



Earthquake SOLUTIONS

Consulting, Seminars, Emergency Products

March 10, 2009

Preliminary Report Regarding

John Anson Ford Theatres

Site Visit and Overview Data:

A site visit of about 1.5 hours was made on Monday, March 9.

According to the information provided, it was noted that peak capacity would be up to about 1,400, including staff (up to 20), guests (up to 1,240) and theatre companies (up to 200). Presumably, given the nature of the venue, and with the exception of Saturday morning family events, most guests are adults. There is one County vehicle (a pick-up), and one cart.

A brushfire in the 1920's burned this site down, but it was rebuilt in the 1930's.

Initial Observations and Commentary:

The basic geography of the site, the presence of other potentially large population and/or event centers nearby, and adjacent freeway position, along with the limited parking, make for a staff and guest population that will likely be essentially landlocked in a major emergency. It is not feasible to quickly evacuate all occupants of a full capacity site, to a location off of the site, in a hurry. This is especially true since, in some cases, not every guest even has a vehicle on site to claim, and there would presumably be a wait time for buses from Universal to come back to pick them up.

There is also essentially no way to provide shelter-in-place protection from airborne toxics to guests of the amphitheatre due to the lack of enclosable space at the site. Attempting to evacuate guests to a parking lot and care for them there is also unrealistic and unsafe, given that all lots would be bumper-to-bumper parking. In a large earthquake scenario in particular, the 2,000-pound (plus) cars would also be bouncing uncontrollably against each other during the main shocks and also during the many aftershocks that will follow.

However, even more to the point, the US Geological Survey maps note that much of the general area is at special risk of landslides. Looking at the site contours, it seems quite likely that a large quake could cause landslides that could partially or completely inundate the two upper lots on

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the north end as well as the handicapped parking lot. This probability would be even more likely if a quake were to occur when the ground was saturated.

The ability to use or move through the only remaining lot, in front of the blue-gray two-story bungalow building, is also likely to be impacted by a serious quake. The building in question is clearly of old construction, and in poor condition. It is of the type notorious for shedding walkways, ramps and stairways in even moderate quakes. So at least those types of building debris, along with major shedding of glass at least 20 - 30 feet out from the building would be the least impact to be expected. Depending on the directionality, proximity and magnitude of a quake, it is not beyond the realm of possibility that the entire building could collapse. If that were to happen, the most likely scenario is that the debris field would shift into the parking lot, rather than to the rear or end-to-end.

This site also obviously has a risk of experiencing raging brushfires once again. Personnel should also develop an awareness and watchfulness about the possibility of brushfires initiating in close proximity due to an accidental or deliberate act either by a homeless person or vandals. At this time various site and personnel factors indicate that acquiring a portable retardant/suppressant capability is not going to be sufficiently realistic, and that option has been ruled out within the scope of this proposal.

Storage capacity at the site is limited and for the most part not capable of receiving a pallet drop directly into the right spot. Hand movement of pallet goods would be required.

The design, layout and construction elements of the main population areas seem to imply a relatively small likelihood for the public areas to produce large numbers of the seriously injured¹. Quite simply, there is less in the way of structures or glass elements to fall than there could be, and interior areas that are open to the public are not crammed with a tremendous number of potentially lethal building contents.

Therefore, rescue, entrapment support, and/or trauma capability is most likely to be needed for:

- The bungalow building,
- Entrapments inside darkened, windowless, dressing rooms and restrooms,
- Entrapment of the house manager
- Entrapments in the projection and office area above the amphitheatre

The entrapments would probably mostly be by a combination of jammed doors and simultaneous power losses, presumably at night. In the case of the house manager, there is a port that could possibly be opened or cut through in addition to the single door.

In the case of the projection/office area, the windows are probably safety glass, which is harder to break through than ordinary glass, and usually an escape hammer is needed. However, this also raises the issue of shedding glass shards onto occupants below. Your emergency plan should include some procedures to direct how to manage the rescue, if needed, of those in that area, without undue risk to the occupants below.

¹ The fact that major risks for injuries seem less than some other buildings or areas does not rule out the mere possibility that significant damage and potential injuries could occur here. I note, for instance, that there has been a lot of water intrusion and leaks over time, and that can weaken structures. Also, due to the age of the construction, it is unlikely that much steel is within the block walls.

Sufficient means exist for people in the box office to exit without special tools or assistance when appropriate, as the windows are not bulletproof. The structure itself is probably fairly low risk.

There are also some capabilities on site. A variety of ladders and ropes that could assist rescues into the bungalow building are available on site because they are used in production operations. Similarly, there are likely materials on site that could be used as makeshift stretchers. First aid kits appear to be in the proper size range for day-to-day uses, are probably about in the right number and locations, and regularly stocked.

Typical existing water supplies are NOT sufficient, even for a small back-up supply for staff alone, especially in summer, when both maximum occupancy and hot temperatures are likely. No realistic food or kitchen capability is on site, as food is catered in on an event-by-event basis.

Special Notes To Consider In Your Emergency Plans:

Management should have a willingness to cancel a scheduled event at a moment's notice, and develop in advance both your policies (notification and financial issues) and checklists of procedures. The possible need for such action is most likely to be driven by one of the following scenarios:

- 1) Approaching or on-site brushfires, since they always advance more quickly than people expect, and time is definitely NOT on your side in moving people off-site.
- 2) Several days into a significant rainstorm that has dropped a sufficient enough quantity that saturates the hillsides, even if the weather at the time of the event appears to have cleared. You may need to consider the potential for moderate slides to impinge on your parking lots.
- 3) After a brushfire in the area, you will need to have even more sensitivity to the comment immediately above, for at least three years thereafter (and as much as five years).
- 4) Post-earthquake, especially during the first week or two, and particularly if the ground soil is saturated, again due to the risks of landslides. A good post-earthquake policy should consider consulting a qualified geologist with good hydrology expertise, before re-opening for performances. A list of potential experts of this kind and their contact information should be included in your emergency plans and updated as needed during periodic reviews.

Ongoing Daily Safety Procedures:

No discussion or inspections were conducted specifically regarding ongoing daily safety procedures. However, I happened to notice that at least one fire extinguisher had been missed for periodic servicing. I also advised that all flammables be removed from the water heater closet per fire code.

Supply Level One - Immediate Use of Currently Budgeted Funds:

The first attempt at the priority list for the most basic supplies, and for staff only, easily exceeded \$2,000 even before finishing the list. With some difficulty I have pared the recommendations down to a within-budget supply package (excluding tax and shipping) of \$1,485.00 for the first round. That would consist of the following:

- 1) Our standard economy emergency support backpack for the one truck that goes off site. The LACOFD model would be preferable but not possible within available budget funds.
- 2) PPE² Evacuation or simple entrapment emergency kits for 12 people, to be distributed in the bungalow offices and office-projection level.
- 3) Two customized toolbox kits for group support, containing some escape tools, more spark-free lighting and other support supplies for the same two areas, in case self-rescues are needed, or for further support if rescues are not fairly immediate. These would include self-contained environmentally sound sanitation kits as well, for toileting functions.
- 4) Six small general individual support kits - five for the crew in the box office, and one for the production manager's office.
- 5) A small-scale supplemental moderate first aid/light trauma customized group kit for storage in the roll-off or box office (safest locations).
- 6) Two customized group kits containing a mix of support items and specialty tools to be placed in the roll-off. Assuming the container of choice remains available from the manufacturer, it will be a rolling box. These kits would also include specialty white sandbag tarps that could be used as soft stretchers, made into signal flags for helicopters, used to contain broken glass etc.
- 7) One POGO (specialty crowbar) for the production manager's office.

Taken in total, this list of supplies should provide for the most commonly needed support supplies in quantities sufficient to serve all of the staff for at least a couple of days. Dispersing the supplies in this manner also helps to raise the probabilities of various items being available when and where needed. All types are small enough to be easily portable and relocated to a private staff command or rest area on site if needed, and lightweight enough to be lifted into almost any vehicle for individual or small group evacuations by car.

Supply Level Two: Caring for the Public:

As mentioned previously, it is completely unlikely that you will be able to evacuate the majority of guests and production company personnel in the event of a major seismic event for at least 24 hours, and possibly longer. While it disturbs me to move past some other needed supplies which could enhance rescue capabilities at the site, it seems necessary to do that and skip to a supply package designed to support the public, under the over-riding emergency management principle of the "greatest good for the greatest number". Please be aware, however, that this choice is essentially one that may increase the likelihood of at least some fatalities, especially in the bungalow building, and which might have better outcomes if more on-site rescue capability could be provided.

This package level is proposed at \$8,009.00 before tax and shipping, and consists of:

- 1) Blankets - 1,400
- 2) Water - 98 cases of Coast Guard Approved pouches, with 5-year shelf life
- 3) Water - 44 cases of Aqua-Blox, with a 5-year shelf life (especially for children)

² PPE stands for personal protective equipment. PPE is essential to safety in high hazard or non-first floor evacuations or entrapments. A list of the items included can be found at the end of this document.

- 4) Medical trauma kit (only one due to low projection for serious injuries to guests)
- 5) Lightsticks - 750. These can be rationed out as needed and therefore could possibly help through two nights, and/or be given to guests when they are able to depart
- 6) Coast Guard Approved emergency food rations, with 5-year shelf life - 24 cases. This works out to about one 2-day ration for every two people, based on the thoughts that most people enjoying entertainment are usually at least parties of two, and that food is less necessary to survival than the other items listed above.

Assuming that a single purchase of this size is not in the budget, and unlikely to be so in the future, I recommend that you simply begin to buy smaller pieces of this list when and, as budget funds are available, until the list is filled.

Supply Level Three:

As you look to future budgeting, I recommend that you try to include at least \$2,500 in additional funds for risk mitigation items, and for rescue and triage capabilities that may be needed for the bungalow building.

Consulting Consideration:

In response to comments made during my site visit, reviewing and commenting on your written emergency plans is well beyond the scope of the current project. However, it did not look like the document would take more than a couple of hours to review and comment. Therefore, if you are interested and wish to pursue this, I would be willing to spend up to two hours on this task for a reduced fee of \$200.00 (in addition to any product purchases).

Doing Business:

Quotes herein are before applicable tax and shipping or delivery. Please be aware that tax rates increase as of April 1, 2009. In this case the Level One items may or may not all ship or arrive at the same time, as some of the customized kits can sometimes take a bit longer to build. The entire list, however, is likely to be delivered within about three weeks. Add a \$45.00 for shipping and delivery fees to the Level One purchasing, and \$130.00 to the Level Two.

This company is a Los Angeles County registered vendor with SBE status. We are therefore entitled to a 5% bid preference, and also eligible for the Los Angeles County "Prompt Pay" procedures (which can include pre-payment or payment within two weeks). We have successfully handled business for other county agencies.

Conclusion:

Thank you for the opportunity to assist in this project. I would be delighted to help you take the first steps toward making your situation safer for your staff and guests. Every moment that passes peaceably is most likely also a moment closer to the next disaster.

Respectfully submitted,
April Kelcy, CEO

Appendix

The PPE Evacuation or simple entrapment emergency kit for a workstation contains the following:

- Container: Compact red cooler bag with zipper and handle (about the size of a lunch container)
- Eight pouches of Coast Guard Approved (CGA) water³. There have been deaths in previous quakes caused not by direct injuries during entrapments, but because of lack of water while trapped resulted in critical dehydration and related kidney failure.
- Leather-palmed gloves to protect hands while climbing through or over rubble and broken glass.
- N95 particulate mask to protect lungs from heavy particulates caused by failing construction elements.
- Vented goggles to help shield eyes from some of the hanging debris and also heavy particulates in the air.
- 12-hour spark-free lightstick to aid sight and help prevent injury during evacuation attempts, and/or with which to help alert rescuers. Five-year shelf life.
- Whistle to help alert rescuers.
- Note: No food would be included, as it is unnecessary for short-term survival.
- Note: No first aid items would be included. People would either be ambulatory or not. If they are able to exit, another means of providing first aid can be provided upon exit. If they are not able to exit, the probabilities of having either the ability, or exactly the right items on hand in which to self-care, are slim. Also, at least one natural alternative exists at least temporarily for bleeding, which can be stemmed with direct pressure with hands or clothing.

³ All Coast Guard Approved water and food products have a 5-year shelf life, even in cars and unstable temperature settings. This recommended individual quantity is NOT generous, and is, at best, only a 2-day supply.