

REPORT FROM

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

Date: *December 13, 2005*

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Council File No.

Council District: 4

To: The Mayor
The City Council

From: William T Fujioka, City Administrative Officer



Reference: Request from Mayor dated August 12, 2005

Subject: **Los Angeles Elephant Exhibit Review**

SUMMARY

The Los Angeles Zoo is in the midst of a capital improvement program that includes the construction of a new exhibit for its three elephants: Ruby, Gita, and Billy. In response to questions raised regarding the appropriate amount of space required to house elephants, the Mayor has requested that this Office conduct an analysis of the housing and health needs of the Zoo's elephants. This analysis is to aid in the determination of whether or not elephants should remain on exhibit at the Zoo, and, if so, the size and elements required for such an exhibit.

In performing this analysis, we reviewed the history and current health of the elephants at the Los Angeles Zoo; the costs of operating an elephant exhibit at the Zoo and at comparable zoos; the current plan for the exhibit, the plan for the Zoo's herd, and whether the plans for the exhibit and herd meet American Zoo and Aquarium Association (AZA) standards; the feasibility and cost of any alternative exhibit plans; and the possible consequences of a decision to maintain, expand, or eliminate the elephant exhibit. Also reviewed were health and behavioral problems that elephants may face in captivity; the causes of these problems and possible remedies; and the basis for decisions by zoos that have eliminated or expanded their exhibits.

The history of elephants at the Los Angeles Zoo has not been without incident. When applicable, the Zoo has changed its practices and updated its procedures manual for its elephant management program to prevent further incidents and to improve the quality of care for the elephants. In addition to its management program, the Zoo follows the laws and regulations of the state and federal governments regarding the care and treatment of animals. As a member of, and as a facility accredited by, the AZA, the Zoo must follow AZA standards for animal care and welfare, which include guidelines for elephant handling, herd size, diet, medical care, exhibit form and staffing.

As part of the evaluation of the current health of Los Angeles' elephants, this Office contracted with an independent veterinarian to evaluate the health and well-being of each elephant. The veterinarian found Billy and Ruby to be healthy. Gita, who has a chronic foot infection and a chronic arthritic

condition, was described as appearing to be doing well. In addition, she describes Billy's well-being and Ruby's well-being as "good" and Gita's well-being as "moderate to good." This independent veterinarian found that the care and management of elephants currently provided by the Zoo are of a high standard. The veterinarian found that the Los Angeles Zoo Elephant Management Program was thorough and meets or exceeds all points of the AZA Standards for Elephant Management and Care, which outlines keeper training, use of equipment, and the care and management of elephants. She further found that the Elephant Management Program was being taken seriously and followed closely by staff.

The Los Angeles Zoo currently spends about \$114,000 on each of the three elephants annually for operational costs associated with their general care. When compared to other zoos with three elephants, the City's costs are on the high end, with staffing costs being the greatest expense. Not included in the estimate is medication for Gita, which has been averaging \$8,000 per month for treatment of foot abscesses and arthritis. The Zoo Department expects that the course of her treatment will continue through the end of this fiscal year.

As a member of the AZA, the Los Angeles Zoo is required to participate in the Elephant Species Survival Plan (SSP), either as a breeding or holding institution. The Zoo may indicate its preference, but AZA approval is necessary, as the ability to breed or hold animals is dependent upon the Zoo's space and resources and the needs of the SSP program. The current plan for the elephant exhibit has been designed for flexibility to accommodate different herd structures. Any discussion about changes to the size or composition of the herd would need to be considered by the Mayor and Council in the context of the exhibit size, fiscal implications and other policy considerations.

The AZA standards require that elephant exhibits provide about .08 acres, at a minimum, of outdoor yard space for three elephants. The prior elephant exhibit, which was demolished as part of the ongoing capital improvement program at the Zoo, exceeded these minimum standards at 0.57 acres. The original plan for the new exhibit for the three existing elephants would have provided yard space of 1.06 acres total. A recommendation has been made to the Mayor and Council to provide funds (\$3.9 million) for construction to expand the yard by 0.78 acres for a new yard of 1.84 acres.

While professional zoo standards are met at the Los Angeles Zoo, there is longstanding public debate on whether these standards are adequate to address the elephants' health and behavioral needs. Opinions from members of the zoo, veterinarian, academic and humane communities indicate that, generally, elephants in zoos can suffer from problems that are unique to captivity. A high occurrence of foot ailments and arthritis is blamed on the hard substrates, like concrete, used in zoo exhibits. Small enclosures were also cited as a source of health problems for elephants, but to a lesser extent. The most common behavioral problem cited was the exhibition of stereotypic behavior, such as head bobbing, swaying, and pacing, which was blamed on an impoverished environment. To mitigate these health and behavior problems, some experts have advocated changes to the design of zoo exhibits. Some of these changes include softer substrates, larger exhibit yards, and increased opportunities for enrichment in the exhibit. Zoo exhibits are increasingly incorporating these changes to better accommodate the needs of elephants.

As designed, the new Pachyderm Forest (“Elephants of Surin” exhibit) would include an immersion pond, interlocking yards, and rock formations. The independent veterinarian indicated that the proposed new exhibit, with a variety of furnishings and greater space (a 1.84 acre yard) should be adequate for the current three elephants, and will contribute positively to their well-being.

Five options have been examined for cost and feasibility with regard to the Zoo’s planned elephant exhibit: (1) proceed with the original planned elephant exhibit with a yard of 1.06 acres; (2) proceed with an expanded exhibit with a yard of 1.84 acres; (3) proceed with an even larger exhibit with a yard of approximately 3.0 acres or more in the planned location; (4) abandon the current location and identify a larger exhibit space within the Zoo; or (5) eliminate the exhibit entirely.

The first three options provide incrementally larger exhibit space, up to 3.0 acres or more, at an increasing cost. These three options fit within the Zoo’s master plan as they maintain the exhibit within the Zoo’s Asian Forest section. The 1.84-acre exhibit would require the relocation of the existing reptile house, which is already part of the capital program. The City can house an exhibit larger than 1.84 acres at this present location in the Asian Forest, but that would require the relocation of additional exhibits and pedestrian pathways.

To attain an exhibit significantly greater than 3.0 acres, the exhibit would need to be relocated to another site within the Zoo. The service yard and the parking lot were identified as possible locations, but both proved to be undesirable due to their exorbitant cost and the significant deviation from the master plan. To eliminate the exhibit, the Zoo’s herd would need to be sent to another zoo or to a sanctuary. It should be noted that under AZA guidelines, the Zoo cannot unilaterally send its elephants to a sanctuary without making a good faith effort to place them in AZA accredited facilities first. (Sanctuaries are not AZA accredited.) The cost of relocating the herd to a sanctuary may be as high as \$2.14 million. Furthermore, the elimination of the exhibit may result in the loss of \$12.0 million in Los Angeles County funding designated for the capital program, with a cost of \$3.0 million to repay the County for those funds already spent. Use of the \$12.0 million for another qualifying project within the Zoo’s capital program must be approved by the County Board of Supervisors, and there is no guarantee that approval would be granted.

In Los Angeles, the elephants are an important aspect of the social and educational value of the Zoo. As noted by the independent veterinarian, with completion of the new expanded exhibit, “it is unlikely that any other staff or facility could offer a better level of care and management than the elephants receive at the Los Angeles Zoo.” Elimination of the elephant exhibit is not, therefore, recommended. It is unclear that the three elephants could remain together at a new location and their separation could be detrimental to their social well-being. As stated above, the City could not unilaterally send the elephants to sanctuaries. Their relocation would have to be performed in accordance with AZA guidelines in order to avoid a possible adverse impact on the Zoo’s accreditation. Further, the City would likely have to repay Los Angeles County \$3.0 million for costs already expended on the elephant exhibit, and funding of \$12.0 million could be jeopardized. The City would be faced with incurring additional costs to construct an alternative exhibit at the location currently designated for the elephants. The City could also incur costs to relocate the elephants, and depending upon the destination, possible annual on-going costs for care.

At this time, we support the continued presence of elephants in the Los Angeles Zoo in a larger exhibit, with a yard larger than the 1.84 acres currently proposed. Depending on the eventual size of the yard, additional costs, ranging from \$7.7 million for a yard of 2.5 acres to \$13.9 million for a yard of approximately 3.0 acres, could be incurred. Costs would increase with an increase in the size of the yard. Enlarging the exhibit space would allow the Zoo to better address the needs of its herd by providing more opportunities for exercise and greater variation in the environment, and utilizing natural substrates to help alleviate foot problems and arthritis.

In conjunction with a larger exhibit, the Zoo should be given the resources to continue to provide high quality husbandry, including veterinary care, by ensuring that its animal care programs are adequately staffed. To this end, the Zoo should receive authority on an interim basis to hire additional Veterinary Technicians to care for the elephants and funds (\$50,000) to cover as-needed salary costs for the balance of the fiscal year. To ensure that the interests of the Zoo's elephants are being addressed, the Zoo Department should make periodic reports to the Mayor and Council to keep it apprised of the staffing of its animal care providers and the health and well-being of the Zoo's elephants.

Most of the points that have been made against having elephants at zoos could similarly be made about other species. In effect, they can be construed as arguments against the existence of zoos. That question, whether zoos should continue to exist or be closed, is beyond the scope of this analysis. However, it is a question that should be addressed directly, if it is addressed at all, and not one that should be addressed on a piecemeal basis, species by species.

RECOMMENDATIONS

That the Council, subject to the approval of the Mayor:

1. Determine that elephants should remain on exhibit at the Los Angeles Zoo;
2. Approve an enlarged elephant exhibit with yard space ranging from 2.5 acres to approximately 3.0 acres or more at estimated costs ranging from \$7.7 million to \$13.9 million;
3. Authorize the issuance of up to \$13.9 million in MICLA funds to finance the expanded exhibit;
4. Instruct the Bureau of Engineering to report to the Zoo Capital Projects Oversight Committee with a detailed project scope, including utilization of a softer substrate, schedule and cost estimate for the enlarged exhibit;
5. Authorize by resolution, on an interim basis, four part-time Veterinary Technicians, Class Code 2369, for the period of January 1, 2006 through June 30, 2006 for the Los Angeles Zoo;
6. Transfer \$50,000 from the Reserve Fund to the Unappropriated Balance and appropriate that amount therefrom to the Zoo Department, Fund 100/87, Salaries As-Needed Account No. 1070;
7. Instruct the City Administrative Officer to work with the Los Angeles Zoo to include funding and as-needed position authority for Veterinary Technicians in the 2006-07 Proposed Budget; and
8. Instruct the Zoo Department to report to the Mayor and Council on:
 - A. All animal care vacancies, and on any actions required to fill those vacancies

- B. Any changes being considered to the size or composition of the elephant herd along with a discussion of implications for the exhibit size, fiscal implications and other policy considerations of such a change.
- C. A biannual basis regarding the health and well-being of the Zoo's elephants.

FISCAL IMPACT STATEMENT

Adoption of the above recommendations would result in the issuance of up to \$13.9 million in additional MICLA funds for the construction of an enlarged elephant exhibit that would provide a yard size ranging between 2.5 acres and approximately 3.0 acres or more. This action would impose an obligation on the General Fund as MICLA debt service is paid from the General Fund and would commit the General Fund to payment of about \$1.12 million in annual debt service, for about \$22.4 million total, over 20 years. These recommendations would also authorize an appropriation of \$50,000 to the Zoo for as-needed salaries to enable to Zoo to hire additional Veterinary Technicians. Additional appropriations to the Zoo Department from the General Fund may be required to fund additional animal care staffing and to fund the relocation of any exhibits that would need to be removed for the expansion. Operating costs are not expected to increase significantly.

FINDINGS

1. BASIS FOR REPORT

On August 12, 2005, the Mayor asked that this Office conduct an analysis of the housing and health needs for elephants at the Los Angeles Zoo. According to the letter from the Mayor, questions have been raised about the appropriate amount of space required to house elephants in captivity. Subsequently, the Mayor provided a list of key questions to be addressed in the report. Both the Mayor's request and the list of questions are attached. (Attachments I and 2.)

2. LOS ANGELES ZOO CONSTRUCTION PROGRAM BACKGROUND

The Los Angeles Zoo, which opened in its present location in Griffith Park in 1966, receives about 1.4 million visitors annually. The Zoo is home to 1,200 animals, including three elephants: Ruby, a 44-year old female African elephant; Gita, a 47-year old female Asian elephant; and Billy, a 20-year old male Asian elephant.

In 1998, the Zoo began an extensive capital improvement program for the construction of seven exhibits, an animal health center, two artwork projects, and other infrastructure improvements. The bulk of the \$117.7 million in funding is provided by the 1998 Proposition CC bond issuance for \$57.8 million. Other funding includes County Proposition A (\$29.2 million) and City Proposition K (\$11.0 million) assessment funds, Greater Los Angeles Zoo Association (GLAZA) funds (\$10.6 million), Municipal Improvement Corporation of Los Angeles (MICLA) funds (\$2.2 million), Zoo Enterprise Trust Funds (\$1.0 million), and, for certain special purposes, County Proposition C sales tax funds, and other special funds through the Department of Water and Power and the Sewer Construction and Maintenance Fund.

Major projects completed to date include the Animal Health and Conservation Center, the Children's Discovery Center, the Front Entry Complex, the Orangutan Exhibit, the Sea Lion Exhibit, and the Winnick Children's Zoo. The current program calls for the construction of the "Middle Zoo Project", which consists of the Gorilla Exhibit, the Golden Monkey Exhibit, and the Pachyderm Forest. Future construction projects include the Rainforest of the Americas Exhibit and the Reptile and Insect Center Exhibit.

3. PACHYDERM FOREST PROJECT BACKGROUND

The Pachyderm Forest project provides for the reconstruction and expansion of the Zoo's elephant exhibit. In 1996, Los Angeles County voters approved Proposition A, a property tax assessment to be used for parks, open spaces and beaches, which set aside \$12.0 million for the development, improvement and rehabilitation of the Zoo in accordance with the Zoo's Master Plan. In 1998, the Los Angeles County Board of Supervisors approved an agreement between the County Regional Park and Open Space District and the City that designated the \$12.0 million for the Pachyderm Forest project. The Zoo, via fundraising by GLAZA, has received \$1.0 million in donations to fund the Thai viewing structure that was to accompany the construction of the new elephant exhibit.

The committee overseeing the capital improvement program at the Los Angeles Zoo has recommended expanding a planned elephant exhibit ("Elephants of Surin") from 1.06 to 1.84 acres (yard space), and has requested additional funding for it and other projects in a June 22, 2005 report presented to the Budget and Finance Committee.

The specialized nature of zoo exhibit construction, combined with construction delays and an escalation in construction costs, has added approximately \$9.4 million to the project cost, increasing the budget from the original estimate of \$12.0 million in 1996 to \$21.4 million in 2005. Further, the proposed expansion to 1.84 acres would require an additional \$3.9 million, for a new total estimated project cost of \$25.3 million. Approval of the June 22, 2005 report would authorize the additional funding. It should be noted, however, that the Bureau of Engineering (BOE) has advised that construction costs could increase with each month that construction is delayed.

Work has already begun on the Pachyderm Forest project. The demolition of existing exhibit space has required that the Zoo's elephants be separated in two yards. Billy, the Asian bull, remains on exhibit in the remains of the old yard, while Gita and Ruby are housed in another yard outside the exhibit area. Plans exist for the new 1.84 acre exhibit, which would allow them to be housed in one facility. Bid and award has been postponed pending determination by the Mayor and Council whether or not to proceed with the project and on what basis. Should the Mayor and Council determine that the Zoo should continue to have an elephant exhibit, and should that exhibit be larger than currently proposed, additional costs would likely be incurred for the expansion of that exhibit as discussed below.

4. METHODOLOGY AND APPROACH

As noted in Attachment 2, this Office has been requested to consider questions regarding "costs", "issues and plans", and "health" to determine: 1) whether elephants should remain on exhibit at the Los Angeles Zoo; 2) if yes, the size of and elements in such an exhibit; 3) if no, the options available for placing the elephants elsewhere; and, 4) any temporary measures that should be implemented until action can be taken.

All of the questions were evaluated to determine which sources would be best able to respond and were broken down into smaller component parts to assure that respondents provided comparable data to the greatest extent feasible.

- The Los Angeles Zoo addressed the cost of maintaining elephants and maintaining their exhibit, the history and current health of the elephants and its plans for its herd.
- BOE addressed current exhibit plans and feasibility and the costs of any alternative exhibit plans.
- GLAZA and the Zoo Board of Commissioners addressed possible outcomes of a decision to maintain, expand, or eliminate the elephant exhibit.
- Sanctuaries and other zoos that keep elephants addressed questions regarding the care, health, and behavioral issues of their elephants. In addition, "comparable" zoos (urban zoos with three elephants) addressed the operating costs of supporting their elephant exhibits, and the size and

design features of their exhibit. Those zoos that had eliminated or expanded their exhibits addressed questions as to the reasons for their actions.

- “Experts,” consisting of members of the humane community, veterinarians, and researchers, and others able to comment upon elephants, addressed elephant care, behavior, health, and habitat.
- The American Zoo and Aquarium Association (AZA) website was reviewed for standards regarding elephant exhibits. Questions regarding AZA policy and procedures were addressed to the Interim Executive Director of AZA.
- An independent veterinarian addressed the health and well-being of the zoo’s three elephants.
- This Office addressed the funding of the planned elephant exhibit.

To assist in the analysis, the Mayor’s Office provided a list of 27 individuals who could provide input in answering the Mayor’s questions. The Zoo provided names of five other individuals to be contacted. (Attachment 3 lists the contributors.) In addition, the Board of Zoo Commissioners held a meeting on September 20, 2005 to consider the elephant exhibit and to receive expert testimony and public comment on all sides of the question of whether elephants should remain on exhibit at the Los Angeles Zoo.

Due to the short timeframe, individuals contributing to the analysis were interviewed by telephone; email was used when time difference proved to be an obstacle. Written questions were made available to those who requested them. Participants were invited to make additional comments and to contact this Office with any additional information they wished to provide.

5. ELEPHANT CARE AND MANAGEMENT AT THE LOS ANGELES ZOO

The Los Angeles Zoo must follow laws and regulations of the state and federal government regarding the care and treatment of animals. The U.S. Department of Agriculture is the federal regulatory body that inspects zoos to ensure compliance with the Animal Welfare Act. The California State Penal Code specifically prohibits the abuse of elephants. Moreover, as a member of the AZA, a non-profit organization that serves as the accrediting institution for zoos and aquariums, the Zoo must follow the professional standards put forth by the AZA, including its standards for animal care and welfare. Additionally, the Zoo’s procedure manual for its elephant management program outlines procedures for training keepers, using equipment, and handling elephants to ensure the safety of the elephants and Zoo staff (Attachment 4, Procedures Manual for the Los Angeles Zoo Elephant Management Program).

The Zoo has had elephants on exhibit since it opened in 1966. The history of elephants at the Los Angeles Zoo has not been without incident. A brief history is attached. (See Attachment 5.) Accordingly, as part of our analysis, an independent veterinarian was retained to provide an independent assessment of the health and status of the three Los Angeles elephants based on direct observation plus an up-to-date review of veterinary records.

The process used to select the veterinarian was intended to identify an independent, objective expert in elephant care. An independent, qualified veterinarian was selected by two other qualified veterinarians, who represented the diverse interests of the humane and zoo communities.

This independent veterinarian found that the care and management of elephants currently provided by the Zoo are of a high standard. The veterinarian found Billy and Ruby to be healthy. Gita, who has a chronic foot infection and a chronic arthritic condition, was described as appearing to be doing well. As indicated in her report, well-being is a complex concept that considers numerous factors in attempting to determine the level of overall health, comfort and "happiness." She describes Billy's well-being and Ruby's well-being as "good" and Gita's well-being as "moderate to good." The veterinarian found that the Los Angeles Zoo Elephant Management Program was thorough and meets or exceeds all points of the AZA Standards for Elephant Management and Care, which outlines keeper training, use of equipment, and the care and management of elephants. She further found that the standards were being taken seriously and followed closely by staff. As noted by the independent veterinarian, with completion of the new expanded exhibit, it is unlikely that any other staff or facility could offer a better level of care and management than the elephants receive at the Los Angeles Zoo. (See Attachment 6 for report and recommendations.)

6. CURRENT AZA ELEPHANT MANAGEMENT STANDARDS

With respect to the care of elephants, the AZA has developed standards for the husbandry and management of elephants (Attachment 7, AZA Standards for Elephant Care and Management). These standards cover a broad array of matters, such as the elephants' herd structure, housing, training, diet, medical care, and reproductive care, as well as the Zoo's staff organization and training. Originally adopted in 2001, member institutions have until May 2006 to comply with or seek a waiver from the requirements. In August, the AZA began its multi-step process for revising its elephant management standards. Given the extensive internal and external review and approval process followed by the AZA, there is currently no expected date by which the revised standards will be released.

Based upon the current standards for outdoor space, the original 1.06-acre planned exhibit meets the AZA standards of a 0.08-acre, at a minimum, outdoor yard for three elephants. The standards also require that elephants be given the opportunity to exercise and interact with other elephants. The Zoo must be able to separate the elephants, if necessary; this would be facilitated by three separate, interlocking yards. In compliance with the standards, the Zoo has eliminated the dry moats, which may cause injury.

These standards also require that the Zoo maintain a herd of three female elephants. With the passing of Tara in December 2004, the Zoo's current herd stands at two females (one Asian and one African) and one Asian male. The standard that all elephants be within the same subspecies only applies to newly formed herds. To date, the Zoo has not undertaken any steps to increase its herd or to request a variance in herd size while the elephant exhibit is under renovation. The Zoo has not sought any other variances from the AZA Elephant Management Standards.

As a member of the AZA, the Los Angeles Zoo is required to participate in the Elephant Species Survival Plan (SSP), either as a breeding or holding institution. The Zoo may indicate its preference, but AZA approval is necessary, as the ability to breed or hold animals is dependent upon the Zoo's

space and resources and the needs of the SSP program. The current plan for the elephant exhibit has been designed for flexibility to accommodate different herd structures.

The Zoo has indicated that it would like to establish an Asian breeding herd of one bull and three cows. This would require obtaining either through loan or importation at least one female Asian elephant. The AZA Elephant SSP would provide assistance in locating elephants available for loan. Another option would be to import elephants; however this action would be controversial, as humane treatment of animals cannot be assured during capture and transit. As such, there has been no attempt to identify importation costs. The Zoo estimates that the primary cost associated with securing additional elephants would be for transport, which could range from \$10,000 to \$18,000, depending upon the point of origin. This estimate is consistent with estimates provided by other zoos.

The Zoo anticipates that Gita and Billy would remain at the Zoo as part of the Asian herd. No decision has been made to move Ruby. Nothing in the standards precludes the Zoo from continuing to house Ruby. Alternatively she could be transferred to another institution that houses African elephants. In this case the AZA's African Elephant SSP would be consulted to identify an acceptable institution.

Any discussion about changes to the size or composition of the herd would need to be considered by the Mayor and Council in the context of the exhibit size, fiscal implications and other policy considerations.

Once the future of the exhibit is determined, the Zoo will have several courses of action available. The Zoo may maintain the herd structure as is and seek a variance from the AZA on the herd size standards. If it wished to comply with existing standards, the Zoo may procure an additional female elephant. If the Zoo chooses to adopt the standards for new herds, the Zoo may seek to procure two additional Asian female elephants and transfer the Zoo's African elephant (Ruby) to another facility with African elephants. The proposed options on the size of the elephant exhibit do not preclude the City from pursuing any of these courses of action.

7. OPERATIONAL COSTS OF ELEPHANT EXHIBITS

To determine the cost of maintaining an elephant exhibit, expenditures on food, exhibit maintenance, medical care, and keeper costs were examined. The Los Angeles Zoo estimates that it spends approximately \$113,890 on each of its three elephants annually. This is based on estimated expenditures for food (\$109,725), staffing (\$201,946), veterinarian expenses (\$20,000) and exhibit maintenance (\$10,000). Not included in the estimate is medication for Gita, which has been averaging \$8,000 per month for treatment of foot abscesses and arthritis. The Zoo Department expects that the course of her treatment will continue through the end of this fiscal year.

Comparable zoos, defined as zoos with three elephants, were able to provide some data for cost comparison. Average expenditure per elephant ranged between \$60,000 and \$106,000. A direct comparison of individual cost categories was not possible as few zoo's track food and veterinarian costs by individual species. Variations in expenditures were seen in maintenance and staffing costs. Zoos in colder climates spend more on heating than those in warmer climates. Some zoos have assigned keeper staff to work multiple exhibits. Staffing is consistently the highest cost of operating

an elephant exhibit at all zoos. Those zoos at the upper expenditure limit had higher staffing costs, including the Los Angeles Zoo.

8. HEALTH AND BEHAVIOR OF ELEPHANTS IN ZOOS

The Mayor's letter requested that the views of experts be solicited on the health and behavioral differences between elephants in captivity and those in free roaming herds. Zoo professionals, veterinarians, researchers, and members of the humane community were contacted and asked to identify health and behavioral problems seen in zoos, in sanctuaries, in the wild, and across the entire population. They were also asked to identify the causes for such differences.

Zoo elephants are prone to developing foot ailments and arthritis. Cited to a lesser degree were weight problems, reproductive problems, cardiovascular problems, colic, tuberculosis, and other diseases. The high occurrence of foot problems and arthritis was blamed on the hard substrates typically found in zoos, namely concrete. Small enclosures were also cited as a health concern, but to a lesser extent. Weight problems and associated diseases resulted from a combination of a steady diet and lack of exercise available in small enclosures.

Behavioral issues cited include the exhibition of stereotypic behavior, such as head bobbing, swaying, and pacing. Other behavioral issues that were mentioned included aggression towards other elephants and people, self-injury (associated with stereotypic behavior), infanticide, and other behavior that experts indicated may signify boredom, stress, depression, or trauma. An impoverished environment was blamed for the stereotypic behavior; the elephants adopt the behavior as a form of self-stimulation. The lack of a social herd structure and past or present trauma were cited as sources of aggression.

Similar health and behavioral problems were identified in elephants in sanctuaries; however, these facilities typically accept elephants from zoos and circuses after onset of problems. The conditions found at circuses and zoos (e.g., hard surfaces, impoverished environments) were cited as the cause. Anecdotal evidence from sanctuary operators and other observers reported improvement in the physical condition of elephants with foot and joint problems and a decrease in stereotypic behavior.

Non-captive elephants experience different threats to their health, such as habitat destruction, injury, predators, poor nutrition, and disease. Experts generally agree that stereotypic behavior is not prevalent, if it exists at all. Behavior problems such as aggression and infanticide may be seen in elephants that have experienced trauma from hunting and culling to control the elephant population.

9. EXHIBIT DESIGN

Zoo exhibits are increasingly being designed to mitigate the health problems cited above. Whether this mitigation is sufficient is a dividing point among those interviewed. To address the foot and joint problems, the common solution would be the utilization of a softer substrate such as sand, soil, loam, or grass to alleviate the stress placed on the foot and joints. In conjunction with the softer substrate, many of those consulted argued for a larger enclosure to provide adequate exercise. However, there

was no consensus on the minimum size for an exhibit. Responses for an optimum exhibit space ranged from one-half an acre to one square kilometer (~247 acres) for one elephant. Those that felt that smaller exhibits were possible stated that there must be complexity in the use of space and encouragement of movement around the space.

Most of those interviewed agreed that behavioral problems such as stereotypic movements are addressed by increasing the stimulus of the environment that the elephants inhabit. The solution can be split into two camps. The first, mostly zoo professionals, argues that stimulus can be provided by creating opportunities for enrichment in their enclosure by varying their daily routine. The second argues that stimulus is best achieved in a larger enclosure where elephants are able to seek out new stimulus on their own.

With regard to the Zoo's elephants, several options are available for addressing their health or behavioral needs. The options that exist are: proceed with the original 1.06-acre planned elephant exhibit without the expansion, proceed with the revised 1.84-acre expanded exhibit; proceed with the exhibit in its current location and increase the size by encroaching on adjacent exhibits; abandon the current location and identify a larger exhibit space within the Zoo; or eliminate the elephant exhibit entirely. Quick action is required as the previous elephant exhibit was demolished in anticipation of construction of the new exhibit and the current accommodations are insufficient to house them over the long term.

Exhibit Option One: Construct Original Exhibit (1.06 acres)

The original planned Pachyderm Forest project was to be built in two phases. Phase I, funded by \$12.0 million in County Proposition A funds, included an elephant and hippopotamus exhibit of 1.06 usable acres. The hippopotamus exhibit was eliminated in 2004 through value engineering, and its space allocated to the elephant exhibit. (See Figure 1.) Phase II of the project consisted of a rhinoceros exhibit. Phase II was not funded and was eliminated from the capital program in 2001.

Exhibit Option Two: Construct Original Exhibit with Expanded Yard (1.84 acres)

An expanded exhibit has been recommended to the Mayor and Council and would provide a yard of 1.84 usable acres. (See Figure 2.) The expanded exhibit would provide more opportunities for exercise and enrichment. Current plans seek to provide a naturalistic environment, with the use of soil or sand to alleviate existing foot problems and prevent the onset of problems in healthy elephants. Three interconnecting yards of approximately 0.09 acres, 0.25 acres, and 1.5 acres in size, would allow the zoo to move the elephants through multiple yards. Each yard would be constructed to house bull elephants to allow for the greatest flexibility in use of space. The current planned exhibit includes one immersion pond in the smaller 0.2 acre yard, as well as additional wading pond, rock formations, and other opportunities for enrichment. With funding provided by GLAZA, the Zoo hopes to include a waterfall and an additional bull barn. The independent veterinarian found that an exhibit of this size (1.84 acre yard) with a variety of furnishings should be adequate for the current three elephants and would contribute positively to their well-being.

This expansion utilizes the area occupied by the existing reptile house and the zoo meadows. Construction of a new reptile house is included within the Zoo's capital improvement program. The

cost of this 0.78-acre expansion is estimated to be an additional \$3.9 million. This option is ready for the bid and award process pending Mayor and Council approval of this funding.

Exhibit Option Three: Larger Exhibit within Planned Area (2.5 acre – 3.0 acre yard)

In consultation with BOE and the Zoo, options for further enlarging the exhibit within the planned location were identified and evaluated for cost, feasibility, advantages and disadvantages. For the purpose of this evaluation, usable space, not total exhibit size, was considered.

A 2.5 acre to 3.0 acre or more footprint may be identified within the developed acreage of the Zoo that fits within the scope of the Zoo's master plan (See Figure 3). According to preliminary BOE estimates, the cost of enlarging yard space up to 2.5 acres total would add approximately \$7.7 million to the project estimate, and the cost of enlarging the yard space to approximately 3.0 acres or more would add approximately \$13.9 million to the project estimate. The expansion would also require the removal and relocation of additional exhibits, potentially affecting four bird displays, a keeper area, and exhibits for a tapir, a wolf and a pacarana, in addition to the reptile house and the zoo meadows. In addition, several pathways across the middle of the Zoo would be eliminated, possibly inconveniencing zoo visitors. The Zoo would need to identify new locations for the exhibits and identify funding for construction of those new exhibits. This option, like the previous two, fits within the Zoo's master plan. If Mayor and Council were to approve this option, BOE, in conjunction with the Zoo, would need to define the exhibit boundaries, identify operational and cost implications of relocating affected exhibits, and prepare plans for the development of the site. Unless the work can be done in phases, bid and award of the construction project would be delayed. The additional delay would also result in a likely increase in the costs of construction. Notwithstanding the steps and funding required, this option could provide the most feasible approach and the greatest amount of yard space for the elephants.

Exhibit Option Four: Identify New Location for Exhibit within the Zoo

To attain a larger exhibit area, the elephants would need to be relocated to another site within the Zoo's boundaries or outside the developed acreage. An exhibit of 4.0 acres or larger within the Zoo's developed footprint poses significant challenges due to the Zoo's topography and existing Zoo facilities. For an exhibit between 4.0 to 6.0 acres, the only option would be to locate the exhibit within the existing parking lot. A 6.0-acre exhibit would cost approximately \$57.5 million. Lost parking space would require the construction of a parking garage, which would add an estimated \$19.3 million to the cost of building the exhibit. Aside from the high cost, this solution poses other problems. The location along the Zoo's exterior places the elephants in proximity to noise from the road, freeway and parking lot. Also problematic is the required deviation from the Zoo's master plan.

Exhibit Option Five: Eliminate Exhibit and Relocate Elephants to another Facility

Another option is the elimination of the elephant exhibit. The Detroit Zoo, Lincoln Park Zoo (Illinois), and San Francisco Zoo have closed their exhibits citing a variety of reasons, including: limited space, cold climate, illness or death of elephants, deteriorating facilities, lack of enrichment of the exhibit, and political decisions.

Closing the exhibit would require relocating the elephants to another zoo or sanctuary. If eliminating the exhibit is meant to prevent the health and behavioral problems seen in zoos, the destination zoo

may not be an improvement. Sanctuaries may be an alternative. However, if the elephant exhibit were eliminated, there are detailed AZA policies and procedures that must be followed in an attempt to relocate the elephants to an AZA accredited facility. (See Attachment 8, Full Participation in the Species Survival Plan Partnership and Process.) Even though a sanctuary may be accredited by The Association of Sanctuaries, sanctuaries are not AZA accredited. Thus, the City cannot unilaterally place the elephants in a sanctuary. While AZA policies may allow the elephants to be placed in non-accredited facilities under certain circumstances, an attempt to circumvent AZA procedures may have undesirable consequences, including a possible adverse impact on the Zoo's accreditation. As part of the AZA Elephant SSP, the AZA would likely make a recommendation on which participating institutions should receive the Zoo's elephants.

The cost of relocating the Zoo's elephants to another location is dependent upon the receiving institution. If the herd were to be relocated to another zoo, this cost would be minimal as the receiving institution would be responsible for transporting and housing the elephants.

Should the elephants be relocated to a sanctuary in California operated by the Performing Animal Welfare Society (PAWS), the City may need to provide \$2.14 million in capital improvements and \$234,000 in recurring annual costs. (See Attachment 9.) Not included is the cost for transferring the elephants to the sanctuary, as PAWS does not provide such services. However, the facility would be able to provide a trailer for transport of the animals. Some cost savings could be achieved by sending the herd to separate sanctuaries.

It should be noted that eliminating the elephant exhibit does not alleviate the funding problem under the Zoo's capital program. As the previous elephant exhibit has been demolished, the Zoo would still have a 2.0-acre site that would need to be developed. BOE believes that cost figures for construction of a new exhibit would be comparable to estimates for the elephant exhibit. Moreover, additional funding must be provided for a new design.

There may be a fiscal impact to the City in the elimination of the exhibit from the potential loss of \$12.0 million in County funding and the need to repay \$3.0 million of that funding already spent. In 1998, the Los Angeles County Regional Park and Open Space District (the District) granted \$12.0 million to the City for the development of the Pachyderm Forest. Under the project agreement between the City and the District, the City would likely be obligated to repay the District for any expenditures funded by Proposition A if the project is terminated. To date, the District has reimbursed approximately \$3.0 million in expenditures for demolition of the previous exhibit and design of the new exhibit. Project termination also means that the City would forfeit the remaining \$9.0 million in Proposition A funds.

The District has indicated that the City may apply to utilize the \$12.0 million for another qualifying project within the Zoo's capital program. Before seeking approval from the County Board of Supervisors (the Board), arrangements must be made with the District to repay the \$3.0 million. Board approval may take three to four months and is not guaranteed.

As discussed previously, GLAZA has raised \$1.0 million in donations for the elephant exhibit. The organization has expressed its concerns regarding the elimination of the exhibit, including a decline

in philanthropic giving. GLAZA foresees that large private donors may be reluctant to make large donations if significant exhibits such as this one are not realized.

10. CONCLUSION AND RECOMMENDATIONS

Whether elephants should remain on exhibit at the Los Angeles Zoo is ultimately a policy question that must be addressed by the Mayor and City Council. The ethics of keeping animals in captivity and the social and educational value of zoos is a long-standing debate with competing viewpoints for which there is no clear answer. Debate goes beyond the cost, health, behavior and care issues discussed in this report, to the ethics of keeping animals in captivity and the value of zoos to our residents and society in general.

In Los Angeles, the elephants are an important aspect of the social and educational value of the Zoo. As noted by the independent veterinarian, with completion of the new expanded exhibit, "it is unlikely that any other staff or facility could offer a better level of care and management than the elephants receive at the Los Angeles Zoo." Elimination of the elephant exhibit, therefore, is not recommended. At this time, we support the continued presence of elephants in the Los Angeles Zoo. The first action we would recommend would be to provide elephants with access to a yard larger than the 1.84 acres currently proposed. Other zoos have made similar efforts out of the belief that a larger exhibit will present more opportunities for exercise and greater variation in their environment. Enlarging the exhibit space to a size between 2.5 acres and approximately 3.0 acres or more would allow the Zoo to design a high quality exhibit that provides enhanced opportunities for enrichment. Interlocking yards would allow the Zoo to limit the elephants to an exhibit yard during the zoo hours and expand the exhibit after hours to provide a larger roaming area. The ability to separate yards can provide for the separation of elephants if aggression is a problem, thereby preventing injury from other elephants while still allowing elephants to see, hear, touch, and smell each other. In conjunction with the larger yard, natural substrates should be utilized to alleviate foot problems and arthritis. The additional cost associated with a larger exhibit could range from \$7.7 million for 2.5 acres to \$13.9 million for approximately 3.0 acres. The costs would increase with an increase in the size of the yard.

It is unclear that the three elephants could remain together at a new location, and their separation could be detrimental to their social well-being. The City could not unilaterally send the elephants to sanctuaries. Their relocation would have to be performed in accordance with AZA guidelines in order to avoid a possible adverse impact on the Zoo's accreditation. Further, the City would likely have to repay Los Angeles County \$3.0 million for costs already expended on the elephant exhibit, and funding of \$12.0 million would be jeopardized. The City would be faced with incurring additional costs to construct an alternative exhibit at the location currently designated for the elephants, along with relocation costs, and depending upon the destination, possible annual on-going costs for care.

In conjunction with a larger exhibit, the Zoo should be given the resources to continue to provide high quality husbandry, including veterinary care, by ensuring that its animal care programs are adequately staffed. To this end, the Zoo should receive authority on an interim basis to hire additional Veterinary Technicians to care for the elephants and funds (\$50,000) to cover as-needed salary costs for the balance of the fiscal year. To ensure that the interests of the Zoo's elephants are being addressed, the Zoo Department should make periodic reports to the Mayor and Council to

keep it apprised of the staffing of its animal care providers and the health and well-being of the Zoo's elephants.

Most of the points that have been made against having elephants at zoos could similarly be made about other species. In effect, they can be construed as arguments against the existence of Zoos. That question, whether zoos should continue to exist or be closed, is beyond the scope of this analysis. However, it is a question that should be addressed directly, if it is addressed at all, and not one that should be addressed on a piecemeal basis, species by species.

ATTACHMENT 1

Request from Mayor

ATTACHMENT 2

Questions Provided by Office of the Mayor

ATTACHMENT 3

List of Contributors

ATTACHMENT 4

Procedures Manual for the Los Angeles Zoo Elephant Management Program

ATTACHMENT 5

History of Incidents

ATTACHMENT 6

Veterinarian Report

ATTACHMENT 7

American Zoo and Aquarium Association Standards for Elephant Care and Management

ATTACHMENT 8

American Zoo and Aquarium Association Full Participation in Species Survival Program

ATTACHMENT 9

Cost of Transferring Los Angeles Zoo Elephants to PAWS Elephant Sanctuary

FIGURE 1

Elephant Exhibit Original Plan

FIGURE 2

Elephant Exhibit with Expansion as Recommended by the Zoo Capital Program Oversight Committee

FIGURE 3

Proposed 3.0-Acre Exhibit

ATTACHMENT 1

Request from Mayor



ANTONIO R. VILLARAIGOSA
MAYOR

August 12, 2005

William T. Fujioka
City Administrative Officer
City Hall East, Room 1500
200 North Main Street
Los Angeles, CA 90012
Mail Stop 130

Dear Mr. Fujioka:

RE: Los Angeles Zoo Elephant Exhibit

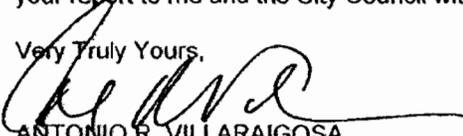
I have been reviewing the situation regarding the elephants at the Los Angeles Zoo for several months and I have some concerns that warrant independent review and analysis.

Questions have been raised about the appropriate amount of space required to house elephants in captivity. As you know, space standards for elephants vary across the United States. For example, the Phoenix Zoo dedicates 1.4 acres, the Atlanta Zoo provides 5 acres, the Oakland Zoo dedicates 6 acres and the San Diego Wild Animal Park provides a total of 6 acres as well. In addition, some zoos are even reaching the conclusion that they cannot provide an appropriate space to meet the needs of elephants at all (i.e., San Francisco, Detroit, Milwaukee and others).

Nonetheless, the Los Angeles Zoo Master Plan would increase the current space dedicated to the City's elephants from .25 to 2 acres. While this is a measurable increase that will cost at least \$4 million, it is not clear that this will significantly improve the living conditions of our elephants.

With these concerns in mind, I request your assistance in conducting an analysis of the housing and health needs for elephants at the Los Angeles Zoo. Attached is a summary memo of the key questions that should be, at a minimum, addressed in your report, along with some other guidance for undertaking the study. Please complete and submit your report to me and the City Council within 45 days.

Very Truly Yours,


ANTONIO R. VILLARAIGOSA
Mayor
attachment

200 NORTH SPRING STREET • LOS ANGELES, CALIFORNIA 90012

PHONE: (213) 978-0600 • FAX: (213) 978-0750

EMAIL: MAYOR@LACITY.ORG

ATTACHMENT 2

Questions Provided by Office of the Mayor

L.A. Zoo Elephant Study

Time Frame: Through September 30, 2005

Purpose: To develop recommendations regarding the long-term future of elephants at the Los Angeles Zoo.

Core Issues:

1. Should elephants remain part of the exhibited collection at the zoo?
2. If so, what form should their facility take?
3. If not, what should be done with them?
4. What can be done in the short term to make the elephants more comfortable?

Path Forward:

1. CAO to conduct research
2. Outreach to technical resource people as needed (list to be provided ASAP)
3. One public forum on the subject (Zoo Commission night meeting on September 20) (CAO and Mayor's office to coordinate meeting in conjunction with Zoo Commission staff)
4. Draft report
5. Final report delivered to Council and Mayor

Questions to Consider:

A. Cost:

1. What is the annual cost of supporting an elephant at the Los Angeles Zoo in current dollars?
2. How does this compare with the average cost at comparable urban zoos?

3. What are the unique circumstances pertaining to the elephants currently under the Zoo's care that affect the cost of their upkeep?

4. What would be the advantages, disadvantages, estimated feasibility and cost of expanding the proposed elephant exhibit to three, four, five or six acres?

5. How do the current Zoo elephant exhibit and the currently proposed elephant exhibit compare in size, design, features and character with elephant exhibits in other urban zoos in major U.S. cities?

6. What are the American Zoo and Aquarium Association (AZA) standards for elephant exhibits and how do they compare with those prescribed by other elephant experts?

7. What would be the cost of relocating the Zoo's current herd to another location?

8. What would be the cost of permanently housing them elsewhere and how much of that cost could/would be borne by the City?

9. What would be the annual cost of keeping them here, as per the Zoo's current plan?

10. What are the current funding challenges for the proposed elephant exhibit renovation?

11. What is the cost of securing the elephants necessary for a proposed new herd and from where would they come?

12. What other implications might there be for philanthropic or other fundraising in retaining or removing the elephants, or in substantially redesigning and expanding their exhibit space?

B. Issues and Plans:

1. What are the Zoo's current plans for a new elephant herd? What are the variations of that plan? (How many elephants and of what species or subspecies?)

2. How does the Zoo intend to subdivide the exhibit area for the herd in the new exhibit? (How much room will there be in the various pens? How many elephants will be in each and what size areas?)

3. What is the current plan for Ruby? Gita? Billy? (Especially as it pertains to the new as planned elephant exhibit: Who is kept and who is excluded, and what is the cost of each situation?)

4. How would/could the elephant plan be modified if additional acreage were made available (three, four, five, six or more acres)?

5. What issues and challenges would arise if the elephant exhibit was to be expanded and what would be the anticipated cost impacts?

6. How does the zoo anticipate the standards for elephants to change in the near future? How do others see these changes? When will it be necessary to upgrade the new facility?

7. How does the currently proposed elephant exhibit fit in with the current trend in elephant exhibit expansion? (For example, North Carolina Zoo is planning to expand to 6 acres, Oakland Zoo has expanded to 6 acres and will add even more acreage.)

8. What is the L.A. Zoo's history with elephants and elephant care?

8. Why have several other U.S. zoos closed their elephant exhibits in the past several years?

9. What educational alternatives exist that the Zoo could implement to teach visitors about elephants without exhibiting them live and what might they cost?

C. Health:

1. What is the health status of the elephants currently residing at the Los Angeles Zoo? (An independent assessment by a recognized veterinarian familiar with elephants is desired. It should be based on direct observation plus a review of up-to-date veterinary records.)

2. Are there current health issues that require timely or immediate action?

3. What impact do the size, design, features and character of the current elephant exhibit and holding areas have on the health and well-being of the Zoo's herd?

3. Can the health and well-being of the elephants in our herd be maintained and/or improved in the facility currently contemplated by the Zoo? If so, how?

4. Would living in a different or larger facility contribute substantively to the health and well-being of the elephants in our herd? If so, how?

5. Relative to exercise and enrichment, what could be done differently in a new facility or a larger facility that cannot be accomplished now?

6. What are the views elephant experts regarding the health of elephants in captivity vs. free roaming herds?

7. What are the documented behavioral differences between elephants in zoos and those in the wild? What is the cause of these differences?

ATTACHMENT 3
List of Contributors

List of Contributors to Study

<u>Last</u>	<u>First</u>	<u>Organization</u>	<u>Title</u>	<u>Source</u>
Baker	Andy	Philadelphia	Sr. Vice President Animal Programs	Comparable Zoo*
Beller	Bruce	Milwaukee Zoo	Deputy Zoo Director of Animal Management and Health	Eliminated Exhibit
Bohmke	Bruce	Woodland Park Zoo	Deputy Director	Zoo's List
Bradshaw	Gay	Oregon State University	Lecturer/Student	Mayor's List
Buckley	Carol	Tennessee Elephant Sanctuary	Director	Mayor's List
Carter	Scott	Detroit Zoo	Curator of Mammals	Eliminated Exhibit
Derby	Pat	PAWS Elephant Sanctuary	Co-Director	Mayor's List
DeRose	Chris	Last Chance for Animals	Director	Mayor's List
Doyle	Catherine	In Defense of Animals	Zoo Elephant Advocate	Mayor's List
Dinon	John	Cincinnati Zoo	Animal Collection Supervisor	Comparable Zoo*
Emmanuelson	Karen	Oakland Zoo	Veterinarian	Mayor's List
Freeze	John	North Carolina Zoo	Former Animal Mgmt Supv.	Mayor's List
Hancocks	David	Woodland Park Zoo (Former)	Former Director	Mayor's List
Jenkins	Bob	San Francisco Zoo	Director of Animal Care and Conservation	Eliminated Exhibit
Kaplan	Melya	Voices for the Animals	Director	Mayor's List
Kaplan Sloan	Shelby	Board of Zoo Commissioners	New Appointee	Mayor's List
Keele	Mike	Oregon Zoo	Deputy Director Living Collections	Zoo's List
Kilmore	Larry	San Diego Zoo	Deputy Director of Living Collection	Expanded Zoo
Kranz	Karl	Maryland Zoo	General Curator	Comparable Zoo*
Kuehn	Gary	Los Angeles Zoo	Veterinarian	Mayor's List
Lehnhart	John	Disney's Animal Kingdom	Animal Operations Director	Zoo's List
Lewis	John	Los Angeles Zoo	General Manager	Mayor's List
Lindsay	Keith	Amboise Elephant Research Project	Resource Ecologist	Mayor's List
Maloney	Denise	Buffalo Zoological Gardens	President (Interim)	Comparable Zoo*
Marteau	Kimberly	Board of Zoo Commissioners	President	Mayor's List
McCusker	Steve	San Antonio Zoo	Zoo Directory	Zoo's List
Morgan	Connie	Greater Los Angeles Zoo Association	President	Mayor's List
Morris	Ron	North Carolina Zoo	General Curator	Expanded Zoo
Parrot	Joel	Oakland Zoo	Director	Expanded Zoo
Petric	Ann	Chicago Brookfield Zoo	Mammal Curator	Comparable Zoo*
Poole	Joyce	Amboise Elephant Research Project	Research Director	Mayor's List
Richardson	Mel	Multiple zoos (Former)	Veterinarian	Mayor's List
Roocroft	Alan	San Diego Zoo (Former)	Consultant, Former E. Manager	Mayor's List
Schmidt	Michael	Portland Zoo (Former)	Veterinarian	Mayor's List
Schobert	Les	LA Zoo (Former)	Former Curator	Mayor's List
Thompson	Steve	Lincoln Park	Vice President, Conservation of Science	Eliminated Exhibit
Weitzer	Renee	Council District 4	Chief Planning Deputy	Mayor's List
Williams	A. Christy	WWF-International Asian Elephant and Rhino	Coordinator	Mayor's List
Williamson	Jeff	Phoenix Zoo	CEO and President	Comparable Zoo*
Wyley	Gretchen	Humane Society, Hollywood	Director	Mayor's List
Baker	Ann	Rosamond Victor Zoo	Director	Zoo's List
Engfer	Susan	Cheyenne Mountain	President and CEO	Comparable Zoo*
Feagle	Chuck	Dallas Zoo	Deputy Director of Animal Management	Comparable Zoo*

*A comparable zoo was defined as zoos with three elephants located in a metropolitan area. The zoos were identified by Mike Keele, the AZA Elephant TAG Coordinator, as comparable; however, not all zoos had three elephants.

ATTACHMENT 4

Procedures Manual for the Los Angeles Zoo Elephant Management Program

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Updated: 11-3-05 jmc

**LOS ANGELES ZOO
ELEPHANT MANAGEMENT PROGRAM
PROCEDURE MANUAL**

(updated 11-3-05 *gmc*)

LOS ANGELES ZOO ELEPHANT MANAGEMENT PHILOSOPHY

It is the philosophy of the Los Angeles Zoo that the elephants housed here shall be cared for in a manner meeting and exceeding the AZA "Standards for Elephant Management and Care". The Los Angeles Zoo has created an environment that promotes flexibility and safety for the elephants and the employees. The hydraulic door system allows elephants to be moved through the facility and restrained when necessary for husbandry and medical procedures remotely. This has eliminated the need to chain the elephants for long periods during the night and allows us to give them 24-hour access to their yards as long as weather permits. In addition, the training methods used to condition behaviors concentrate on positive reinforcement and do not include unacceptable methods of discipline.

It is our intention to continue to develop a management program that encompasses the benefits offered by "protected contact" (handling of the elephant when the keeper and the elephant do not share the same unrestricted space), "free contact" (direct handling of the elephant when the keeper and the elephant do share the same unrestricted space) and "confined contact" (handling of an elephant through a protective barrier where the elephant is spatially confined as in an Elephant Restraint Device ERD). This should offer the elephants the highest possible quality of life but still be able to manage them in a safe and responsible manner. In order to accomplish this, it will be necessary to regularly evaluate each elephant's behavior to determine if adjustments should be made in their handling, as well as maintain a staff of well trained elephant handlers who are qualified to work closely with the elephants.

ELEPHANT BARN ORIENTATION

The following orientation shall be read and signed by every volunteer, student and worker prior to starting work at the elephant barn. By signing this you agree to follow the guidelines and rules explained to you. Any noncompliance of the rules will mean removal from the elephant barn.

1. DO NOT go anywhere in the barn or elephant yards, or do anything, until you have been instructed to do so by one of the full-time elephant keepers or an elephant barn supervisor. Volunteers will not be allowed in the stalls or yards when elephants are present.
2. DO NOT touch, go near, talk to or feed any elephant at any time unless specifically given permission by one of the qualified elephant handlers.
3. If you have any questions regarding your work assignment, ask one of the elephant keepers to clarify it for you. DO NOT improvise.
4. If any of the elephants behave improperly towards you (reaching out or slapping with trunk, kicking at you or throwing objects) notify one of the qualified elephant handlers immediately.
5. Move slowly and carefully around the elephants at all times.
6. To avoid accidents be aware of moving gates, wet floors, hoses, etc. Never walk through a hydraulic gate when it is in the process of opening or closing.
7. If you have any concerns about anything, please relay them to one of the elephant barn staff immediately.
8. Only elephant barn personnel are allowed to operate the Toro dump truck.
9. Only elephant barn personnel may use the lock out keys for the barn. These keys will not be loaned out to anyone else working around the barn.
10. Any work that needs to be done at the elephant barn must be arranged for ahead of time by phone (46021) or radio (1122 or 1171). When coming to the barn please use the doorbell at the road and wait for one of the elephant barn staff to come out to get you.

Name _____ Position/Job Class _____

Elephant Barn Personnel _____ Date _____

EMERGENCY INFORMATION

IN CASE OF AN EMERGENCY INVOLVING AN ELEPHANT ESCAPE:

**** IF THE ELEPHANT IS OBVIOUSLY AGITATED OR YOU FEEL ITS BEHAVIOR IS UNPREDICTABLE, DO NOT PUT YOURSELF OR ANYONE ELSE IN A POSITION OF BEING SERIOUSLY INJURED OR POSSIBLY KILLED. THIS WILL ONLY COMPLICATE THE SITUATION AND POTENTIALLY INSIGHT FURTHER AGGRESSIVE OR ERRATIC BEHAVIOR BY THE ELEPHANT. DO NOT TAKE UNNECESSARY RISKS. REMAIN CALM AND CLEAR HEADED. ALERT ANY PATRON OR OTHER ZOO EMPLOYEE IN THE AREA OF THE DANGER AND STRONGLY ENCOURAGE THEM TO CLEAR THE AREA.**

1. Do not lose sight of the elephant.
2. **Immediately** have someone notify security by radio (#1340) or by telephone (x44258). Inform them of the situation by clearly and calmly stating the following,
 - there is an emergency at the elephant barn, an elephant is out
 - where the exact location of the elephant is AND WHICH DIRECTION IT IS HEADING.
 - which elephant and its current state of mind (calm or agitated, walking or running)
 - how many qualified handlers are present to assist
 - whether or not anyone has been injured

It is important that you notify security any time an elephant has left the enclosure even if you feel it is a situation you can easily handle. You can not assume that the elephant will remain calm under the circumstances. Do not spend time trying to notify anyone else. The Security office will handle that. Follow the chain of command as others arrive on the scene to assist.

It is imperative that good judgement be exercised when any attempt to return an elephant to the confines of its enclosure is made. A number of decisions will need to be made immediately.

Some of these are:

- Which elephant is it? What is the attitude of the elephant? Is the elephant tractable? Should the elephant be approached?
- What is the experience of the staff on the scene?
- Is there a real danger of the elephant hurting people?
- Should other tractable elephants be brought to the scene?

It is the responsibility of the highest ranking Animal Care staff person to make these judgements based on both their knowledge of the situation as well as information they have obtained from other personnel directly involved with the animals.

The #1 concern is public and personnel safety followed by the safety of the animals.

EMERGENCY INFORMATION

IN CASE OF AN EMERGENCY INVOLVING A SERIOUS INJURY:

ANY TIME SOME ONE IS SERIOUSLY INJURED IT IS ABSOLUTELY NECESSARY THAT YOU NOTIFY SECURITY AS QUICKLY AS POSSIBLE. SECURITY WILL THEN BE RESPONSIBLE FOR CONTACTING EMERGENCY MEDICAL SERVICES AND ESCORTING THE PARAMEDICS TO THE SCENE OF THE INJURY. IF YOU ARE TRAINED IN CPR AND FIRST AID THERE ARE SEVERAL THINGS THAT YOU SHOULD QUICKLY ASCERTAIN ABOUT THE CONDITION OF THE VICTIM PRIOR TO CALLING SECURITY. THIS INFORMATION WILL BE VALUABLE IN DETERMINING THE NECESSITY FOR CALLING 911 AND IN SPEEDING UP THE PROCESS SO THAT EMERGENCY CARE CAN BE AVAILABLE AS SOON AS POSSIBLE. (IF THERE IS NO ONE ON THE SCENE WHO IS TRAINED IN CPR AND FIRST AID IT MAY BE NECESSARY FOR ONE OF THE SECURITY OFFICERS TO COME TO THE SCENE AND EVALUATE THE CONDITION OF THE VICTIM.)

1. **Use good judgement when evaluating the scene. If the victim is still in a dangerous position and it is safe to do so, remove the victim to a safe location. **DO NOT** put yourself or any one else in a position that you too may be seriously injured or potentially killed by an elephant. If the victim is already in a safe area and you suspect there may be a neck or back injury, do not move the victim.**
2. **Evaluate the condition of the victim:**
 - Check to see if the victim is conscious.
 - Check to see if the victim is breathing.
 - Check to see if the victim has a pulse.
 - Do a visual check for excessive bleeding.
3. **Notify Security immediately, (preferably by telephone, 44258, to avoid causing a commotion or unnecessary attention to the incident. The first priority is to get emergency medical help to the scene as soon as possible.) In a very calm and clear voice relay the following information to security:**

"THIS IS _____."

"THERE HAS BEEN A SERIOUS INJURY AT THE ELEPHANT BARN"

"THE VICTIM'S NAME IS _____".

"WE HAVE SOMEONE ON THE SCENE WHO IS TRAINED IN FIRST AID AND CPR.

THE VICTIM IS CONSCIOUS OR UNCONSCIOUS.

- THE VICTIM IS BREATHING OR NOT BREATHING.

- THE VICTIM HAS A PULSE OR DOES NOT HAVE A PULSE.

- THE VICTIM IS OR IS NOT BLEEDING EXCESSIVELY.

- A NECK OR BACK INJURY IS OR IS NOT SUSPECTED.

- FIRST AID IS BEING ADMINISTERED FOR...

- WE HAVE BEGUN TO ADMINISTER CPR."

or

"WE DO NOT HAVE SOMEONE ON THE SCENE WHO IS TRAINED IN FIRST AID AND CPR BUT IT APPEARS THAT ANSWER THE ABOVE QUESTION TO THE BEST OF YOUR KNOWLEDGE PLEASE NOTIFY 911 AND SEND A SECURITY GUARD TO THE SCENE IMMEDIATELY."

If possible have someone remain on the line with Security to relay information until help arrives. At that time have some one stay by the telephone to intercept incoming calls. Any questions being asked about the details of the accident **should be politely redirected to the Public Relations Office (x44272)**. Do not tie up the lines with unnecessary conversation.

RADIO CALL NUMBERS

1340	Security
1122	Jeff Briscoe (Principal Keeper/Elephant Manage)
1184	Jennie McNary (Curator of Mammals)
1180	Mike Dee (General Curator)
1100	John Lewis (Director)
1112	Dr. Leah Greer (Veterinarian)
1108	Dr. Russ Burns (Veterinarian)
1117	Dr. Janna Wynne (Veterinarian)
1113	Dr. Julie Barnes (Veterinarian)
1114	Dr. Steve Klause (Vetereinarian)
1265	Plumber
1190	Grounds Maintenance

TELEPHONE NUMBERS

44258	Security
46021	Elephant Barn
46021	Jeff Briscoe
44207	Jennie McNary
46018	Health Center
44354	Michael Dee
44261	John Lewis
44281	Construction
46009	Grounds Maintenance

SAFETY

- **Absolutely no one is allowed in the stalls or the yards at any time when a female elephant is present without the presence of at least two qualified elephant handlers.**
- **Absolutely no one is allowed in the stall or the yard at any time when the bull is present, no exceptions, he is to be handled by protected contact only.**
- Unless given permission to do so, no non-elephant personnel are allowed through the door marked with red tape that leads into the bull barn safety area when the bull is present.
- Always carry an ankus when going in with the elephants.
- Non-elephant personnel are to notify the elephant barn personnel prior to coming to the barn. If the gates are closed there is the potential that an elephant may have access to that area. Wait until elephant personnel tell you it is okay to come to the barn.
- In order to avoid injury to the elephants, when operating the hydraulic gates to move elephants through them, one keeper must have visual access to both the elephant and the gate and give verbal instructions to the keeper operating the hydraulic levers.
- Never walk through a hydraulic door when it is opening or closing. Never allow an elephant to walk through a hydraulic door when it is opening or closing.

HYDRAULIC GATES AND DOORS

A hydraulic gate should not be operated without the verbal communication from a keeper who has visual access to the elephant and gate to the keeper operating the hydraulic levers.

Under the protected-contact procedure, the elephant should be a safe distance from a moving hydraulic gate. The elephants should be held with food at another location until the gate is either opened or closed. Movement of a gate should be directed by a keeper who has visual access to both the elephant and the gate.

Under the free-contact procedure, there should be two qualified and one non-qualified keepers while using the hydraulic. The two qualified keepers directing the elephant and a third person operating the hydraulic levers. The elephants should be held at a reasonable distance while the gate is in motion. An elephant or keeper should never pass through a hydraulic gate when it is moving. If only two qualified handlers are available then protected-contact procedures will be used.

BULL HANDLING

UNLESS AUTHORIZED BY MANAGEMENT, ONLY ELEPHANT STAFF IS ALLOWED IN THE BULL BARN AREA OUTSIDE THE SAFETY BARS WHEN THE BULL IS PRESENT. NON-ELEPHANT STAFF MUST BE ACCOMPANIED BY QUALIFIED ELEPHANT STAFF WHEN THE BULL IS PRESENT.

AT NO TIME SHALL ANY KEEPER, VETERINARIAN OR OTHER ZOO STAFF ENTER THE YARD OR THE STALL IN THE BULL BARN WHEN THE BULL IS PRESENT. THE BULL SHALL BE HANDLED BY PROTECTED CONTACT AT ALL TIMES.

THE BULL SHALL BE MOVED FROM ONE LOCATION TO ANOTHER IN THE BARN OR YARD BY THE USE OF VERBAL COMMANDS. THERE MUST BE AT LEAST TWO QUALIFIED KEEPERS PRESENT WHEN HE IS BEING WORKED.

THERE SHALL BE NO HAND FEEDING OF THE BULL. THE ONLY EXCEPTION TO THIS WILL BE IN ORDER TO CLEAN THE BULL'S TUSKS (ESPECIALLY UP NEAR THE GUM LINE WHERE THE TRUNK MUST BE UP). WHEN IT IS NECESSARY TO USE FOOD TO MANIPULATE HIM, THE FOOD WILL BE TOSSED ON THE GROUND WHERE HE CAN REACH IT.

KEEPERS SHALL KEEP A SAFE DISTANCE FROM THE BULL WHEN WORKING NEAR HIM IN THE ADJACENT YARD. IT IS NOT APPROPRIATE TO ENCOURAGE HIM TO COME CLOSE OR TO WORK WITHIN HIS STRIKING DISTANCE IF NOT IN THE PROCESS OF POSITIONING HIM WITH FOOD. HANDLING THE BULL'S TRUNK MUST BE DONE REGULARLY IN ORDER TO CONDITION HIM FOR TRUNK WASHES, BUT THIS SHOULD BE DONE WITH CAUTION AND ONLY WHEN TWO HANDLERS ARE PRESENT.

WHEN THE BULL IS IN MUSTH THE FOLLOWING PROCEDURE MUST BE USED.

- WHEN HOLDING HIM IN THE BARN, THE HANDLERS MUST STAY BEHIND THE MESH NEAR THE FOOT CARE OPENING.
- THERE MUST BE TWO HANDLERS PRESENT FOR FOOT WORK. FOOT WORK WILL BE PERFORMED IN THE BARN USING THIS WINDOW.
- WHEN EXERCISING THE BULL, HANDLERS MUST STAY AT LEAST 6 FEET BACK FROM THE GATES AND TOSS THE FOOD JUST BEYOND THE GATE. HE BECOMES AGITATED IF YOU THROW THE FOOD PASSED HIM. AVOID ANY ACTIVITY THAT IRRITATES HIM.
- THE BASIC TRAINING ROUTINE IN THE YARD WILL BE DONE ONLY WHEN TWO HANDLERS ARE PRESENT. THE HANDLER WORKING BILLY MUST STAY A MINIMUM OF 6 FEET BACK FROM THE FENCE LINE. ONLY THE LONG ORANGE AND WHITE TARGET STICKS WILL BE USED. THE HANDLER WILL FACE THE BULL AT ALL TIMES AND THERE WILL BE NO PHYSICAL CONTACT. THE SECOND HANDLER WILL BE RESPONSIBLE FOR TOSSING TREATS TO THE BULL IN CO-ORDINATION WITH THE PRIMARY HANDLER. THE SECOND HANDLER WILL OVER SEE THE SAFETY OF THE ACTIVITY. IF EITHER HANDLER BELIEVES THE SITUATION TO BE UNSAFE FOR ANY REASON, THE ROUTINE MUST BE TERMINATED IMMEDIATELY.

- IF ANY HANDLER IS FOUND TO BE IN VIOLATION OF THESE RULES OR IN ANY WAY WORKING UNSAFELY AROUND THE BULL HE WILL NO LONGER BE ALLOWED TO WORK WITH THE BULL.

WHEN THE BULL IS OUT OF MUSTH AND BEHAVING WELL, MOTIVICATIONS TO THIS PROCEDURE CAN BE ALLOWED TO ACCOMMODATE SPECIAL NEEDS SUCH AS BLOOD DRAWS, TRUNK WASHES OR VACCINATIONS.

STANDARD ELEPHANT COMMANDS

Following is the list of standard elephant commands that are used at the Los Angeles Zoo. No other commands shall be used unless authorized.

1. **FOOT** - raise foot indicated by the ankus.
2. **TRUNK** - trunk raised.
3. **COME HERE** - elephant comes to location of handler.
4. **GET OVER** - elephant moves away from handler.
5. **MOVE UP** - elephant moves forward.
6. **TAIL** - elephant holds tail of elephant in front with trunk.
7. **STRETCH** - elephant comes down on front and back knees.
8. **DOWN** - elephant lies down on its side.
9. **HEAD DOWN** - elephant puts forehead down towards ground.
10. **STEADY** - elephant holds in position with no movement.
11. **ALRIGHT** - elephant is released from previous command.
12. **EASY** - used to calm an excited elephant.
13. **COME IN LINE** - elephant stands shoulder to shoulder with another elephant facing the same direction.
14. **BACK** - elephant walks directly backwards.
15. **SIT** - only used with Gita

THE ANKUS

The elephant ankus is an instrument a handler uses to communicate with an elephant. As an alternative to using the ankus, the handlers may use a plain wooden cane when working the elephants under direct contact.

The ankus (or wooden cane) is to be used only when communicating with the elephant, not for lifting drain grids, pulling rubber tubs, etc. When the keeper is working in close proximity with the elephants the ankus (or wooden cane) should be carried under the arm, hook end facing back, hook facing down. The purpose of this carriage is to have the hands free and the ankus in the most accessible place if the keeper needs to use it.

Use the ankus (or wooden cane) carefully as an instrument of guidance, however, use it effectively so you achieve the required behavior. The ankus (or wooden cane) should be used in conjunction with a verbal command, slowly discontinuing guidance and emphasizing the verbal command, the ankus (or wooden cane) will then become an instrument to maintain established behaviors.

The ankus (or wooden cane) **shall not be used** as an instrument to administer heavy handed discipline or in violation of the AZA Elephant Standards. Any one seen using the ankus in this fashion shall be subject to serious disciplinary action. If there is any question as to what is meant by "heavy-handed", please consult with the Lead Keeper, Elephant Manager, Curator of Mammals responsible for the Elephant Barn, or the zoo's General Curator.

TETHERING OR CHAINING ELEPHANTS

Although the tethering or chaining of elephants at night is no longer necessary or appropriate except under special circumstances, it may be necessary to tether or chain the elephants for short periods of time during the day either to give the elephant a bath or to allow the veterinarians closer access to the elephant when examining them. Tethering involves the use of a canvas strap that is secured around the elephant's leg instead of a chain. The following procedure shall be used when tethering (or chaining) the elephants.

The front left leg is tethered or chained while the elephant is holding its foot in the air. The front leg tether has a brumel connection which will pivot with the movement of the leg. This helps the elephant avoid getting tangled in the chain. The tightness of the front leg tether should be such that the handler could slip his hand between the tether and the leg. To remove the front leg tether or chain, have the elephant raise her foot up in the air again.

The rear leg tether or chain is placed while the elephant's foot is on the ground. By grasping the tail and pulling in the desired direction, the handler will position the elephant. (Do not resort to using the ankus unless the elephant does not respond.) The back tether has a clevis connection. It is important that the pin in the clevis be removed prior to wrapping the tether around the elephant's leg so the connection can be made as quickly as possible in case the elephant kicks its leg out. Wrap the tether around the leg of the elephant so that the clevis goes around the front of the leg and ends up in your left hand. Loop the clevis through the tether as tight as possible so that the tether is not able to slip down the leg and screw the pin tightly into the clevis.

To remove the rear leg tether or chain hold the clevis securely with your left hand and unscrew the pin with your right hand. Remove the pin from the tether and screw it back into the clevis. When you are ready, ask the elephant to raise her foot, let go of the tether with your right hand but hold onto the clevis in your left hand. This way the tether will drop below the foot and be easily pulled out of the way.

Any long term overnight restraints that may have to be used will be chains, not straps, due to their inherent strength.

BATHING ELEPHANTS

Each elephant shall be bathed (scrubbed) daily if possible to ensure that they are getting proper skin care, and to maintain the rapport that the handlers have with the elephants. On cold days the elephants should not be hosed completely, but there is never any excuse to not hose off thoroughly the urine areas on their back legs.

The following procedure will be used to bathe the elephants. The elephants may or may not be tethered during their bath.

While the elephant is still standing, hose off its body thoroughly. Lay the elephant down on its left side and continue to hose the entire body. Scrub the back and right side with a deck brush. Have the elephant raise up half way and finish scrubbing the left side. Return the elephant to a standing position. Fill up the bucket with fresh water. Using the nylon brush scrub around the eyes. Use the bucket of water and a deck brush to continue. Raise the right front leg and scrub around the toes. Then scrub the back leg on the same side. With her foot still on the ground, scrub all around the leg from the knee down to clean off any urine. If the elephant starts to lift the leg, place your hand behind the leg to let it know to keep the foot on the ground. When done scrubbing the leg raise the rear leg and scrub around her foot and toes. Holding on to the end of the tail, scrub the elephant's rear and tail. Repeat the same process on the right side. After the scrubbing has been completed, hose the elephant one more time, including having it put its head down so that this area can be hosed well.

On those days when there may not be two qualified handlers available to bathe the elephants in the above manner, it is still necessary that they be hosed. This can be done at the same time as the regularly scheduled bath, but must be done from outside the stall. By using verbal commands and food rewards to manipulate the position of the elephants you should be able to hose them thoroughly or at the very least hose off the urine areas on their back legs if it is cold outside.

ELEPHANT FOOT CARE

In captivity, foot problems are common for megavertebrates like elephants. The normal wear of the nails and foot pad that occurs in the wild with constant walking on different substrates does not generally occur with elephants in captivity. As a result, if gone unattended, problems with cracks in the nails and pads or abscesses can lead to serious medical issues, including serious lameness. Regular exercise and attention to foot care is absolutely necessary to maintain the feet in good health.

It is essential that all elephant barn staff be familiar with maintaining the health of the elephant's feet. Trimming an elephant's foot may only be done by qualified elephant handler's who have been thoroughly trained in the proper techniques. Training of these procedures must be done under the direct supervision of the Principal Keeper or his designee.

All elephants must be trained, either in full contacted or protected contact to offer each foot and hold it in place for examination. All four feet must be examined and cleaned of feces and debris on a daily basis to look for abscesses, cracks, nail deformities or excessive growth. Regular pedicures are necessary to maintain appropriate gaps between each toe so that debris can not get stuck between them. Foot pads should be evened out as needed to ensure proper pressure on the foot is maintained when walking.

If an abcess develops, it is essential that proper trimming be done to make sure the abcess is allowed to drain and grow out. The time this takes will vary, so knowing what caused the abcess (ie. uneven pressure on the foot, a deep crack left unattended, a stone lodged in the pad) and the direction the abcess is growing is important. Regular trimming will offer it a path of less resistance and encourage it to grow towards the surface rather than towards the center of the foot or up the leg. The amount and frequency of trimming around the abcess will vary, depending on the extent and location of the abcess. Over trimming, to the point of bleeding could be detrimental, so caution should be taken to not trim too deeply each time.

Soaking an affected foot will assist in keeping the area clean and aid in drawing the abcess out. This should be done once or twice a day, depending on the extent of the abcess, with a diluted Nolvasan and salt solution. The elephant must be trained to stand for up to fifteen minutes at a time with it's foot in a tub containing this solution.

All tools used for trimming elephant feet should be kept in good condition, cleaned and sharpened as needed.

EXERCISE PROGRAM

Along with proper diet, husbandry and medical care, a regular exercise program is essential to maintaining the health of an elephant. This exercise will help control weight, help keep the feet in good shape and help keep the joints flexible. In addition, regular exercise will help lessen soreness and stiffness associated with arthritis. Each elephant must have an exercise program designed to meet the particular needs of that elephant. As weather permits, it is important to attempt to walk each elephant for up to a mile or more during these exercise sessions

Full contact elephants can be walked within the yard, or in the case female Asian Gita, within the perimeter of the zoo prior to the public being allowed in. Any time an elephant is taken outside the immediate exhibit/holding area, even when under the control of qualified handlers, the Security Office should be notified.

Protected contact elephants must be exercised within the confines of the exhibit. This can be done by stationing handlers at different points around the perimeter of the exhibit and calling the elephant to each station.

ELEPHANT PROFILE

STATISTICS		
Name: Gita	ISIS#: 00216	SB# 176
Sex: Female	Birth Date: June 1958	
Species: Asian (<i>Elephas maximus indicus</i>)	Origin: India	

DISPOSITION
<ul style="list-style-type: none">• Easy going and tractable, but sensitive.• Tolerates other elephants• Very good with people

RELATIONSHIPS
<ul style="list-style-type: none">• Tolerates other cows.• Very good relationship with bull "Billy", but with barred barrier between them.•

HANDLING RECOMMENDATIONS
<ul style="list-style-type: none">• Full contact.• Very steady• Learns new commands easily.

PAST HISTORY
<ul style="list-style-type: none">• Wild born.••

MISCELLANEOUS
<ul style="list-style-type: none">• Donated to the Los Angeles Zoo in 1959.•

ELEPHANT PROFILE

STATISTICS		
Name: Billy	ISIS#: 95661	SB# 309
Sex: male	Birth Date: ~1985	
Species: Asian (<i>Elephas maximus hirsutus</i>)	Origin: Malaysia	

DISPOSITION
<ul style="list-style-type: none">• Very smart. Learns quickly.• Easy going and tractable. Enjoys working and responds well to handlers.• Stays pretty tractable even through musth.

RELATIONSHIPS
<ul style="list-style-type: none">• Has a great repore with Asain cow Gita, although always through barred barrier.• Housed alone.•

HANDLING RECOMMENDATIONS
<ul style="list-style-type: none">• Protected contact.••

PAST HISTORY
<ul style="list-style-type: none">• Wild born.••

MISCELLANEOUS
<ul style="list-style-type: none">• Trade from Government of Malaysia on 1/7/89.•

ELEPHANT PROFILE

STATISTICS		
Name: Ruby	ISIS#: 002551	SB# 61
Sex: Female	Birth Date: ~1961	
Species: African (<i>Loxodonta africana</i>)	Origin: Africa	

DISPOSITION
<ul style="list-style-type: none">• Generally submissive, but has been known to push other cows.• Usually tolerates other elephants• Very good with people she knows.

RELATIONSHIPS
<ul style="list-style-type: none">• Good aunting behavior with younger elephants.••

HANDLING RECOMMENDATIONS
<ul style="list-style-type: none">• Good in free contact with handlers she knows. If necessary can be handled with protectd contact.• Learns new commands easily.•

PAST HISTORY
<ul style="list-style-type: none">• Wild born.••

MISCELLANEOUS
<ul style="list-style-type: none">• Owned by Circus Vargus prior to coming to the Los Angeles Zoo•

ELEPHANT BARN FACILITY AND EQUIPMENT MAINTENANCE

All elephant barn equipment must be maintained in good working condition. Wheelbarrows should be oiled regularly and tires inflated. Brush heads should be secure. Shovel edges kept trimmed. Leaking and worn out hoses should be replaced.

Rakes are outside (exhibit) tools and should not be used on concrete. Using them on concrete leaves dirt and sand that will end up being washed down the drains and in to sumps. Use push brooms to remove excess sand and dirt prior to hosing.

All locks doors and hinges should be oiled regularly.

All drains and sumps should be cleaned out regularly.

Check lights regularly to make sure they are free of bird nests and cobwebs.

Non-slip tape should be maintained on the ERC at those locations that the keepers step on or through.

**LOS ANGELES ZOO
ELEPHANT HANDLER TRAINING PROCEDURES**

(updated 11-3-05 jme)

TRAINING ELEPHANT BARN STAFF

For any good elephant program to succeed it is essential that the elephant handlers responsible for the daily care of the elephants not only have a thorough understanding of appropriate husbandry practices, but a knowledge of elephant behavior and the individual idiosyncrasies of each elephant under their care. The rapport developed between the elephant handler and elephant will have a direct affect on the handler's ability to have the level of control necessary to manage the elephant in an appropriate and safe manner. A number of steps shall be taken when introducing new staff to the elephant barn in order to ensure that they receive proper training and develop a high level of competence around the elephants. The length of time that this training process takes will vary with the individual animal keeper as well as the individual elephant. It is important that new keepers to the elephant barn understand completely the importance of being "qualified" to work closely with the elephants.

No keeper in training will be considered fully qualified until it has been determined that he/she has reached a high level of competence working with the female Indian elephant Gita. The African female, Ruby, is handled with both free and protected contact and the bull elephant, Billie, is being handled in protected contact only. These two elephants are not part of the initial training process.

Delineation of Keeper Staff:

Animal Keeper - an animal keeper at the elephant barn is assigned to general keeper duties and has **no contact with the elephants** during the course of these duties. This category may include demand keepers who are occasionally assigned to the elephant barn or keepers who are permanently assigned but new to the barn. During this period of time, the trainee will be evaluated monthly by the Principal Animal Keeper (designated as the Elephant Manager) on the Elephant Keeper Evaluation form.

A new keeper to the barn will **not** be considered "in training" until it has been determined by the elephant barn supervisors that he/she has demonstrated a willingness to follow the rules and guidelines for the elephant barn and the ability to manage the tasks specific to this area of the zoo. Some of these include, operating the hydraulic gates, use of video cameras and proper and safe operation of the Toro dump truck. During this period of time the new keeper will also read and be completely familiar with the Los Angeles Zoo Elephant Management Program Procedures Manual, the Los Angeles Zoo Elephant Handler Training Procedures and the AZA Standards for Elephant Management and Care (updated 5/5/03). The new keeper will sign off on these manuals only after the elephant barn supervisor has a chance to review them with the keeper.

A new keeper will **not** be allowed in a stall or out in a yard with any of the elephants even when two handlers are present. Depending on the previous experience of the keeper, this introduction to the elephant barn could continue for approximately six months at which time it will be determined whether the keeper is ready to be considered a trainee. If it is determined that the keeper is not ready to become an elephant handler trainee, he/she will continue to be evaluated on a monthly basis as an elephant keeper.

Handler in Training (Trainee) - a trainee is an animal keeper who has completed his/her introduction to the elephant barn as determined by the Elephant Manager. During this period of training, the trainee will be evaluated monthly by the Elephant Manager on the Elephant Handler Trainee Evaluation form. Trainees will not be allowed in with the elephants unless two qualified handlers are present. The trainee will almost always be in view of both qualified handlers, and will never be in view of less than one qualified handler while working with the elephants or assisting in cleaning. Familiarization with the elephants is an essential first step in the training process. Under this controlled situation, the trainee will begin to develop a rapport with the elephants and the elephants will become accustomed to the close proximity of the trainee.

The trainee will be assigned to work with one of the qualified handlers during a training session. The qualified handler will give some direction to and be a back up for the trainee during that session, under the guidance of the Elephant Manager. On days when the Elephant Manager is not in attendance, the Lead keeper will monitor the training sessions.

The trainee will begin hands on work with the Indian female Gita. This will be done initially when Gita is getting her bath. The trainee will learn standard commands, when and how to use them, by watching the qualified handler. The trainee will be asked to assist in scrubbing the elephant's feet, eyes, tail and back. The trainee will be given instructions on

- correct use of the tether or chain
- proper use and handling of the ankus
- foot presentation for scrubbing
- stretching for hosing
- head down for hosing
- releasing correctly

Although Gita is not always tethered or chained when she is given a bath, the trainee will be initially be instructed on this procedure with Gita. Eventually the trainee will begin to take control of the elephant by taking over the commands, tethering the elephant's feet and scrubbing the elephant completely during her bath.

Once it has been determined that the trainee is competent in the use of commands, the ankus and bathing Gita, then the trainee will be allowed to start working with her out in the yard. The trainee will be instructed in the following areas. (As the trainee becomes competent in these areas, the handler will step back away from the trainee and allow the trainee to take control of Gita, asking her to do the behaviors.)

- walking with motivation
- get over circle with rear feet stationary, using cue correctly
- come here circle with rear feet stationary, using cue correctly
- backing elephant up
- having elephant stretch down or lay down
- four feet presentation using cue and body positioning correctly
- motivation in general

When it is determined by the Elephant Barn supervisors that the trainee is capable of working Gita without assistance from the qualified handler, then the trainee will begin becoming familiar with the protected contact procedures used with the other elephants.

Qualified Handler: A trainee will only be considered a fully qualified handler when it has been determined by the Elephant Barn supervisors that the trainee has reached a high level of competency with free-contact handling. At that time the trainee will receive a memo stating that they are now considered a qualified handler. Qualified handlers will continue to be evaluated on a regular basis on the Qualified Handler Evaluation form.

Qualified handlers will begin learning how to evaluate the condition of the elephant's feet as well as proper foot care procedures. They will continue to be evaluated on their ability to maintain behaviors, motivate elephants, use appropriate control, and, as needed, they will learn protected contact methods of training elephants. Qualified handlers will assist in the training of the Elephant Handler Trainees and be evaluated on their ability to give clear and concise instructions.

EVALUATING STAFF

The animal keeper staff at the Elephant Barn is divided into three different groups: animal keeper, handler trainee and qualified handler. Each will be evaluated on a regular basis on the appropriate evaluation form. The categories on each evaluation form have been developed to reflect that level of training. At the time of each evaluation, the categories will be rated as follows,

1 - needs improvement or more instruction in this area.

2 - progressing well in this area

3 - competent in this area. (In order to complete any level of training all categories must reflect a 3 rating.)

Each category will be initiated at the time of the evaluation by the person responsible for conducting the evaluation. The forms are designed to accommodate six months of evaluations, however, if it has been determined that the keeper needs further training, a new form will be used to continue until it has been determined that the keeper has passed that level of training. When the keeper has completed a level of training the evaluation sheet will be signed off by the appropriate person.

Elephant Keeper Evaluation - Form

This form is used to evaluate animal keepers who are assigned to general keeper duties in the barn. The animal keeper will be evaluated monthly by the Elephant Manager. This introductory training could continue for a minimum of six months.

Elephant Handler Trainee Evaluation - Form

This form is used to evaluate the keepers who have completed the animal keeper level of training. The trainee will be evaluated monthly by the Elephant Manager.

Qualified Elephant Handler Evaluation - Form.

This form is used to evaluate the keepers who have completed the trainee level of training and have, as determined by the Elephant Manager, reached a high level of competency working in free contact with Gita. This evaluation will be done periodically by the Elephant Manager.

Each of these evaluation forms will be reviewed on a regular basis by the Elephant Barn supervisors. Changes and additions will be made as deemed necessary.

**LOS ANGELES ZOO ELEPHANT BARN
ELEPHANT KEEPER EVALUATION**

TRAINING COMPLETED
DATE:
SIGN OFF:

NAME:



1. Familiar with layout of barn including all safety areas.									
2. Demonstrates proper maintenance and safe use of tools and equipment.									
3. Demonstrates knowledge of cleaning and sanitizing procedures.									
4. Has read and understands LAZOO Elephant Management Program Procedures Manual.									
5. Has read and understands LAZOO Elephant Handler Training Manual.									
6. Has read and understands AZA Standards for Elephant Management and Care (update 5/5/03)									
7. Demonstrates proper and safe use of Toro dump truck.									
8. Demonstrates proper and safe use of hydraulic gates.									
9. Demonstrates proper use of video cameras and VCR equipment.									
10. Knows the differences between species of elephants and can tell individuals apart.									
11. Follows work instructions accurately.									
12. Works safely around elephants.									
13. Works well in a team situation with keepers, supervisors, veterinarians and other Zoo staff.									
14. Demonstrates proper use of two-way radios.									
15. Able to evaluate quality of hay and produce for elephants.									
16. Interacts courteously with zoo staff and other visitors to the elephant barn.									
16. Demonstrates knowledge of the zoo's emergency procedures.									

COMMENTS:

Blank area for providing comments on the evaluation.

**LOS ANGELES ZOO ELEPHANT BARN
ELEPHANT HANDLER TRAINEE EVALUATION**

PAGE TWO

NAME:

18. Demonstrates knowledge of elephants, including disposition and relationships with other elephants.

19. Demonstrates knowledge of proper preventive medicine practices.

20. Demonstrates knowledge of diet preparations and general elephant husbandry requirements.

21. Demonstrates consistent ability to properly and appropriately discipline the elephants.

22. Has established a calm working relationship with the elephants.

COMMENTS:

**LOS ANGELES ZOO ELEPHANT BARN
 QUALIFIED ELEPHANT HANDLER EVALUATION**

TRAINING COMPLETED
 DATE:
 SIGN OFF:

NAME:

1. Continues to demonstrate ability to maintain trained behaviors.

2. Demonstrates ability to evaluate condition of elephants foot pads and nails.

3. Demonstrates proper maintenance of foot care tools.

4. Demonstrates proper techniques for trimming and filing elephant's feet.

5. Continues to demonstrates consistent ability to properly and consistently control the elephants.

6. Continues to demonstrates ability to perform any elephant behavior.

8. Demonstrates ability to safely train elephant trainees.

9. Continues to interact courteously with zoo staff and other guest to the elephant barn.

COMMENTS:

ATTACHMENT 5
History of Incidents

What is the L.A. Zoo's history with elephants and elephant care?

- The Los Angeles Zoo has had elephants in its collection since opening in 1966. In fact, one elephant here, Gita, walked from the former Griffith Park Zoo to the new Los Angeles Zoo in 1966. Since opening, 25 elephants have resided at the Zoo sharing three exhibit spaces that covered approximately three quarter acres. The exhibit as built remained essentially the same until 1991 when the yard on the south-side was divided in half to facilitate bull management for Billy, a maturing Asian bull. In 1991, the barn was renovated providing in floor heating, hydraulically operated gates and manual swing-gates for more flexible management of elephants in the barn. The size of the herd has varied from eight to the current three animals.
- In 2002, preparations for building new elephant and hippo exhibits were started by moving the hippos to another location in the Zoo and building a secondary holding area for the elephant cows to reside during the construction. The secondary holding, which is located in a maintenance yard north of the bird show amphitheater includes both indoor and out door yards. It exceeds the AZA's minimum requirements for three elephant cows by 70 per cent. Initially, the new exhibit, or Pachyderm Forest, was a renovation of the existing three quarter acres for the elephants although it was designed to be more flexible with all space more accessible for the elephants. Due to major bid over runs as compared to the available budget the hippo exhibit was cancelled in 2004 and additional space was set aside to expand the proposed elephant exhibit to two acres.
- Management of the elephants in the early years was typical of zoo elephant management of the time and included free-contact (i.e. elephants and keepers in the same space) and chaining the elephants in place over night. While there was plenty of attention to their physical health and nutrition there was very little attention to exercise and behavioral enrichment. In 1991, that changed when a totally new management plan was developed to address the total needs of the elephants' physical and psychological health. Elephants, since that time have been managed both in free and protected contact (i.e. elephants and keepers are not in the same space) depending on the behavior and predictability of each individual animal; the elephants were no longer chained overnight and exercise programs were developed to encourage the animals to move about each day.
- Eleven elephants have died at the Zoo since its 1966 opening due to a variety of causes. Since the new 1991 management protocol has been in place only three elephants have died and the cows are living to or exceeding the average age of death for elephants in the wild or zoos. Inter-death intervals have more than doubled since that time as well.

Information provided by Los Angeles Zoo

History of Incidents Concerning Elephants at Los Angeles Zoo

The following list of recent incidents was compiled from a review of newspaper articles.

Tara died in December 2004 at age of 39 of acute heart failure. She appeared to be in good health the day before her death. During her time at the Zoo, Tara was aggressive towards other elephants. In 1996, there had been allegations that Tara suffered rectal injuries from a bull hook, as detailed by veterinarian Dr. Gary Kuehn. The incident was investigated internally by the Zoo Director and the Chief Veterinarian and externally by the United States Department of Agriculture, and all found no evidence to support this claim. In June 1997, Tara, then aged 32, collapsed and was unable to get up, which required Los Angeles Fire Department assistance in hoisting Tara up with heavy lifting equipment. In March 1999, 4 inches of Tara's trunk tip was severed by the hydraulic doors of her barn.

Calle, an Asian female, arrived at the Los Angeles Zoo in 1994. In 1996, she had injured a keeper. She was transferred to the San Francisco Zoo in 1997. Subsequently, after arriving at the San Francisco Zoo, it was discovered that she was suffering from mycobacterium tuberculosis, the human form of the disease. It is believed that she had TB before she arrived in San Francisco. A blood sample was taken at the Los Angeles Zoo, before her transfer to San Francisco, but the results were not received until after her transfer. The Los Angeles Zoo assisted in financing her treatment while she was held by the San Francisco Zoo. In March 2004, Calle was euthanized for chronic foot ailments. Necropsy showed a walled off area of inactive tuberculosis.

Annie, an Asian elephant, died of salmonella poisoning at the age of 33 in 1997. An activist website claims that she was unattended and without food or water, but the Zoo has stated that she was not unattended. Necropsy showed a walled off area of inactive tuberculosis.

Hannibal, an African male, died at age 16 from cardiopulmonary collapse in 1992 after a third attempt to transport him to the Zacongo Zoo in Mexico. He was sedated, chained, and was unable to rise. News articles claim that this was the third African male elephant to die under controversial circumstances at the Los Angeles Zoo without providing further details. The article was likely referring to Samson and Albert.

Samson, an African elephant acquired in 1981 at age 15, died in 1986 while in transit in the custody of a Florida animal dealer. There were problems with sedation that had to be countered with medication. The transfer occurred without approval by the commissioners of the Department of Recreation and Parks. A video claims that the elephant was repeatedly shocked with an electrical prod and was burned severely. Remaining zoo staff who were employed at the time of the transfer stated that Samson was not abused during the transfer.

Albert belonged to a private vendor who offered elephant rides at the Zoo; he was euthanized in 1984. Both Hannibal and Samson died in the care of new owners.

ATTACHMENT 6
Veterinarian Report

HEALTH STATUS OF ELEPHANTS AT THE LOS ANGELES ZOO

Report completed 26 November 2005
Kay G. Mehren, DVM, Dipl. ACZM

EXECUTIVE SUMMARY

Several questions have been asked regarding the health and well-being of three elephants in the Los Angeles Zoo. From 14-16 November 2005, through observation and examination of the elephants, review of medical records, and interviews with zoo staff associated with the elephants (e.g., Zoo Director, Curator of Mammals, General Curator, Veterinarians, Elephant Handlers), I have formulated answers to the questions below:

Health Questions

- 1. What is the health status of each elephant currently residing at the Los Angeles Zoo?**
Two elephants, "Billy" and "Ruby," are considered to be healthy. "Gita" has a chronic foot infection (which appears to be healing) and a chronic arthritic condition, particularly in the right carpus, but otherwise appears to be doing well. See report for details.
- 2. What was the methodology for evaluating their health?**
Physical exam (limited due to size of the animals and their accessibility – see report); observation of Gita's radiographs, ultrasound exam, and daily treatments; observation of the elephants' activity and behavior; staff interviews; review of medical and laboratory records; and review of radiographs and ultrasound images.
- 3. Are there current health issues that require timely or immediate action?**
Gita's foot infection and arthritis are the only health conditions obviously requiring immediate attention, and appropriate daily treatment is ongoing.
 - 3.1. Can any of these issues be addressed by medical care? How?**
*Analgesics for pain relief are administered daily. Appropriate antibiotics and antifungals are administered, by distal limb perfusion, during the daily cleaning, flushing, and debridement of the surgical site. The lesion is covered by a protective bandage between treatments.
I have recommended that acupuncture may improve the level of pain relief, and that a temporary sling arrangement could be provided for several hours daily if she requires additional surgery, to allow her to relax and take the weight off her legs.
Based on my observations, I don't believe that any other staff or facility could provide better medical care and management for Gita than she is now receiving.*
 - 3.2. Can any of these issues be addressed by diet? How?**
Gita had become obese, and the extra weight placed unnecessary pressure on her legs and feet. Through controlled diet and exercise the handlers have been able to bring her down to a normal weight of 7,000-7,500 pounds.
 - 3.3. Can any of these issues be addressed by exercise? How?**
Exercise is important for general health of the elephants, and particularly for health of the legs and feet. Exercise for the elephants is encouraged by various enrichment methods, and Gita is also taken for a daily walk around the zoo site outside of public hours.
 - 3.4. Can any of these issues be addressed by the exhibition design? How?**
Enlargement of the exhibit, combined with an enrichment plan to stimulate activity, will contribute to animal health and well-being. Sandy loam substrate, periodically broken up to maintain its softness, would provide foot comfort. Areas of harder substrate are

necessary to promote healthy wear of the soles. A topography with some slopes will provide interest and enhance the level of exercise. A mound of soft earth (e.g., dump truck pile) would provide enrichment and also would provide a soft, angled surface to facilitate Gita's lying down. A pool, of sufficient depth that Gita can partially float and thereby reduce pressure on her legs and feet, should be available. Rubberized flooring should be installed in the Elephant House and new Bull Barn, covering all or part of each pen floor.

3.5. Can any of these issues be addressed by enrichment? How?

Diet, exercise, and exhibit design all contribute to enrichment – improved quality of life for the animals. In addition, a specific enrichment plan should be designed to provide the animals with pleasurable things to do and incentives for walking exercise.

Well-Being Questions

4. In your opinion, can the well-being of elephants be evaluated, and if so, what is the methodology of making such an evaluation?

Well-being is a complex concept which considers physical, social, and psychological factors in attempting to determine the level of an individual's overall health, comfort, and "happiness." Physical health can be determined reasonably well through observation, physical examination, and comparison of the individual's parameters with the established normal physiological values for the species. Social and psychological health are not easily measured, but impressions can be gained through informed behavioral observations.

4.1. What is the assessment of each elephant's well-being?

The female elephants are currently housed in spacious temporary off-exhibit quarters, separated but with contact through a shared partition. The male elephant is housed alone in the Bull Yard and House. This situation has existed for about two years, and will continue until the new exhibit is constructed. I was not able to fully appreciate the social well-being of the animals, due to the separated housing arrangement, but all three appear to be well-adjusted and bright, they have good appetites, and they're interested in their surroundings and responsive to the handlers. During my observations over three days (about six hours total) I did not see stereotypic behavior – this may be because handlers were present and other activities existed concurrent with my observations. However, in my experience, stressed animals that perform stereotypy usually will not stop this behavior just because of disturbance or other distractions in their surroundings. Billy is in musth, but he was remarkably steady and ready to cooperate with handlers – I describe his well-being as good. Ruby might be "happier" with a compatible group of African elephants, but she's been with Billy and Gita for many years and seems to have accepted Gita as her matriarch – I describe Ruby's well-being as good.

Gita has obvious physical restrictions associated with chronic arthritis and foot problems, but she is active in her enclosure, is fully cooperative during treatment sessions for her foot lesion, and willingly goes for long walks with the Handlers, suggesting that she is not in great pain. I describe Gita's well-being as moderate to good.

4.2. Are there current issues regarding their well-being that require timely or immediate action?

While the three elephants appear to be doing well, their general level of well-being will be improved when the new exhibit is completed and they have access to a larger space, pools, and a more complex environment.

4.2.1. Can any of these issues be addressed by medical care? How?

None of the elephants shows any behavioral deficits that might be treated with medications. Gita's foot problem is under daily treatment.

4.2.2. Can any of these issues be addressed by diet? How?

Variety in the diet and novel ways of presenting food to the elephants will contribute to their interest level. The handlers are currently making good use of food as enrichment.

4.2.3. Can any of these issues be addressed by exercise? How?

Exercise is essential to good body condition and general health. Please refer to 3.4 regarding exhibit improvements. Continuing the present enrichment activities and perhaps supplementing them with elephant-strength “toys” and puzzles would further benefit the elephants.

4.2.4. Can any of these issues be addressed by the exhibition design? How?

Please refer to 3.4 regarding exhibit improvements that will promote activity and interest.

4.2.5. Can any of these issues be addressed by enrichment? How?

Please refer to 3.5 regarding enrichment. Currently, the handlers regularly provide a variety of food items offered at different times and in different places, and there is quality interactive time between the elephants and the handlers during positive-reinforcement training sessions. More elephant-strength “toys” would increase the elephants’ activity levels and time occupation. The proposed new exhibit, with a variety of furnishings (e.g., pools, dust bath areas, logs, etc.) and with greater space (2 acres of usable space), will contribute positively to the elephants’ well-being. While the proposed 2-acre exhibit should meet the needs of the current three elephants, the possibility of extending the exhibit to 2.5-3 acres should be considered if more elephants are to be acquired in the future, to enhance activity and animal interactions.

INTRODUCTION

“Elephant management has become a hotly debated issue. At one extreme are those who demand that no elephant should be maintained in captivity, and at the other are those who feel that they have all the answers regarding elephant management.” (Fowler IN Csuti, Sargent, and Bechert, 2001). In the past 40 years, housing and care of captive elephants has evolved from basics to a science, and standard guidelines have been developed. An associated improvement in the general health and well-being of elephants has been observed.

At the Los Angeles Zoo, three elephants are being housed in spacious temporary quarters while decisions are reached regarding the size and nature of the new exhibit which will be constructed for them. This report, evaluating the elephants’ health status, will provide information which may be useful in determining their future exhibit plans.

METHODS

During a three-day period, from 14 – 16 November 2005, I met and interviewed a number of staff members at the Los Angeles Zoo, including:

John Lewis (Zoo Director)

Michael Dee (General Curator)

Jennie McNary (Curator of Mammals)

Veterinarians – Drs. Leah Greer, Janna Wynne, and Russell Burns

Elephant Handlers – Jeff Briscoe, Vickie Guarnett, Don Aguirre, and Scott Haist

Recognizing the limitations of performing a complete physical examination on an elephant, due to its sheer size and the examiner's dependence on its cooperation, I performed as much of an exam on each of the elephants as I deemed to be safe. Blood and urine samples were collected from "Ruby" and "Gita" for analysis, but not from "Billy" since he is presently in musth and not trustworthy. (Results of the latest samples may not be available until after this report is completed.) Trunk washes for TB testing were performed with Ruby and Gita. Drs. John Pascoe (Equine Surgeon) and MaryBeth Whitcomb (Equine Ultrasonographer), from the Veterinary School at U.C. Davis, performed an ultrasound evaluation of Gita's problem foot on 15 November, and I was able to observe the exam and review radiographs and ultrasound images with them.

I observed the elephants' activities when alone and in the presence of the handlers. I observed the elephant housing facilities, and I observed handler-handler and handler-elephant interactions.

The complete medical records for each elephant were made available for my review, and staff were always available to answer questions and to assist me with retrieving and copying information.

THE ELEPHANTS

Gita, #216, an Asiatic female, was born in about June 1958, and was acquired from Mumbai (Bombay), India on 8 December 1959. The early records are not available, but it is evident that Gita has had periodic problems with minor foot abscesses and subcutaneous abscesses of the neck, trunk, shoulders, and sides since at least 1977 (the first available records). There are occasional reports of acute lameness—usually in a foreleg—which may indicate flare-ups of arthritis. In addition, Gita has experienced occasional mild bouts of colic, probably associated with ingesting sand.

Foot infections and arthritis are common medical problems in captive Asian elephants. Similar conditions are reported to occur in a significant proportion of elephants in work camps of India and Southeast Asia (Csuti, Sargent, and Bechert, 2001). Gita's current problems may reflect a genetic predisposition, and housing conditions during her early years in captivity, at a time when the universally accepted management practice included long periods of time on concrete floors and chaining at night, may have caused the problems and contributed to their chronic nature.

The medical records detail ongoing efforts by veterinarians and handlers to evaluate Gita's various problems and provide appropriate treatments. Analgesics were administered whenever she showed acute lameness. Skin and foot infections were debrided and flushed daily, sometimes for weeks or months, and appropriate antibiotics were administered. The addition of Biotin to the diet, in 1991, was reported to reduce the occurrence of abscesses. In 1995, the elephants were moved into a new house and exhibit, and they were permitted free access to the exhibit overnight, giving them more space to move around and softer soil substrate to stand on. Overnight access to the exhibit or yards is an ongoing management practice.

Even with the improved diet and housing, and ongoing treatment, Gita continued to develop abscesses around the nails of the left forefoot. Surgical removal of a small section of infected bone in the fourth digit, distal phalanx, had been necessary in 1989. In May 2000, radiographic changes compatible with degenerative joint disease were noted on the cranial aspects of both carpi, more advanced on the right carpus. Malalignment of the left fore second digit was later noted on radiograph, with conjecture that this abnormality might cause abnormal weight-bearing on the left forefoot and contribute to the ongoing problems. In June 2005, a small bone fragment was obtained during biopsy of a swelling over the fifth digit, and histologic exam showed that osteomyelitis was

present. Treatment became more aggressive at this point, with systemic antibiotics as well as local antibiotic infusion. Medical treatment proved inadequate, so surgical removal of infected bone from part of the fifth digit (second phalanx and distal portion of first phalanx) was performed on 23 September 2005. Daily monitoring and treatment of the lesion is ongoing.

Today, Gita is in good body condition. Her eyes are bright, mucous membranes are normal, and teeth (observed by open-mouth presentation) appear healthy. Her skin is in good condition. She is interested in her surroundings, has good appetite, and is responsive and very trustworthy with the handlers. She willingly permits the daily treatment and bandaging of her left forefoot, and goes for long walks with her handlers on the zoo site every day before public hours. I accompanied one of Gita's walks. She moves very slowly, taking short steps which could indicate stiffness and possible arthritic changes in the upper limbs. The right carpus (fore "ankle") is completely stiff and remains extended as she walks— this joint may be ankylosed. Aside from the stiffness in the right foreleg, she doesn't favor any legs. She willingly walks, turns, and goes up and down hills, and didn't express pain during my observations.

Radiographs of the left forefoot since the recent surgery have shown progressive lysis of the remaining portion of the first phalanx, fifth digit, which could indicate the presence of inflammation (to be expected) or residual infection. Physical exam of the surgical site shows healthy granulation tissue, tightly attached to the remaining bone (an indicator that the bone is probably not infected). The granulation tissue is slowly filling the surgical defect. Ultrasound images, taken on 15 November, "show evidence of a thickened hyperechoic margin of metacarpal I, and associated thickened joint capsule. This could be due to inflammation and/or sepsis. The consensus [of zoo veterinarians and specialists from UC Davis] was that clinically Gita is doing very well. She is comfortable, shows no signs of lameness or pain [in the left forefoot] and the surgery site and granulation bed look very good." (Los Angeles Zoo medical record for Gita, 15 November 2005). Current medical therapy will be continued. At this point, the only way to absolutely determine whether infection still exists proximal to the surgery site would be to collect deep biopsies for exam and culture – this approach bears a high risk of entering the metacarpal joint capsule and causing further damage to the leg, and is not recommended unless future radiographs demonstrate that there is a definite problem which is likely to require further surgery.

Physiological values:

- Respiration: comfortable and regular, 8/minute
- Pulse: regular, 40/minute – this is higher than normal, but consistent with activity (completion of foot treatment) and probable anxiety due to my palpating her ear to find a pulse.
- Echocardiography attempted in May 2000 – unsuccessful at detecting readable image of heart wall on either side. Three-lead ECG unremarkable.
- Complete blood count (reports from 17 October and 11 November 2005): borderline anemia (improving), and neutrophilia/lymphopenia consistent with inflammation and/or stress.
- Blood chemistries (reports as above): Changes consistent with tissue bruising/necrosis, returning to more normal levels in 11 Nov. sample. Changes consistent with chronic inflammation, possible chronic liver damage and/or reflecting the chronic administration of anti-inflammatory drugs, antibiotics, and antifungal drugs, are enhanced in 11 Nov. sample.
- Results of blood and urine samples, requested during my visit, are not yet available for evaluation.

Ruby, #2551, an African female, was born in the U.S. in about February 1961, acquired on 12 February 1987 from Circus Vargas. She had given birth to a calf in 1979.

Ruby's medical history is brief, including periodic colic episodes (Handlers report that she'll "eat anything"), and occasional trauma probably inflicted by other elephants. A minor foot abscess was treated in January 1999. In December 2002, she underwent surgery to remove several vaginal polyps; rectal ultrasound at that time was normal. She was transferred to the Knoxville Zoo in May 2003, but returned to Los Angeles Zoo in November 2004 because her introduction into the Knoxville elephant group had not been successful. Bilateral ear discharge in February 2005 responded well to superficial cleansing.

Today, Ruby is in good body condition. Her eyes are bright, mucous membranes are normal, and teeth (observed by open-mouth presentation) appear healthy. Her skin is in good condition. She is active and interested in her surroundings, has good appetite, and is mischievous/playful. She creates her own enrichment when the Handlers place a stick or other object just out of her reach then leave her to try to get it – she often is successful. She is trained for free contact and is generally cooperative but not completely trustworthy.

Physiological values:

- Respiration: comfortable and regular, 8/minute.
- Pulse: regular, 40/minute – this is higher than normal, but consistent with Ruby's lying down to facilitate my exam and probable anxiety due to my palpating her ear to find a pulse.
- Complete blood count (reports from 17 December 2002 and 22 June 2005): unremarkable.
- Blood chemistries (reports as above): unremarkable.
- Urine sample (23 November 2005): unremarkable.
- Results of blood sample, requested during my visit, is not yet available for evaluation.

Billy, #95661, an Asiatic male, was born in about January 1985 in Malaysia, and acquired in January 1989.

Billy's medical history is brief, including several minor traumatic incidents (e.g., trunk laceration, tail abscess) and occasional sand colic. Handlers have trimmed several minor nail cracks over the years. Billy broke off his right tusk in December 2000 -- the remainder of the tusk appears to be growing normally. In December 2002, he developed an apparent abscess in the right temporal gland which responded to treatment.

Today, Billy is in good body condition. His eyes are bright, mucous membranes are normal, and teeth (observed by open-mouth presentation) appear healthy. His skin is in good condition. He is active and interested in his surroundings, and has good appetite. He is in musth at present, but is still remarkably stable and responsive to the handlers' voice commands. He is trained for protected contact, but is not trustworthy at this time. For safety we did not collect blood or urine samples or take his pulse.

Physiological values:

- Respiration comfortable, 10/minute
- Pulse not taken
- Complete blood count (samples from 15 February 2004 and 7 June 2005): unremarkable.
- Blood chemistries: unremarkable.
- No additional blood or urine samples were requested, due to Billy's musth.

CURRENT SITUATION

Due to pending construction of a new elephant exhibit, Ruby and Gita were moved, two years ago, to temporary off-exhibit housing while Billy remains in the existing bull barn and on exhibit in the existing bull yard. Ruby and Gita are separated, but have contact through a shared partition in their house. The temporary housing for each elephant is spacious, and both indoor and outdoor spaces exceed the standards set by the American Zoo and Aquarium Association (AZA). Radiant heaters are present in the houses, and a section of rubber matting has been installed beneath the heaters on the concrete floor of each female's pen. The houses are well ventilated, and the females' yards and Billy's exhibit have sandy loam substrate for foot health. The elephants have access to their outdoor yards overnight. A pile of dirt has been placed in Gita's yard, to facilitate her lying down and being able to rise again taking advantage of the elevated slope.

Before the surgery on her left forefoot, Gita had been walked to Billy's yard daily (while Billy was locked away) to rest in the pool and take weight off her feet. Because of the need to maintain sterility of the surgical site, pool visits have been discontinued until the wound has healed. Ruby and Gita are showered daily, weather permitting.

The General Curator and Curator of Mammals discussed their proposed plans for the future exhibit, and gave me a copy of the Los Angeles Zoo Elephant Management Program for reference. The Program is quite thorough, and meets or exceeds all points of the AZA Standards for Elephant Management and Care.

I met a team of four full-time elephant handlers who look after the elephants. These people are knowledgeable, work well together, and all appear to be comfortable working with the animals and consistent with their commands. They are concerned for the well-being of the animals; this was recently expressed when they set up an around-the-clock watch for several weeks following Gita's surgery, to be sure that she was comfortable and not disturbing the bandages and protective boot on her foot.

The diets for the three elephants differ somewhat, based on individual preferences and conditions. The handlers offer food items throughout the day, presented in ways that encourage activity from the elephants. All receive free access to Sudan hay. All receive browse daily, varying with what's available – I commend the handlers for growing a banana tree plantation in the off-exhibit area, to supplement the browse that is regularly delivered. Ruby and Gita receive herbivore cubes, but the cubes caused Billy to have soft stool so they're no longer offered to him. Each receives 40 pounds of carrots and a small amount of other produce daily. Gita also receives 40 pounds of yams – a favored food that is used for treats during her daily treatment session. A reduction in the amount of carrots Gita receives would improve the quality of her diet while yams are being offered in such a large volume.

The three veterinarians that I met also form a fine team. Dr. Janna Wynne is responsible for the elephants and is Gita's primary clinician, and Drs. Greer and Burns assist her and perform Gita's daily treatment (requires $\frac{3}{4}$ to 1 hour) in Dr. Wynne's absence, following her established procedure. They regularly discuss the case, and various veterinary specialists have been contacted for advice or to work with them (e.g., surgeons from UC Davis performed the surgery; UC Davis staff performed the ultrasound exam during my visit).

In addition to specific treatments, the veterinarians also maintain a preventive medicine program for zoo animals. Fecal samples are checked for parasites. Blood samples for health monitoring are collected on an opportunistic basis, and regularly from Gita during this post-surgical phase. The elephants received two West Nile Virus vaccinations and a booster for Tetanus this year. Each has been tested negative for Encephalomyocarditis – a viral disease that has caused

sudden death of several elephants in other zoos. The elephants have been trained to cooperate for trunk washes, to collect samples of nasal discharge for TB culture as part of ongoing surveillance for TB – this procedure is performed annually, with three samples from each elephant collected in the course of a week.

FUTURE CONSIDERATIONS

While Gita appears to be progressing well at this time, it is impossible to determine whether there may still be a focus of infection in the left forefoot. If the foot infection flares up again, with more bone involvement, then additional surgery would be indicated and the prognosis would be guarded due to likely involvement of the metacarpal bones. If the surgery site continues to heal without complications, then Gita should be sound enough to live a good life.

Gita and Billy are compatible, although they never share an enclosure because breeding Gita is contraindicated due to her age and her reduced mobility. Ruby and Gita are compatible, and would share the new exhibit. It may be necessary to include graphics describing Gita's condition, so that visitors will not be too concerned about her slow, stiff gait.

Based on my observations of Gita's condition, housing, and management, and the concerned and competent dedication of the zoo's staff, I don't believe that any other staff or facility could offer a better level of care and management than she receives at the Los Angeles Zoo.

The current plans for the exhibit renovation include a new bull barn and yard, and will increase the size of the usable exhibit space to 2 acres. Because of the exhibit's location, it would be possible to increase the exhibit size to 2.5-3 acres – this larger exhibit space would be preferable, if any additional elephants are acquired in the future. The larger space would be more attractive for visitors as well as encouraging more activity and interaction among the elephants.

SUMMARY

- Based on my observations, and particularly after the new, 2-acre exhibit is completed, it is unlikely that any other staff or facility could offer a better level of care and management than the elephants receive at the Los Angeles Zoo.
- The health status of three elephants at the Los Angeles Zoo was evaluated. Two elephants, Billy and Ruby, are considered to be healthy. Gita appears to have a chronic arthritic condition, particularly in the right carpus, and a chronic foot infection, which appears to be healing – however, it is impossible at this point to determine whether infection may still persist above the surgery site on her left forefoot. Despite these problems, Gita is in good body condition, active, and does not appear to be in pain.
- Gita's foot infection and arthritis are the only health conditions obviously requiring attention, and appropriate daily treatment is ongoing. Analgesics for pain relief are administered daily. Appropriate antibiotics and antifungals are administered by distal limb perfusion, during the daily cleaning, flushing, and debridement of the surgical site, which is covered by a protective bandage and a custom-made boot between treatments. Acupuncture may be a useful supplemental treatment for pain relief, and this option will be explored. If further surgery is required, then a temporary sling should be considered to allow Gita to take the weight off her legs for a few hours daily.
- Even though the elephants are in temporary housing at present, their housing is spacious, clean, well-ventilated, and they have overnight access to their outdoor yards with sandy loam substrate.

- Exercise is important for general health of the elephants, and particularly for health of the legs and feet. Exercise for the elephants is encouraged by various enrichment methods, and Gita is also taken for a daily walk around the zoo site outside of public hours.
- Variety in the diet and novel ways of presenting food items to the elephants contribute to their interest level. The handlers are currently making good use of food as enrichment.
- The proposed new exhibit, with greater space (2 acres) and a variety of furnishings (e.g., pools, dust bath areas, logs, etc.) should be adequate for the current three elephants, and will contribute positively to their well-being. More elephant-strength toys and puzzles would increase the elephants' activity levels and time occupation. If additional elephants are acquired in the future, an extended exhibit (2.5-3 acres total) is possible in the present location and should be considered to enhance elephant activity and interaction.
- The zoo's Elephant Management Program provides an excellent foundation for training of elephant handlers, and for the proper care, housing, handling, and management of the elephants. It is apparent, from my observations and interviews, that the Program is taken seriously and is closely followed by staff.
- The zoo's veterinarians and elephant handlers are knowledgeable and competent in their fields. Their concern and extra efforts to care for Gita and to treat her foot infection are outstanding.

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Los Angeles Zoo Elephant Management Program, 3 November 2005

ATTACHMENT 7

American Zoo and Aquarium Association Standards for Elephant Care and Management

American Zoo and Aquarium Association
STANDARDS FOR ELEPHANT MANAGEMENT AND CARE
Adopted 21 March 2001, Updated 5 May 2003

The following standards apply to the husbandry and management of both African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in AZA accredited institutions, AZA related facilities, and non-member participants in the AZA Elephant Species Survival Plan (SSP). The intelligence, strength, and social needs of these magnificent animals can pose many challenges for captive managers. Institutions desiring to hold elephants should therefore understand the substantial human, financial, and ethical commitments involved in appropriately maintaining these large and potentially dangerous species (Hutchins and Smith 1999). These standards have been developed to guide institutions that are planning and improving their elephant programs and are considered during the AZA accreditation process and non-member SSP participant evaluation. The AZA Board of Directors has instructed the Accreditation Commission to immediately require written verification from AZA member institutions holding elephants, certifying that they are meeting the required standards (BOD 3/25/03).

The AZA Board of Directors believes that the Association performs a valuable role in the cooperative development of standards for zoo and aquarium animal management and care, which are designed to advance the collective mission of AZA and its members. The development of these standards and the adoption of them through the AZA accreditation process is what sets AZA members apart from roadside animal attractions. The Board understands that there will be differences of opinion as to what constitutes appropriate standards. Standards evolve over time reflecting changes in knowledge, expertise, and public perception.

The AZA Board of Directors has asked the AZA Elephant SSP/TAG to begin formulating a draft vision for the future of elephant management in AZA accredited zoos. Because current standards are expected to change over time, it is recommended that members seeking to plan new elephant exhibits/care programs look to the vision, rather than the current standards, for guidance on where to go in the future.

Compliance with some minimum housing (specifically space, enclosure design, and elephant restraint device (ERD) requirements) must be implemented no later than five years from the issuance of these standards (1 May 2006). Institutions must have written implementation plans for compliance with these standards no later than three years from their issuance (1 May 2004). AZA accredited and related facilities must meet all other provisions described here within one year (1 May 2002) of the issuance of these standards, unless the Accreditation Commission approves a variance. Failure to meet basic AZA standards for elephant management and care will be noted during accreditation inspections. Current non-member participants in the SSP will be given the same time schedule for compliance, but new non-member participants must meet all new standards prior to approval.

Highlighted sections are recommendations or standards for which variances may be obtained.

Abiotic Environmental Variables

1.1. Temperature

1.1.1. Elephants must be kept outside on natural substrates as much as possible. Institutions should consider designing exhibits that allow elephants outdoor access twenty-four hours a day -- weather, health, and safety permitting. During daylight hours, elephants kept outdoors can tolerate moderate temperature extremes. Provisions must be made to protect animals from adverse weather, including intense sunlight, chilling rain, sleet, etc. Animals kept outdoors must be monitored frequently at temperatures below 40 degrees F (4.4 degrees C). Facilities may install outdoor heat sources to extend the amount of time the animals are able to remain outside.

1.1.2. While outdoors, all elephants must have access to shade during daylight hours in temperatures above 80 degrees F (27 degrees C) and when they are exposed to direct sunlight.

1.1.3. Indoor holding areas must be ventilated, and heated to a minimum temperature of at least 55 degrees F (12.8 degrees C) at all times of the year. One room must be capable of maintaining a temperature of at least 70 degrees F (21.1 degrees C) and be free of drafts, for accommodating sick or debilitated animals.

1.2. Humidity – There are no standards for humidity at this time. Information is limited, but this does not seem to be of major concern for elephant management.

1.3. Illumination

1.3.1. Natural daylight cycles are adequate for elephants, even in temperate regions. Indoor areas must be well illuminated during daylight hours, followed by a period of darkness. Fluorescent lighting provides a sufficient spectrum of illumination; skylights, in addition to interior lighting, are highly recommended. Ample interior lighting must be available, as it is especially important to maintain staff safety.

1.4. Space

1.4.1. Indoor space must provide adequate room for animals to move about and lie down without restriction. A minimum of 400 sq. ft (37.2 sq. m) is required for a single animal, approximately 800 sq. ft (74.3 sq. m) for two animals, and so on (AZA 1997). Because of their size and space requirements, bulls or cows with calves must have a minimum of at least 600 sq. ft (55.7 sq. m) (AZA 1997).

1.4.2. Outdoor yards must have at least 1,800 sq. ft (167.2 sq. m) for a single adult individual and an additional 900 sq. ft (83.6 sq. m) must be added for each additional animal (AZA 1997). If this space is the only location for exercise, then it is recommended that the space per elephant should be even greater.

** Note: Institutions can petition for a variance from the current minimum indoor or outdoor space standards. The applicant must explain why their facilities are adequate, even though they do not meet the minimum size standard. Accreditation inspectors will take a holistic approach to accreditation inspections, rather than focusing on specific size measurements. Context is particularly important. For example, it may not be a problem that the indoor space requirements are under the standard by a small amount if a zoo is located in a warmer climate and the animals

are outside most of the time. If, however, the zoo is located in a cooler climate and the animals are kept inside for many months during the winter, then the indoor space requirements must be met or, preferably, exceeded. Environmental enrichment programs should also be taken into consideration when evaluating space available.

- 1.4.3. Mature animals can reach a vertical height of 20 ft (6.1 m). Consideration of this must be given with regard to ceiling heights and fixtures (e.g., lights, heating units, plumbing, etc.) so that animals do not harm themselves or the facility.
- 1.4.4. All facilities must have the ability to separate and isolate animals to address behavioral concerns or allow veterinary procedures to occur (EMA 1999).
- 1.4.5. Outdoor yard surfaces must consist primarily of natural substrates (e.g., soil, sand, grass) that provide good drainage and have a cleanable, dry area for feeding (EMA 1999).
- 1.4.6. While outdoors, elephants must have access to sand or soil at all times for dust bathing (EMA 1999).
- 1.4.7. Rocks, tree stumps, or large sturdy objects must be provided in the exhibit so that the animals may use them for rubbing and scratching.
- 1.4.8. Elephant containment barriers must be in good condition and able to prevent elephant escapes. A wide variety of building materials can be used as long as they are able to withstand the animals' strength, contain the elephant in a specific space, and prohibit direct contact between elephants and the public.
- 1.4.9. Door and gate design is extremely important to ensure the safety of both elephants and keeper staff. Both doors and gates must be engineered to withstand extreme force. If mechanical opening devices, such as hydraulic or electrically powered drives are used, they must be able to be operated manually or with a backup generator in the case of a power failure.
- 1.4.10. Enclosures must be cleaned of excrement daily. Frequent daily manure removal is recommended and may be necessary for the maintenance of both sanitary and esthetic conditions (EMA 1999).
- 1.4.11. If the AZA Elephant SSP-managed population is to become sustainable, it is necessary to create housing for many more adult males (Wiese 2000, Wiese and Olson 2000). All institutions considering new construction for elephants should include holding space for adult males. Institutions modifying existing facilities should also make provisions for bull housing.
- 1.4.12. There are no standards on the visual, acoustic, and olfactory needs of elephants at this time.
- 1.4.13. There are no specific standards for the transportation of elephants at this time, but see Fowler (1995).

1.5. Water and Moats

- 1.5.1. While outdoors and weather permitting, elephants must have regular access to a water source, such as a pool, waterfall, misters/sprinklers, or wallow that provides enrichment and allows the animals to cool and/or bathe themselves.
- 1.5.2. Standing water in indoor floor areas can cause foot problems and become a breeding ground for bacteria. Floors must therefore be impervious to water, quick to dry, and sloped to a drain. Floor surfaces must be relatively smooth, but not

enough so that they become slippery when wet. Conversely, very rough surfaces may cause excessive wear or irritate footpads.

- 1.5.3. Dry moats can pose a substantial threat to elephants and their use must be limited with the ultimate goal that they are eventually phased out. Moats that are deep, narrow-sided, and hard-bottomed can be particularly dangerous. Although there should be no risk of animals falling or being pushed into the moat, written animal extraction protocols must be in place for any moat that is more than 3 ft (1 m) deep, less than 10 ft (3 m) wide, and/or hard-bottomed.

2. Biotic Variables

2.1. Food and Water

- 2.1.1. Elephants must have access to clean, fresh drinking water (EMA 1999). When water containers are used, drinking water must be cleaned and refreshed at least twice a day. Containers must also be cleaned daily.
- 2.1.2. Fresh browse and produce should be used as dietary supplements and enrichment for the animals.

2.2. Group Composition

- 2.2.1. The minimum age offspring must remain with their mothers is three years. Some flexibility is necessary in cases of maternal rejection and when infants cannot be reestablished in their social group.
- 2.2.2. Institutions must have the ability to manage social compatibility as well as dominance and aggression among an elephant group (EMA 1999).
- 2.2.3. Institutions must have the ability to manage introductions and separations of a new female to a herd and, if the institution is a breeding facility, females to males for breeding, newborn calf to its mother, and calf and mother to the herd.
- 2.2.4. Institutions must provide an opportunity for each elephant to exercise and interact socially with other elephants (Taylor and Poole 1998, EMA 1999).
- 2.2.5. Adult males (six years and above) may be housed alone, but not in complete isolation (opportunities for tactile, olfactory, visual, and/or auditory interaction with other elephants must be provided) (Rasmussen et al. 1982).
- 2.2.6. A behavioral profile must be maintained for each individual elephant and updated annually.
- 2.2.7. All holding institutions must have a written environmental enrichment plan for their elephants and show evidence of implementation (Shepherdson et al. 1998, EMA, 1999, Shepherdson 1999).
- 2.2.8. Staff must be aware of each animal's social compatibility and the dominance hierarchies of the herd (EMA 1999).

2.3. Group Size

- 2.3.1. Zoos should make every effort to maintain elephants in social groupings. It is inappropriate to keep highly social female elephants singly (see Sukumar 1992, Taylor and Poole 1998, EMA 1999). Institutions should strive to hold no less than three female elephants wherever possible. All new exhibits and major renovations must have the capacity to hold three or more female elephants.

****Note:** It is understood that obtaining additional elephants for zoo exhibits can be difficult at this time. Temporary variances will therefore be considered regarding group size requirements. Institutions that do not currently meet the group size standard should demonstrate that they have requested assistance from the SSP in obtaining additional animals.

It is recognized that some socially aberrant adult females currently exist and these elephants can be managed singly if the institution has made every effort to introduce them to a social group and the SSP agrees that the anti-social behavior is not correctable.

2.4. Human-animal Interactions – A minimum of two qualified elephant keepers must be present during any contact with elephants. A qualified keeper is a person the institution acknowledges as a trained, responsible individual, capable of and specifically experienced in the training and care of elephants.

2.5. Introductions – There are no specific standards for elephant introductions at this time, but see Lindburg and Robinson (1986) and Krantz (1996).

3. Health and Nutrition

3.1. Diet

3.1.1. High quality and nutritionally correct food must be provided in sufficient quantities to maintain animal health and appropriate weight (EMA 1999). Hay and grain should be formulated to provide a complete diet as recommended by the Elephant SSP Nutrition Advisor.

3.1.2. There are no specific standards for elephant nutrition at this time, but see Dierenfeld (1995), Oftedahl et al. (1996) and Ullrey et al (1997).

3.2. Medical Management

3.2.1. A veterinarian with experience in large mammal medicine must be on call at all times to deal with routine elephant health evaluation and treatment and medical emergencies.

3.2.2. Each elephant must be given a thorough annual physical examination (Mikota et al. 1994).

3.2.3. All elephants must be visually inspected on a daily basis (EMA 1999). A general assessment must be made and any unusual activities should be recorded in the daily log at each inspection. Specifically, reports should include observations such as condition of urine and feces, eating and drinking patterns, administration of medications (if any), and general condition and behavior.

3.2.4. A veterinarian or trained veterinary technician must perform fecal examinations to look for parasites and other problems at least twice a year (Samuel et al. 2001). Results should be recorded.

3.2.5. All elephants must be trained to permit a complete body daily exam (include feet, eyes, ears, open mouth and tongue, teeth, and tusks) for any sign of abnormalities. Results should be recorded.

3.2.6. All elephants' body weight must be assessed and recorded at least twice a year (EMA 1999) through actual weighing or through the use of standardized body

- measurement tables, photographs, or similar, previously validated techniques (e.g., Nirmalan and Sreekumar 1990).
- 3.2.7. For management purposes, all elephants must be trained to accept injections, oral medications, insertion of ear or leg vein catheters, treatment of wounds, enemas, and urogenital examinations (Mikota et al. 1994, EMA 1999).
 - 3.2.8. All elephants must be trained to accept regular collection of blood, urine, feces, saliva, semen, skin biopsy, and temporal gland secretion (Brown 1998, EMA 1999). Biological specimens should be stored according to the SSP Veterinary Advisor's guidelines on biomaterials collection.
 - 3.2.9. All elephants' skin must be thoroughly inspected on a daily basis and cared for as needed through bathing, removal of dead skin, and treatment of dry skin or other skin problems (Mikota et al. 1994, EMA 1999).
 - 3.2.10. Each elephant facility must have a written protocol for routine foot care and show evidence of its implementation (Mikota et al. 1994, Csuti et al. 2001). This protocol must include daily cleaning and inspection of each elephant's feet.
 - 3.2.11. Baseline foot radiographs or thermographs of all adult elephants must be taken and kept on file. In some facilities, it may be appropriate to annually monitor selected elephants (i.e., those that have a history of chronic foot problems) (Csuti et al. 2001).
 - 3.2.12. A written daily exercise program for each individual animal must be designed and followed (Taylor and Poole 1998). The program should be developed in consultation with the elephant manager, elephant handlers, and the staff veterinarian(s).
 - 3.2.13. When forming new herds, Asian and African elephants should not be placed together in the same enclosure. Herpes viruses endemic to one species can be fatal in the other (Richman et al. 1996, 1999). In addition, there is concern that behavioral differences between the two species may lead to problems with dominance and aggression (Hutchins and Smith 1999).
 - 3.2.14. Institutions must adhere to USDA APHIS requirements for testing and treatment of tuberculosis (USDA APHIS 2000, Mikota et al. 2000).

4. Reproduction

- 4.1. Each male and female elephant of reproductive age (8 to 35 years) must have an initial reproductive assessment and follow-up assessments on a regular basis by transrectal ultrasound to verify reproductive status and assess overall reproductive health (Hermes et al. 2000, Hildebrandt et al. 2000 a,b). Exceptions include elephants with known reproductive problems, actively breeding animals, or those with documented medical/behavioral conditions that preclude them from breeding.
- 4.2 Each male and female elephant of reproductive age (8 to 35 years) must have hormone (progesterone or testosterone) values assessed through weekly (or bi-weekly) collection of blood samples (Brown 1998, 2000). Exceptions are elephants with known reproductive problems or those with documented medical/behavioral conditions that preclude them from breeding.

5. Behavior management

5.1. Training

5.1.1. Electrical devices designed for use on livestock, such as commercially manufactured electric prods and shocking collars/belts, are prohibited as routine training tools or for handling animals during exhibition. Electric prods are permissible only as an emergency safety device; however, their use is restricted to situations in which keepers feel the imminent need to defend themselves against elephant attacks, or to protect an elephant from possible injury (see Schanberger et al. 2001).

5.1.2. Elephant training terminology and descriptions of specific behaviors are outlined in the *AZA Schools for Zoo and Aquarium Personnel Principles of Elephant Management (PEM) Course Notebook* (AZA Board of Regent's 2001). Trained behaviors should allow the elephant staff access to the animal in order to accomplish all necessary animal care and management procedures and permit inter-institutional consistency. The PEM-recommended list of commands and their corresponding behaviors are ones that every elephant and elephant keeper must know so that basic husbandry and veterinary practices can be accomplished. Behaviors should be reinforced so that all elephants attain close to 100% compliance upon request of the elephant staff (Sevenich et al. 1998).

Appropriate elephant training may employ several training aids or “tools” (see PEM Course notebook for a list and description of some elephant training tools and procedures). The goal of a good trainer is to be able to reduce the amount of time any particular training aid is used (Roocroft and Zoll 1994).

The AZA considers the following training tools/techniques to be inappropriate for use at member institutions:

- a. Insertion of any implement into any bodily orifice, unless directed by a veterinarian specifically in connection with training for a medical or reproductive procedure.
- b. Striking an elephant with anything more substantial than an ankus (a traditional training tool used by elephant trainers)
- c. Striking an elephant with any sharp object, including the hook of an ankus (Fowler 1995).
- d. Striking an elephant on or around any sensitive area, such as the eyes, mouth, ears, or genital region.
- e. No tools used in training should be applied repeatedly and with such force that they cause any physical harm to an animal (i.e., breaking of the skin, bleeding, bruising, etc.).
- f. Withholding or reducing an animal's daily-recommended amount of food and or water.
- g. Withholding veterinary care for any reason.

If properly executed training procedures are ineffective in eliminating aggressive or inappropriate behavior in a given animal, institutions should consider other alternatives, including transfer to a facility with more experienced staff or a different management system. Protracted and repeated use of corporal discipline in training is of serious ethical concern and AZA considers abusive training practices to be unacceptable. Further, elephants that are untrained, unexercised, or unable to complete minimum behavioral requirements may be considered neglected and thereby abused.

- 5.2. Management Systems – Different elephant management systems have both advantages and disadvantages (Desmond and Laulie 1991, Doyle 1993, Preist et al. 1998, Schmid 1998). AZA standards for elephant management recognize that a diversity of approaches exist, but encourage members to continue to experiment with the goal of maximizing elephant health and reproduction and minimizing risk of injury to keeper staff (Lenhardt 1991, 2001, Chapple and Ridgway 2001). System definitions have been defined in the PEM Course and are as follows:

Free Contact – The direct handling of an elephant when the keeper and elephant share the same unrestricted space. Neither the use of chains nor the posture of the elephant alters this definition.

Protected Contact – Handling of an elephant when the keeper and the elephant do not share the same unrestricted space. Typically in this system the keeper has contact with the elephant through a protective barrier of some type while the elephant is not spatially confined and is free to leave the work area at will. This includes confined contact, where the handling of an elephant through a protective barrier where the elephant is spatially confined, as in an Elephant Restraint Device (ERD).

- 5.3. Management Protocols – Each AZA member institution and related facility that holds elephants must have a written elephant management policy. This policy must be consistent with AZA standards for elephant management and care, and must, at minimum, include a description of the institution's:
- a. Elephant management program's missions and goals (EMA 1999).
 - b. Elephant management policies, including guidelines for handling, training, and translocation (EMA 1999).
 - c. Plan to separate animals from each other, safely manage elephants that are aggressive toward other elephants, safely move elephants from one location to another, and safely manage elephants that are aggressive toward humans (EMA 1999).
 - d. Staff management policies, including guidelines for keeper safety (EMA 1999).
 - e. Individual elephant profiles and incident reports for all cases in which elephants show aggression toward keepers or the public, regardless if any injury actually resulted.
 - f. Emergency response protocol. Institutions should be able to demonstrate readiness to respond to an emergency situation, such as an elephant escape or keeper injury (EMA 1999).

5.4. Safety

- 5.4.1. All elephant-holding institutions must undertake at least a semi-annual elephant facility and program safety assessment, identify safety needs, and fully implement any corrective measures. Each facility shall establish a safety assessment team. The team may include elephant staff, management staff, animal health care staff, and experts in the area of risk management and safety. Each facility should establish the make-up of the team based on its own needs and resources. A written record must be kept for each inspection and that record be reviewed and its recommendations acted upon.
- 5.4.2. In the interest of public safety, AZA strongly discourages visitor-elephant interactions, outside of the primary enclosure. AZA strongly discourages the practice of walking elephants in public areas during public hours (BOD 3/25/03).
- 5.4.3. In the interest of safety, AZA strongly encourages members to discontinue public elephant rides (BOD 3/21/00).

5.5. Restraint

- 5.5.1. Chaining is acceptable as a method of temporary restraint (Fowler 1995). However, elephants must not be subjected to prolonged chaining (for the majority of a 24-hour period) unless necessary for veterinary treatment or transport. Institutions that regularly use chains for some portion of a day must alternate the chained foot on a daily basis. All new construction and major renovations must be constructed in a manner that minimizes or eliminates the need for chaining (Schmid 1995, Gruber et al. 2000).

****Note: If AZA policies on chaining require new construction, rather than procedural changes, then institutions will have five years to comply with this requirement. Plans must be in place within three years and institutions must apply for a variance from the AZA Accreditation Commission.**

- 5.5.2. All elephant holding facilities should install an Elephant Restraint Device (ERD) (Schmidt et al. 1991). However, all bull-holding facilities, as well as those that manage elephants in protected contact, must have an ERD. Use of the ERD should not be weather dependent.
- 5.5.3. Each elephant must be trained to enter and stay in the ERD, if one is available, for husbandry, veterinary, reproductive assessment, and other procedures to occur in a safe and efficient manner (Schmidt 1991).
- 5.5.4. If a facility does not have an ERD, staff must demonstrate a method of restraint that allows necessary husbandry, veterinary, and reproductive procedures to occur in a safe and efficient manner (Fowler 1995).

6. Staff Organization and Training

- 6.1. Each institution must have one person, designated as the elephant manager. This individual is responsible for (1) staff training; (2) developing and maintaining the program; and (3) communicating with others about the elephant program. The elephant manager must also demonstrate knowledge about all emergency protocols and continually improve elephant management techniques as the industry standards evolve.

- 6.2. All elephant managers must attend the AZA Principles of Elephant Management Course (BOD 3/25/03), preferably within 18 months following acceptance/promotion to the position. In addition, every elephant keeper is encouraged to attend this course. The BOD directs the Board of Regents to develop a mechanism for the PEM graduates to remain current in best practices in elephant management (BOD 3/25/03).
- 6.3. The BOD instructs the Board of Regents to hold best practices workshops on elephant management systems and transitioning from one management system to another (BOD 3/25/03).

7. Conservation, Education, and Research

7.1. Education Programs

- 7.1.1. Every institution should institute a program to educate zoo visitors about elephant and elephant conservation issues (EMA 1999, Smith and Hutchins 2000). Assistance is available from the Elephant SSP Education Advisor
- 7.1.2. Every institution should have up-to-date educational graphics and/or information about elephants on display to the public.

7.2. Conservation and Research Activities

- 7.2.1. AZA zoos that currently exhibit or desire to exhibit elephants should make every effort to maintain elephants in their collections so that they can contribute to conservation through public education, scientific research, and the support of field conservation. Elephants are an important flagship species and the cornerstone of many members' African and Asian exhibit areas. (BOD 3/21/00)
- 7.2.2. Every institution should contribute in some way to elephant research activities (Keele and Dimeo-Ediger 1997, EMA 1999, Smith and Hutchins 2000). Involvement in one or more of the following disciplines is strongly recommended: behavior, cognition, reproduction, communication, enrichment, health (disease/pathology, nutrition), and education.
- 7.2.3. Every institution should contribute in some way to *in situ* conservation of elephants and their habitats (EMA 1999, Smith and Hutchins 2000).
- 7.2.4. AZA members are strongly encouraged to provide financial, personnel, logistical, and other support for priority research and conservation initiatives listed in the AZA Elephant SSP/TAG Action Plan (Wiese and Hutchins 1994).

8. Cooperative Management (BOD 3/21/00)

8.1. SSP Participation

- 8.1.1. SSP participants should be given highest priority in elephant dispositions, whether through breeding or importation.
- 8.1.2. AZA institutions should cooperate among themselves to pursue self-sustainability with their elephant populations. Since self-sustainable elephant populations are not possible currently within AZA, then cooperation with outside organizations should be considered on a case-by-case basis.
- 8.1.3. AZA zoos may provide elephants or their gametes to approved non-members on a case-by-case basis.

8.2. Importation

8.2.1. All elephant imports must be approved within the AZA Elephant SSP/TAG. Periodic importation may be used as a way to maintain population viability in the North American Elephant SSP/TAG population. The SSP/TAG and participating institutions will employ a combination of breeding and importation with the goal of eventually creating a self-sustaining population. When acquiring elephants for the SSP/TAG, first consider captive animals in substandard conditions in North America, then captive animals outside the U.S., then wild animals surplus to the needs of the managed population or those to be captured or killed because of human-animal conflicts (especially those that are going to be killed).

8.2.2. An effort should be made to assess the potential for cooperating with sister organizations, such as the European Association of Zoos and Aquariums (EAZA).

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ATTACHMENT 8

American Zoo and Aquarium Association Full Participation in Species Survival Program

FULL PARTICIPATION IN THE SSP PARTNERSHIP AND PROCESS

Cooperative animal management and conservation are among the primary goals of the American Zoo and Aquarium Association (AZA). These goals are best exemplified by the Association's shared commitment to its cornerstone animal management/conservation program: The Species Survival Plan (SSP). The AZA Board of Directors recognizes that (1) cooperative management is critical to the long-term survival of professionally-managed zoological parks and their valuable and often irreplaceable animal collections; and (2) all AZA-accredited institutions and related facilities should be fully committed to the goals and cooperative spirit of the SSP partnership. Therefore, in March 2000, the Board passed full participation by all AZA member institutions in the SSP partnership and process.

Full participation in the SSP partnership and process is defined as follows:

1. *All AZA Members owning or holding SSP taxa, or wishing to support an SSP program, must assign one Institutional Representative (IR) to the SSP.* An IR designation form is located in the Conservation Program Resource Guide (CPRG). The CPRG is available in the AZA Resource Center (<http://resource.aza.org/Register/index.cfm>) in the "Animal Management, Science, & Conservation" section under the "Collections Management & Records" heading. Now that all AZA institutions are now required to participate in the SSP partnership and process, this form replaces the SSP Memorandum of Participation (MOP) for member institutions and related facilities, although up-to-date MOPs can be used for IR indication. Species Coordinators should contact the director of all AZA member institutions that did not previously sign an MOP or otherwise designate an IR so that they can assign an IR.

Non-member participants will still be required to sign MOPs and undergo a review and approval process by the Wildlife Conservation and Management Committee (WCMC)

2. *Institutions must provide all relevant data on their animal collections to the SSP coordinator and studbook keeper.*
3. *All AZA-Member owning, holding, and supporting institutions must inform the Species Coordinator of the level at which they can participate (breeding, holding or support).* Clearly, if an institution has an SSP species in its collection, it is either breeding or holding it. Institutions that do not have the SSP animals in their collection, but have relevant experience, interest, or expertise can participate in the SSP in a supporting role and assign an IR. Because institutions' abilities to breed or hold animals is usually dependent upon space and resources and often changes, they should inform the Species Coordinator of their capabilities before each master planning session.

4. *All AZA-Member owning, holding and supporting institutions are required to participate in the SSP partnership process and abide by the recommendations of the Species Coordinator, Management Group and IRs. Any disagreements, whether from the perspective of the SSP or the participating institutions, will be mediated by the Conflict Resolution Process (see below).*

In order to ensure that the SSP process is thorough, efficient and equitable there have been refinements in the master plan format, the master planning process and how conflicts are resolved. The coordinators and all IRs must have the opportunity to have input into the master planning process and have a fair chance to address any questions or conflicts over the recommendations.

The master plan format itself has been more standardized and includes:

1. **Description of SSP Master Plan Report.** A master plan should include a general description of the program including its committees (e.g., husbandry, reintroduction, etc.) and their activities. Overall Conservation Goals of the program should be listed or described briefly. Any program activities since a previous master plan should also be described.
2. **Action Plan.** The Action Plan enumerates a series of realistic goals the SSP aims to accomplish during that time period. The Action Plan outlines overall project objectives and/or needs. Specific projects, including objectives, methods, budget, etc., should be published on AZA's Web catalogue of conservation projects "AZA in Action" (www.aza.org/action). The Action Plan should include at least one education project; *in situ* projects are strongly encouraged but not required. If an *in situ* project is identified, SSPs should coordinate the project with appropriate Conservation Action Partnerships (CAPs). SSP Action Plans should be included in the relevant Taxon Advisory Group's (TAG's) Regional Collection Plan (RCP).

Any SSP-sponsored project that is included in the SSP's Action Plan will receive priority in the AZA Conservation Endowment Fund (CEF) review process.

3. **IR Contact Information.**
4. **Animal-By-Animal Recommendations.** The master plan must include a list of the recommended actions for each individual in the population as well as a description of the genetic and demographic status of the entire population. *A standardized format for these recommendations is being developed by AZA's Small Population Management Advisory Group (SPMAG) and will be posted in the AZA Resource Center as soon as it is available. Until that time, species coordinators should contact their SPMAG advisor for an appropriate report format.*

These recommendations will take into account not only genetic and demographic factors, but also social, nutritional, behavioral, and medical concerns as well as the practical day-to-day management of the animals.

Additional requirements to the master planning process have been instituted to ensure that all institutions have input into the process and that the institutions have access to and fully comprehend the SSP's recommendations.

Requirements of the master planning process include:

1. As many IRs as possible participate in the master planning process to increase the likelihood of institutional support.
2. SSP management group members must be responsible for representing the taxon and the association at large -- not their individual institution.
3. There must be a written record of recommendations.
4. A standard master plan report format is used (see above).
5. The best available method (electronic, mail, fax) is used for SSP communications with participating institutions.
6. A draft of the entire SSP master plan is published in the AZA Resource Center. This draft will be open to comment for 30 days.

Please note that these draft recommendations will not be available in the AZA Resource Center until a standardized format has been developed by SPMAG and output files have been developed. Until that time, species coordinators should distribute draft recommendations using the best method available (electronic, mail, fax).

7. Directors are notified (via the listserv and Web site) of master plan recommendations. Written recommendations will be provided to directors upon request.

If all holding institutions have the chance to be active participants in the master planning process and master plan reports are standardized, fewer conflicts should arise over the results. However, if conflict does arise, participants are required to utilize the following Conflict Resolution Checklist to guide their actions. Either the SSP Coordinator or the participating institution can initiate the process.

The Conflict Resolution Process involves:

1. **Attempt to resolve the conflict through a telephone conversation.** A professional and courteous telephone inquiry is often all that is necessary to clear up conflicts resulting from missed communications. Each party should keep notes on the conversation(s). If a resolution is reached over the telephone, the initiating party should confirm the decision in a letter that briefly details the problem and the agreed upon solution. This letter should refer to all previous communications on the subject.

2. **Document the nature of the conflict in writing.** If the issue(s) cannot be resolved over the telephone, then the conflict must be documented in writing. The first step toward resolution of any conflict is to clearly identify and agree upon the problem. This documentation should be in the form of a letter, either from the Species Coordinator to the Institutional Representative or vice versa. The letter should clearly state the nature of the problem and any actions taken. If possible, the letter should pose reasonable alternatives or solutions to the conflict. A copy of this Conflict Resolution Process should be included with the documentation.
3. **Refer the matter to the SSP Management Group.** If the initial exchange of letters does not produce a satisfactory resolution of the problems, the initiating party will refer this issue, in writing, to the Management Group for discussion and development of additional options and or actions. The management group will vote to determine if a resolution is possible or if the next step in the process should be taken, within 30 days of the dated referral. The management group has the option to consult the appropriate Taxon Advisory Group (TAG) for assistance in resolving the conflict. The Species Coordinator must accede to the management group's recommendation.
4. **Communicate conflict to institutional director, TAG and WCMC Chair.** When a matter is referred to the Management Group, the Species Coordinator will provide copies of all documents to the institutional director, the relevant TAG Chair and the Chair of the WCMC. The Institutional Representative will copy his or her immediate supervisor and institutional director. The institution will make an effort to resolve the conflict with the SSP.
5. **Refer the matter to WCMC.** If the conflict cannot be resolved at an institutional level within 30 days after being notified of the Management Group decision, then the matter will be arbitrated by a sub-group of WCMC. The WCMC Chair, two members of WCMC (one selected by each of the parties in conflict), the SSP Coordinator, and a representative designated by the institution should conduct a confidential review of the problem and formulate a final resolution. This may occur in person at a meeting, or via a conference call. Within five working days, the WCMC Chair will provide a written report communicating the decision to the WCMC, the TAG, the SSP Management Group, the SSP Coordinator, the institutional director, the Institutional Representative and the AZA Conservation and Science Office.
6. **Note that this conflict resolution process is a two-way process.** The arbitrators may opt to suspend or expel an institution from the SSP. If the institution involved is an AZA member, a summary of the arbitration process and decision will be forwarded to the Accreditation Commission for inclusion the institution's accreditation file. The arbitrators may also determine that an SSP Coordinator is at fault. If that occurs the SSP Coordinator may be subject to sanction, including being placed on probation or being removed from the position.

ATTACHMENT 9

Cost of Transferring Los Angeles Zoo Elephants to PAWS Elephant Sanctuary



PAWS
Performing Animal Welfare Society

2005 OCT 12 AM 10:23

CITY ADMINISTRATIVE OFFICER

THE PERFORMING ANIMAL WELFARE SOCIETY (PAWS) POLICY REGARDING THE TRANSFER OF ELEPHANTS TO ARK 2000

Elephants are highly sensitive, intelligent animals who rely on an intact, functioning social order to prevent stress and maintain normal physical and mental health. Profound disruptions in routine and changes in environment and companions can cause trauma to individual elephants.

Most captive elephants were born in the wild and captured at an early age. They have witnessed the killing of their families and endured the trauma of transport to an unfamiliar place populated by strange elephants and humans. In the wild, young elephants are reared in a matriarchal society among close family members.. Captive elephants live in dysfunctional groups of unrelated individuals with dominant females fighting for control. Although most survive, they all suffer from the lack of traditional elephant social systems and often compensate by forming bonds with one or two compatible elephants. They rely heavily on routine, and change can often cause stress.

The removal of an individual elephant from familiar surroundings and companions is a highly traumatic experience which can cause physical and psychological problems and, occasionally, death. All proposed elephant moves should be carefully studied and alternative solutions explored before a final decision is made to relocate individual elephants.

PAWS is committed to providing solutions to problems which might necessitate translocation of elephants from familiar surroundings whenever possible. If the situation requires removal of elephants to provide a better quality of life, careful planning and the full cooperation of all involved is essential. We will provide recommendations for the planning and training involved; but we do not usually participate in the transportation process.

Elephants who come to ARK 2000 are carefully evaluated and plans for lifetime care are based on individual needs. Our veterinarian, Dr. Jackie Gai, must be given an opportunity to consult with facility veterinarians prior to transfer of the elephant(s) to assess the elephant's ability to travel and to develop a program of veterinary care for each individual elephant. Keeping staff is on duty twenty-four hours a day to monitor acclimation to environment and socialization with the other elephants. Communication and cooperation between former keepers and PAWS' staff is critical to the success of the project. Additional construction is often necessary to facilitate the process and will be completed before transfer.



PROJECTED COST OF CONSTRUCTION FOR TRANSFER OF TWO ASIAN AND ONE AFRICAN ELEPHANT FROM LOS ANGELES ZOO TO ARK 2000

GITA

Concrete stall with heated floor (pipe uprights + two gates) 40' x 30'	\$ 35,000
Dirt sleeping stall (pipe uprights + two gates) 60' x 40'	25,000
Indoor pool	30,000
Separate pipe chute & corral for introduction to other elephants	25,000
Total for Gita	<u>\$115,000</u>

RUBY

Separate pipe chute for introduction to other African elephants	\$ 25,000
Total for Ruby	25,000

BILLY

Barn -- 12,000 sq. ft.	\$800,000
Two Concrete stalls with heated floors 40' x 30'	50,000
Two dirt sleeping stalls - pipe uprights + four gates	200,000
Indoor pool	30,000
Hydraulics	50,000
Plumbing & Electric	75,000
Elephant Restraining Device (ERD)	80,000
Scale	10,000
Ten Acre pipe fenced area -- pipe fencing	350,000
Lake	200,000
Plans & Permits	150,000
Total for Billy	<u>\$1,995,000</u>

TOTAL COST OF CONSTRUCTION \$2, 135,000

**PROJECTED COST OF CARE PER YEAR FOR TWO ASIAN AND ONE AFRICAN
ELEPHANT FROM LOS ANGELES ZOO**

FOOD (estimated at \$50 per day per elephant)	\$ 54,750
Keeping staff (estimated @ one full time keeper per elephant @ keeper rate of \$10 per hour + taxes & benefits)	109,500
Veterinary & medications (speculative)	60,000
Utilities for bull barn (estimated at \$800 per month)	9,600
Total Cost	<hr/> \$ 233,850

NOTE:

1. All costs of construction are estimated at current costs of materials. There may be substantial increases in the cost of steel within the next few months which would alter the projection for construction.

2. We have included costs of care which are based on our actual cost per elephant if the elephant is healthy and requires minor veterinary care. Elephants with severe arthritis or chronic foot problems (i.e. Detroit Zoo elephants) may require special treatments and medication which would alter the projected costs.

FIGURE 1

Elephant Exhibit Original Plan

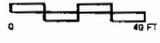
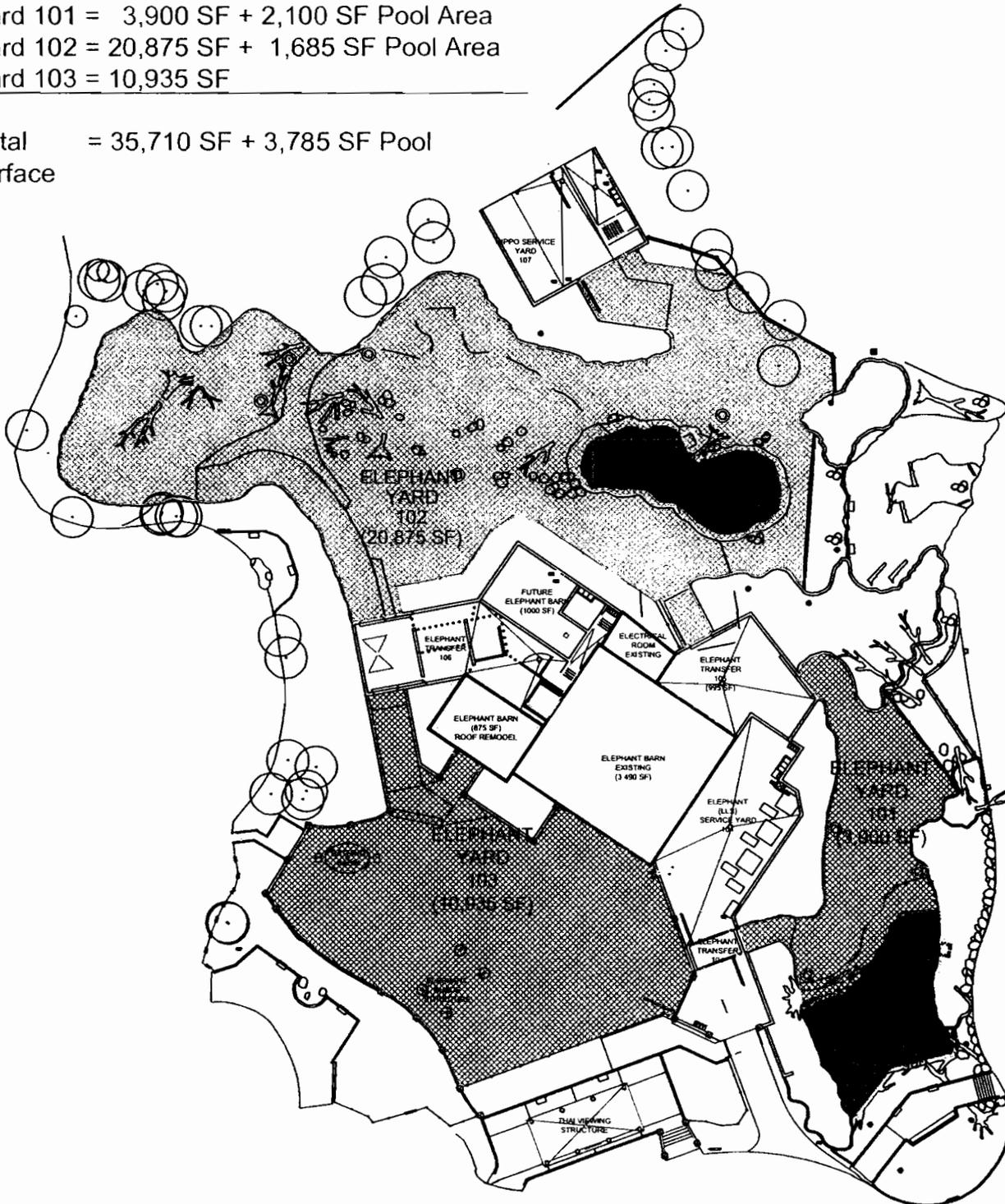


Total area (including the existing barn) of the revised Pachyderm Forest site is 93,140 square feet.

Summary of the Elephant Yard Area:

Yard 101 = 3,900 SF + 2,100 SF Pool Area
 Yard 102 = 20,875 SF + 1,685 SF Pool Area
 Yard 103 = 10,935 SF

Total = 35,710 SF + 3,785 SF Pool surface



ELEPHANTS OF THE SURIN
 (revised w/o Hippopotamus Exhibit)

FIGURE 2

Elephant Exhibit with Expansion as Approved by the Zoo Capital Program Oversight Committee

FIGURE 3

Proposed 3-Acre Exhibit

