SHORENSTEIN

45 FREMONT
TECHNICAL FACT SHEET
As of March 2018

The 45 Fremont Street Building is a Class "A" 34-story, air-conditioned, steel frame office building consisting of a plaza, lobby floor, 32 floors of office space, one mechanical floor and a basement. The Building contains 19 passenger elevators. The Building also includes:

- A Life Safety System that incorporates automatic sprinklers, smoke detectors, and manual pull stations. A diesel powered emergency generator provides power for central air handling equipment, limited elevator service, and emergency communications systems and lighting in the event of a loss of Pacific Gas & Electric ("PG&E") power.

- An under-floor cellular trench system for electrical, data and telephone cabling allows for flexibility in initial office space installations and later alterations.

- A large receiving dock at ground level provides easy access to the building for tenant moving projects and regular deliveries.

GLASS AREA

Floors 2-34	102,361 square feet
Lobby	2,000 square feet

STRUCTURE

Ceiling height	8'6"
Slab to slab height	12'6"

ELEVATORS

The building is served by 19 Otis elevators with destination dispatch controls, grouped in three banks with the possibility for transfer lobbies, depending on tenant occupancy, located on the 14th and 24th floors, as well as a shuttle elevator serving the lobby and the basement, a service elevator serving all floors and freight elevator from the loading dock to the Basement level.

All cabs are ADA code compliant and meet state seismic standards. All cabs (except freight and shuttle) are backed up by emergency power.

System Description:

A. *Low rise elevators (Floors 1—14)*
Number of elevators: 7 cars
Speed: 500 ft. per minute

B. *Mid rise elevators (Floors 1, 14—24 [Floor 25 is a mechanical floor])*
Number of elevators: 6 cars
Speed: 800 ft. per minute

C. *High rise elevators (Floors 1, 26—34)*
Number of elevators: 6 cars
Speed: 1,200 ft. per minute

D. *Service Elevators*
Number of elevators: (1) Service Car (Capacity 3,500 lbs.)
(1) Shuttle Car
(1) Loading Dock Freight (Capacity 10,000 lbs.)

HVAC

2 Trane Centrifugal Chillers: R-11 700 tons each
3 Kewanee Forced Draft Gas or Oil Boilers: 2-125 HP and 1-50 HP
2 Trane Centrifugal Fans Interior System: 138,250 CFM each
2 Trane Centrifugal Fans Perimeter System: 70,755 CFM each
4 Trane Centrifugal Fans Return Air: 18,000 CFM each
1 Marley Model-8614, Cooling Tower: 3 cells connected together
1 Trane Tracer SC DDC System

EXCHANGER CYCLE

The cycle uses tower water instead of the refrigeration system to cool the building. The exchanger cycle will start through the building automation system, or can be started manually. This system can operate until secondary water reaches 62 to 64 degrees, then the chiller is started. This system is an energy efficient system (free cooling).

The fans are programmed on and off through the Trane Automation System. They can also be started manually at individual starters. When interior supply fans #1 and #2 are started they will be followed by return fans #1 and #2. If the return air temperature is below 72 degrees the system will go into warm up until return air gets to 74 degrees.
The system will then discharge a constant 61 degrees. When perimeter fans #3 and #4 start they are followed by return fans #3 and #4. The discharge temperature of these fans is controlled by solar compensators on the roof and the 17th floor. The interior v.a.v. (variable air volume) system is controlled by thermostats in each zone. The perimeter induction coils (chilled water) are controlled by thermostats in local areas.

Variable frequency devices are installed on all supply and return fans in for energy conservation.

TENANT CONDENSER WATER SYSTEM

3 - B.A.C. auxiliary cooling towers for tenant computer operations rated at 200 Tons each
3 - PACO 25HP 500 GPM Pumps

Towers and pumps are back-up powered by our diesel generator.

PIPE RISERS FROM 34 - BASEMENT FOR AUXILIARY TOWERS

Roof to 25th floor:	8" riser
25th floor to 6th floor:	6" riser
6th floor to 2nd:	4" riser
Roof to 2nd Floor:	4" riser

LIFE SAFETY SYSTEM

The Honeywell XLS 1000 Life Safety System at 45 Fremont Street consists of the following:

- Fire Detection System, using photoelectric type smoke detectors and water flow monitors for sprinkler system.
- Automatic sprinkler system throughout the building.
- Three fire pumps in basement with emergency back up power.
- 7,500 gallon water reservoir tank for sprinkler system in case of loss of water supply from city.
- Manual pull stations
- Fire extinguishers
- Audible Alarm System, to sound the alarm tone on the fire floor, including strobe lights.
- Public Address System, to make announcements to all or selected floors.
- Fireman's Communication System, using portable handsets for communications between elevators, elevator lobbies, stairwells and the fire control center.
- Stairway Intercom System, for communication between stairways and fire control center or guards desk.
- Building Environmental Control System, to control dampers and close magnetically held doors.
- Elevator Recall System, to capture and bring down elevators to ground floor for firemen (this is used only during a fire).
- Elevator intercoms from elevators to fire control center and guards desk in the lobby.

Life Safety System Emergency Generator

The emergency power and lighting system consists of a 1,050 KW emergency diesel generator, distribution switch board, and automatic transfer switches to automatically provide power in the event of a loss of normal PG&E supplied power to the following systems in the building:

- Life Safety System
- Emergency Lighting (throughout building)
- Exit lights
- Domestic water pumps
- Sump Pumps
- Fire Pumps
- Service Elevator
- 3 Passenger Elevators (one per rise)
- Main Building Return Fans
- Stairwell and Vestibule Supply and Return Fans
- Tenant Cooling Towers and Pumps

The Generator uses 32 gallons of fuel per hour at full connected load. The diesel fuel is stored in a 6,000 gallon double wall tank, with leak detection, located under the sidewalk on the Fremont side of the building.

AVAILABLE POWER

Building gross footage is 691,436 sq. feet
Volt amps per SF 17.32
Lighting Watts per SF 1.1
Utility Watts per SF 3.0
2 Chillers 541 KVA@ 1,082 KVA Total

Demand Load KVA (4-4000 A. Switch Gear) 3138 KVA @ 12,732 KVA Total
Prime Load KVA (3-2000 KVA Transfer)
13200 Volt Primary
480 Volt Secondary
Y to Y Transformers 6000 KVA

ELECTRICAL

The lighting and utility power through the building is supplied by four 2000 amp copper bus ducts (lighting and power).

Bus Duct	*Area*
B	Lobby through 17th floor
D	2nd floor through 18th floor
C	18th floor through penthouse
A	19th floor through penthouse

On each floor, a 200-amp G.E. disconnect from the bus system supplies 225-amp G.E. lighting panel. Each panel has 42 poles with normally 17 being used. Emergency lighting panels are located on B, 9, 18, 25, and 33rd floor.

Spaced three floors apart, a 200-amp G.E. disconnect from the main bus supplies power to G.E. 112.5 KVA 480/208/120 3 phase Delta Y dry type transformer. The disconnect device feeds the transformer for the floor where it is located, as well as the floors above and below. The "A" utility panel has 42 poles, the "B" panel has 42 poles.

The trench header and cellular floor have about equal space for electrical, telephone and data signal. Cells are spaced 5' at centers.

LIGHTING

The majority of the building lighting is controlled by a Honeywell Automated Lighting System. It is software programmable to meet the individual requirements of tenants in given sections of the building. On a typical floor there are a total of eight lighting circuits (two per section). Lights are activated in the morning by the first tenant to arrive on each floor. At 1800 hours, the majority of the building lighting automatically shuts off with a programmed sweep every two hours thereafter until 0200 hours. Lights can be turned on and off by using the switches in corridors next to the elevator lobbies on each floor. New tenant spaces are controlled by a WattStopper title 24 compliant LED system with motion sensor and day light harvesting control.

LIGHTING FIXTURES

Area	*Fixture Count*	*Fixture Type*
Basement	379	1x4
Penthouse level #1	43	1x4
Penthouse level #2	24	1x4
2nd floor	148	2x4
Emergency lamps (per floor)	12	2x4
25th floor	101	1x4
Typical floor (3 to 34)	214	2x4
Total 2X4	6782	
Total 1X4	547	

DOMESTIC WATER SYSTEM

Water enters the building at the basement pump room. It is pumped from the basement to penthouse #2 to a 5500 gallon reservoir tank. It flows to various locations by gravity and then is controlled by pressure reducing valves to the various fixtures.

- Wash basins have one faucet supplying 105 degree tepid water and built-in soap dispensers.
- Most floors have 1 or 2 refrigerated drinking water fountains.
- All restrooms have one ADA compliant stall.

WINDOW WASHING PLATFORM

Manufacturer: Citadel System Inc.

The roof carriage runs on a track system for movement of platform to all drop positions along building perimeter. The platform fully extended is 40 feet long, it will hold 1,000 lbs. live weight total. It takes 16 drops to cover complete building.