



Silverstein Properties, Inc.
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September 11, 1998

Mr. Joseph Aliotta
Swanke Hayden Connell Architects
295 Lafayette Street
New York, N.Y. 10012

Re: 7 World Trade Center
Mayor's Office of
Emergency Management
Plan Review

Dear Joe:

Our office has received and reviewed the final plans submitted by your office (SHCA) and offer our comments:

Dwg. A-1-1 Details on note 1 must be approved.

Dwg. A-7-1 Any piping in common area is subject to review and approval by
Landlord.

Submit louver details – must be approved by Landlord.

Dwg. A-23-1 All windows removed for new louver installations should be given to
the Landlord for storage.

Details for louvers.

Louvers to be building standard subject to approval by Landlord.

Dwg. A-23-3 Move thermostat to left or right of light dimmers switch, not directly
over dimmer. (Heat for dimmer will cause stat to over cool space
temp).

Dwg. A-23-6 Columns 27 –28
Columns 42-43
Columns 1-57
Columns 14-14A
Columns 15-16

New installation of partitions appear to be blocking the windows at the
above columns. Please revise.

Dwg. A-48-1 **Comment only – Radio room may block view at camera location for Building Security System. Relocate camera as required.**

Dwg. D-6 **Exhaust and intake plenum should be air tight so no air infiltration can penetrate to the floors above and below.**

Dwg. D-7 **Air infiltration?**

I. HVAC

A. Dwg. M1. 01:

- 1. Provide detail on installation of 50-gallon alarm drum for review and approval by Landlord. Fuel oil alarms must tie in the building's Johnson Metasys system.**
- 2. Specify types of detectors required for leak detection.**
- 3. Verify if combination fire and smoke damper in lieu of FLD is required.**
- 4. Confirm if the partition between the truck dock and the lobby is 2- hour rated. If yes, an FSD is required.**
- 5. Please survey and verify correct locations for existing riser taps.**
- 6. Fuel oil alarms must be tied into Johnson Control Metasys system.**
- 7. Insure sufficient soundproofing is provided so that generator noise is baffled and does not affect the adjacent spaces.**
- 8. All oil fuel lines and exhaust ducts installed in the common area's shall be subject to review and approval by Landlord.**
- 9. There are two existing fuel oil storage tanks under the truck dock work associated with tapping into these tanks are questionable.**
 - a. Does transfer pump only take oil from one tank? If yes, which one? Investigate tapping into common suction line.**
 - b. If new tappings are required on the existing tanks what at are the appropriate locations? Must oil inside of tank be drained prior to making taps?**

ALL H.V.A.C UNITS TO BE J.C.I METASYS BMS

B. Dwg. M1.07:

- 1. Emergency generator installation detail is not correct. The exhaust pipe does not go to the roof of the building. Remove all references to roof as appropriate.**
- 2. Generator exhaust pipes are shown to be terminated at the exhaust air plenum only. Since there is no specification provided specially for the exhaust plenum, we assume it is normal gauge sheet metal. Please consider the following:**
 - a. Exhaust pipes and mufflers are more than 900 F when the engines are running. Provide a detail to ensure proper sealing between the pipes and the plenum at all temperature fluctuations. Otherwise, fumes would leak back into the building.**
 - b. Provide calculation to prove that the mix air of 900-degree engines exhaust and radiator exhaust is within the operating temperatures of normal sheetmetal plenum insulation and would create deformity to existing aluminum louvers along the building. Otherwise, please also consider venting exhaust pipe directly to outside, in a manner approved by the Owner and Code compliance.**
- 3. Please clarify why a circulating pump is required in the fuel oil day tank. If it is meant to feed a header system, please provide details how does it get mounted on the day tank, its control schematics and how this could be interlocked with the rest of the fuel oil system without creating over feeding conditions.**
- 4. The entire engine exhaust piping and muffler should be vibration isolated (not specified) due to high velocity exhaust.**
- 5. Exhaust pipes on floor plans have no size and are shown to have sharp 90-degree elbows. This will not work, as the dynamic pressure of the exhaust gas would destroy them. Please show long swing, smooth-turning, radius elbows instead.**
- 6. Referenced to Architectural drawings, A-1-1: Provide a housekeeping pad for the day tank. A curb may not be required since the tank is already had a leak proof basin on it. A curb may make cleaning around the tank difficult.**
- 7. Leak detection for fuel and water to be at Johnson Controls Metasys.**

C. DWG. M1.23:

- 1. CW flow diagram does not conform to the floor plan. All zoning automatic valves must be shown correctly on floor plan. Provide an automatic valve operating sequence schedule on drawing with collaborating designations on the floor plans.**
- 2. The AC units are balanced to receive only fixed amounts of water under normal operations, based upon using a 11F delta condenser water, but a 19F delta- T using the emergency tower would result in lower flow rates through the same units. Such lower flow rates would certainly reduce cooling capacities of the units, if not immediate malfunctioning. Please review and verify.**
- 3. Provide house keeping pads for condenser water pumps.**
- 4. Provide a detail to show bottom of plenums pitch toward to prevent Infiltration.**
- 5. Sequence of operation for condenser water system and fan power boxes.**

D. DWG. M4.01:

- 1. Complete ventilation index as per Port Authority standards.**
- 2. Indicate minimum setting for all VAV Boxes.**
- 3. Provide a cooling tower schedule and details.**
- 4. The tower specification shows an operating range of 19F delta-T, from 89F to 108F for 130 GPM each. The AC unit schedule shows 12.5F delta-T for three units and 11F delta-T for other new units. There is no sufficient data presented in these drawings to evaluate that this arrangement would work out under the emergency condition. (Also see related comments above.) All new units should be selected to operate adequately under emergency conditions.**
- 5. All AC units should be provided with temperature and pressure gauges.**
- 6. Specify vibration isolators in the pump schedule.**
- 8. Provide FSD details. Gate type fire damper no longer complies with the code. VAV's not Building Standard**

D. HVAC Specification

1. Controls and Operating Sequences for the fuel oil system and for the emergency generator system.
2. Fuel oil tank: Tank steel materials and construction methods are specified. Please provide. A general note is not acceptable.
3. Closed circuit cooling tower: The tower basins should be specified with stainless steel to prevent premature leakage.
4. Combination fire and smoke dampers.
5. Emergency generator exhaust piping, high temperature insulation for the muffler and pipes, steel plenums and for other items noted above.

II.

A. General: Provide a fire alarm riser diagram.

B. Dwg. E1.01

1. Insure that all electrical devices are on the tenant meters.
2. Referenced to Architectural drawing, A-1-1: Provide conduits running in the new trench toward the fuel oil alarm tank

E. Dwg. E2.23

1. Provide details to indicate how the step down transformers will be installed in the electric closet B & C. If floor mounted it appears that the indicated location will interfere with accessibility to the closet.
2. Insure that the heat that is generated from the transformers will not cause excessive heat conditions in the closets, Please verify.
3. ELP-23-M and ELP-23-1: Proposed installation not acceptable due to location against the windows. Please advise.

G. Dwg. E1.48

H. Dwg. E3.01

[REDACTED]

2. Provide a sequence of operation for elevator #31, as it related to the base building ATS, and its present operation during emergency conditions. The settings (timing) on the base building ATS and the new ATS must be coordinated. If the new generators fail, will the load transfer back to the life safety generator?
3. Tap to the existing bus for the new 2000 amp switch shall be reviewed and approved by the Landlord, provided a single tap is feasible based on the spare capacity available among the existing main switchboards. (Two taps may be required instead of one).
4. Landlord should review risers passing through common space.
- I. Dwgs. E4.01, E4.02: No comments
- J. Dwg. E4.03 Indicate on plan where the heat tracing detail applies.
- K. Dwgs. E6.01, E6.02: Schedule shows only condenser pump reporting to BMS?

III. Fire Protection

- A. Dwg. FP1.01: No comments
- B. Dwg. FP2.07:
 1. No sprinkler heads are provided in the new emergency generator room. We are not sure if this is permitted under the Code. We recommend sprinklers to be provided with high temperature heads and piping be heat traced.
 2. Please insure that sufficient floor drains are provided in the event that any water leaks.
- C. Dwg. FP3.23: Piping for heads over area columns 49, 50 and 51 are not shown. Please provide.
- D. Dwg. FP4.23: The shutting down of the computer equipment is optional, via the pre-action system. Verify with the owner if this is required.
- E. Dwg. FP5.23: No comments.
- F. Dwg. FP6.23: Area of work should be 23rd floor.

IV. Plumbing

- A. Dwg. P1.01: No comments.
- B. Dwg. P2.07: Leak detection must report to BMS
 - 1. We recommend using several independently circuited water detectors, in lieu of tapes, which could prone to damage and other maintenance items.
 - 2. Please insure sufficient floor drains are provided in the event of water leaks.
- C. Dwg. 3.23: No Comment.

Sincerely,



Walter J. Weems III,
Building Manager

WJW:ac

cc: Chi Chu
Charlie Magee
Tony Rubino



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By Hand