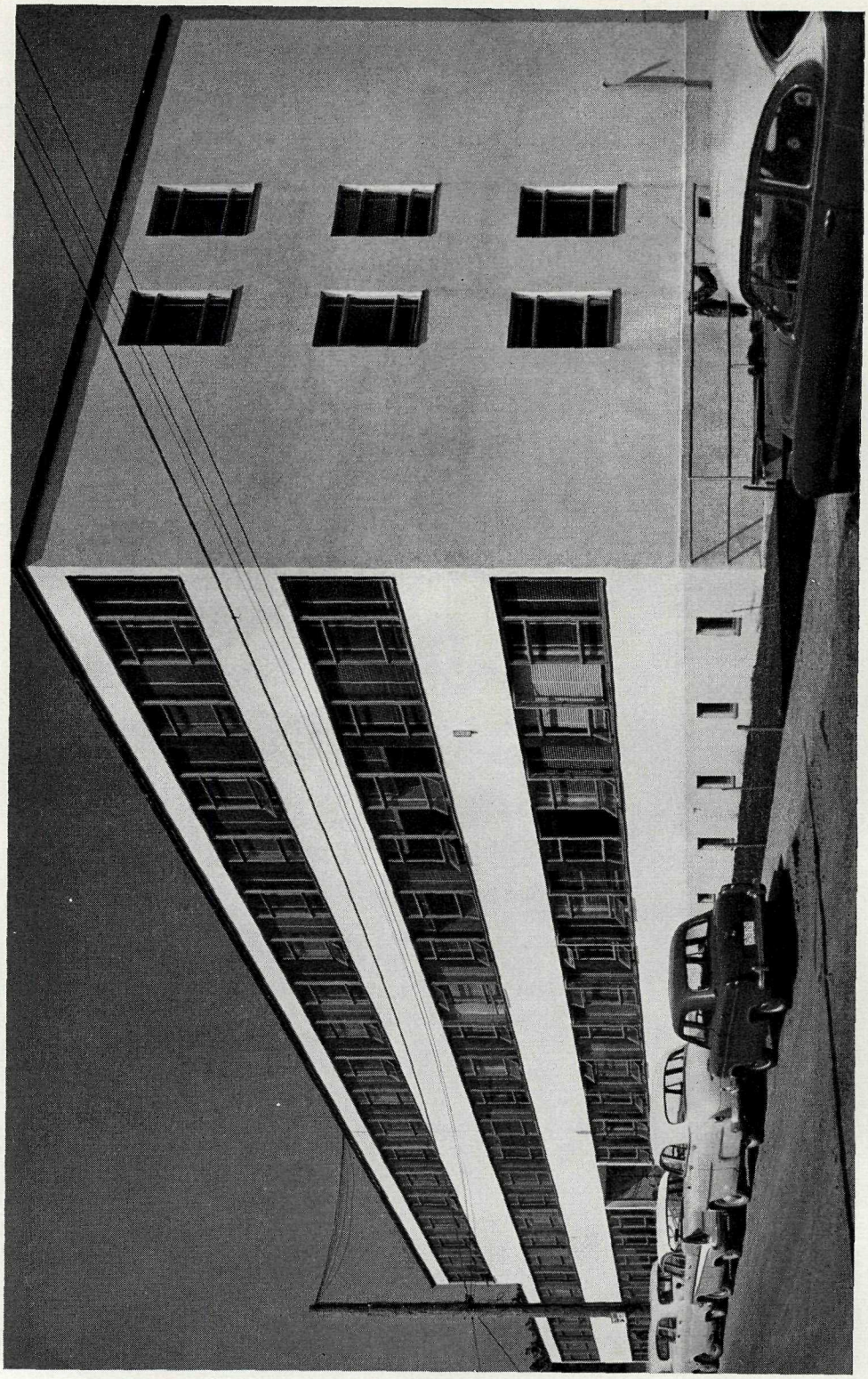
Projects for which contracts have been awarded	$624,031.00
Projects for which contracts have not yet been awarded (estimated value)	100,000.00
Total value	$724,031.00

It was necessary to employ casual assistance to assist in the preparation of these plans and specifications. Such casual assistance was charged against the various projects on which this class of personnel was employed.

ACCIDENTS

There were thirty-one accidents recorded during the year. Of these, fourteen were fatal, which represents an increase of ten in the number of fatalities reported for the previous year.

L. ROBSON, P.ENG.,
Inspector of Electrical Energy.



Court-house addition, Nanaimo.

REPORT OF THE DEPARTMENTAL COMPTROLLER

The following pages show in detail the expenditures relating to the construction, alteration, and repairs on the various Government buildings and institutions, etc., coming under the management, charge, and direction of the Minister of Public Works.

J. E. MOORE,
Departmental Comptroller.

STATEMENT OF EXPENDITURES, FISCAL YEAR 1956–57

SUMMARY

			CREDITS (Non-expendable)
Vote 321. Minister's Office—			
Office		$259.58	
Travelling		2,451.65	
Salaries		11,280.00	
		$13,991.23	
Vote 322. Administration—			
Office		$14,354.70	
Travelling		9,972.65	
Salaries		102,251.78	
Office furniture and equipment		2,545.67	
Advertising and publicity		242.98	
Printing and publications		763.35	
Incidentals and contingencies		270.74	
		130,401.87	
Vote 323. Parliament Buildings (Maintenance)—			
Salaries		$353,192.52	
Maintenance of buildings and grounds		188,762.67	
Heat, light, power, and water		131,967.15	
Installation of new lighting fixtures		5,345.48	
Taxes, telephones, etc.		969.04	
		680,236.86	
Vote 324. Government House (Maintenance)—			
Salaries		$28,350.99	
Maintenance of buildings and grounds		27,129.89	
Heat, light, power, and water		10,803.73	
Furniture, supplies, etc.		9,518.59	
Taxes, telephones, etc.		2,921.73	
		78,724.93	*$960.00*
Vote 325. Government Buildings (Maintenance)—			
Salaries		$976,380.56	
Maintenance of buildings and grounds		1,115,409.12	
Heat, light, power, and water		129,547.12	
Heating systems		50,824.04	
Proportionate cost, Inspector of Electrical Energy		18,991.00	
Taxes, telephones, etc.		8,546.01	
		2,299,697.85	*127,611.26*
Building maintenance expenditures detailed as follows:—			
Lockups generally	$36,128.03		
Gaols	16,053.66		
		$52,181.69	
Court-houses		191,801.88	
Normal Schools—			
Vancouver	$31,425.96		
Victoria	68,177.87		
		99,603.83	
Deaf and Blind School, Vancouver		71,947.12	
Nanaimo Vocational Training School		14,986.32	
TB. units and Provincial laboratories—			
Vancouver—			
Pearson	$74,515.32		
Willow	10,323.04		
Child Guidance Clinic	22,655.80		
Polio Pavilion	1,057.07		
Provincial Health Building	19,484.14		
Victoria—Jubilee	3,581.64		
Tranquille Sanatorium and Farm	200,936.31		
		332,553.32	
Mental Hospitals—			
Essondale	$599,622.42		
Colony Farm	50,209.21		
Woodlands School (New Westminster)	171,270.87		
Saanich Mental Home and Farm	38,817.61		
New Vista	5.50		
		859,925.61	

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

			CREDITS (Non-expendable)	
Building maintenance expenditures—*Continued*				
Industrial Schools—				
Girls' Industrial	$8,650.58			
Borstal (New Haven)	6,524.68			
Brannen Lake School, V.I.	38,469.43			
		$53,644.69		
Provincial Infirmaries—				
Home for Incurables (Marpole)	$5,652.37			
Allco Provincial Infirmary	12,911.49			
Kamloops Provincial Home	13,458.31			
Kamloops central heating plant	71,236.55			
		103,258.72		
Homes for the Aged—				
Vancouver (Port Coquitlam)	$36,622.36			
Vernon	49,412.70			
Terrace	38,107.37			
		124,142.43		
Miscellaneous—				
Residences	$22,635.88			
Garages, etc.	37,889.07			
Oakalla	101,587.13			
Sundry buildings	233,540.16			
		395,652.24		
Gross expenditure		$2,299,697.85		
Revenue (as per Public Works records)—(Credit)		*127,611.26*		
Net expenditure		$2,172,086.59		
Vote 326. Rentals—				
Agriculture		$13,591.08		
Attorney-General		46,793.49		
Education		30,829.91		
Finance		11,317.56		
Fisheries		1,365.46		
Health and Welfare—				
Health		66,420.54		
Welfare		26,836.04		
Highways		27,877.47		
Labour		1,489.17		
Lands and Forests—				
Lands		3,067.16		
Forests		44,806.43		
Mines		4,572.48		
Municipal Affairs		1,195.98		
Provincial Secretary		11,463.25		
Public Utilities		12,801.11		
Public Works		1,450.11		
Trade and Industry		675.00		
			$306,552.24	
Vote. 327. Gas Division, Vancouver—				
Salaries		$13,003.48		
Office		1,868.09		
Travelling		4,919.46		
Office furniture and equipment		1,412.37		
Printing and publications		1,735.79		
Equipment and machinery		177.90		
Testing, British Columbia Research Council		23,800.00		
			46,917.09	*$28,354.04*

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

			CREDITS (Non-expendable)
Vote 328. Steam-boiler Inspection, Vancouver—			
Salaries	$85,715.34		
Office	4,642.78		
Travelling	14,866.84		
Office furniture and equipment	472.04		
Printing and publications	46.73		
Equipment and machinery	425.51		
		$106,169.24	*$107,149.76*
Vote 329. Electrical Energy Inspection, Vancouver—			
Salaries	$134,294.66		
Office	13,697.51		
Travelling	45,595.18		
Office furniture and equipment	1,977.06		
Printing and publications	3,438.90		
Equipment and machinery	503.40		
Motor-vehicles and accessories	8,868.99		
		208,375.70	*269,544.08*
Vote 330. Temporary Assistance		111,005.46	
Sub-total, Administration and Maintenance Votes		$3,982,072.47	*$533,619.14*

CAPITAL EXPENDITURES—BUILDINGS

Vote 348. Construction of Provincial Buildings

Proj. No. 242-B—Abbotsford Agricultural Building	$57,054.99
Proj. No. 263-B—Atlin Court-house	26,626.65
Proj. No. 30-B—Garage building and shops, Brannen Lake	12,970.83
Proj. No. 152-B—Child Guidance Clinic	43,222.50
Proj. No. 269-B—Civil Defence Control Centre, Douglas Building, Victoria	2,903.54
Proj. No. 141-B—Cranbrook Court-house	17,962.88
Proj. No. 239-B—Department of Mines dwelling, garage, and laboratory building, Dawson Creek	54,617.06
Proj. No. 235-B—New library and furnishings, Dawson Creek	153,480.23
Proj. No. 234-B—R.C.M.P. quarters, Dawson Creek	687.05
Proj. No. 79-B-1—Deaf and Blind School (School for Blind), West Fourth Avenue, Vancouver	465,987.79
Colony Farm—	
Proj. No. 6-B-20—Conversion of Quonset loafing-barn to conventional tie stalls	42,734.06
Proj. No. 6-B-26—Additional ten pig-pens	3,564.11
Proj. No. 6-B-27—New metal pens, calf-barn	6,453.16
Proj. No. 6-B-29—Replacement of Wilson Ranch barn	1,859.65
Essondale—	
Proj. No. 5-B-18—TB. unit	20,028.07
Proj. No. 5-B-21—100-bed nurses' home and training centre (including furnishings)	617,278.59
Proj. No. 5-B-44—Traverse road, fire-hall to Boy's Industrial School	8,497.07
Proj. No. 5-B-48—Reservoir	25,260.31
Proj. No. 5-B-50—Landscaping playing area (playgrounds)	1,646.50
Proj. No. 5-B-52—Fire-alarm system to be completed at Essondale (Crease Clinic and Home for the Aged)	17,590.07
Proj. No. 5-B-53—300-bed unit, Home for the Aged, Port Coquitlam	915,510.36
Proj. No. 5-B-65—Two new boilers, auxiliary equipment, and addition to boiler-house	54,366.66

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

CAPITAL EXPENDITURES—BUILDINGS—*Continued*

Vote 348. Construction of Provincial Buildings—Continued

Essondale—*Continued*	
Proj. No. 5-B-71—Paving in front of boiler-house	$33.08
Proj. No. 5-B-72—Landscaping and parking areas	5,493.86
Proj. No. 5-B-74—New scullery	851.90
Proj. No. 5-B-75—Conversion of administration building, BISCO	2,659.27
Proj. No. 5-B-76—300-bed hospital unit, South Lawn (to accommodate patients for veterans' units)	4,552.37
Proj. No. 5-B-77—Steam distribution, veterans' unit and Home for the Aged	2,500.00
Proj. No. 5-B-82—Water-supply system	57,947.53
Proj. No. 5-B-85—New wing (Surgery), Crease Clinic	7,164.65
Proj. No. 5-B-86—New industrial-therapy building (including furnishings)	9,865.12
Proj. No. 5-B-87—New laundry equipment	109,258.74
Proj. No. 5-B-88—Public Works stores building and storage compound	1,383.44
Proj. No. 5-B-90—Landscaping and parking areas, Essondale	17,086.28
Proj. No. 5-B-91—Landscaping and parking areas, Home for the Aged, Port Coquitlam	136.90
Proj. No. 5-B-92—Toilet facilities to be located between playing-fields at old Boys' Industrial School	1,740.55
Proj. No. 5-B-93—Alteration to present butcher-shop	5,993.89
Proj. No. 5-B-94—100-ft. aerial ladder pumper truck	55,332.69
Proj. No. 5-B-95—Access roads to new highway	5,636.97
Proj. No. 5-B-96—Re-floor gymnasium, BISCO	914.12
Proj. No. 5-B-99—Radio system to all buildings	11,495.15
Proj. No. 5-B-100—Rehabilitation centre for male patients from Essondale, West Thirteenth Avenue, Vancouver	6,450.08
Proj. No. 5-B-101—Proposed new substation and overhead circuits	3,294.03
Proj. No. 5-B-102—Alterations and renovations to kitchen storage and staff changing-rooms	991.72
Proj. No. 5-B-104—New main incinerator	1,897.77
Proj. No. 5-B-105—New underground services, Crease Clinic	8,842.58
Proj. No. 5-B-106—Ventilation, West Lawn Building	12,310.00
Proj. No. 243-B—Purchase of house, Fort St. John	16,000.00
Proj. No. 236-B—Fort St. John Court-house	339,176.07
Proj. No. 240-B—Garibaldi Camp forest camp	23,701.26
Proj. No. 180-B-1—Fire-control measures, Girls' Industrial School	8,782.62
Proj. No. 208-B—Girls' Industrial School, Burnaby	289,031.14
Proj. No. 286-B—Purchase of agency house, Grand Forks	12,000.00
Proj. No. 123-B—British Columbia Correctional Institution, Haney	2,042,472.13
Proj. No. 266-B—New Women's Gaol near Haney, acquisition of property and construction	69,080.10
Proj. No. 226-B—New cell rooms and office space, R.C.M.P. lockup, Invermere	5,214.00
Proj. No. 205-B—Addition to Government Office Building, Kamloops	255,599.59
Proj. No. 206-B—Addition to Land Registry Office, Kamloops	23,189.55
Proj. No. 272-B—Kitimat Court-house	2,664.05
Proj. No. 284-B—Government Agent's residence at Kitimat	16,650.00
Proj. No. 175-B—Tentative site, Metchosin (purchase of land and development of property for Vancouver Island site for proposed mental hospital)	1,000.00

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

CAPITAL EXPENDITURES—BUILDINGS—*Continued*

Vote 348. Construction of Provincial Buildings—Continued

Proj. No. 134-B-1—Accommodation for new multiplex equipment, 554 Michigan Street, Victoria	$3,116.09
Proj. No. 268-B—Storage space and renovations at 526 Michigan Street, Victoria	12,777.23
Proj. No. 276-B—Purchase of house at 559 Michigan Street, Victoria	6,800.00
Proj. No. 279-B—Purchase of house at 517 Michigan Street, Victoria	7,500.00
Proj. No. 283-B—Purchase of house at 565 Michigan Street, Victoria	7,550.00
Proj. No. 202-B—New wing to Court-house (including furnishings), Nanaimo	277,782.43
Proj. No. 231-B—Expansion of Vocational Training School, Nanaimo	126,661.45
Proj. No. 97-B-2—New fence, Nelson Gaol	4,960.00
Proj. No. 97-B-3—Garage, Nelson Gaol	2,991.00
Proj. No. 273-B—New gymnasium, New Haven	52,964.06
Oakalla—	
Proj. No. 39-B-18—New fence, Royal Oak Avenue and South Wing and around property	17,443.31
Proj. No. 39-B-20—Office addition, Drug Research	2,457.55
Proj. No. 39-B-26—Main retaining-wall at Westgate	2,150.71
Proj. No. 39-B-27—Remodel South and West Wings, Segregation, Isolation, etc.	5,288.41
Proj. No. 39-B-28—Lighting of grounds	9,654.14
Proj. No. 39-B-30—Licence-plate shop and equipment	152,129.33
Proj. No. 39-B-31—Stand-by electrical service (Credit)	*1,000.00*
Proj. No. 39-B-32—Two prefabricated buildings for drug treatment programme	6,752.35
Proj. No. 39-B-33—Addition to sheet-metal plant, Young Offenders' Unit	3,073.65
Proj. No. 39-B-34—Ventilating system, Westgate	597.00
Proj. No. 39-B-35—Additions and alterations to existing Women's Gaol	83,086.11
Proj. No. 39-B-38—Renewal of mechanism of main gate at gate-house	1,181.25
Proj. No. 39-B-39—Black-topping at Women's Gaol exercise-yard between small huts and main building	1,236.00
Proj. No. 39-B-40—Black-topping, Young Offenders' Unit	1,800.00
Proj. No. 39-B-42—Renovations to old chapel	1,899.10
Proj. No. 39-B-44—Top canopy for West Wing fence	5,700.00
Proj. No. 39-B-45—Sewage-disposal	4,091.37
Proj. No. 39-B-46—Acquisition of property	12,000.00
Proj. No. 39-B-47—Tunnel from West Wing to new gymnasium, including lighting and fencing	383.80
Proj. No. 212-B—Replacement of existing retaining-wall, Ocean Falls	1,445.00
Proj. No. 265-B—Tourist reception centre, Osoyoos	759.70
Proj. No. 280-B—Departmental changes, Parliament Buildings	23,345.51
Proj. No. 287-B—New transformer-vault, Parliament Buildings	210.20
Proj. No. 246-B—Provision for new M.L.A.s, Parliament Buildings	7,188.97
Proj. No. 201-B—New Court-house, Prince George	455,107.26
Proj. No. 136-B—Construction of security fence, Prince George Gaol	1,168.92
Proj. No. 288-B—Purchase of Government Agent's residence, Prince George	21,954.83

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

CAPITAL EXPENDITURES—BUILDINGS—*Continued*

Vote 348. Construction of Provincial Buildings—Continued

Proj. No. 278-B—Prince George Vocational School	$4,310.46
Proj. No. 9-B-16—Brood-sow barn and slaughter-house, Colquitz Mental Home	12,992.80
Proj. No. 9-B-17—Four hog-finishing pens, Colquitz Mental Home	2,860.05
Proj. No. 285-B—Terrace Government Agent's residence	14,000.00
Proj. No. 24-B-1—Water-supply, Home for the Aged, Terrace	2,727.14
Proj. No. 24-B-3—Repairs to Home for the Aged, Terrace	11,877.47
Tranquille Sanatorium—	
Proj. No. 10-B-28—Renovate basement floor, Main Building	1,880.16
Proj. No. 10-B-30—Remodel Main Building annex	1,760.05
Proj. No. 10-B-31—Air-cooling recreation hall	1,075.15
Proj. No. 10-B-32—Sewage-line	3,135.46
Proj. No. 10-B-33—Extra exit for laundry	1,831.89
Proj. No. 10-B-35—Increased height of water intake	1,334.14
Proj. No. 10-B-36—Renovation of roof, Administration Building	8,600.67
Proj. No. 8-B-7—Tranquille Farm dairy	4,889.35
Proj. No. 89-B—Provincial Health Building, Vancouver	2,071.32
Proj. No. 150-B—Air-conditioning of wards, Vancouver Polio Pavilion	21,398.42
Proj. No. 203-B—200-bed unit, Pearson TB. Hospital, Vancouver	9,549.01
Proj. No. 31-B-4—Black-topping of service area, Pearson TB. Hospital, Vancouver	1,885.00
Proj. No. 204-B—Portable classrooms, Vancouver Normal School	60,000.00
Proj. No. 200-B—Capital regional planning, Victoria	4,967.69
Proj. No. 241-B—Law library, Parliament Buildings, Victoria	3,708.60
Proj. No. 178-B-1—Alterations to Normal School, Victoria	9,995.82
Proj. No. 178-B-2—Purchase of land for extension of Victoria College	101,125.00
Proj. No. 238-B—New security vault (Treasury), Parliament Buildings, Victoria	14,398.99
The Woodlands School—	
Proj. No. 7-B-21—300-bed hospital	573,432.21
Proj. No. 7-B-26—Auditorium	224,112.92
Proj. No. 7-B-29—Landscaping and airing-court for No. 3 Unit	5,000.00
Proj. No. 7-B-33—Cut-off drain across The Woodlands School	2,840.00
Proj. No. 7-B-34—Landscaping and airing-courts	7,813.45
Proj. No. 252-B—Four-bay equipment shed, Alberni	15,779.74
Proj. No. 187-B—Equipment-shed, Athalmer	2,500.00
Proj. No. 277-B—Equipment-shed, Clayhurst	20,000.00
Proj. No. 267-B—Six-bay workshop and storage, Cloverdale	2,096.11
Proj. No. 271-B—Ten-bay equipment-shed and oil-house, Cranbrook	12,102.87
Proj. No. 159-B—New garage, Fort St. John	75,000.00
Proj. No. 247-B—Oil-shed, Golden	2,500.00
Proj. No. 274-B—New five-bay garage, Hazelton	38,100.80
Proj. No. 275-B.—Old two-bay garage, Hazelton	12,897.80

STATEMENT OF EXPENDITURES—*Continued*

SUMMARY—*Continued*

CAPITAL EXPENDITURES—BUILDINGS—*Continued*

Vote 348. Construction of Provincial Buildings—Continued

			CREDITS (Non-expendable)
Proj. No. 281-B—Four-bay equipment-shed and oil-house, Houston	$28,608.38		
Proj. No. 245-B—Equipment-shed, Kamloops	78,213.27		
Proj. No. 255-B—One-bay equipment-shed, Keremeos	3,000.00		
Proj. No. 253-B—One-bay equipment-shed, Lake Cowichan	2,741.19		
Proj. No. 261-B—Additional space for stores and shop foreman, Langford garage	10,928.29		
Proj. No. 270-B—Ten-bay equipment-shed, Lillooet	120.95		
Proj. No. 195-B—Gas-house, Lytton	750.00		
Proj. No. 262-B—Additional space for Department of Highways and R.C.M.P., Merritt Court-house	9,485.77		
Proj. No. 232-B—Equipment-shed, McDame Creek	12,000.00		
Proj. No. 244-B—Three-bay equipment-shed and oil-house, North Vancouver	35,854.53		
Proj. No. 254-B—One-bay equipment-shed, Oliver	6,000.00		
Proj. No. 256-B—Five-bay equipment-shed and oil-house, Parksville	36,189.51		
Proj. No. 259-B—Two-bay equipment-shed, Progress	5,086.88		
Proj. No. 257-B—Four-bay equipment-shed and oil-house, Queen Charlotte City	22,795.91		
Proj. No. 250-B—Warehouse for stores, Rossland	2,000.00		
Proj. No. 251-B—New oil-shed, Saltspring Island	2,495.81		
Proj. No. 249-B—One-bay equipment shed, Sicamous	7,148.49		
Proj. No. 260-B—Extension to shop for welding and storage, Smithers	3,000.00		
Proj. No. 258-B—Three-bay equipment-shed and oil-house, Tête Jaune	13,822.90		
Proj. No. 248-B—One-bay equipment-shed, Trout Lake	6,640.26		
Proj. No. 211-B—Materials and Traffic Engineer's offices and shops, Department of Highways, Victoria	182,550.59		
		$9,078,885.33	*$273,547.33*
University Buildings			
"B.C. Loan Act, 1950," Sec. 6 (*b*): Sundry works		397.18	
"B.C. Loan Act, 1951," Sec. 3 (*c*): Sundry works		2.87	
"B.C. Loan Act, 1951," Sec. 3 (*d*): University Medical Faculty and Pathological Building, Vancouver General Hospital, for use of the University of British Columbia		131,155.27	
"B.C. Loan Act, 1952," Sec. 3 (*b*): Sundry works		245.61	
"B.C. Loan Act 1952," Sec. 3 (*c*): Medical Faculty and Pathological Building, Vancouver General Hospital, for use of the University of British Columbia		541,847.52	
Sub-total, Capital Votes (including University Loans)		$9,752,533.78	**$273,547.33*
Grand total, Public Works Department expenditures		$13,734,606.25	*$807,166.47*

* Federal grants received for the following in Vote 348 (Construction of Provincial Buildings):—

Proj No. 5-B-21—Nurses' home and training centre, Essondale	$25,567.50
Proj. No. 5-B-53—Home for the Aged, Port Coquitlam Geriatrics Division, Essondale	108,000.00
Proj. No. 7-B-21—300-bed unit, The Woodlands School	139,979.83
	$273,547.33

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