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DEPARTMENT OF INDUSTRIAL RELATIONS

Division of Fire Safety

406 MONTGOMERY STREET
SAN FRANCISCO

December 11, 1939

REPORT RELATING TO LIFE AND FIRE HAZARDS

AT THE

MENDOCINO STATE HOSPITAL, TALMAGE, CALIFORNIA

GENERAL INFORMATION

The Mendocino State Hospital is a State Institution under the directorship of Dr. Aaron J. Rosanoff, Director of Institutions.

Dr. Walter Rapapport, Medical Superintendent
Dr. L. B. Lebanon, Assistant Medical Superintendent
Mr. D. L. Cunningham, Business Manager
Mr. G. O. Walden, Chief Engineer

This is a hospital for the insane with a population of 1848 men and 931 women, or a total of 2779 inmates. The staff consists of 347 attendants, nurses and doctors, some of whom live on the hospital grounds and others who live in adjacent communities.

It is located at Talmage, Mendocino County, about four miles from the City of Ukiah. The personnel of the hospital was most cooperative, especially Mr. Cunningham and

Mr. Walden, who assisted materially in providing data on which this report is based.

SPECIAL FIRE HAZARDS

Smoking: Smoking is permitted only under direct supervision of attendants at specified times. No matches are permitted to be carried by the inmates.

Heating: Heating is, with a few exceptions hereinafter noted, by steam radiators supplied from a central boiler house.

Motion Picture Projection Booths: Motion pictures are shown in an auditorium in the main building and also in the recreation room in Ward 12 (criminally insane).

X-Ray Films: Only the safety film (cellulose acetate type) is being used in the institution.

Cooking: Butane gas is used for the large range in the kitchen in the basement of the Administration Building. The food is prepared in the kitchen and is delivered by dumbwaiter and truck to the various wards and buildings as needed. It will be pointed out later that there is a definite hazard in this arrangement because of the combustible construction of the Administration Building.

Incendiarism: In every state institution it is necessary to guard against this invisible menace. Some inmates are normal except for the peculiar twist leading them to "set" fires. In many cases these persons are known to be "firebugs" and some are

definitely assigned to the institution and kept under constant guard because of this uncontrollable urge, an indication of insanity.

FIRST AID FIRE PROTECTION

First aid fire protection is provided by means of $1\frac{1}{2}$ " wall hose on wet standpipes within the various buildings and also $2\frac{1}{2}$ gallon soda and acid extinguishers. In general the condition and placement and upkeep of all first aid fire appliances is excellent. A few instances which will be noted require special attention.

FIRE DEPARTMENT AND EQUIPMENT

The Fire Department consists of the Fire Chief, who is Chief Engineer of the Hospital, and eight men who live in the fire house. The only inducement offered for men to belong to the Fire Department is the fact that the living quarters might be somewhat superior to those in other locations on the grounds. They do not receive any remuneration for their additional services as firemen. The equipment, which is housed in a modern fire house, consists of one 500 gallon Mack triple combination pumper with 700 feet of $2\frac{1}{2}$ " hose, 100 feet of $1\frac{1}{2}$ " hose, 150 feet of 1" hose connected to 125 gallon water tank. There is also the usual small equipment such as ladders, gas masks, shovels, nozzles and various types of extinguishers. In addition there is a hand drawn hose cart containing 200 feet of $2\frac{1}{2}$ " hose and a 90 gallon wheeled chemical extinguisher.

FIRE ALARM SYSTEM

In the event of a fire, the telephone is used to reach the information desk in the Administration Building. The operator on duty then manipulates a key which blows a diaphone whistle at the boiler house in accordance with the code location of the fire reported. The alarm can also be sounded from Ward 12 (criminally insane). Instructions for answering fire alarms include reporting for duty at the scene of the fire by all doctors, nurses and shop crew, and they are to remain on duty until dismissed. The Ukiah Fire Department will also answer calls if needed. By reciprocal arrangement, the hospital fire equipment is available in the event Ukiah calls for help. A recommendation that a system of fire alarm boxes be installed will be found later in the report.

FIRE MAINS AND HYDRANTS

The hospital is served by two water systems. One for domestic use, which is supplied from wells and pumps capable of delivering twelve thousand gallons per minute and an elevated tank with a storage capacity of one hundred thousand gallons. This supply could be used for fire service. The fire mains consist of 8" and 6" pipe with 4" feeders supplied from two impounding reservoirs in the hills some two miles East of the Institution. The total capacity of these reservoirs is about forty-two million gallons. In dry seasons there is great danger of depletion of the reserve supply. Two dry seasons consecutively would make problematical the guarantee of any water to be used on the high pressure system. The average static pressure on the fire mains

is 75 lbs. per square inch. Hydrants are well spaced but a number of them are of the wharf type which should be replaced by regular gated fire service hydrants.

BUILDINGS UNDER CONSTRUCTION

A new group of buildings called "Ward F" is now being constructed for women patients. This group is similar to Ward 7 for male patients, which has been in use for some time. It is hoped that upon completion, the pressure of overpopulation will be somewhat relieved. This is a condition which is evidenced in all Wards by the close spacing of beds, and in some cases where doors are wholly or partially blocked by beds.

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The following headings report on conditions and recommendations in the separate buildings:

ADMINISTRATION BUILDING

Three story brick, slate roof on wood trusses with some composition shingle roof; built in 1890. It contains, in addition to the Administration offices, five men's wards and three women's wards with a total bed capacity of 750 inmates. There is also an Auditorium on the second floor having a capacity of 374 persons on the main floor of the Auditorium and 100 persons in the balcony. The balcony is served by two 33" stairways. The attic spaces are in general in a clean and orderly condition, but in some instances, combustible stored material is permitted therein. The basement contains storerooms, kitchen, refrigerating

plant, butcher shop and constitutes a complete unit for food preparation with the exception of the bakery which is located in another building. It might be pointed out here that the exterior walls of this building are the only parts which are of incombustible material, all interior walls being of lath and plaster on wood studs, all floors and stairways being of wood construction. The total area of the main building is such that the $1\frac{1}{2}$ " hose on the wet standpipes provided in the various locations in the building would not be sufficient for control of a fire which had passed the incipient stage. It will be found in the recommendations, therefore, that dry standpipes at strategic locations would serve to give added security to this building, which is the key building of the entire Institution.

Recommendations:

1. All doors in the attic space should be self-closing; that is, equipped with springs which will keep them closed at all times.
2. Remove all combustible furniture stored over Ward 6, which is not to be used at an early date.
3. A brick stack, which extended through the attic space of Ward 4, was recently removed. Provide metal sheathing for the wall area against which the stack was constructed.
4. Remove paper lamp shades from the sleeping rooms in Ward 3.
5. Discontinue the use of the Auditorium for assembly purposes. The facts that the internal construction of the building

is of combustible material, and that the auditorium, because of its second floor location, is hazardous not only from a fire but also from a panic viewpoint, indicate that this space should not be used for this occupancy, but might well be used for additional ward space.

6. Until such time as the use of the Auditorium is discontinued, the motion picture projection booth should be equipped with a fan for ventilating purposes.

7. Remove kitchen, refrigeration equipment and all food preparation units from the basement of the main building. The basement space might be used for the storage of incombustible supplies only.

8. Provide ward space for the inmates of basement Ward 11, in a modern building and discontinue the use of the basement for the housing of inmates.

9. Provide two exterior metal stairways, one for each wing. Access from each floor to be through doors. Risers and treads to be of standard dimensions.

10. Provide two dry standpipes with fire department 2½" Siamese inlet connections, and outlets at each floor and the roof; outlets to be so located that they are accessible from the exterior stairways.

WARD 10 BUILDING

Two story frame stucco construction - lath and plaster interior walls - wood shingle roof. 55 patients on first floor only. Second floor purposely vacant because of single stairway

provided.

Recommendations: None.

WARDS 14 AND 15 BUILDINGS

These are of modern construction having been built in 1930 and 1932 respectively. Two story brick and concrete, tile roof on wood trusses.

Recommendations: None.

WARD 8 BUILDING

Two story concrete, slate shingle roof. Wood interior construction. Only one stairway to second floor, but two chutes were added during the current year for quick evacuation of inmates from the second floor in time of emergency. These chutes, although not comparable to stairways, might prove very useful if a fire were to occur.

Recommendations:

1. Keep surface of chutes smooth and clean by routine use for laundry bags.
2. Remove combustible debris from basement.
3. Replace one mildewed $1\frac{1}{2}$ " wall hose.

WARD 7 GROUP

Consists of ten dormitories, each a separate building with a recreation or lounge room and dining room, all surrounding a central yard area. This group is of recent construction and houses 361 patients with eight attendants in charge. Buildings are one story brick and concrete with slate and tile roof.

Recommendations:

1. Test all wall hose.
2. Recondition all hose reels and replace those missing.

WARD 12 BUILDING - (MEN'S CRIMINAL WARD)

This is a modern two story building constructed originally in 1927 and with an addition completed in 1938. Brick and concrete construction, concrete floors, tile roof on the recreation hall section, flat roof on the cell and ward sections. The building contains a number of cell blocks of the most modern and incombustible construction. The projection booth, which is used in connection with motion picture exhibits in the recreation hall, has a number of deficiencies.

Recommendations:

1. Inspect and test all wall hose.
2. Provide ventilating fan for projection machine exhaust ducts.
3. Provide self-closing shutters for projection booth in accordance with Chapter 40 of the Uniform Building Code of the Pacific Building Officials' Conference.

RECEIVING WARDS (M AND 9)

This building constitutes the receiving unit where inmates are first brought before being assigned to regular wards. One section, Ward M, is for women and the other, Ward 9, is for men. Three story brick and concrete, tile roof. The third story

was originally for employees' quarters, but is not now in use. Interior walls and ceilings are of metal lath and plaster construction. In addition to the wards, the building contains offices, laboratories, both X-ray and Dental, and a pharmacy.

Recommendations:

1. Provide fire stops in the attic space consisting of construction equal to 1" tongue and groove redwood with self-closing fire doors. The space should be divided into sections not to exceed 2500 square feet in area.
2. Provide steel cabinets for the filing of X-ray films.
3. Provide one carbon dioxide extinguisher for the X-ray laboratories.
4. Remove combustible material not to be used at an early date from the basement.
5. Provide one 2½ gallon soda and acid extinguisher and one 1 qt. carbon tetrachloride extinguisher for the basement.
6. Replace the rubber tubing connecting gas stoves in the laboratories with rigid metallic pipe.
7. Provide one carbon dioxide extinguisher for the pharmacy.

WARDS D AND E

Comprising the 2nd and 1st floors of one building. Two story concrete and brick, flat tile roof, wood floors and stairways, wood lath and plaster walls and ceilings. This building was constructed in 1910. It houses 69 women on the first floor, many bedfast, and 64 on the second floor. Exit facilities,

wall hose and fire extinguishers are adequate.

Recommendations:

1. Provide a spring for self-closing operation of the door in the attic space.

WARD F

One story all wood building, constructed prior to 1910, housing 46 old and feeble women patients. This is beyond question the worst building in the Institution for the housing of inmates and constitutes a very distinct fire and panic hazard. Oily rags were found in one of the storage closets.

Recommendations:

1. It is recommended that this building be condemned and that it be razed as soon as possible.

WARDS G AND H

Two story brick - first story stucco on frame - second story tile roof on wood, each building housing about 37 general women patients. First aid fire protection, hose extinguishers and exit facilities are adequate.

Recommendations: None.

WARDS I AND K

Two buildings constructed during the 1930-32 construction period. Each consists of a two story brick and concrete building and tile roof on wood rafters. First aid fire protection, hose extinguishers and exit facilities are adequate.

Recommendations: None.

RANCH WARD (MEN)

The ranch buildings are located two miles from the main hospital buildings. The worker inmates are housed in a one story frame building with wood shingle walls and roof. This building is isolated and therefore has its own heating system which consists of steam radiators supplied by a boiler in a basement boiler room. Cooking in the kitchen is by an oil burning stove. Stove is fed from a 750 gallon fuel tank at a point remote from the wood building but close to a sheet metal garage about 45 feet from the main building. A 100 pound pressure fire main with two 2½" hydrants provides fire protection for this building. Exits are adequate.

Recommendations:

1. Reline the uppermost 18" of the walls, and the ceiling of the boiler room with metal lath and cement plaster.
2. Provide air intake into the boiler room through sheet metal ducts from the outdoors, thus effectively closing the openings now in the boiler room wall.
3. Provide one 2½ gallon foam type extinguisher so located that it will be of service for the stove in the kitchen or the boiler room.

INDUSTRIAL BUILDING

Two story brick building, slate roof on wood rafters; interior walls, ceilings and stairways all wood. First floor contains a bakery with an oven burning fuel oil, a cannery, shoe shop

and storerooms. The second floor contains sewing room, art room, and an industrial shop in which cane chairs and decorative furniture is made. Furniture is finished by means of lacquer spray. 15 gallons of lacquer and gasoline were found stored in one corner of the industrial room.

Recommendations:

1. It is recommended that all occupancies, except the bakery shop, be removed from this building to a new industrial building, the plans for which have already been approved. The various units of the commissary, which are now located in the basement of the main building, could then be housed in this building, which is, by reason of its location, of very practical value for a food preparation center.
2. Remove debris from behind the bake oven.
3. Until recommendation No. 1 has been completed, remove all combustible lacquer and gasoline from the second floor industrial room.

LAUNDRY

A separate modern building of one story concrete construction with a tile roof on wood rafters. Work is done in part by inmates. Supervision is by employees.

Recommendations:

1. Provide electric pilot lamps for the electric irons.
2. Provide carbon tetrachloride extinguishers for the switch board.

SHOP AREA

At a location somewhat remote from the main buildings are the institution's industrial group of buildings, including the carpenter shop, mattress shop, paint shop, glazing shop and mattress storage building. These are all of wood construction and some are heated by means of wood stoves.

Recommendations:

1. When the new industrial building is completed, the plans for which include space for the various activities in this area, all of these old wood buildings should be razed. There is a definite tendency in State Institutions to continue to use old buildings which have served their usefulness, converting them for other use, as for storage and other purposes. This policy leads to definite fire hazards, which can only be obviated by removing the buildings in question.

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GENERAL RECOMMENDATIONS

1. Water storage facilities should be so increased that the high pressure fire main system will be provided with sufficient water over a period of two dry years to supply the Institution with adequate and unfailing fire protection.

2. Provide an adequate fire alarm system commensurate with the value of the Institution property. The system should be complete, with modern transmitter, annunciator, fire alarm boxes and an independent source of electric current for its operation.

The telephone, on which the present system is dependent, should be considered an auxiliary only. Boxes should be either of a type operated by key or should be so located that they are not accessible to inmates who might turn in false alarms.

3. The Members of the Fire Department receive no compensation for the extra duties which they are required to assume as firemen. Any of the advantages which they gain by being members of the fire department are no greater than advantages which accrue to many other employees who are not required to answer calls sometimes in the middle of the night, or to attend drills. Thus it naturally follows that there is a lack of incentive for self-improvement in fire work, and the general efficiency of the department is correspondingly lower. Obviously, extra work without extra pay is performed as a matter of required duty, but without enthusiasm. Compensation, no matter how little, should be separate and distinct from regular salary or wages. An educational program having the wholehearted support of all the firemen could then be instituted. Such steps would beyond question give the Home a much greater degree of fire protection than can be hoped for under the present unsatisfactory conditions.

4. Wharf type fire hydrants should be replaced by regular gated hydrants.

5. Inspect all electric extension cords at regular intervals and remove those which are unauthorized. Particular attention must be paid to loose or twisted splices, cords hung on metal supports and too many electric appliances attached to one outlet.

6. Crowded wards are the rule rather than the exception, but in no case should beds prevent ready access to exit doors. This condition exists in some of the wards.

CONCLUSIONS

In summing up the most important recommendations, we point out that the location of the kitchen in the basement of the main building and the auditorium on the second floor are by far the worst hazards which require rectification. In centralizing the commissary facilities in another building to be used for that purpose alone, it would be well to consider the reconstruction of the building to house all the various facilities in connection with the kitchen, such as the refrigerating plant, the butcher shop and other units, so that the inherent hazards in connection with fuel and ammonia be minimized for the protection of the inmates and the regular employees, who are assigned to work in these departments.

The demolishing of Ward F, housing old and feeble women patients, should not be delayed.

We also cannot stress too strongly that the motion picture projection booth in Ward 12 should be protected in accordance with recognized good practice as per Chapter 40 of the Uniform Building Code. Death to operators and injuries to persons in the audience were all too common until the present experience-tested safeguards were devised.

