

1924.
NEW ZEALAND.

FIRE BRIGADES OF THE DOMINION

(REPORT ON THE) FOR THE YEAR ENDED 30TH JUNE, 1924, BY INSPECTOR OF
FIRE BRIGADES.

Presented to both Houses of the General Assembly by Command of His Excellency.

THE INSPECTOR OF FIRE BRIGADES TO THE HON. THE MINISTER OF INTERNAL AFFAIRS.

Office of the Inspector of Fire Brigades, Wellington, 22nd October, 1924.

SIR,—

Herewith I have the honour to lay before you my sixteenth annual report, for the year ended 30th June, 1924, relative to the working of the Fire Brigades Act, and including matter in connection therewith.

During the year two new fire districts have been constituted—viz., Westport, on the 5th May, 1923, and Eltham, on the 26th May, 1923. Following is a list of the thirty-six fire districts now operating:—

Auckland	Greymouth	Masterton	Taumarunui
Balclutha	Hamilton	Milton	Tauranga
Christchurch	Hastings	Napier	Te Aroha
Dannevirke	Hawera	New Plymouth	Timaru
Dargaville	Hokitika	Oamaru	Waihi
Dunedin	Invercargill	Ohakune	Waitara
Eltham	Kaiapoi	Palmerston North	Wanganui
Feilding	Kaitangata	Petone	Westport
Foxton	Lawrence	Port Chalmers	Whangarei

I have officially inspected the brigades, with their stations and equipment, working under Fire Board control, as follows:—

Auckland—March 29 and 31, 1924.
Balclutha—March 12, 1924.
Christchurch—May 17 and 19, 1924.
Dannevirke—April 14, 1924.
Dargaville—January 15, 1924.
Dunedin—March 10 and 13, 1924.
Feilding—December 6, 1923.
Foxton—June 5, 1924.
Gisborne—March 28, 1924.
Greymouth—January 24, 1924.
Hamilton—April 3, 1924.
Hastings—April 15, 1924.
Hawera—October 8, 1923.
Hokitika—January 25, 1924.
Invercargill—March 5, 1924.
Kaiapoi—January 29, 1924.
Kaitangata—March 11, 1924.
Lawrence—March 7, 1924.

Levin—June 4, 1924.
Masterton—December 18, 1923.
Milton—March 6, 1924.
Napier—February 20, 1924.
New Plymouth—October 10, 1923.
Oamaru—May 13, 1924.
Ohakune—April 4, 1924.
Palmerston North—June 11, 1924.
Petone—June 30, 1924.
Port Chalmers—March 10, 1924.
Rotorua—November 19, 1923.
Taumarunui—November 14, 1923.
Tauranga—November 20, 1923.
Te Aroha—November 21, 1923.
Timaru—January 30, 1924.
Waihi—April 2, 1924.
Waitara—October 9, 1923.
Wanganui—December 5, 1923.
Whangarei—January 14, 1924.

Also, the following special visits have been paid:—

Trentham—August 23, 1923: Fixing of new fire-station site.

Wanganui—September 17, 1923: Annual meeting.

Invercargill—September 22–24, 1923: Attending Board meetings, consideration of estimates, &c.

Rotorua—November, 16 1923 : King George V Hospital inspection and report.
 Hamilton—October 24, 1923 : Question new motor machine.
 Waihi—October 31, 1923 : Brigade dispute.
 Hamilton—November 22, 1923 : Testing of motor pumping-machine.
 Trentham—December 11, 1923 : Testing new motor pumping outfit.
 Featherston—December 18, 1923 : Inspection of camp.
 Hawera—March 18, 1924 : Special Board meeting—reorganization of brigade, &c.
 Trentham—March 24, 1924 : Inspection of camp, &c.
 Dunedin—May 15, 1924 : Special Board meeting.

Following upon an invitation received from the executive officers of the United Fire Brigades' Association, I attended their annual conference held in Rotorua in February last, and delivered an address to the delegates entitled "Training of Fire Brigade Officers, &c." At the request of the conference the address is to be printed and distributed amongst the brigades.

Inspections have been made and reports prepared in respect to public buildings and institutions ; also, as usual, advice has been given to local bodies and others in regard to fire-prevention, water-supply, &c., and specifications for the supply of plant and appliances have been drawn up.

During the year the Department has, on behalf of various Fire Boards and of the United Fire Brigades' Association, imported and distributed, in accordance with the requisitions received, 7,500 ft. of fire-hose, and various fire appliances and equipment that are not manufactured in the Dominion.

Following are the principal improvements and additions to equipment:—

Auckland—new district station in Ponsonby Road completed and in occupation.
 Balclutha—new central station completed and in occupation.
 Christchurch—tender accepted for the supply of a 90 ft. petrol electric fire-ladder.
 Dannevirke—35 ft. trussed extension fire-escape.
 Dunedin—purchase of site for erection of new central fire-station.
 Feilding—20 h.p. motor hose-and-ladder tender.
 Greymouth—hand-drawn one-cylinder 40-gallons chemical fire-engine.
 Hamilton—45 h.p. motor, 300-350 g.p.m. pump, hose-ladder, and first-aid pump combination machine.
 Hastings—45 h.p. motor hose-and-ladder tender, 35 ft. trussed extension fire-ladder.
 Invercargill—purchase of site for erection of new central fire-station. 60 h.p. motor 150-200 g.p.m. pump, hose, and ladder tender.
 Napier—new central fire-station completed and in occupation. 45 h.p. motor, 300-350 g.p.m. pump, hose-and-ladder combination machine.
 New Plymouth—30 h.p. hose-ladder and chemical engine.
 Oamaru—additions to central station premises.
 Palmerston North—plans for new central fire-station approved.
 Rotorua—street fire-alarm system of three circuits, having sixteen call-boxes thereon, installed.
 Te Aroha—new central station completed and in occupation.
 Waitara—20 h.p. motor hose-and-ladder tender.

The returns show a very large increase in the number of calls and actual fires. The total number of calls received throughout the fire districts for 1923-24 was 1,702, as against 1,148 for 1922-23, an increase of 554, made up under the separate headings as follows: Fires, 741 (589); increase, 152. Chimney fires, 223 (194); increase, 29. Bush and rubbish fires, 358 (103); increase, 255. False alarms, 319 (217); increase, 102. Out-of-district fires, 61 (45); increase, 16.

Of the 741 fires, 21 are reported as due to incendiarism, 13 as having occurred on unoccupied premises, and 214 as of unknown origin. The principal causes as shown by the returns are—sparks from copper fires and fireplaces, 78; motors backfiring, &c., 47; smoking and cigarette-butts, 34; lighted matches, 32; electricity, 44.

The total fire loss throughout the fire districts for the year ended 30th June, 1924, amounted to £358,024, as against £238,313 for the previous twelve months, an increase of £119,711. The three heaviest district losses occurred in Christchurch (£96,575), Invercargill (£47,221), and Auckland (£43,908), and which accounted for over half of the total loss.

The insured loss throughout the Dominion for the year ending 31st December, 1923, amounted to £831,373. The proportion of fire loss throughout the fire districts for the corresponding twelve months amounted to £187,779. The Dominion fire waste for the same period is estimated at £997,648, or 15s. 8d. *per capita* of the population estimated to the 1st April, 1923.

The insured loss for 1923 is £121,870 over that for 1922, and returns for the six months ending 30th June, 1924, tend to the supposition that the insured loss for the current year will considerably exceed that for 1923. For comparative purposes, to illustrate the huge and steadily increasing loss of property that vanishes in smoke every year, the insured losses for the last six years are here given: 1918, £462,540; 1919, £415,620; 1920, £452,890; 1921, £765,310; 1922, £709,503; 1923, £831,373; and if the foregoing figures err at all it is on the conservative side.

Quite 50 per cent. of the outbreaks of fire are easily preventible, mostly caused by sheer carelessness; and, as pointed out and advocated for years past, the remedy is education. The United States of America and the Dominion of Canada, whose fire waste is somewhat on a par with that of New Zealand, have realized the necessity for a National movement toward the reduction of their huge loss, and this has resulted in very practical action being taken. Fire-prevention methods are now regularly taught in their schools and colleges; "fire-prevention weeks" have been established by proclamation; special

colleges have been founded, and are in operation, for the education of fire-brigade officers in more efficient methods of fire-prevention and fire-extinction, &c. Any material reduction of the present heavy drain on the resources of this Dominion can be brought about only by a general movement to that end—spasmodic action will not attain the desired result. Concerted action, following as closely as possible the methods outlined above, together with compulsory installation of automatic alarms or sprinklers in large warehouses, stores, emporiums, &c., over a certain cubical capacity, is the only really effective remedy.

Malicious false alarms of fire are on the increase; the returns show a total of 132 alarms under that heading. In May last one such alarm resulted in the death of a fire-brigade officer—not the first death from a similar offence—and in more or less severe injuries to several brigademen. Applications have been made to have the Act amended in the direction of providing heavier penalties for this class of offence. The Act already provides a penalty of “liability to imprisonment for a period not exceeding one month or to a fine not exceeding fifty pounds,” but hitherto the very serious nature of the offence with its always present liability to fatal and other consequences, including expense, does not seem to have been realized, and, with few exceptions, the penalties inflicted upon conviction have been of a trivial nature, generally fines ranging from 10s. to £5; whereas if heavier penalties, as allowed by the Act, were inflicted it would certainly have a markedly deterrent effect.

Appended are the following tables:—

- (1.) Summary of calls attended by each brigade;
- (2.) Fire loss in each district;
- (3.) Annual cost of each brigade;
- (4.) Summary of the causes of fires in each district;
- (5.) Personnel and equipment of each brigade;

also short detailed reports dealing with each fire district.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

Hon. the Minister of Internal Affairs, Wellington.

DETAILED REPORTS.

AUCKLAND.

Inspection, 31st March and 1st April, 1924. The turnouts, &c., at the different stations were carried out in an efficient manner, and the stations and equipment were found to be in good order.

There are two matters in particular calling for early attention: First, at the central station the work necessary to keeping the plant and appliances in proper order is at present being carried on under extremely cramped conditions, and the sanitary conditions in the enclosed yard are most unsatisfactory. Certain alterations were contemplated, but not, in my opinion, to an adequate extent, and I have suggested the purchase of a strip of land about 5 ft. wide adjoining the station section, which would enable a great improvement to present conditions. The second matter is the provision of married quarters at the Remuera Station.

The erection of the Western District Station has been completed; the station is now in occupation, and should tend to the more economical and efficient working of the brigade.

BALCLUTHA.

Inspection, 12th March, 1924. At the inspection muster there were present two officers and eight firemen out of a total strength of twelve. The inspection drills were not performed in the most satisfactory manner, but with regular practice of the recently adopted standard squad drill the brigade, who are apparently a smart and active body of men, should attain a satisfactory degree of efficiency.

The new central fire-station was officially opened the same evening. The building, which is of brick, is commodious and well designed for its purpose, and the cost of both site and building was most reasonable. The brigade should now be provided with motor transport for men and appliances.

CHRISTCHURCH.

Inspection, 17th and 19th May, 1924. The turnout at the several stations was performed smartly, and the stations (with the exception of Sydenham Station) and equipment proved to be in good order and condition.

In reference to the Sydenham Station, owing to borough amalgamations an extensive district is now covered from this station, and the present accommodation is both inadequate and unhealthy, and the building of a new station on the site purchased some years ago should be taken in hand forthwith.

The Board has accepted a tender for the supply of a 90 ft. petrol-electric fire-ladder, which should prove a valuable addition to the equipment of the brigade.

DANNEVIRKE.

Inspection, 14th April, 1924. At the inspection muster there were present two officers and seventeen firemen, or nineteen out of a total strength of twenty. The inspection drills were carried out in a fairly satisfactory manner, and the station and equipment were found in good order. The returns show an attendance of 90 per cent. of the membership at the fourteen fire calls—a very good record.

A 35 ft. extension fire-ladder has been added to equipment. I have again had to call attention to the necessity of installing a street fire-alarm system.

DARGAVILLE.

Inspection, 15th January, 1924. At the inspection muster there were present two officers and thirteen firemen. The inspection drills were carried out in a smart and thorough manner, and the station and equipment were found to be in good order and condition. The attendance at seven fire calls averaged 63 per cent. of the membership.

Some minor equipment is required, and the brigade should be provided with a 35 ft. trussed extension fire-ladder.

DUNEDIN.

Inspection, 10th and 13th March, 1924. The various turnouts were performed smartly, and the stations and equipment were found in their usual good order and condition.

Following upon the inspection, the final paragraph in my report submitted to the Board reads as follows: "Altogether I must again express the opinion that the fire-protection provision in Dunedin is insufficient, and your Board would be well advised to immediately take the whole matter into consideration, and formulate, and carry out, a scheme for the more adequate protection of the various city districts." Since then, however, the Board have purchased another, and larger, site and will erect a new central fire-station thereon; also, tenders have been called for the supply of a 90 h.p. high-capacity motor fire-pump. The pump is being purchased largely with a view to the protection of the wharves and shipping—this notwithstanding the fact that the Harbour Board has refused to contribute anything towards the cost of such protection. The attitude taken by the Otago Harbour Board in this respect is quite contrary to that of other Harbour Boards in the Dominion, who recognize their responsibility in the matter and contribute towards the cost of the protection of the property under their control accordingly.

FELDLING.

Inspection, 6th December, 1923. At the inspection muster there were present two officers and seventeen firemen. There was a considerable improvement in the performance of the inspection drills, and a generally increased efficiency in the bearing and work of the brigade is apparent, but the average attendance (65 per cent.) of the membership at the ten general fire calls is a low average.

The body built on the newly acquired motor-chassis is one of the best design, and the workmanship is a credit to the local builder. Some improvement has been made in the water-reticulation, but much more remains to be done before the supply can be regarded as satisfactory.

FOXTON.

Inspection, 5th June, 1924. Two officers and eleven firemen were in attendance at the inspection muster. The inspection drills were not carried out in a satisfactory manner. The members of the brigade appear to be a willing, active body of men, but are much in need of instruction and drill, and if the various drills as explained at the time are regularly practised they should soon attain a satisfactory degree of efficiency. The attendance at fire calls averaged 55 per cent. of the total membership—not a good record.

The equipment was in fairly good order, but portion of the station premises was not in the neat and cleanly condition that should obtain in a fire-brigade station. A hose-repairing outfit and a further supply of hose is required.

GISBORNE.

Inspection, 23rd March, 1924. At the inspection muster there were present two officers, eighteen firemen, and three cadets. The inspection drills were carried out in a satisfactory manner, and the station and equipment were in good order. At the twenty-nine fire calls there was an average attendance of 85.4 per cent. of the total membership—a good record.

I have again had to call the attention of the Board to the necessity of installing a street fire-alarm system; also, the brigade should be provided with a 50 ft. extension fire-ladder and a jumping-sheet.

GREYMOUTH.

Inspection, 24th January, 1924. With the exception of one fireman on leave, the total strength of the brigade was in attendance at the inspection muster. The various inspection drills were carried out in an efficient manner, and the station and equipment were in good order. The returns show an attendance at ten fire calls (attendance at three others not filled in) of 93·5 per cent. of the membership—a very good record.

A 40-gallon one-cylinder hand-drawn chemical-engine has been purchased, and a small sub-station erected in Blaketown to house the engine. Matters in connection with the water-supply for fire-extinction purposes are still very unsatisfactory.

HAMILTON.

Inspection, 3rd April, 1924. At the inspection muster there were present two officers and twenty-one firemen, and the station and equipment were in first-class order. The attendance at thirty-one fire calls averaged 83 per cent. of the membership—a good record.

A new 40-45 h.p. motor has been added to the equipment of the brigade. The machine is fitted with a 300-350 g.p.m. turbine pump, a 30 ft. extension fire-ladder, and a first-aid pumping outfit with a 30-gallon tank.

In the near future it will be necessary to provide more accommodation at the central station, and in that view I have recommended purchase of the vacant section adjoining the station-site; also, owing to extension of the borough boundaries, the establishment of a substation in the Frankton district is now necessary.

HASTINGS.

Inspection, 15th April, 1924. At the inspection muster there were present the Superintendent and sixteen firemen. The station and equipment were in good order. Instruction was given in the recently standardized squad drill.

An English 40 h.p. chassis was purchased and a body built thereon locally, and it is now in commission. Also, a 35 ft. Ajax extension-ladder has been purchased, but there still remains the question of installing a street fire-alarm system.

There was a fair average attendance of members of the brigade at fires.

The fire loss for the year, £3,330, although high, is much below the average of the previous three years.

HAWERA.

Inspection, 8th October, 1923. At the inspection muster there were present two officers and fifteen men out of a total strength of twenty-two. The inspection drills were carried out in an efficient manner, and the equipment, with the exception of the street fire-alarm system, was in good order. The fire-alarm system is primitive, and has become quite unreliable. It has served its purpose, and should be replaced by a more modern system.

The record of attendance at fire calls shows a low average, but, as the brigade has recently been partially reorganized and a new Superintendent appointed, it should result in better attendances.

HOKITIKA.

Inspection, 25th January, 1924. Two officers and seventeen firemen were in attendance at the inspection muster. The steam-fire-engine and other inspection drills were carried out in the efficient manner customary with this brigade. The stations and equipment were in their usual good order and condition. The attendance at the five fire calls averaged 77 per cent. of the membership—a fair record.

INVERCARGILL.

Inspection, 5th March, 1924. The 30th June last completed the first year of operations under Fire Board control, and as at the time of my inspection the brigade was practically in course of reorganization, no extensive inspection drill was called for, but that performed was carried out in a smart and efficient manner.

A new Superintendent has been appointed, and a comprehensive scheme of reorganization is now in hand. A new site, well situated in respect to the present risks and expected future trend of the town, has been purchased at a reasonable price, and the plans for a proposed new central fire-station have been approved. Instantaneous connections have been fitted in place of the V-thread pattern. A 60 h.p. chassis has been purchased, and a 150-200 g.p.m. turbine pump outfit mounted thereon; other minor improvements are in hand.

KAIAPOI.

Inspection, 29th February, 1924. The steam fire-engine was got to work at the Municipal Baths. The engine was well driven and otherwise well handled, but with good coal it took fourteen minutes to raise 100 lb. head of steam. The engine worked well and threw some good jets; but, as this engine is depended upon as the only means of fire-extinction, the elapsing time before any water can be thrown

on a fire creates a most dangerous situation, and a motor pumping outfit should be procured at once. Some minor equipment is also required.

As set out in my report to the Board, some additional sumps or wells are urgently required. The attendance at four fire calls averaged 70 per cent. of the membership—a fair record.

KAITANGATA.

Inspection, 11th March, 1924. Two officers and seven men were in attendance at the inspection muster, and the inspection drill was carried out in a smart and energetic manner.

Greater efficiency would be obtained from the first-aid motor-pump if the delivery-pipe was altered in the manner recommended at the time of my visit. The supply of fire-hose is insufficient. It is time this Board procured a new site and erected a station suited to the requirements of the town.

LAWRENCE.

Inspection, 7th March, 1924. Two officers and seven firemen were present at the inspection muster. Inspection drills were carried out, but the brigade should be thoroughly drilled in the squad drill which has recently been adopted as a standard for the Dominion.

A new portable stand-pipe is required, otherwise the equipment is in good order and condition.

LEVIN.

Inspection, 4th June, 1924. At the inspection muster there were present two officers and seven firemen. The inspection drills were carried out in a much more efficient manner than previously, and generally a considerable improvement is manifest. The present strength of the brigade—eleven all told—is numerically weak, and steps should be taken at once to increase the membership; also, some arrangements should be made whereby, in case of a call on the street fire-alarm system in the daytime, the firebell shall be rung immediately.

MASTERTON.

Inspection, 18th December, 1923. At the inspection muster there were present two officers and sixteen firemen out of a total strength of twenty-four. As compared with previous occasions there was an improvement in the carrying-out of the inspection drills, but the recently adopted standard squad drill should be introduced and the brigade thoroughly drilled on those lines. The attendance at twenty-two general fire calls averaged 75 per cent. of the membership—a fair record.

The station and equipment were in first-class order and condition.

I have again had to call attention to the unreliable condition of the water-supply for fire-extinction purposes in Masterton, and if there is no prospect of an improvement in the near future the brigade should be furnished with a motor pumping outfit.

MILTON.

Inspection, 6th March, 1924. The full strength of the brigade was in attendance at the inspection muster. There is considerable improvement in the inspection work of this brigade, and with regular practice of the recently adopted standard drill a satisfactory degree of efficiency should be quickly attained.

The station and equipment were in good order. There is a shortage of fire-hose—a further 600 ft. is required.

NAPIER.

Inspection, 20th February, 1924. In regard to the newly erected central fire-station, both in design and construction the work has been carried out in a most efficient manner and at a very reasonable cost.

When getting the motor-pump to work at the port one of the street-hydrants was found covered to a depth of 2 in. with road-metal; also, the hydrant-indicators are in a very unsatisfactory state generally. Such conditions may easily be the cause of serious fire loss, and should be remedied at once. Other minor matters, as pointed out in my report, require attention.

Upon reconsideration the Board have purchased a 45 h.p. 300–350 g.p.m. motor-pump instead of converting an ordinary commercial chassis, as was at first proposed.

The installation of a street fire-alarm system should now be taken in hand.

NEW PLYMOUTH.

Inspection, 10th October, 1923. Two officers and seventeen firemen were in attendance at the inspection muster. Owing to the inclement weather the inspection drill was considerably restricted, but the brigade require more drill and instruction, and the Superintendent should be authorized to call extra drills at his discretion. The average attendance at twelve fire calls averaged 54 per cent. of the membership—not a good record: this should be looked into.

The engine of the 60 h.p. motor was very slow in starting at the turnout—a fault of long standing—and an endeavour should be made to have it rectified locally. A 30 h.p. chassis was purchased, a body built thereon, and fitted up locally as a hose-ladder and first-aid chemical-engine tender.

OAMARU.

Inspection, 13th May, 1924. At the inspection muster there was present one officer and ten firemen. The station and equipment were found to be in good order. Practical instruction was given in the recently adopted firemen squad drill. Attendance at the twenty-two fire calls averaged 65·6 per cent. of the membership—a low average.

Prompt extension of the water-reticulation in the newly amalgamated districts of Newborough and Meadowbank is necessary. In the meantime, if, as suggested in my report, hydrants are fixed on the mile length of the present main, it will enable the brigade to protect a large number of the buildings in the said districts. More sleeping-accommodation for single firemen at the central station is necessary, and I noted the street hydrant-indicators were in the same condition as at the time of my previous visit.

OHAKUNE.

Inspection, 4th April, 1924. Only two members of the brigade were in attendance at the fire-station. The boiler of the steam fire-engine was down for repairs, and would be out of commission for another week; also, I found the motor hose-tender in a neglected-looking condition, and the battery out of action, housed behind other motor-cars in a garage some short distance away from the station. Further, the hose was lying about on the floors of both engine-shed and social room, and the interior of the building was in a most disorderly and neglected condition. Altogether, fire-protection conditions in Ohakune are in a very dangerous state, and call for prompt action on the part of the Fire Board.

I have recommended purchase of a trailer motor-pump to be towed by the hose-tender, provided the tender is maintained in proper working-order; also, better provision for protection of the Junction section of the town is necessary.

PALMERSTON NORTH.

Inspection, 11th June, 1924. The Superintendent and eighteen firemen were present at the inspection muster. As usual, the inspection drills were carried out in a practical and efficient manner, and the station and equipment were found in good order and condition.

Plans for the proposed new central fire-station have been approved, but erection has not yet been commenced, and very little practically has yet been done in respect to the urgently needed installation of a street fire-alarm system.

The fire loss for the year, £24,806, is much above the average loss in this district, but one fire accounts for over £12,000 of the total loss.

PETONE.

Inspection, 30th June, 1924. At the inspection muster there were present two officers and fifteen firemen, or seventeen out of a strength of eighteen all told. The inspection drills were carried out in the efficient manner usual with this brigade, and the station, motors, and other equipment were in first-class order. The returns show the attendance at twelve fire calls averaged 53 per cent. of the membership—not a good average.

A large number of new buildings have been erected of late, and to a degree that calls for an extension of the street fire-alarm system; four additional boxes should be installed.

PORT CHALMERS.

Inspection, 10th March, 1924. Owing to a rush of shipping, practically all members of the brigade were engaged in night-work, therefore no inspection muster was held. The station and equipment were in good order. The attendance at ten fire calls averaged 52 per cent. of the membership of the brigade—a low average.

Improvement of the water service on the upper levels is now in hand. Consequent upon certain information received from the Chairman of the Board, my previous recommendation in regard to a new fire-station site is held over for the time being.

ROTORUA.

Inspection, 19th November, 1923. The full strength of the brigade was present at the inspection muster. The various inspection drills were carried out in a smart and efficient manner, and the station and equipment were in good order. The attendance at fire calls averaged 80·2 per cent. of the total membership of the brigade—a good record.

A street fire-alarm system, consisting of three circuits having sixteen call-points thereon, has been installed, and was officially declared available for public use on the 19th November. A further addition to the equipment is an English-manufactured 35 ft. extension-ladder.

TAUMARUNUI.

Inspection, 14th November, 1924. At the inspection muster there were in attendance two officers and thirteen firemen out of a total strength of eighteen. The inspection drills, both wet and dry, were carried out in a satisfactory manner, and there is a decided improvement in that respect. The attendance at the twelve fire calls averaged 72·2 per cent. of the membership—a fair record.

The station and the equipment, with the exception of some minor matters requiring attention, were in good order and condition.

TAURANGA.

Inspection, 20th November, 1923. Two officers and eleven firemen were in attendance at the inspection muster. The inspection drills were carried out in a satisfactory manner, and the station and equipment were in good order. The attendance at the six fire calls averaged 84 per cent. of the membership of the brigade—a good record.

The roadway on the corner of Durham and Wharf Streets, in the immediate vicinity of the fire-station, is in a most dangerous condition, and renders any run of the fire-motor in that direction, particularly at night, a very risky proceeding.

I had again to bring under the notice of the Board the necessity of securing an additional portion of the adjoining land with a view to extension of the fire-station premises.

TE AROHA.

Inspection, 21st November, 1923. Two officers and ten firemen were in attendance at the inspection muster. The inspection drills were carried out in an energetic manner, and, whilst showing an improvement, there is room for more. At the nine fire calls there was an attendance of 84 per cent. of the membership—a good record.

The newly erected central fire-station is now in occupation, but the present firebell does not appear to be satisfactory for general alarm purposes, and it should be replaced either by a siren or a heavier bell.

TIMARU.

Inspection, 30th January, 1924. Two officers and sixteen firemen were present at the inspection muster. The inspection drills were carried out in an efficient manner, and the station and equipment were in the usual good order and condition. At the forty-six fire calls the attendance averaged 76 per cent. of the membership—a fair record.

In view of future extension, which must come, the Board would do well to secure, whilst they can be purchased at a reasonable price, one or other of the sections adjoining the central-station site. Also, more accommodation for married firemen should be provided, and I have recommended the erection of three self-contained cottages facing Latter Street on the present site.

WAIHI.

Inspection, 2nd April, 1924. Two officers and nine firemen were in attendance at the inspection muster. It was evident that the brigade were in need of more drill and instruction, but the members are apparently an active, willing body of men, and with proper attention and practice of the recently standardized squad drill they should easily attain a satisfactory degree of efficiency. The attendance at the forty-four fire calls averaged 72 per cent. of the total membership—in all the circumstances, a good record.

A new standard stand-pipe is required, and the Board should replace or improve the present unsatisfactory street fire-alarm system.

WAITARA.

Inspection, 9th October, 1923. Two officers and ten firemen were present at the inspection muster. Various inspection drills were carried out, and, whilst there was some improvement as compared with my previous inspection, it was not to the extent I expected.

A 20 h.p. motor chassis has been purchased, a suitable body built thereon, and the machine is now in commission as a hose-and-ladder tender.

WANGANUI.

Inspection, 5th December, 1923. At the inspection muster there were present two officers and seventeen firemen out of a total strength of twenty then on the roll. The required inspection drills were carried out in a smart and efficient manner, and the station and equipment were in first-class order.

During the year the town districts of Gonville and Castlecliff amalgamated with the borough, thus becoming one fire district under the control of the Wanganui Fire Board, and steps are now being taken to adequately protect the additional area. A site is to be purchased and a station erected thereon, so situated that it will serve both districts. A permanent district officer with one permanent and fourteen auxiliary firemen have already been appointed, and a street fire-alarm service is to be installed immediately.

WHANGAREI.

Inspection, 14th January, 1924. At the inspection muster there were present two officers and ten firemen out of a total strength of twenty then on the roll. The inspection drills were carried out in a fairly satisfactory manner, but the recently standardized squad drill system should be adopted. The records show the attendance at fire calls averaged 68.4 per cent. of the membership—not a good average.

A street fire-alarm system should be installed in the near future; in the meantime the present remote-switch-control system should be extended along the Kamo and Mauna Roads.

TABLES.

1. SUMMARY OF FIRE CALLS.

District.	Fires.	Chimney Fires.	Bush, Grass, and Rubbish Fires.	False Alarms.	Out of District.	Totals.
Auckland	129	20	68	58	8	283
Balclutha	2	1	..	1	..	4
Christchurch	132	31	40	89	21	313
Dannevirke	7	1	4	..	2	14
Dargaville	4	2	1	..	..	7
Dunedin	121	74	80	66	2	343
Feilding	7	2	2	1	1	13
Foxton	2	1	1	..	1	5
Gisborne	21	..	2	1	5	29
Greymouth	11	..	..	2	..	13
Hamilton	20	4	12	4	3	43
Hastings	14	4	6	..	1	25
Hawera	6	..	..	2	..	8
Hokitika	3	..	1	..	1	5
Invercargill	40	10	9	8	2	69
Kaiapoi	3	..	1	..	..	4
Kaitangata	2	1	..	..	..	3
Lawrence	2	..	..	..	..	2
Levin	5	4	1	1	1	12
Masterton	21	11	12	4	..	48
Milton	3	1	2	..	1	7
Napier	28	4	13	2	2	49
New Plymouth	11	1	1	4	..	17
Oamaru	6	5	9	2	..	22
Ohakune	3	..	2	..	..	5
Palmerston North	36	7	5	25	4	77
Petone	3	2	..	7	..	12
Port Chalmers	2	1	7	..	1	11
Rotorua	9	6	9	3	..	27
Taumarunui	7	2	..	2	1	12
Tauranga	5	1	1	..	..	7
Te Aroha	7	2	..	..	..	9
Timaru	14	8	22	2	..	46
Waihi	16	1	8	19	..	44
Waitara	1	1	..	..	..	2
Wanganui	32	15	39	16	4	106
Whangarei	6	..	..	..	..	6
Totals	741	223	358	319	61	1,702

2. SUMMARY OF FIRE LOSSES.

District.	Insured.	Uninsured.	Totals.	District.	Insured.	Uninsured.	Totals.
	£	£	£		£	£	£
Auckland	36,733	7,175	43,908	Milton	125	50	175
Balclutha	29	..	29	Napier	5,730	92	5,822
Christchurch	94,794	1,781	96,575	New Plymouth	2,290	502	2,792
Dannevirke	339	141	480	Oamaru	1,872	1,828	3,700
Dargaville	1,409	475	1,884	Ohakune	1,300	875	2,175
Dunedin	21,279	2,135	23,414	Palmerston North	22,286	1,520	24,806
Eltham .. .. .	..	..	..	Petone	385	100	485
Feilding	1,431	385	1,816	Port Chalmers	354	304	658
Foxton .. .. .	..	10	10	Rotorua	5,846	1,570	7,416
Gisborne	10,148	1,745	11,893	Taumarunui	1,234	150	1,384
Greymouth	7,107	1,149	8,256	Tauranga	1,652	1,678	3,330
Hamilton	6,663	1,525	8,188	Te Aroha	3,141	1,285	4,426
Hastings	2,911	960	3,871	Timaru	16,293	3,164	19,457
Hawera	1,571	380	1,951	Waihi	1,837	1,558	3,395
Hokitika	87	..	87	Waitara	275	75	350
Invercargill	46,444	777	47,221	Wanganui	7,800	430	8,230
Kaiapoi	250	140	390	Westport .. .. .	..	..	..
Kaitangata	1,300	555	1,855	Whangarei	2,016	2,000	4,016
Lawrence	3,570	200	3,770				
Levin	1,692	335	2,027	Totals	320,355	37,669	358,024
Masterton	7,162	620	7,782				

3. COST OF FIRE BRIGADES (CAPITAL EXPENDITURE INCLUDED).

As taken from the Estimates for the respective Years.

District.	Year ending 30th June, 1920.		Year ending 30th June, 1921.		Year ending 30th June, 1922.		Year ending 30th June, 1923.		Year ending 30th June, 1924.		Year ending 30th June, 1925.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Auckland ..	12,305	0 0	17,000	0 0	18,375	0 0	16,325	0 0	16,700	0 0	18,400	0 0
Balclutha ..	260	0 0	140	0 0	350	0 0	400	0 0	400	0 0	500	0 0
Christchurch ..	8,550	0 0	9,650	0 0	14,113	0 0	12,100	0 0	12,100	0 0	13,000	0 0
Dannevirke ..	586	9 1	617	15 0	672	13 6	585	18 6	739	19 10	620	13 5
Dargaville ..	416	0 0	523	6 7	675	3 6	504	0 0	816	0 0	600	0 0
Dunedin ..	9,500	0 0	11,500	0 0	13,500	0 0	13,500	0 0	13,500	0 0	13,500	0 0
Eltham ..	..	..	..	..	..	..	..	..	..	..	750	0 0
Feilding ..	464	16 6	568	18 10	594	2 11	648	0 0	623	0 0	554	0 0
Foxton ..	..	..	..	..	..	..	250	0 0	397	0 0	626	8 10
Gisborne ..	1,069	3 9	1,586	10 0	1,517	4 5	1,734	0 1	2,188	12 2	2,200	0 0
Greymouth ..	920	0 0	943	0 0	890	0 0	887	0 0	948	0 0	949	0 0
Hamilton ..	1,300	0 0	1,449	13 6	1,900	0 0	2,350	0 0	2,650	0 0	2,800	0 0
Hastings ..	1,038	0 0	1,024	0 0	978	0 0	837	0 0	1,012	0 0	1,206	0 0
Hawera ..	732	8 4	764	14 3	751	14 5	837	0 0	713	2 1	1,241	0 0
Hokitika ..	425	0 0	550	0 0	425	0 0	570	0 0	570	0 0	480	0 0
Invercargill ..	..	..	..	..	..	..	..	10,300	0 0	..	3,200	0 0
Kaipoi ..	..	..	..	..	..	..	..	947	0 0	..	1,279	0 0
Kaitangata ..	..	..	..	..	260	0 0	192	0 0	175	10 0	290	0 0
Lawrence ..	60	0 0	80	0 0	80	0 0	80	0 0	90	0 0	100	0 0
Levin ..	611	10 0	660	10 0	1,086	3 1	921	17 5	799	7 8	803	4 0
Masterton ..	1,501	0 0	1,536	0 0	2,029	3 0	1,880	0 0	1,946	10 0	1,649	0 0
Milton ..	85	0 0	232	4 9	250	0 0	167	10 0	240	0 0	340	0 0
Napier ..	..	..	..	..	2,190	0 0	1,671	0 0	2,886	0 0	3,522	0 0
New Plymouth ..	1,302	3 0	1,500	9 0	2,435	0 0	2,183	0 0	1,965	10 0	1,953	0 0
Oamaru ..	550	0 0	800	0 0	800	0 0	750	0 0	800	0 0	950	0 0
Ohakune ..	481	0 0	468	2 9	462	0 0	435	0 0	348	0 0	420	0 0
Palmerston North ..	1,530	10 7	2,055	0 5	2,417	10 7	2,100	7 3	2,143	11 11	2,224	19 8
Petone ..	838	0 0	893	0 0	1,030	0 0	1,306	0 0	1,450	0 0	1,394	0 0
Port Chalmers ..	350	0 0	400	0 0	400	0 0	325	0 0	310	0 0	269	4 0
Rotorua ..	1,490	10 0	875	0 0	1,424	16 0	1,340	10 8	1,328	5 0	1,356	12 6
Taumarunui ..	..	..	510	0 0	600	0 0	640	0 0	650	0 0	445	0 0
Tauranga ..	455	5 0	414	18 4	547	8 4	541	2 11	499	15 3	559	16 0
Te Aroha ..	..	..	500	0 0	731	0 0	683	0 0	573	0 0	621	0 0
Timaru ..	1,930	0 0	1,750	0 0	2,400	0 0	1,750	0 0	1,850	0 0	2,250	0 0
Waihi ..	1,160	0 0	930	0 0	990	0 0	710	0 0	822	0 0	651	0 0
Waitara ..	201	8 0	143	0 0	209	0 0	200	0 0	120	0 0	220	0 0
Wanganui ..	5,141	15 7	4,505	17 4	5,255	5 10	4,800	0 0	4,450	0 0	7,050	0 0
Westport ..	..	..	..	..	..	..	..	..	..	..	550	0 0
Whangarei ..	340	0 0	576	0 0	680	0 0	550	0 0	1,000	0 0	1,016	0 0
Totals ..	56,642	9 8	66,433	7 11	82,484	6 11	74,754	6 10	89,052	3 11	90,540	18 5

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES.

	Auckland.	Balclutha.	Christchurch.	Dannevirke.	Dargaville.	Dunedin.	Feltham.	Foxton.	Gisborne.	Greymouth.	Hamilton.
Brigades, total strength of	65	12	38	21	20	46	23	16	24	21	24
Fire-stations—											
Residential	4	1	4	1	1	3	1	1	1	1	1
Non-residential	1	..	..	1	..	..	1	..	1	4	1
Fire-alarms—											
Circuits (C.), boxes (B.)	27 (C.), 245 (B.)	..	21 (C.), 146 (B.)	..	3 sirens	15 (C.), 139 (B.)	..	..	..	..	4 (C.), 27 (B.)
Automatic, private	60	..	33	..	..	32	..	..	..	..	2
Telephones (points)	18	..	8	1	4	21	3	5	4	15	2
Motors	..	..	..	..	..	..	..	..	..	..	..
Hose-and-ladder tenders (h.p.)	5 (4.40; 1, 20)	..	2 (36, 36)	1 (40)	1 (22)	5 (1, 75; 3, 60, 1, 20)	2 (22, 20)	1 (22)	1 (35)	1 (22)	..
First-aid, hose-and-ladder (h.p.)	3 (40, 38, 30)	..	..	..	..	..	..	..	1 (50)	..	..
Pump, hose-and-ladder (h.p.)	1 (110)	..	4 (1, 70; 3, 50)	..	..	1 (20)	..	..	..	..	1 (60)
Runabouts	1 (25)	..	1 (35)	..	..	..	..	..	..	..	..
First-aid, pump, hose-and-ladder (h.p.)	..	..	..	..	2	..	..	..	..	..	1 (40)
Electric, ladders (height)	1 (87')	..	..	..	..	1 (84')	..	..	..	..	..
Fire-engines—											
Steam (g.p.m.)	..	..	..	..	..	..	..	..	1 (600)	1 (600)	..
Manual (g.p.m.)	..	..	..	..	..	..	..	..	..	1 (60)	..
Chemical-engines, hand-drawn (gals.)	..	..	..	..	..	..	..	1 (40)	..	1 (40)	..
Hose-carts, reels, hand-drawn	..	1	2	2	2	..	1	..	2	6	2
Ladders—											
Motor-traction (height)	1 (65')	..	1 (65')	1 (35')*	..	1 (80')	1 (30')*	1 (26')	1 (35')*	2 (40', 25')	3 (50', 35', 30')*
Extension (height) (*on motor)	2 (22'), (35')*	..	5 (2, 40'; 3, 35')*	..	..	5 (1, 35'; 4, 30')*	..	..	..	..	..
Single and coupling (total length)	12 (240')	2 (18', 20')	18 (180')	5 (107')	3 (49')	2 (30')	8 (100')	..	6 (96')	4 (83')	3 (48')
Jumping-sheets	5	..	3	..	2 (M.)	1 (J.), 1 (H.)	2 (M.)	..	1 (H.)	1	2 (M.)
Smoke-jackets (J.), helmets (H.), masks (M.)	2 (J.), 2 (H.)	..	2 (J.), 1 (H.)	..	..	..	..	..	..	..	..
Hand-pumps	5	1	7	2	1	5	1	2	1	1	1
Hand chemical extinguishers	6	2	7	2	..	6	2	2	4	2	2
Portable standpipes—											
Ratchet valves	17	..	1	..	1	13	..	..	..	..	2
Double heads	..	2	19	7	2	4	6	2	7	9	..
Single heads	6	..	1	..	2	2	..	..	4	1	6
Hose—											
Rubber-lined (diameter)	1,000' (2½"); 540' (¾")	..	2,100' (2½")	..	120' (¾")	200' (2½")	..	..	180' (¾")	300' (¾")	150' (¾")
Unlined (diameter)	10,900' (2½"); 386' (¾")	1,300' (2½")	14,000' (2½")	3,000' (2½")	2,000' (2½")	17,800' (2½")	2,700' (2½")	1,090' (2½")	3,000' (2½")	3,600' (2½")	4,300' (2½")
Water-supply (P. = pumping; G. = gravitation)	..	P. and G.	P. and G.	G.	G.	G.	G.	P. and G.	G.	P. and G.	P. and G.
Pressure, average, noon-midnight	40-120	70-75	95-105	80-85	85-90	96-130	85-105	53-120	116-130	85-100	45-48

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES—continued.

	Hastings.	Hawera.	Hokitika.	Invercargill.	Kaipoi.	Kaitangata.	Lawrence.	Levin.	Masterton.	Milton.	Napier.	New Plymouth.	Oamaru.	Ohakune.
Brigades, total strength of	21	19	30	18	16	10	13	11	24	13	37	26	17	15
Fire-stations—														
Residential	1	1	5	1	1	1	1	1	1	1	2	1	1	1
Non-residential	..	..	..	..	..	..	..	..	..	..	3	1	1	1
Fire-alarms—														
Circuits (C.), boxes (B.)	..	..	..	1 (C), 15 (B)	..	..	..	1 (C), 6 (B)	6 (C), 16 (B)	..	1 (C), 2 (B)	2 (C), 26 (B)	..	..
Automatic, private	..	1	..	1	..	..	..	..	1	..	..	..	..	..
Telephones (points)	3	2	9	5	1	..	..	3	2	2	8	4	5	1
Motors—														
Hose-and-ladder tenders (h.p.)	1 (40)	1 (35)	..	1 (35)	..	1 (22)	..	1 (22)	1 (25)	..	..	1 (22)	..	1 (20)
First-aid, hose-and-ladder (h.p.)	1 (30)	..	..	1 (60)	..	..	..	..	1 (25)	..	1 (35)	1 (30)	1 (40)	..
Pump, hose-and-ladder (h.p.)	..	..	..	..	..	..	..	..	1 (25)	..	1 (45)	..	..	..
Runabouts	..	..	..	..	..	..	..	..	..	..	..	..	..	..
First-aid, pump, hose-and-ladder (h.p.)	..	..	..	..	..	..	..	..	..	..	1 (65)	1 (60)	..	..
Electric, ladders (height)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fire-engines—														
Steam (g.p.m.)	..	..	1 (380)	..	1 (300)	..	..	..	1 (300)	1 (50)	..	..	..	1 (400) motor
Manual (g.p.m.)	..	..	2 (80, 80)	..	1 (80)	..	..	..	..	1 (50)	..	..	..	1 (80)
Chemical-engines, hand-drawn (gals.)	..	..	..	..	..	..	..	..	..	1 (50)	..	..	..	..
Hose-carts, reels, hand-drawn	2	3	5	1	1	1	2	1	2	1	7	1	1	..
Ladders—														
Motor-traction (height)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Extension (height) (*on motor)	2 (35', 20')*	1 (35')*	..	3 (50', 14', 18')*	..	..	..	1 (26')*	2 (35', 18')*	1 (16')	2 (50', 35')*	2 (50', 35')*	1 (30')*	..
Single and coupling (total length)	7 (85')	7 (121')	5 (99')	..	3 (24')	1 (20')	2 (55')	5 (57')	5 (69')	3 (57')	14 (200')	2 (32')	3 (64')	2 (36')
Jumping-sheets	2	..	..	..	..	..	..	..	..	..	..	1	..	..
Smoke-jackets (J.), helmets (H.), masks (M.)	2 (M.)	1 (H.)	..	1 (H.)	..	..	..	..	..	..	2 (H.)	..	1 (H.)	..
Hand-pumps	2	2	2	1	1	4	1	1	1	1	2	2	2	2
Hand chemical extinguishers	2	2	..	2	..	..	2	2	2	2	6	7	1	4
Portable standpipes—														
Ratchet valves	..	1	..	1	..	..	1	1	2	..	1	1	1	..
Double heads	6	3	5	1	..	..	2	2	3	2	14	13	5	..
Single heads	..	2	2	4	..	..	..	2	3	..	3	1	2	..
Hose—														
Rubber-lined (diameter)	(150' $\frac{3}{4}$")	..	..	150' ($\frac{3}{4}$ ")	..	120' (1")	..	..	120' ($\frac{3}{4}$ ")	160' ($\frac{3}{4}$ ")	150' ($\frac{3}{4}$ ")	200' (2 $\frac{1}{4}$ ")	150' ($\frac{3}{4}$ ")	..
Unlined (diameter)	3,000' (2 $\frac{1}{4}$ ")	1,700' (2 $\frac{1}{4}$ ")	2,500' (2 $\frac{3}{4}$ ")	7,000' (2 $\frac{3}{4}$ ")	2,600' (2 $\frac{3}{4}$ ")	800' (2 $\frac{1}{2}$ ")	1,200' (2 $\frac{1}{2}$ ")	1,880' (2 $\frac{1}{2}$ ")	2,300' (2 $\frac{1}{2}$ ")	1,000' (2 $\frac{1}{2}$ ")	10,650' (2 $\frac{3}{4}$ ")	7,350' (2 $\frac{1}{4}$ ")	2,500' (2 $\frac{1}{2}$ ")	900' (2 $\frac{3}{4}$ ")
Water-supply (P. = pumping; G. = gravitation)	P. and G.	P. and G.	G.	P. and G.	River and sumps	G.	G.	G.	G.	G.	P. and G.	G.	G.	Creeks and races
Pressure, average, noon-midnight	120-130	36-74	100-105	45	80	80	65-80	90-110	75-80	50-60	65-130	95-120	90-100	..

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES—continued.

	Palmerston North.	Petone.	Port Chalmers.	Rotorua.	Taumarunui.	Tauranga.	Te Aroha.	Timaru.	Waihi.	Waikara.	Wanganui.	Whangarei.	Totals.
Brigades, total strength of	26	18	20	19	18	16	16	25	16	15	23	20	812
Fire-stations—													
Residential	2	1	2	1	1	1	1	1	1	1	1	1	43
Non-residential	1	..	..	1	..	..	..	..	..	1	1	1	29
Fire-alarms—													
Circuits (C.), boxes (B.)	2	1 (C.), 13 (B.)	..	3 (C.), 16 (B.)	..	..	..	6 (C.), 27 (B.)	3 (C.), 12 (B.)	..	4 (C.), 53 (B.)	1 (C.), 1 (B.)	96 (C.), 747 (B.)
Automatic, private	6	1	..	3	4	3	2	3	10	..	11	1	147
Telephones (points)	..	..	..	..	..	..	..	..	..	..	2	..	161
Motors—													
Hose-and-ladder tenders (h.p.)	1 (25)	..	1 (22)	1 (50)	1 (22)	..	1 (22)	..	1 (22)	1 (22)	1 (40)	1 (22)	24
First-aid, hose-and-ladder (h.p.)	..	1 (30)	..	..	..	1 (22)	..	..	..	..	1 (40)	..	24
Pump, hose-and-ladder (h.p.)	1 (55)	..	..	..	..	..	..	1 (60)	..	..	..	..	10
Runabouts	..	..	..	..	..	..	..	..	..	..	1 (22)	..	4
First-aid, pump, hose-and-ladder (h.p.)	..	1 (40)	..	..	..	..	..	1 (45)	..	..	1 (60)	..	7
Electric, ladders (height)	..	..	..	..	..	..	..	..	..	..	..	..	2
Fire-engines—													
Steam (g.p.m.)	..	..	..	..	..	..	..	..	..	..	..	..	6
Manual (g.p.m.)	..	..	..	..	..	..	..	..	..	..	..	..	6
Chemical-engines, hand-drawn (gals.)	..	..	..	..	..	..	..	..	..	..	..	..	3
Hose-carts, reels, hand-drawn	2	1	2	3	2	2	1	1	2	2	..	2	65
Ladders—													
Motor-traction (height)	..	1 (35)*	1 (26)*	1 (35)*	1 (26)*	1 (36)*	1 (30)*	2 (60', 30')*	1 (26)*	1 (20)*	3 (60', 35', 35')*	1 (50')	5
Extension (height) (*on motor)	2 (60', 23')*	4 (40)	1 (20')	6 (89)	2 (20')	2 (59)	4 (50')	7 (85')	2 (55')	1 (25')	3 (42')	2 (55')	52
Single and coupling (total length)	9 (117)	1	..	1	..	..	..	1	..	..	2	..	165
Jumping-sheets	1	1 (H.)	..	..	..	..	..	2 (H.)	..	..	1 (H.)	2 (M.)	20
Smoke-jackets (J.), helmets (H.), masks (M.)	..	..	..	..	..	..	..	..	..	..	..	..	5 (J.), 14 (H.), 14 (M.)
Hand-pumps	2	2	2	1	2	2	1	2	1	1	2	2	71
Hand chemical extinguishers	1	3	..	1	2	..	2	4	2	..	2	2	86
Portable standpipes—													
Ratchet valves	1	2	1	1	..	..	1	4	..	..	7	..	66
Double heads	5	2	2	1	3	4	2	4	1	4	3	3	148
Single heads	4	5	..	5	1	1	..	..	2	..	..	2	61
Hose—													
Rubber-lined (diameter)	..	150' (3")	120' (1")	..	..	140' (3")	..	160' (3")	..	..	300' (3")	..	3,100' (2 1/2"), 3,560' (3")
Unlined (diameter)	6,000' (2 1/2")	4,500' (2 1/2")	1,600' (2 1/2")	2,577' (2 1/2")	2,100' (2 1/2")	2,300' (2 1/2")	1,800' (2 1/2")	3,000' (2 1/2")	1,500' (2 1/2")	2,000' (2 1/2")	4,800' (2 1/2")	2,000' (2 1/2")	37,000' (2 1/2"), 104,767' (2 1/2")
Water - supply (P. = pumping; (G. = gravitation)	G.	G.	G.	G.	G.	G.	G.	G.	G.	G.	G.	G.	..
Pressure, average, noon-midnight	60-95	35-70	90-130	60-68	100-125	75-110	120-125	70-75	90-125	90-125	110-140	150-175	..

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