

Higashi Izu, Shizuoka Prefecture: Hotel Daitokan

PHOTO

1. Characteristics of the fire

The Daitokan, a hotel at the Atagawa hot springs resorts, was comprised of 2 buildings, the main building (Gekkokaku) and an annex (Sansui), connected by an underground passage. A fire broke out at the Sansui annex late at night with tragic consequences. Of 26 guests and employees, only 2 survived. The annex was a wooden structure built in the late 1930s and, at the time, used to supplement the main building to handle guest overflow.

The Sansui annex was provided with an automatic fire alarm system, managed centrally at a control panel within the main building. However, because the system produced many false alarms, management deactivated (turned off) the alarm bells (both zone and main). This acted to delay discovery of the fire.

2. Overview of the fire outbreak

(1) Date and time of outbreak

Approximately 01:55, Tuesday, February 11, 1986

(2) Detection

02:11, Tuesday, February 11, 1986

(3) Under control

06:50, Tuesday, February 11, 1986

3. Overview of fire origin

(1) Location

980-1 Higashi Izu-cho, Kamo-gun, Shizuoka Prefecture, Japan

(2) Building of fire origin

Sansui annex of Hotel Daitokan

(3) Structure of building of fire origin, etc.

(1) Date of construction

August 1939

(2) Additions/renovations

Renovated several times since 1972

(3) Building utilization

Hotel (Category 5, b)

(4) Building structure

Wooden, 3-story

(5) Areas

Building area: 266.0 m²

Floor area: 788.00 m²

(6) Capacity, etc.

29 guests

(7) Sansui annex occupants at time of outbreak

a. Employees: 1

b. Guests: 25

(8) Area and utilization by floor

Floor	Area	Utilization
3	256.0 m ²	Guest rooms
2	266.0 m ²	Guest rooms
1	266.0 m ²	Lobby, banquet hall
Total	788.0 m ²	

(4) Firefighting equipment, etc.

(1) Firefighting equipment

Fire extinguishers, interior fire hydrants

(2) Alarm devices

Automatic fire alarm, circuit overload fire alarm

(3) Evacuation facilities

Exit lights

(4) Facilities necessary for firefighting

None

(5) Fire prevention system

(1) Fire prevention officer

Fire prevention control for the Sansui annex was conducted jointly with that for the main building (on the grounds that the capacity of the annex was less than 30 people).

(2) Fire prevention plan

A fire prevention plan for the main building was presented on June 1, 1983.

(3) Fire drills

Fire (evacuation) drills were conducted twice a year for the hotel as a whole. No drills were conducted at the Sansui annex.

4. Weather conditions

(1) Weather

Clear

(2) Wind direction, speed

North-northeasterly, speed 6.1m/s

(3) Temperature, humidity

Temperature: 3.1°C; humidity: 47.9%

(4) Weather warnings, bulletins, etc.

None

5. Cause of fire

(1) Ignition source

Gas cooking range

(2) Route

Wood underneath a protective wall covering (stainless steel sheet) placed around the area of the gas cooking range had carbonized as a result of prolonged exposure to heat.

(3) Ignited substance

Low-temperature ignition of carbonized wooden wall material.

6. Fire damage

(1) People (1) Fatalities

Twenty four (23 guests, 1 employee)

(2) Injuries

None

(2) Property

(1) Building where the fire emerged

a. Extent of fire loss

Total loss

b. Area of fire loss

Entire 788.0 m² of the Sansui annex

c. Monetary loss

13,030,300 yen

(2) Other buildings

a. Extent of fire loss

Three buildings (including the Atagawa Grand Hotel and an employee dormitory), 6 vehicles

b. Area of fire loss

673.0 m²

c. Monetary loss

91,494,500 yen (also 2,590,200 yen in vehicle losses)

7. Fire route (progression)

(1) Overview of outbreak location

The fire broke out in the vicinity of a pantry with a gas cooking range. The gas range was used for roughly 30 minutes a day when guests were in the annex. It was used the previous day (the fire occurred very early the next morning).

(2) Situation up to the outbreak

As above, the gas cooking range was used the previous day and, presumably, ignited wood within an adjacent wall that had carbonized over a long period of low-temperature heat exposure.

(3) Progression up to fire detection

There were 2 employees on night duty. One discovered the fire. Hearing noises, Employee A went to check and discovered a fire at approximately 02:06.

(4) Notification of fire department

Employee A, who discovered the fire, went to the front desk to place an emergency call to the fire department but was too panicked to place the call successfully. The first notification to the fire department was placed by an employee of a nearby store.

(5) Initial firefighting attempts

The employees and others, noticing the fire, attempted to fight it with fire extinguishers, but by that time it had already climbed to the ceiling and was beyond what could be extinguished with those devices.

(6) Fire spread

The Sansui annex was made of wood. The fire grew from the first-floor pantry and, spreading through windows and other routes, rapidly reached the upper floors.

(7) Evacuation

A husband (guest C; 27 years old) and wife (guest D; 30 years old), staying in room 801 on the 3rd floor, noticed the fire and escaped from their window onto an adjacent rooftop.

(8) Activities of employee firefighting unit

None.

(9) Fatalities

Only the couple in room 801 survived. All other guests died in the fire. They were presumably

asleep in their rooms and did not attempt to escape.

8. Activities of firefighting units

(1) Dispatched units, etc.

(1) Dispatched vehicles: 3 (on station), 17 (emergency assignment)

(2) Dispatched personnel: 23 (on station), 380 (emergency assignment)

(2) Firefighting and rescue activities

Because of the delay in notifying the fire department, the blaze was at its peak when firefighters arrived. It was already impossible to enter the building in order to conduct rescue activities. Instead, the firefighters worked to control the blaze and prevent it from spreading to adjacent buildings.

9. Problems, lessons

(1) On the grounds of frequent false alarms, the automatic fire alarm system (main bell, zone bells) had been deactivated.

(2) Despite a maximum capacity of 400 guests, the hotel had only had only 2 fire-control attendants on duty that night and was thus thinly staffed.

(3) The employee who noticed the fire panicked and was unable to place an emergency call to the fire department. Firefighters were late to arrive as a result.

(4) The building was a 3-story wooden structure, and within it the flames spread so rapidly that very few of the guests were able to escape.

10. Documents



10. Materials

Figure 1: Building locations

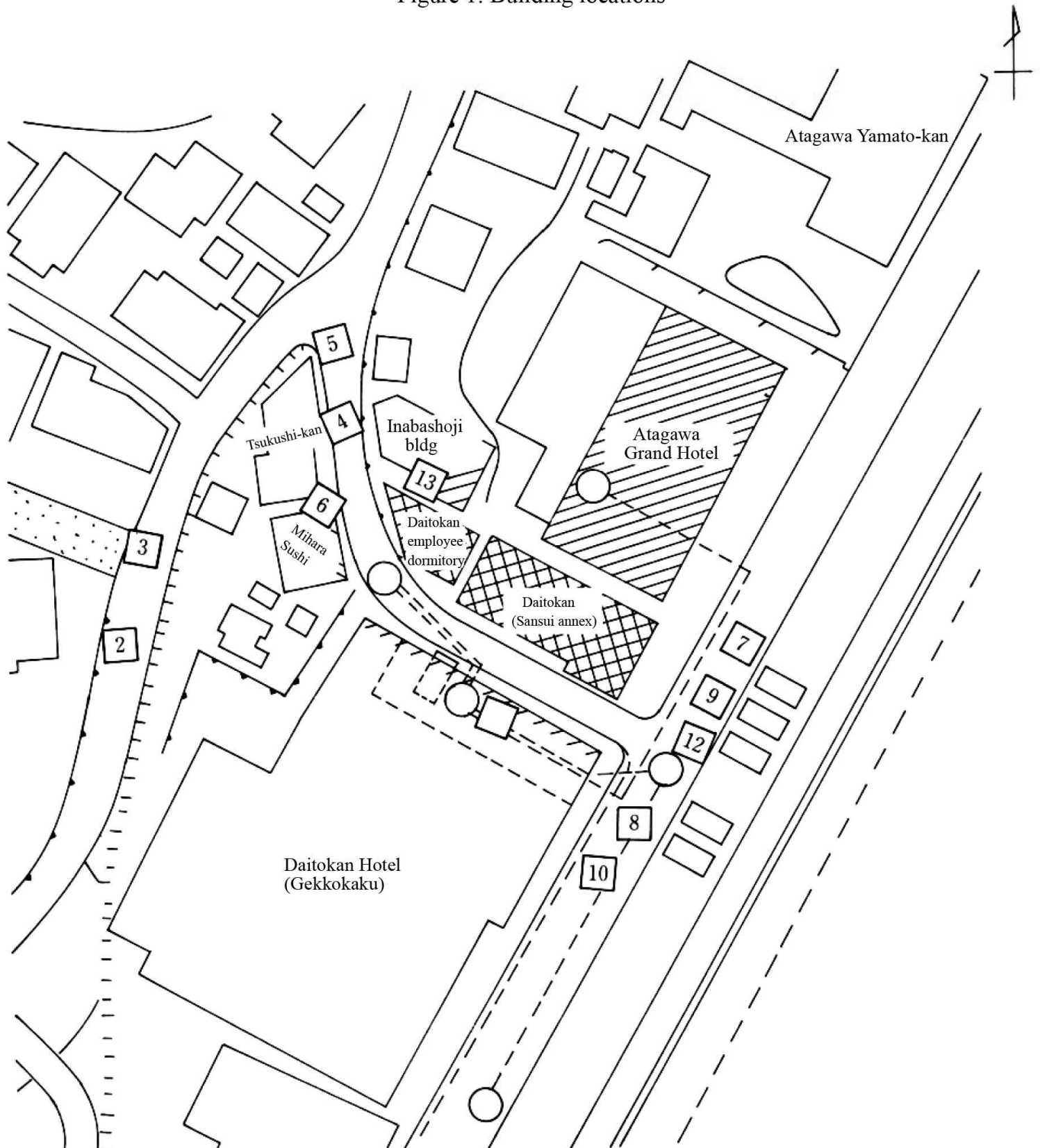


Figure 2: Floorplan, 1st floor

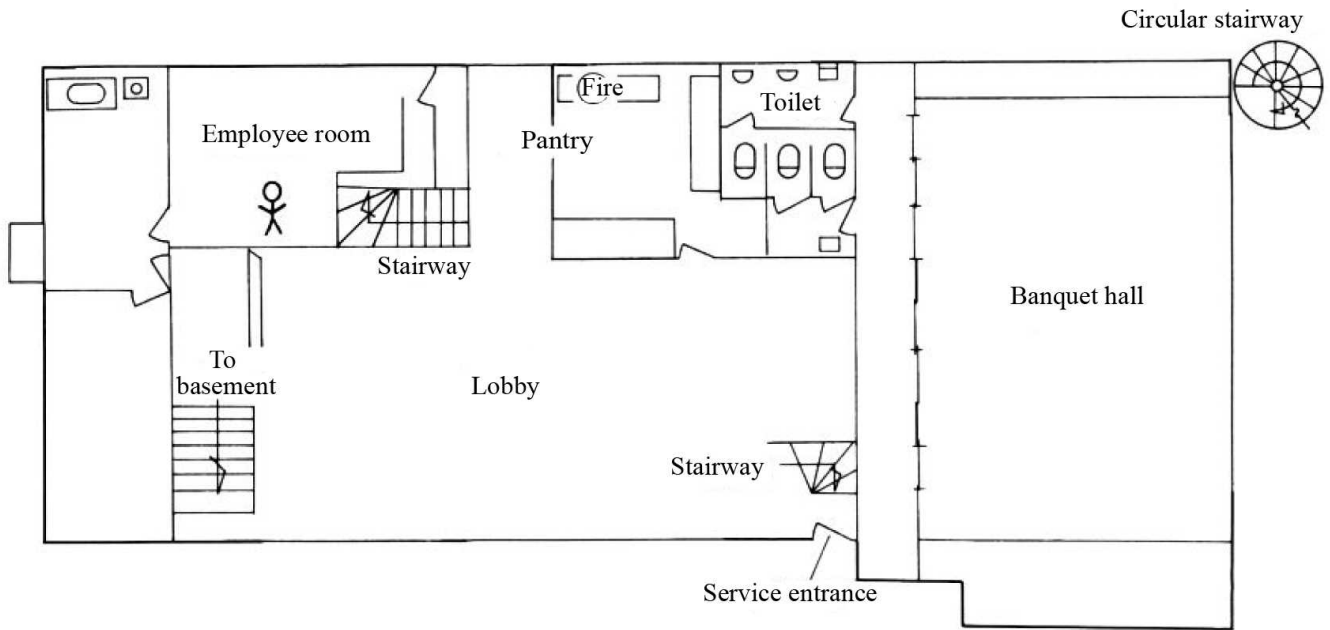


Figure 3: Floorplan, second floor

