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Attachment B

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HKA
Elevator Consulting, Inc.
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Tel: 949-348-9711
Fax: 949-348-9751

April 17, 2011

Ms. Sarah Pecora, Facilities Management Administrator
Mr. Randy Swan, Area Facility Analyst
Office of Court Construction and Management
Judicial Council of California-Administrative Office of the Courts
455 Golden Gate Ave.
San Francisco, CA 94102-3688

Reference: San Francisco Hall of Justice; 850 Bryant St. Alterations of Elevators

Contract: Contract Agreement W O 1022411-Dated March 21, 2011

Subject: Survey and Report Phase

Dear Sarah Pecora & Randy Shaw,

Pitfield and Associates, Inc. in conjunction with HKA Elevator Consulting, Inc. performed a site visit of the following elevators. The purpose of our visit was to survey elevators Nos. 9-12 for modernization. The survey was to determine the existing condition of the elevator equipment, building and hoistway construction and determine the work by others criteria for the elevator modernization specifications. The following is the result of our survey.

We have completed the survey and evaluation of the current conditions of the existing four (4) geared traction elevators and wish to present our report and recommendations for Alterations of the elevators, possible construction schedule, elevator contractor work and budget costs. Additionally we are including items of Associated Code Works By Others, which are required when elevators are Altered, which are not included in the Elevator Contractor works. Some of these Associated Code Works will need the services of an Architect, Mechanical and Electrical engineers to confirm existing conditions and design, and then be completed by State personal or contracted to outside contractors, as appropriate. Our cost estimates do not include costs of any of the Associated Code Works by Others; as such designs are not our expertise. Discussions will also be necessary with SF City Building and Fire Department as to items raised in this report.

Please review this report, Associated Code Works and contact us with any questions or concerns.

With respect to the existing maintenance contract for these four elevators with Empire Elevator, we recommend that such contract be cancelled upon the Judicial Council of California entering into a contract for the Alterations of the 4 elevators, as continuing maintenance responsibilities will be included in the Alterations specification for the term of the Alterations contract and for a 12 month warranty and maintenance period. In the event that Empire Elevator Company is awarded the Alterations the existing contract could be amended to include the Alterations of the four elevators.

Following any necessary changes you require to our report, we can proceed with the Task 2 of our Contract. Final cost estimates for the project would be addressed at the completion of the bidding specification.

Very truly

Paul J Pitfield

Paul Pitfield
Principal

**San Francisco Hall of Justice**
**850 Bryant Street, San Francisco**
**California**
**April 11, 2011**

## ALTERATIONS AND REHABILITATIONS OF NOS. 9 - 12 ELEVATORS

## SURVEY AND EVALUATION

DETAILS AND SYSTEMS PROVIDED

The San Francisco Hall of Justice is a six level concrete building, with concrete enclosed elevator hoistways, with ten (10) elevators installed 1960. The section of the building that houses elevators Nos. 9-12 are under the control of the Judicial Council of California; with the balance of the elevators controlled by County of San Francisco, which are not included in this contract. Elevators Nos. 11 and 12 were installed in 1981. Each elevator surveyed is in separate hoistways and access to the cars is by security key switches in the lobby hall stations. Elevators Nos. 9, 10, and 12 car enclosures include steel barred inmate holding areas, for transport to and from Court floors to secured cell floors. Elevators Nos. 9 &10 have overhead machine rooms and elevators Nos. 11 & 12 have machine rooms at the elevator pit level.

Elevators Nos. 9 &10 are of the geared traction type and designed to travel at a contract speed of 300 feet per minute. Elevators Nos. 11 &12 are geared traction design and travel at a contract speed of 350 fpm.

Elevators Nos. 9-12 have D.C. hoist motors and are provided DC power from the existing motor generator sets. The incoming electrical feeders to each elevator are adequately rated for the expected electrical demands for new static drive AC systems or SCR DC drives systems. The existence of direct ground conductor from building ground will need to be verified by an electrical contractor.

The building has recently installed emergency generators, which we were advised, are adequately sized to operate elevators Nos. 9-12, but has not been connected, which will be part of the planned Alterations of elevators Nos. 9-12.

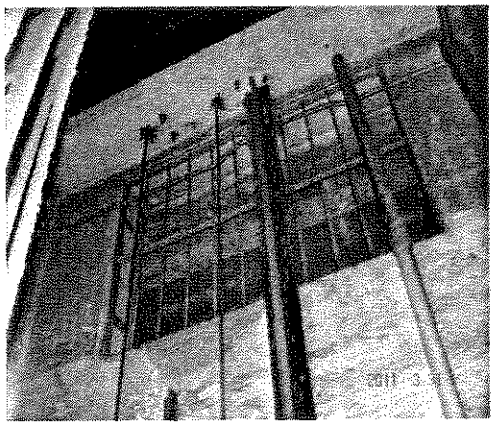
The elevators have Phase I and Phase II Firefighter's Service operation, which will require upgrading to comply with current code California requirements. Firefighter's Service is operated by Firemen to either lock off the elevators in event of fire or use the elevators to transport men and equipment to the fire. The elevators could be used by Firefighters for staff and inmates return to the designated level in event of fire. There are smoke detectors in the elevators Nos.

11 & 12 machine rooms and at some lobbies which will require verification of connection to the elevators control systems. The current California elevator code exempts automatic recall of elevators in jails and penal institutions, where the recall of elevators will interfere with security.

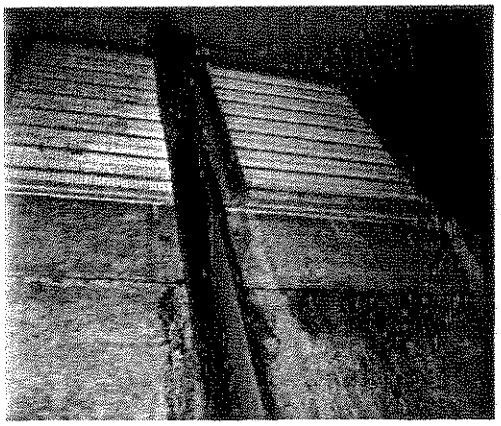
HOISTWAY NATURAL VENTILATION & SMOKE CONTROL

All of the elevator hoistways have been provided with code compliant natural exhaust vents at their upper section of their hoistway. Smoke entry prevention to elevators Nos. 9, 11, & 12 hoistways has not been installed and the hoistways are not provided with pressurization of hoistways. Elevator No. 10 has been provided with fire rated swing doors to auto close in event of smoke being detected in any entrance lobby.

All the hoistways have evidence of rain water entering the hoistways at some time and excessive degree of corrosion has deposited on the majority of car and counterweight rails and door entrance equipment. The elevator pits were dry and have sumps that are pumped to holding tanks or go to street drains. The running surfaces of the car rails and entrance door equipment needs to have the rust removed after existing vents are modified to prevent rain entering the hoistways. Some of the corrosion on the guide rails possibly occurred before the elevator hoistways were closed to weather conditions. The mesh that was placed over the inside of vents has broken away over time; some wall vents have been blocked with cloth to stop the rain from entering the hoistway.



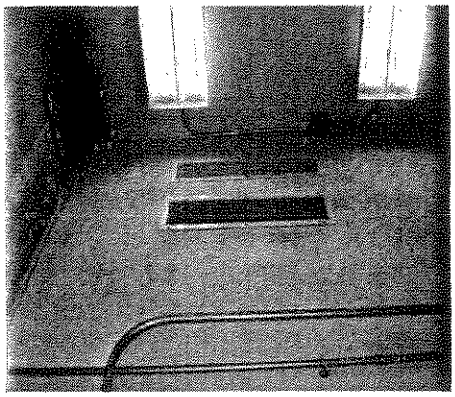
No._10 -Hoistway ventilation & guide rail



No._9 Hoistway ventilation & guide rail

MACHINE ROOM VENTILATION

None of the machine rooms have temperature controlled machine rooms. Elevators Nos. 9, 10, and 11 do not have any machine room ventilation, whereas elevator No. 12 has a thermostat controlled ventilation fan to move the air in the room. Elevators Nos. 11 & 12 basement located machine rooms have the advantage of open hoistways from the machine room level to the top of the hoistways. Per the elevator code each machine room is to be provided with controlled temperature and humidity ventilation. Such controlled ventilation is to be provided to keep the ambient air temperature and humidity in the range specified by the elevator equipment manufacturer. That range of temperature and humidity is to be permanently exhibited in the machine room. The elevator code also requires that emergency power operate the machine room air conditioning whenever the elevators are operating on emergency power.

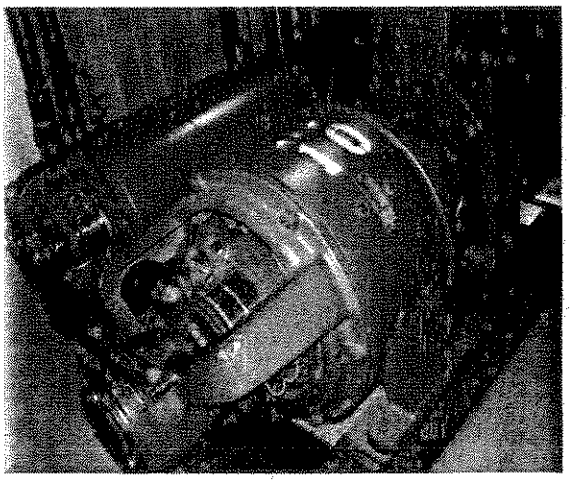


No. 12 Machine room exhaust vents

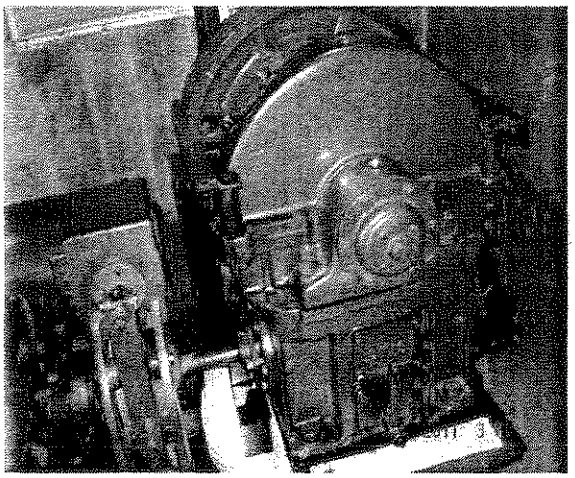
## CONDITION OF EQUIPMENT

### TRACTION ELEVATORS MACHINES & CONTROLLERS

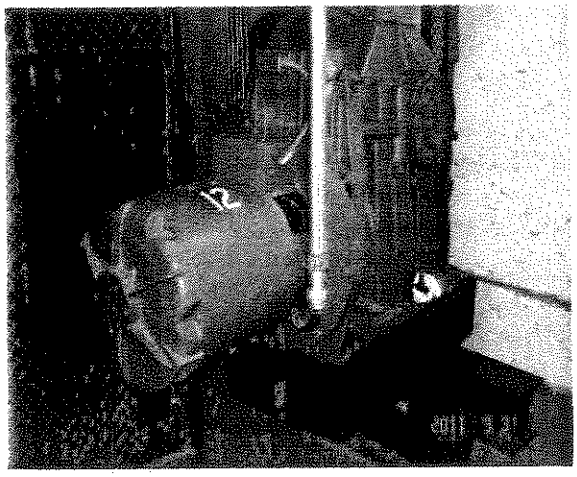
There is approximately 20 years difference in the years of operation of elevators Nos. 9 & 10 and elevators 11 & 12 and total years in service of Nos. 9 & 10 being 50 years without any alterations being performed. Such life cycle is a credit to the manufacture of the equipment and the fact that approximately 50% of the existing equipment can be retained and repaired and the other 50% replaced with current controls technology to allow the elevators to operate satisfactorily for a further 25 years. All the elevator control equipment was originally manufactured and installed by Otis Elevator and is electro-mechanical relay logic.



Nos. 9 & 10 machine & MGs

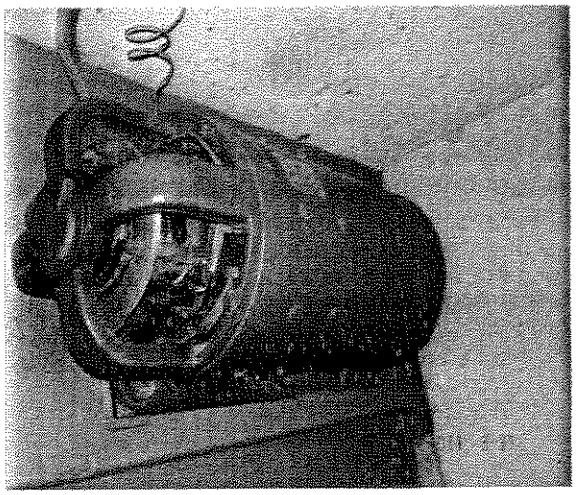


Nos. 9 & 10 Gearbox, brake & driver



Nos. 11 & 12 machine

Nos. 11 & 12 controller



Nos. 11 & 12 Motor Generator set

The Otis geared traction machines are of very good quality design, but due to many years of operation will require replacement of devices. Overhauling the machines will give a further 25 years of life cycle. The recommended overhaul would include, brake coil windings resistance re-insulation and testing, new brake linings, new seals and all new lubricants in gearbox thrust bearings and front seals.

The machines are driven by a Direct Current type hoist motor, which is the original motor and field coils, due to the heavy use and age of the motor, we recommend that the motor be replaced with a VVVF AC motor or DC motor with Magnetek drive.

The Imperial motor generators convert the incoming line AC power to DC power to drive the hoist motors, which are the original generators and are in fair/poor condition. We recommend that they be replaced with new Static Control Rectification drive to provide the varying voltage AC or DC to the new hoist motor.

Subject to there being a continuous five year term comprehensive preventative maintenance program followed at the completion of the recommended Alterations, these recommended Alterations will ensure a further the 25 years of life before any major machine changes will be necessary.

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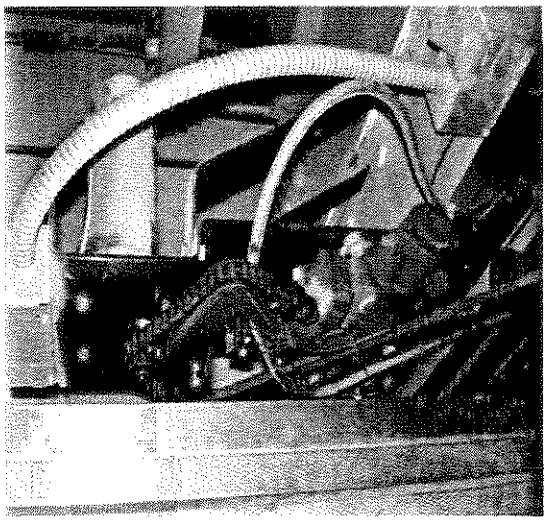
CAR DOOR OPERATORS, CAR and HOISTWAY DOOR EQUIPMENT

Due to the different years of installation of these elevators, there are two vintages of existing car door and hoistway door operating equipment, all of which was manufactured and installed by Otis and is in poor condition. We recommend replacement of the 6970 and 7300 car door operators, operating arms bushings and clutch, hoistway door hanger assemblies, door restrictor devices, pick-up rollers and closers with new G.A.L. model, MOVFR full closed loop variable frequency control equipment or approved equal and replacement of the nominated existing hoistway door equipment. Adjust the relationship of the new car door pickup to enclosure door rollers to ensure doors open fully to their respective frames. Replace the existing car door protection device with new scanning, non contact type devices equal to the ICU Gatekeeper or Janus PanaForty model, car door protection device, which scans the direct parallel path of the car doors.

All of the existing security control of car and hoistway doors will be specified to be included into the new controller design. The new car door operators for elevators Nos. 9 & 10 and door equipment are lighter in mass than existing equipment and when the new equipment is installed, each elevator will require static rebalancing and then re-weighing of car frame to ensure the car frame is running vertically true in operation.

Nos. 9 & 10 Car door operator



Nos. 11 & 12 Car door operator

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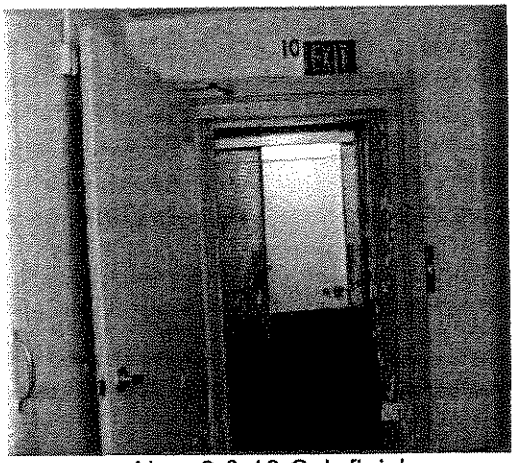
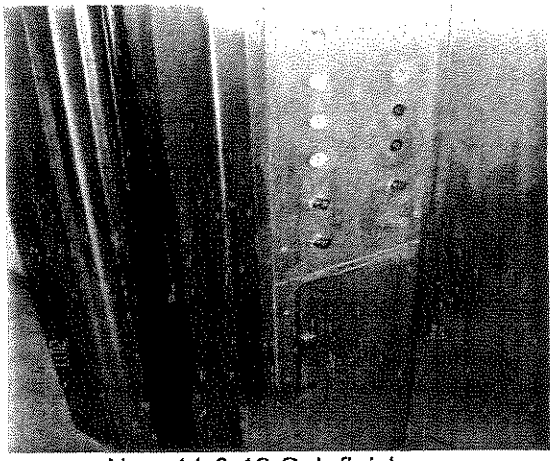
CAR INTERIORS

The internal finishes of elevators Nos. 9 & 10 are painted walls and car doors. Elevators Nos. 11 & 12 have a 5WL pattern stainless steel finish on the walls and car door; due different years of service elevators Nos. 11 & 12 are in better condition. We are not recommending any upgrade

to elevators Nos. 9 & 10 car interiors unless Judicial Council of California request such upgrading to be equal to elevators Nos. 11 and 12 standard.




Nos. 9 & 10 Cab finishes



Nos. 11 & 12 Cab finishes

No.11 Cab Interior

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CODE COMPLIANCE

The elevators will require upgrade work to fully comply with current State of California Elevator Safety Code requirements as applicable when new microprocessor controls and drive systems are provided and will be listed under the Alteration and Rehabilitations recommendations and are performed by the elevator contractor. The required code work items that will not be done by the elevator contractor and will be listed under the Related Associated Code Works.

## SECURITY CONTROL OF ELEVATORS

Each of the elevators has a different level of security control of the elevators, from within and at the hall control stations. All existing security control of car and hoistway doors, cameras in cars, remote control of elevators, verbal intercom systems between car to Central Control location or remote operation of elevators, will require a meeting with the Sheriffs staff to ensure the client required security will be specified for inclusion into the new individual elevator controllers design.

## ALTERATIONS AND REHABILITATIONS RECOMMENDATIONS

We recommend that all the following major items of Alterations, replacements, rehabilitations and code compliance work should be completed as part of the Alterations and Rehabilitations of each elevator. Remote monitoring of the elevators status could be provided at a Central location, example Bryant Street entrance security desk or at other nominated security stations within the building. If such remote monitoring is required for connection to the control of the elevators, conduits and wiring would need to be installed by other than the elevator contractor. There are no costs included in our estimates for elevator cab upgrades for elevators Nos. 9 and 10 elevators.

A. Provision of new drive motion and operational controllers with latest proven non-proprietary microprocessor equipment. Provision of new tapeless floor leveling and position system, including new limits. New controls will incorporate all the existing security controls and controls, when elevators are to be operating on the emergency power generator. Current Phase I & II Firefighter's Service will be incorporated into each elevator. Provide machine room monitoring of the elevators operation, if requested by our client.

B. Provision of VFAC regulation drives in replacement of the existing motor generator sets, which form an integral part of the new controls.

C. Provide new wiring from the retained three phase disconnects to each new controller location.

D. Complete rehabilitation of the geared hoisting machines and provision of AC hoisting motor with flexible couplings to machine brake assembly shaft.

E. Replace the traveling cables for all elevators.

F. Reinforce the # 8 and #15 counterweight guide rails to comply with Zone 4 requirements. Ensure all rail brackets joints are secured to building structure.

G. Provision of new car door operators, hoistway door locks, car and hoistway door roller assemblies, closers and restrictor devices. Provide new electronic scan type car door protection device to each elevator.

H. Provide new car and counterweight guide rollers assemblies for each elevator.

I. Provide new car to counterweight hoisting ropes.

J. Modify the existing governor devices for two directional speed monitoring. Provide new governor ropes and safety test each governor.

K. Provide new car operating panels in replacement of the existing panels to comply with current code. Provide new car and hall position indicators for each elevator. Include security key switch control to each floor as existing security control.

L. Provide new hall button station faceplates with security key locks controls as existing. Including Phase I key switches at applicable floor station. Alternate floor recall as directed by the City Fire Department will be provided.

M. Retain the existing hall lantern fixtures at each floor over each entrance with new fixtures.

N. Provide a seismic trigger device in each traction elevators machine room and a dual ring a string device on each counterweight.

O. Provision of new key operated hoistway access switches at each elevator terminal floors, in replacement of existing.

P. Overhaul the existing car safeties of each elevator and lubricate per OEM recommendations.

Q. Provision of Firefighters phone jacks in each elevator if directed by the City Fire Department. Provide code required emergency two-way communications between the elevator car and selected main terminal floor, that is readily accessible to authorized and emergency personnel.

R. Provide new wiring throughout hoistways, cars and machine rooms.

S. Clean down each set of car and counterweight guide rails of corrosion build-up.

T. Remote Monitoring Wiring: Provide necessary wiring and conduit from each machine room, to the selected floor by the client, immediately outside the hoistway and terminate in junction box, to be extended by others to monitoring station by Other contractors.

U. Provision of ongoing contract maintenance from start of contract, throughout the project and for twelve months warranty period.

**Estimates to complete applicable items, A-U for Nos. 9-12 $600,000.**

Notes To Estimate:

1. The estimated costs are based on all work being done by the elevator contractor during normal hours of the elevator trade. If noise produced by the elevator contractors is objectionable to the Court Judges, that will cease work during normal working hours, and the labor portion of the estimate will require an increase.

NEW CAB INTERIORS for ELEVATORS Nos. 9 & 10

A. Remove the existing cab enclosure walls, wall panels, in-mate lockable enclosure, canopy, lighting, doors, front returns and flooring and provide new reinforced stainless steel 5WL pattern stainless steel walls, in-mate lockable enclosure, canopy and all new panels, car doors, front returns, lighting and finishes as discussed above for the two elevators:

**$ 36,000.00**

CODE REQUIRED ASSOCIATED WORKS TO BE COMPLETED BY OTHERS

We have prepared a list of associated code and repair work that are required as part of this project and the timing of such will have to be coordinated and completed before the first elevator is 80% completed. The cost of these associated works is not included in our budget estimates and are not part of the elevator contractors work. Some of these items will need to be investigation by JCC Facilities Management Group, or by other appropriate contractors/consultants to verify existing conditions and changes to be made to comply with applicable codes.

1. Machine Room Ventilation: The present system requires verification as to the output cooling being adequate for the 15,000 BTU'S output per hour, per elevator, when operating at peak conditions. The machine room temperature control is required for the new controller solid state equipment and electronic drive systems. The air conditioning system for the machine room must be connected to the emergency generator power whenever an elevator of that group is operating on emergency power. Elevators Nos. 11 & 12 heat loads would be the same as Elevators Nos. 9 & 10, but are not in a confined area to be controlled.

2. Smoke Detector Circuits: Provide smoke detectors in each machine room and at each elevator entrance that is required by the City Fire Department and connect such to a Fire Life Safety panel as required by the elevator code and the City of San Francisco Fire Department. The State of California current elevator code does not require automatic recall of elevators in penal institutions, when such would interfere with security.

3. Make operational the existing temperature controlled ventilation of elevators Nos. 11 & 12 machine rooms.

4. Standby Power: Ensure that the emergency standby power system for the elevators operates as follows:

    a. Power source shall be sized to absorb regenerative power from elevator systems, which equals approximately 30% of full load running. In general, the total standby power should be no less than twice the standby load imposed by the elevator alone.

    b. Provide time delay of the automatic transfer switch to distribute standby power through the normal 3 phase feeders of power circuits. Provide two pairs of No. 14 gauge wires from the auxiliary contacts on transfer switch to the machine room to operate as follows:

i. One dry contact to open when normal power fails and emergency standby power becomes available and to close when normal power returns to signal elevator controllers.
ii. One dry contact to open on emergency power and to close 30 to 60 seconds prior to transfer back to normal power to allow elevators to come to rest prior to normal power restoration.

c. Connect car lighting, fan and emergency communications circuits to emergency power source.

5. Machine Room Lighting: Provide additional lighting to provide uniform illumination level at the floor of 19 foot candles in each machine room at floor level.

6. Machine Rooms, Pit Lighting & Convenience Outlets: Provide an additional dual GFI design convenience outlet in each machine room. Protect the machine room and pit convenience outlet circuits with ground fault interruption devices per State of California Electrical code. All pit electrical fitting below 4 feet are to be NEMA 4 rated fittings. Pit lights and outlets are to be on separate circuits per NEC. All convenience outlets to be GFI design fittings. All pit light fixtures to have metal guards and be grounded.

7. Relocate the machine room light switch for each room to be immediately alongside of the door strike jamb.

8. Remote Monitoring of Elevator Status: Extend wiring from the Main Floor junction box outside of each elevator hoistway and extend to the selected Security Monitoring station. Elevator contractor will make connections and test the monitoring systems at each end.

9. Provision of continuous ground conductor from building ground to each machine room disconnect panel; AWG 6 minimum sized conductor per elevator.

10. Verify that the pit drains are fully operational, have back-flow preventers and do not drain to sewer lines.

11. Extend the pit ladders to 48" above the adjacent access floor level.

PRELIMINARY PROJECT SCHEDULE

Our estimate of times to complete the elevator alterations as recommended, would be in the following sequence. Any general contractors or their sub-contractors time for associated code work has not been included in the following schedule. Also we have not included any time for City of San Francisco review of submittals, architectural, mechanical and electrical design or the installation work periods for each works and testing. All such associated code and repair work must be completed at 80% completion of first elevator alterations.

| | |
|---|---|
| Elevator bidding period | 4 weeks |
| Acceptance of the Elevator Contract by JCC or their agents | 4 weeks |
| Submittals prepared by contractor and issued to Consultant | 4 weeks |
| Consultant's review of submittals by Consultant and return | 2 weeks |

| | |
|---|---|
| Elevator Contractors Engineering, manufacture and shipping | 10 weeks |

Installation time will be based on normal 5-day work week with only one elevator being worked on at any one time. Each elevator would be completed in its entirety before the next elevator is started. Stand-by generator connections should be completed and ready for operation prior to completion of the first elevator's Alterations

| | |
|---|---|
| **Elevator No. 11: Alterations and testing** | **9 calendar weeks** |
| De-bug period | 0.5 calendar week |
| **Elevator No. 12: Alterations and testing** | **8 calendar weeks** |
| De-bug period | 0.5 calendar week |
| **Elevator No. 10: Alterations and testing** | **7 calendar weeks** |
| De-bug period | 0.5 calendar week |
| **Elevator No. 9: Alterations and final testing** | **8 calendar weeks** |
| **Total On Site Construction Calendar Time** | **32.5 calendar weeks** |
| 12 Months Warranty / Maintenance period | 52 weeks |