



KEY

PROTECTED FIRE ZONE: Shown in Green.

NOTE.—For description of fire protection, etc., see other side.

Elevations range from 10 to 105 feet above mean sea level.

Water mains 8 inches and larger in diameter

Water mains 6 inches in diameter

Water mains 4 inches in diameter

Fire hydrants shown thus

Gate valves shown thus

Fire house shown thus

Fire apparatus designated by symbols thus:

(Y) Pumping engine and hose car

(B) Booster tank or tanks on above

(L) Ladder truck

THE FIRE INSURANCE RATING
ORGANIZATION OF N. J.
ENGINEERING DEPARTMENT
NEWARK 2, N. J.

City of Bridgeton
Cumberland County, New Jersey

DECEMBER 31, 1948

CITY OF BRIDGETON, CUMBERLAND COUNTY, NEW JERSEY.

Population — 1940 Census — 15,992.

IN GENERAL: Located on the Cohansy River and on the C.R.R. of N. J. and the P.R.R. It is a residential community with 57 moderate sized industries normally employing about 4,300. Area is about 6 square miles. Elevations range from 0 to 105 feet. Main roads are improved with others macadam or gravel in fair to poor condition. Several railroad grade crossings and traffic congestion in the mercantile district might seriously interfere with the response of fire apparatus.

WATER SUPPLY: Water for domestic and fire protection purposes is furnished by the city which owns and operates the supply works and distribution system. Organization: System is under the supervision of the commissioner of public works who is appointed by the common council for a 3-year term. The present commissioner has held office for the last 19 years. Personnel of the department consists of a commissioner who acts as superintendent, 3 operators, and 4 laborers. Two well-equipped trucks are provided, but there is no regular response to alarms of fire. Office and shop are located at the former pumping station in the city park. Records consist principally of a fairly up-to-date map of the distribution system. **Supply Works:** System was originally constructed in 1887 and completely rebuilt in 1912 with the former steam pumping station being replaced by electrically operated well stations within the past 8 years. Supply is obtained from 9 deep wells 16 inches to 18 inches in size and ranging from 87 feet to 114 feet in depth. **Well Station No. 1:** Located adjacent to former pumping station. It is a small area brick building with concrete floor, composition shingle on wood roof, coal stove, electric lights, Venturi meter, and no hand protection. Housekeeping is good. Elevation of floor about 10 feet. **Equipment:** A 0.864-m.g.d. Fairbanks-Morse high lift deep well pump driven by a 15-h.p. electric motor. **Well Station No. 2:** Located on East Avenue near the Fairfield Township line. It is a small area brick building with asbestos shingle on wood roof, concrete floor, coal stove, electric lights, and no hand protection. Housekeeping is good. Elevation of floor about 28 feet. **Equipment:** A 0.72-m.g.d. Layne low lift deep well pump driven by a 25-h.p. Fairbanks-Morse electric motor and a 1.0-m.g.d. Fairbanks-Morse high lift centrifugal pump driven by a 40-h.p. electric motor. **Well Station No. 3:** Located on Cumberland Avenue in a small area brick building with slag roof, concrete floor, electric lights, Venturi meter, and no heat nor hand protection. Housekeeping is good. Elevation of floor about 80 feet. **Equipment:** A 0.72-m.g.d. Layne high lift deep well pump driven by a 30-h.p. U.S. electric motor. **Well Station No. 4:** Located at Giles and Academy Streets in a building similar in construction to Well Station No. 3. Elevation of floor about 53 feet. **Equipment:** A 0.648-m.g.d. Layne high lift deep well pump driven by a 25-h.p. U.S. electric motor. **Well Station No. 5:** Located on Irving Avenue opposite Lakeview Avenue in a building similar in construction to Well Station No. 3. Elevation of floor about 32 feet. **Equipment:** A 0.57-m.g.d. Layne high lift deep well pump driven by a 40-h.p. U.S. electric motor. **Well Station No. 6:** Located between East Avenue and the P.R.R. in a small area concrete block building with composition on wood roof, concrete floor, and no lights, heat, nor hand protection. Housekeeping good. Elevation of floor about 43 feet. **Equipment:** A 0.792-m.g.d. Layne high lift deep well pump driven by a 30-h.p. U.S. electric motor. **Well Station No. 7:** Located near the P.R.R. and Fairfield Township line in a building similar in construction to Well Station No. 6. Elevation of floor about 19 feet. **Equipment:** A 0.792-m.g.d. Layne low lift deep well pump driven by a 30-h.p. U.S. electric motor. **Well Station No. 8:** Located on Burlington Road south of Gilbert Avenue in a building similar in construction to Well Station No. 6. Elevation of floor about 48 feet. **Equipment:** A 0.612-m.g.d. Layne low lift deep well pump driven by a 30-h.p. U.S. electric motor. **Well Station No. 9:** Located on Burlington Road near Fairfield Township line in a building similar in construction to Well Station No. 6. Elevation of floor about 35 feet. **Equipment:** A 0.864-m.g.d. Layne low lift deep well pump driven by a 30-h.p. U.S. electric motor. **Well Stations Nos. 7, 8, and 9** discharge to a receiving basin at the high lift pumping station whence water is pumped by high lift pumps to the distribution system. **High Lift Pumping Station:** Located near Well Station No. 6. It is a large area frame structure with composition roof, concrete floor, electric lights and heat, but no hand protection. Housekeeping is good. Elevation of floor about 40 feet. **Equipment:** Two 2.0-m.g.d. De Laval centrifugal pumps each driven by a 75-h.p. G. E. electric motor. This station was not in use at time of inspection pending the arrival of automatic control equipment, but is in condition for manual operation. **Distribution System:** In one service consisting of 16-inch, 14-inch, and 10-inch supply lines with 4-inch and 6-inch mains, having some long dead end branches. See map. **Reservoir:** Located on East Commerce Street near Park Avenue as shown on map. It is concrete, 100 feet in diameter by 45 feet high with a capacity of 2.36 million gallons. Elevation of base 60 feet. Elevation of overflow 105 feet. **Consumption:** The average and maximum daily pumpage during 1947 were 3,057 and 5,976 m.g. On December 31, 1947 there were 5,144 live services, only 171 of which were metered. **Pipe:** All pipe is asbestos cement or cast iron, tar coated, bell and spigot joint, laid with a 3½-foot to 4-foot cover. Total length, 256,861 feet; 0.1% 20-inch, 7.5% 16-inch, 1.3% 14-inch, 2.5% 12-inch, 2.9% 10-inch, 8.1% 8-inch, 66.1% 6-inch, and 11.5% 4-inch. No trouble reported from freezing or electrolysis. **Gate Valves:** There are 514 in the city of various makes set with iron boxes at or near grade. All but about 6 turn right to open. Valves are not regularly inspected. **Hydrants:** There are 415 of Thompson, Darling, Mathews, Ludlow, and Columbian manufacture; 156 have 6-inch barrels, the balance having 4-inch barrels; 131 have 4-inch branches, the balance having 6-inch branches. About 20% of the hydrant branches are gated. Two hundred and thirty-seven have two 2½-inch outlets and one 4-inch outlet; 41 have one 2½-inch outlet and one 4½-inch outlet; 33 have two 2½-inch outlets, 99 have one 2½-inch outlet and 5 have only one 4½-inch outlet. All outlets have National Standard threads. Hydrants are inspected semi-annually and at time of resurvey those operated were found to be in good condition. **Pressures:** Readings taken at 10 well distributed locations showed pressures ranging from 17 to 48 pounds with an average of 29 pounds. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow, and pressure during flow were as follows:

June 17, 1948—

E. Commerce and Laurel Sts., 1,620—48—38.
Chestnut Ave. and Penn St., 1,280—32—17.
N. Pearl St. 590 ft. N/E of Highland Ave., 170—17—*.
Burlington Rd. and Indian Ave., 170—22—10.
West Ave. 220 ft. N. of Albertson Ave., 240—21—*.

July 9, 1948—

Bowentown Rd. 700 ft. W. of Vine St., 280—20—5.
Atlantic St. and Harvard Ave., 240—38—*.
South Ave. 600 ft. S. of Sharp Ave., 360—48—15.
E. Commerce St. 800 ft. E. of Burlington Rd., 180—22—1.
Bank and Orchard St., 540—24—17.

*No reading taken.

FIRE DEPARTMENT: A part-paid department consisting of 10 full-paid men, including 3 foremen and 24 call men, including a chief, 3 assistant chiefs, and 2 captains. Officers are appointed for indefinite terms by the commissioner of public safety. A minimum of 10 call men are available during the day. The department is under the supervision of the commissioner of public safety who is appointed for a three-year term by the common council. Paid men are divided into three platoons working in eight-hour shifts with one day off in eleven. They are allowed 14 days annual vacation during which time substitutes are provided. Off-shift men may not leave city without permission and are required to report to fire house on receipt of alarms of fire. As many as five call men may leave the city upon notification to the fire house. City owns house, apparatus, and equipment and appropriated the total of \$37,331 for the support of the department during 1948. **Company:** Located on Orange Street near East Commerce Street in a 2-story joisted brick building with slag roof, concrete apparatus floor, steam heat, electric lights, hose tower, air whistle, transmitter, bell, visual indicator, and 2 telephones. **Equipment:** A 1944 Mack 750-g.p.m. triple combination pumping engine carrying a 200-gallon booster tank, 200 feet of booster hose, 1,200 feet of 2½-inch hose, 500 feet of 1½-inch hose, 3 short ladders, 1 all-purpose gas mask, and good minor equipment. A 1947 Pirsch 55-foot aerial ladder truck carrying 6 ground ladders ranging from 10 to 35 feet and totaling 122 feet, a 1,500-watt portable electric generator, 4 portable flood lights, a ladder pipe, 1 distributor, 2 salvage covers, 2 all-purpose gas masks, and good minor equipment. A 1943 Hahn 600-g.p.m. triple combination pumping engine (Northern rotary pump built in 1920) carrying a 175-gallon booster tank, 200 feet of booster hose, 1,200 feet of 2½-inch hose, 500 feet of 1½-inch hose, a portable foam generator, one all-purpose gas mask, 1 short ladder, and fair minor equipment. A 1935 Ford triple combination pumping engine equipped with a 400-g.p.m. Barton front mounted pump and 500-gallon booster tank and carrying 150 feet of booster hose, 150 feet of 2½-inch hose, 200 feet of 1½-inch hose, 2 all-purpose gas masks, 2 short ladders, and meager minor equipment. **Hose:** All 2½-inch hose is C.R.L. with National Standard screw couplings. It is shifted twice a year and dried at hose tower. Hose is not regularly tested. About 50% of supply is over 5 years old and there is a reserve supply of 1,400 feet at fire headquarters. **Operations:** Department is governed by a city ordinance and company by-laws. Chief, under the commissioner of public safety, has control of paid men and apparatus at all times and of men at fires and drills. Motors are started twice daily and all paid men and 6 other men are appointed as drivers. **Drills and Training:** Monthly drills are held except during winter months and consist of the usual evolutions. Drills are held under the supervision of the chief and paid members. **Fire Methods:** Booster lines are used on incipient fires reinforced by 2½-inch lines with shut-off nozzles. Department is provided with 6 gas masks, but is restricted to two salvage covers, a distributor nozzle, and single inlet ladder pipe. **Response to Alarms:** Two pumps and one aerial ladder truck respond to all first alarms and the Ford pumper is held in reserve unless alarm is clearly stated to be of brush or automobile nature, in which event only the Ford pumper is dispatched. Outside aid may be secured from Vineland and Millville. **Building Inspection:** There is no fire prevention bureau and fire department makes no regular inspections. **Records and Reports:** Paid men keep fairly complete records of all fires and drills and chief makes a regular report to the commissioners of public safety. **Fire Alarm System:** Fire alarm system is under the supervision of the commissioner of public safety and is maintained by a local electrician. Headquarters apparatus is located on the second floor of fire headquarters and consists of a 4-circuit slate operating board with the usual devices for testing and operating. Circuit loops are protected by 3-ampere fuses and inert gas lightning arresters. Current is supplied by one oxide film rectifier with one battery of 4 cells floating. Battery cells are located on a wooden shelf and are protected by 3-ampere fuses. There is a visual indicator, breakwheel transmitter, air whistle, and gong at fire headquarters, gong and visual indicator at pumping station, 20 tappers in the homes of various firemen, and 29 Gamewell fire alarm boxes, of which 28 are non-interfering type and one succession type. Boxes are mounted on utility company poles with red and white indicating bands, but no indicating lights. All box cases are grounded in a standard manner. It is a single circuit divided into 3 loops carrying all box and alarm instruments and consisting of about 15 miles of No. 10 hard drawn copper wire, triple braided weatherproof, carried on utility company poles below power wires. There are no regular tests of boxes or circuits. Alarms may be telephoned to fire headquarters where they are sounded on air whistle by means of breakwheel transmitter.

POLICE DEPARTMENT: Department is under the commissioner of public safety who serves as chief and there are 18 members including one detective and 3 sergeants who work in 8-hour shifts and maintain constant watch at the police desk in city hall. Department is provided with 2 radio equipped police cars and one car is dispatched to all alarms of fire. Department has no instructions regarding unauthorized building construction.

BUILDING LAWS: Code adopted February 17, 1925 provides for the appointment of a building inspector who is commissioner of public works, requires that plans and specifications be submitted and permits secured for building operations. Fire limits, which include all of the mercantile district, are established and combustible roof covering materials are prohibited within these limits. Code follows fairly closely the code recommended by the National Board of Fire Underwriters.

FIRE PREVENTION LAWS: Building code has some regulations regarding the construction of garages and motion picture booths and the storage of lumber. No other municipal regulations, but state laws adequately cover the storage and shipment of explosives, the transportation of flammables, and the construction of motion picture booths. They also restrict the discharge of fireworks to responsible bonded parties.