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Edmonton Valley Zoo Elephant Assessment Report

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Executive Summary

McClure International Consulting (MIC) provides professional, evidence based consultation services for organizations and animal programs with over 30 years of experience and training in exotic animal management and team building. MIC was brought in to support the Edmonton Valley Zoo elephant team in both managing foot defects and working with the staff to enhance their elephant husbandry and foot care practices.

The Zoo is currently responsible for all aspects of the care of one geriatric female Asian elephant, “Lucy”. To date, two on site sessions have occurred with one for two days over July 4 and 5, 2025, and the second on December 6, 2025. The following information is shared with the intent of providing a brief overview of the findings of the most recent in person session. Areas of focus include the elephant program as a whole with specific emphasis on husbandry practices, an assessment of existing resources, the elephant's current condition, and any recommendations for opportunities for further development.

This comprehensive assessment evaluates multiple aspects of Lucy's care including infrastructure adequacy, husbandry protocols, enrichment programming, and staff competencies with relevant notes on medical management. The findings reflect a program that prioritizes evidence-based decision making and animal welfare while maintaining flexibility to adapt to the changing needs of a geriatric elephant with complex medical conditions.

Program and Animal Assessment by Category

Infrastructure

Her indoor stalls and outdoor yards are well maintained and sanitized diligently by the staff in order to promote high levels of safety and good hygiene in her environment. There is an additional location in an enclosed, environmentally conditioned dome that she is able to walk to for additional engagement and activity under the oversight of her care team. The spaces available to her are adequate yet not expansive, but staff do a good job compensating for size limitations by encouraging her to move around throughout each day in order to better utilize all available spaces and to provide exercise. Her geriatric conditions are prohibitive of high levels of cardiovascular exercise, but her regular movement and distance walking and engagement in her environment is intended to compensate for this deficit. Lucy demonstrates consistent and ongoing engagement with her team and her environment.

The facility's monitoring capabilities provide critical data for care planning. Data loggers are used in the barn to track temperatures consistently and record for trends and changes. Multiple cameras are able to monitor her throughout the day and overnight and provide remote access for viewing by staff. This system is an advantage as it gives the team additional information about her behavior patterns. This allows staff to identify behavior baselines, detect potential health issues early, and make informed decisions about daily care routines even when not physically present.

Climate control within the facility is managed through systems designed to balance Lucy's comfort with operational efficiency. The barn temperatures are managed using a combination of floor heating and a makeup air heating unit. The system pulls fresh air from outside, heats it and then vents it into the barn. Building temperatures are usually between 23 and 25 degrees Celsius. An exterior door remains open for access to outside until weather conditions change to cold temperatures with low wind chill. This approach provides Lucy with choice and flexibility to experience varying environmental conditions while ensuring core comfort zones remain accessible.

Substrate quality is a critical component of elephant foot health and overall comfort. Her indoor stalls have a mix of sand, rubberized floor coatings, and concrete. The sand used for her overnight stall and her sand piles for sleeping is good quality. A camera macro lens was used to assess the sand and the individual grains are uniform shape and rounded with no cutting surfaces on the grains so they do not lock and pack together and they are minimally abrasive to the skin and the feet. The sand also provides her with good opportunities for self-maintenance behaviors such as dusting and mud bathing, in addition to providing a cushioned surface to sleep on.

Flooring substrates should consist of several options for elephants, in addition to sand. The sand and rubberized floors are conformable surfaces and can cushion joints, soften landings during walking, and help to preserve good limb function. Contact with flat, more dense substrates for short durations can provide a greater degree of resistance and friction when she is walking, to allow for natural erosion of foot tissue which is essential for encouraging growth of new tissue. The variety of substrate options available to Lucy supports both comfort and natural foot maintenance processes.

Infrastructure Summary:

- Facilities maintained to high hygiene standards with regular sanitation protocols
- Camera surveillance system provides remote monitoring and provide additional observational data
- Climate control systems maintain optimal temperatures (23-25°C) indoors with flexible outside access based on external conditions
- High-quality sand substrates support natural behaviors, restful sleep and foot health
- Space limitations are compensated for through active encouragement of movement and environmental engagement

Infrastructure Recommendations:

- Continue current maintenance and monitoring protocols
- Consider periodic review of camera placement to ensure optimal coverage as Lucy's mobility patterns change
- Maintain current substrate diversity to support both comfort and natural foot tissue maintenance
- Document temperature preferences and behavioral patterns to refine climate control protocols over time
- Utilize camera systems to quantify enrichment item usage and foraging patterns in order to enhance enrichment and feeding opportunities

Husbandry

The husbandry program at Edmonton Valley Zoo demonstrates comprehensive attention to Lucy's physical health needs through structured and consistent care routines. These protocols are essential for maintaining the health and welfare of a geriatric elephant with complex medical conditions.

Skin care: Thursdays and Sundays are the days she is given a full bath. All other days of the week, she receives a spot bath on feet, and focal areas of her skin. This is adequate to maintain

healthy skin and to allow for daily full body inspections by the staff. Baths include a wash down and a scrub with mild detergent that promotes healthy skin development and maintenance. This bathing schedule strikes an appropriate balance between thorough cleaning and avoiding unnecessary over-washing. The daily spot treatments ensure that areas of concern receive consistent attention while the full body inspections provide opportunities for early detection of any skin conditions, lesions, or other physical changes that may require intervention.

Trained Behaviors: She is trained for a range of husbandry behaviors including baths, eye exams, ear exams, injections, blood draws, and accepting oral medications. These behaviors are critical to be able to accomplish successfully in the care and management of elephants, but especially for one that has reached geriatric status. The extensive behavioral training Lucy has received represents years of careful conditioning and relationship building between her and her care team. This training foundation is invaluable as it allows for voluntary cooperation in medical procedures, reducing stress for both the animal and staff while enabling more thorough examinations and treatments. As geriatric elephants often require increased medical interventions, this behavioral cooperation becomes increasingly critical to quality of life and positive health outcomes.

Foot care: Lucy is well trained to accept a variety of foot care techniques and treatments and is very tolerant of the procedures. She participates readily. This is a significant benefit to her husbandry and care routines due to the fact that she is a geriatric animal. As geriatric animals continue to age, the need for specialized foot, joint, range of motion, and mobility support from staff becomes increasingly critical. Foot health is often considered the most critical health concern for elephants under human care, and Lucy's willing participation in foot care procedures allows staff to address issues proactively rather than reactively. Regular foot examinations and treatments can prevent minor issues from developing into serious conditions that could compromise her mobility and quality of life.

Over the last two sessions for support and training on foot care techniques under the guidance of MIC, the staff have demonstrated clear skill in not only comprehension of new concepts, but also implementation of all recommendations and guidelines.

Diet: Staff provide a diverse diet and strive to stagger her intake throughout the day to optimize nutrient absorption. She has access to multiple feed tubs overnight with various dietary items and supplements. Most of these are available to her constantly after staff depart for the day and not dispersed temporally throughout the night. Items provided include minerals and elephant hay enhancer, a feed called Equilibrium (an equine senior food), alfalfa pellets (she does not prefer these according to staff so consumption is low), brewer’s yeast, and probiotics. In addition she gets a hay diet that is tested for nutrients and provided in measured amounts to balance her fiber and caloric intakes properly.

The dietary management approach is comprehensive and reflects efforts to ensure she has the necessary nutritional content she requires as a geriatric elephant through multiple feeding strategies. The variety of supplements provided gives Lucy multiple opportunities for access to her food and supplements, though the constant availability rather than temporal dispersal may not optimize consumption and resulting absorption patterns.

Overall behavior: She is extremely desensitized to the presence of people and tactile stimulation all around her body and on all body surfaces. All of this contributes to the ability of the team to provide her with high levels of evidence based husbandry with consistency and reliability. She continues to be allowed to indicate if she wants to go outside or over to the dome and is given that opportunity if weather conditions are within guidelines. Temperature, wind chill, ground conditions, rain, levels of direct sun, and other factors are considered and evaluated as a whole. This decision also takes into consideration such factors as her levels of sleep from the prior night which can indicate her energy levels and ability to walk the durations necessary to navigate distances outside. This approach demonstrates respect for Lucy's autonomy and preferences while maintaining appropriate safety parameters. The staff's ability to read her behavioral indicators and adjust plans accordingly reflects good understanding of individual animal behavior and needs.

Husbandry Summary:

- Comprehensive bathing schedule (full baths twice weekly, spot treatments daily) maintains skin health and enables daily inspections
- Extensive behavioral training facilitates voluntary participation in medical procedures including injections, blood draws, and examinations
- Excellent foot care cooperation supports proactive management
- High level of desensitization enables implementation of evidence-based care protocols
- Choice-based outdoor access considers weather conditions, energy levels, and individual preferences

Husbandry Recommendations:

- Maintain current bathing and inspection protocols with documentation of any skin changes over time
- Continue training for medical behaviors to ensure skills remain strong as needs evolve
- Document foot care procedures and outcomes to track effectiveness and identify emerging trends
- Continue to evolve standardized scoring systems for daily wellness assessments to support data-driven decision making
- Maintain current approach of respecting animal choice while ensuring safety parameters

- Consider implementing temporal dispersal of overnight supplements using timed feeders to optimize absorption potential

Enrichment

The enrichment program reflects thoughtful planning and implementation designed to promote natural behaviors and cognitive engagement. A well-designed enrichment program is essential for psychological well-being, particularly for an elephant with limited space availability and reduced mobility options.

The enrichment program is goal based and focuses on defined behaviors that staff seek to elicit from the animal. There is consistent documentation in place which allows for effective time evaluation and adjustments as necessary to improve outcomes and well-being. Throughout the stalls and the keeper areas, there was clear evidence of implementation of strategies and devices to provide Lucy with ways to engage with her environment. This goal-oriented approach ensures that enrichment activities are purposeful, with clear metrics for success. The visible evidence of enrichment implementation throughout her spaces demonstrates commitment to providing variety and engagement opportunities throughout her day.

Timed feeders are utilized overnight to provide feedings and to encourage activity in the hours that staff are not present. Currently the feeders are activated on preset schedules that do provide opportunities for foraging at different times of the night. The author recommends using camera data to set the timed feeders to correspond to her changing behavior patterns at night and to consider expanding the system to include opportunities for motion sensors to trigger events for feeding. As technology advances and becomes more readily available, it is possible for staff to develop more complex systems that can encourage the animal to move around more on her own at night between sleep periods, which could expand her exercise windows and enhance environmental engagement outside of the times when staff are present. This technological enhancement could provide Lucy with more naturalistic foraging experiences where her own activity triggers feeding opportunities, potentially increasing both physical activity and cognitive stimulation during overnight hours.

Enrichment Summary:

- Goal-based program with defined behavioral objectives and outcome measures
- Effective documentation system supports evaluation and program refinement
- Evidence of diverse enrichment strategies implemented throughout living spaces
- Timed feeding systems provide overnight foraging opportunities
- Program design considers Lucy's physical limitations while promoting engagement

Enrichment Recommendations:

- Implement data-driven scheduling for timed feeders based on camera analysis of Lucy's natural activity patterns
- Explore motion-sensor triggered feeding systems to increase voluntary movement and create cause-effect relationships
- Consider seasonal variation in enrichment programming to maintain novelty and interest
- Develop metrics to quantify enrichment engagement and effectiveness over time
- Investigate emerging technologies that could expand enrichment capabilities overnight
- Document which enrichment types elicit the strongest engagement to inform future planning

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Staff Resources and Competencies

The quality of animal care is fundamentally dependent on staff knowledge, skills, and commitment. The Edmonton Valley Zoo demonstrates substantial investment in human resources dedicated to Lucy's care, reflecting organizational commitment to excellence in geriatric elephant management.

3 or 4 staff per day are typically assigned to the elephant area. There is a minimum of 2 at a time with a 3rd helping at key points of the day to ensure that all duties are performed and that records are maintained in a timely manner each day. This represents a significant commitment of daily resources to a single animal and demonstrates the Zoo's commitment to providing high quality care to the elephant. This staffing level is appropriate for a geriatric elephant with complex medical needs and ensures that all care tasks can be completed thoroughly without rushing, that proper safety protocols can be maintained, and that staff can respond quickly to any changes in behavior or condition.

Staff members displayed not only high levels of effective communication throughout the day but also clear skill in interpreting behavior and trends. Effective communication among team members is essential for consistency in care delivery and for ensuring that important observations are shared and acted upon. The behavioral interpretation skills demonstrated by staff indicate extensive experience, as well as good observational abilities that allow them to detect subtle changes that may indicate health concerns or shifting needs.

As of the current session on 12/6/25, staff have discontinued the practice of carrying an elephant guide during her outdoor walks. The tool has been replaced with a focused daily risk assessment that evaluates her demeanor, behavior trends, environmental risks, staff capabilities and other factors to allow the team to use evidence based decision making

processes to determine daily routines and plans. This is an improvement to her management program and represents a more objective and logical approach to risk management and daily planning. This evolution demonstrates professional growth and confidence in risk assessment capabilities. Rather than relying on a tool for safety, staff now conduct comprehensive evaluations that consider multiple factors holistically, resulting in more nuanced decision making and more predictable outcomes.

Behavior tracking is done throughout routines and notes help to inform any changes to plans or to the routines for the following day. The team consistently demonstrated skill in their ability to use a clear understanding of the elephant's behavior and her individual nuances to interpret her needs and to adjust plans according to her indicators. It has been clear to the author at both of the in person sessions, that the elephant's needs are prioritized in every interaction. This adaptive approach to care planning ensures that routines remain flexible and responsive rather than rigid and routine-driven. The consistent prioritization of Lucy's needs over convenience or established patterns reflects a culture of animal-centered care.

Staff Resources and Competencies Summary:

- Substantial daily staffing commitment (3-4 staff per day, minimum 2 concurrent) ensures thorough care delivery
- Staff demonstrate strong communication skills and behavioral interpretation abilities
- Transition to risk assessment-based planning reflects professional growth and evidence-based approach
- Comprehensive behavior tracking informs daily planning and routine adjustments
- Consistent prioritization of animal needs evident across all interactions
- Team demonstrates ability to adapt plans based on behavioral indicators and individual nuances

Staff Resources and Competencies Recommendations:

- Continue current staffing levels to maintain quality of care for geriatric elephant
- Maintain detailed records of behavioral observations and correlations with health outcomes for knowledge building
- Explore opportunities for cross-training to ensure care consistency across all team members
- Document and share successful behavioral interpretation examples to build institutional knowledge

Conclusion

The Edmonton Valley Zoo demonstrates a strong commitment to providing high levels of care for Lucy through dedicated staffing, comprehensive monitoring systems, and evidence-based husbandry practices. The elephant care team has shown consistent skill in behavioral interpretation, adaptive management, and prioritizing the animal's welfare in all decision-making processes.

Key strengths observed include well-maintained infrastructure with robust environmental monitoring, excellent animal training accomplishments that facilitate medical and husbandry procedures, goal-oriented enrichment programming with proper documentation, and a team that consistently demonstrates competency and attentiveness to Lucy's individual needs. The recent adoption of risk-based assessment protocols represents a positive evolution toward more dynamic and responsive care planning.

The infrastructure provides Lucy with appropriate spaces, climate control, and substrate options that support both comfort and health maintenance. The surveillance system and environmental monitoring capabilities give staff tools for understanding behavioral patterns and making informed decisions. While space is limited, staff effectively compensate through active encouragement of movement and environmental engagement throughout the day.

Husbandry protocols are comprehensive and appropriate for a geriatric elephant with complex medical needs. Lucy's behavioral training and cooperation in medical procedures represents a significant asset that enables proactive health management. The bathing and inspection routines support both physical health and early detection of potential problems. Staff's respect for Lucy's choices regarding outdoor access, balanced with appropriate safety considerations, demonstrates an evidence based understanding of animal welfare principles.

The enrichment program shows thoughtful design with goal-oriented objectives and effective documentation for program evaluation. The use of timed feeders to encourage overnight activity is commendable. Areas for continued development include optimizing the timed feeding system to adapt with Lucy's natural behavior patterns through camera data analysis and exploring motion-sensor technology to encourage increased voluntary movement during non-staffed hours. These enhancements could expand Lucy's opportunities for physical activity and cognitive engagement during times when staff are not present.

Staff competencies are notable, with clear skills in communication, behavioral interpretation, and adaptive planning. The substantial commitment of 3-4 staff members daily to Lucy's care reflects organizational commitment to quality. The transition to assessment-based decision making represents professional growth and confidence in risk evaluation capabilities. The consistent prioritization of Lucy's needs over convenience demonstrates a culture of animal-centered care that should be maintained and commended.

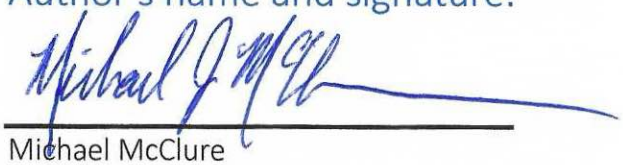
Overall, the Edmonton Valley Zoo elephant program demonstrates quality geriatric elephant care, with staff possessing both the technical and observational skills necessary to provide individualized, responsive care to an aging elephant. The Zoo's substantial resource allocation and commitment to evidence-based practices position the team well to continue adapting their care protocols as Lucy's needs evolve. The program serves as a good example of how strong institutional support, consistent commitment of resources, and skilled team members can combine to provide positive welfare outcomes for geriatric elephants in human care.

Overall Recommendations for Program Enhancement:

- Implement camera data analysis to optimize timed feeder scheduling based on Lucy's natural activity patterns
- Continue comprehensive behavioral, environmental and health monitoring to identify correlations that may inform medical management
- Consider temporal dispersal and expansion of overnight feeding options for diets and dietary supplements to optimize foraging behaviors and nutrient absorption potential
- Maintain current staffing levels and continue investment in staff training and professional development
- Share successful practices and lessons learned with broader elephant care community
- Continue adaptive, animal-centered approach to care planning while maintaining thorough documentation

McClure International Consulting values the trust and open communication afforded to us by the team and leadership at the Edmonton Valley Zoo and is grateful for the opportunity to observe and contribute to the ongoing care for Lucy. Please do not hesitate to contact us if there are any comments or follow up questions that we can assist with in the future.

Author's name and signature:



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