



ELEVATED TANK
 (LEV. OF BASE 280)
 CAPCY 100,000 GALS
 OUT OF SERVICE

PUMPING STATION
 (LEV. FLOOR ABOUT 20)
 OUT OF SERVICE
 WELL STATION
 (LEV. FLOOR ABOUT 20)

SCALE
 0 1000 2000 3000 4000 FEET
 0 1 2 3 4 MILE

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

Town of Belvidere
Warren County, New Jersey

NOVEMBER 15, 1952

KEY

- PROTECTED FIRE ZONE: Shown in Green.
- NOTE.— Fire protection report on file in Engineering Department of F. I. R. O. of N. J.
- Elevations range from 220 to 320 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
- (A) Ambulance, Squad or Auxiliary car
- (O) Booster tank or tanks on above
- (L) Ladders on above

September 14, 1940.

TOWN OF BELVIDERE, WARREN COUNTY, NEW JERSEY.

Population—Census of 1930 was 2,374.

IN GENERAL: Belvidere is the county seat located on the Delaware River about 12 miles northeast of Phillipsburg on the Pennsylvania and Lehigh and Hudson River Railroads. It is a residential community with 11 small industries normally employing about 125 including a ribbon factory and hosiery mill, and in addition there is one large rayon plant which was idle at the time of inspection. The business district is the shopping center for the surrounding agricultural territory. Area about 1 square mile. Elevations range from 220 to 320 feet. Main thoroughfares are concrete, some streets in developed areas are improved and in good condition, while other streets are gravel in fair to poor condition. There are no railroad crossings at grade, but parked vehicles on narrow streets and traffic congestion in the business district could effect delays in fire department operations.

WATER SUPPLY: The Buckhorn Springs Water Company owns and operates the supply works, distribution system and appurtenances supplying water for domestic and fire protection purposes to territory within and near the municipal limits. **Organization:** Consists of a general manager who is a principal stockholder and owner of the local Belvidere Flouring Mill Company. The manager serves as superintendent with one employee of the Flouring Mill assisting in maintenance and operation of the system. In addition there is a reservoir attendant, laborers and a local plumber are hired as needed. **Office:** In Belvidere Flouring Mill on DePue Street south of Front Street. A small amount of supplies is on hand near the office and two trucks are available for emergency work. The manager usually responds to alarms of fire prepared to bypass the pressure reducing valve at Hardwick and Sixth Streets. Records are very incomplete and no suitable distribution map is provided. **Supply Works:** Built in 1907. Water is obtained by gravity from an impounding reservoir on Buckhorn Creek which is fed by numerous natural springs and three 6-inch wells from 77 to 105 feet deep above the reservoir. The reservoir is located in White Township about 2 miles south of the municipal limits. The minimum daily flow of Buckhorn Creek including the yield of the wells along the channel is estimated to be 0.160 m.g.d. The storage reservoir is formed by concrete core wall and concrete sluiceway of adequate capacity and is irregular in shape with an average depth of 10 feet and an estimated capacity of 2,000,000 gallons. Elevation of spillway about 700 feet. The supply from the reservoir flows by gravity from a concrete screened intake through 9,000 feet of 10-inch main connecting with the distribution system at Hardwick and Sixth Streets. **Emergency Supply:** During periods of extreme dry weather the Buckhorn Creek supply has been found to be insufficient to meet the domestic demands, and at the time of inspection a temporary 6-inch main laid on the surface of the ground provided supply from a well owned by Sunbury Converting Works to the northwest of Wall and James Streets. This well is 12-inch, 80 feet deep and is equipped with a 300-g.p.m. Pomona deep well turbine driven by a 40-h.p. Century electric motor. No arrangements had been made for the continued use of this supply. **Distribution System:** In one service with a pressure regulating valve at the termination of the 10-inch gravity line at Hardwick and Sixth Streets which is set to maintain 50 pounds pressure in the business district. The gravity supply main connects with an 8-inch artery which extends to the business district and supplies incomplete 4- and 6-inch gridiron and 4- and 6 inch dead ends, some sections of which include parallel mains cross connected at several points as shown on map. **Consumption:** There were no reliable records of consumption prior to November, 1939, at which time a master meter was installed on a supply main. It is estimated that the average and maximum daily consumption is 0.26 and 0.35 million gallons. On December 31, 1939, there were 721 services, only 4 of which, including 2 locomotive tank services, are metered. **Pipe:** All pipe is cast iron, tar coated, bell and spigot joint, laid with 4-foot minimum cover except that recently installed mains are Universal joint. The original mains were laid in 1873 by the previous owner and some parallel mains were laid in 1907 by the present owner. No serious trouble has been experienced with freezing or electrolysis. Total length, exclusive of 9,000 feet of 10-inch supply line, 37,504 feet, 16.6% 8-inch, 32.7% 6 inch and 50.7% 4 inch. **Gate Valves:** There are 32 on the system of Darling make. Direction of operation is uniform. Valves are set in iron boxes, some of which are at grade, while exact locations of others are unknown. Valves are said to be inspected annually. **Hydrants:** There are 31 on the system of Darling make of standard type with two 2½-inch outlets and one 4½-inch outlet except that six original hydrants are two-way and of Darling make. Branches are 4-inch and are gated in most cases. Hydrants are inspected at least twice annually and at time of inspection they were found to be in fair condition, but in need of lubrication. **Pressures:** No recording or direct reading pressure gauge on system. Readings taken at 7 well distributed hydrants showed pressures ranging from 31 to 50 pounds with an average of 40 pounds. These pressures may be increased by bypassing the pres-

sure regulator for fire service so as to produce an average static pressure of 130 pounds. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured on March 21, 1940, by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow and pressure during flow were as follows:

Water St., E of Market St., 655-50-10
Market and Paul Sts., 200-35-2
Water and Adams Sts., 190-46-
Mansfield and 4th Sts., 205-36-27
Depue and 4th Sts., 200-51-
Oxford St., 1,600 ft. S E of 3d St., 205-32-*

* No reading taken

Note: Static pressures regulated to 50 pounds in business district

Maximum available head about 140 pounds

FIRE DEPARTMENT: Volunteer organization of one company under partial control of the town which owns quarters, apparatus, and equipment, and appropriated \$300 for the support of the department during 1940. Total active membership 40 including a chief, assistant chief and 3 foremen, of whom a minimum of 12 members are available at all times. Officers are elected annually by the company and confirmed by the mayor and council. **Company:** Located in town hall on Water Street between Market and Prospect Streets as shown on map. Building is a 2-story joisted brick structure with wood floors metal roof, steam heat with oil fired boiler, electric lights and telephone. **Equipment:** One 1927 American La France 400-g.p.m. triple combination pumping engine carrying one 100-gallon booster tank, 200 feet of booster hose, 900 feet of 2½-inch hose and some minor equipment. One 1927 G.M.C. converted ladder truck and hose car carrying 500 feet of 2½-inch hose, 4 ladders totaling 138 feet, and some minor equipment. **Hose:** All 2½-inch hose is C.R.L. with National Standard screw couplings. There is no reserve hose and of the total supply of 1,400 feet there is 1,000 feet more than five years old. Hose is tested four times annually at 160 to 180 pounds. No adequate drying facilities provided. **Operations:** Department is governed by company by-laws under the supervision of a fire committee. No complete municipal ordinance. The chief officers have full control of the apparatus and of men at fires and drills. Motors are started weekly and there are 5 appointed pump operators. **Drills and Training:** Company drills are held monthly under the direction of the chief officers. They consist of pump operation, hose laying and some ladder work. **Fire Methods:** Booster stream and hand extinguishers are used on incipient fires supported by hydrant and engine streams with shut-off nozzles. No gas masks, salvage equipment or heavy stream appliances provided. **Response to Alarms:** Company responds to all alarms within the town limits and to alarms in nearby communities. Aid may be secured from the volunteer department at Washington at a distance of about 12 miles. **Building Inspection:** No routine inspections by the fire department. **Records and Reports:** Records are very incomplete and consist chiefly of fire reports including attendance and nature of alarms. No complete reports made to the mayor and council. **Fire Alarm System:** Fire alarm system is part of the fire department and is maintained by a part time local electrician who is responsible for its operation. Headquarters equipment is located on basement stairway in fire station. Apparatus is of Gamewell make and consists of single circuit slate operating board with the necessary switches for testing and operating. Operating board carries fuses and circuit is protected by carbon block arresters at entrance to station. Wiring is in a single circuit about 1½ miles long of No. 10 and No. 12 hard drawn copper, triple braided weatherproof wire carrying all boxes and a visual indicator in the fire station. Electric siren on roof is operated by relay. Current is supplied by one oxide film rectifier serviced from the 110 volt lighting circuit with one bank of storage batteries floating. Boxes are of sector pull type mounted on utility company banded poles. Telephone alarms are received in telephone exchange where button controlling siren is located. Siren control also installed in fire station. Circuit is tested weekly by operation of boxes in rotation. No records of tests or fire alarm equipment.

POLICE DEPARTMENT: Consists of one regular officer on duty during the night and one special officer. No vehicles provided.

BUILDING LAWS: No regulations.

EXPLOSIVES AND FLAMMABLES: No municipal regulations. State laws adequately cover the storage and shipment of explosives and the construction of motion picture booths. They also restrict the use of fireworks to responsible bonded parties.