



SANTA ANA ZOO  
**FACILITIES MASTER PLAN**

FINAL | FEBRUARY 22, 2018



# SANTA ANA ZOO

Facilities Master Plan  
February 22, 2018

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## FOREWORD

Over the past six decades a visit to the Santa Ana Zoo has become an essential part of every childhood in Santa Ana and the region. During this time, the Santa Ana Zoo has grown from a place of recreation and fascination to one of education, conservation, and inspiration. With every visit, people leave not just with a better understanding of the complexity and interdependence of nature and the extraordinary diversity of life, but also inspired to find ways of making the world more environmentally harmonious.

In recent years, the Santa Ana Zoo has changed substantially. In keeping with modern animal management and husbandry, the animal enclosures and practices are constantly being improved. The Zoo has taken on more active roles in community education, research, and conservation. This Master Plan is a blueprint that assists the Zoo into the future. It outlines areas where the Zoo can expand and improve its facilities to continue its profile as a treasured community asset.

I know the Santa Ana community will continue to be proud of its Zoo and the contributions it makes to the community, in reproduction of endangered species and more broadly to our understanding of the natural world. The City of Santa Ana and Friends of Santa Ana Zoo are supporting the first stage of the implementation of this plan through the funding of a new giant river otter habitat and primate trail.

As a whole, cultural institutions face many challenges and the Santa Ana Zoo is accordingly moving to position and resource itself for the future. The Santa Ana Zoo Master Plan is not just a physical plan; it addresses the core of why the Zoo exists and sets its future direction. I commend the vision set forth and with the ongoing support and investment of the community, look forward to continued future successes.

Ethan Fisher  
Zoo Manager  
Santa Ana Zoo at Prentice Park



AMAZON'S EDGE EXHIBIT, OPENED IN 1993

# STRATEGIC PLANNING

The new Strategic Master Plan positions the Santa Ana Zoo for greater success and growth in the future. The combined Strategic and Master Plan establishes a solid foundation from which to take the Zoo to the next level of growth and mission impact. Led by an engaged and dedicated Zoo staff, supported by their partners at the Friends of Santa Ana Zoo, the foundation is now built to move to higher heights, strengthening its mission impact, and enhancing its place as a valuable asset in the community.

## STRATEGIC THEMES

Throughout an integrated planning process, the Zoo assessed its strengths and identified areas for improvement. Both the Strategic and Master Plan were developed to capitalize on those strengths. The planning team identified a set of strategic themes which guided the plan while also serving as the Zoo's unique differentiators.

- **EXPERIENTIAL LEARNING** – The Zoo offers many opportunities for fun, adventure, and learning in a unique setting with an educational focus.
- **PARTNERSHIP** – Celebrate and recognize the successful partnership between the Zoo and the Friends and how that relationship can continue to be maximized.
- **URBAN ZOOLOGICAL FOREST** – Highlighting and leveraging the Zoo's park setting amidst urban development.
- **PRIMATE HERITAGE** – Celebrating our legacy and history around the Zoo's commitment to primate conservation.
- **ZOO SIZE** - Leverage the Zoo's size to provide an accessible and intimate guest experience.
- **LOCATION** - Take advantage of the Zoo's location, with proximity to the freeway and to a large market to grow attendance and visibility.

As part of crafting a bold vision for the future, the team revisited the Zoo's mission and vision statements to better guide the organization. The team also developed a set of core values which yielded a set of eight guiding principles. Finally, the emerging strategic themes drafted and discussed over the course of the project began to take shape as goals and objectives. Detailed action steps or tactics will be developed by staff in the early stages of plan implementation.



BLACK HOWLER MONKEYS AT AMAZON'S EDGE

## MISSION

*The Santa Ana Zoo, through fun, adventure, and learning, empowers the community to save wildlife and wild spaces.*

## VISION

*The Santa Ana Zoo is a force for conservation action.*

## GUIDING PRINCIPLES

These eight precepts have a daily influence on the thoughts and actions of the Zoo management and staff. The precepts guide how they conduct their business, how they care for their Zoo, how they interact with their community, and how they treat their animals, guests, and each other. All are interrelated and no one stands above the rest.

1. Delivering the best in welfare and wellness for animals in our care;
2. Conserving wildlife and wild spaces;
3. Providing a fun and engaging guest experience;
4. Treating each other with trust and respect;
5. Running our operations with integrity;
6. Welcoming diversity and inclusion in our staff and guests;
7. Embracing and encouraging an open and transparent environment; and
8. Collaborating with each other, partners, and our communities.

## GOALS

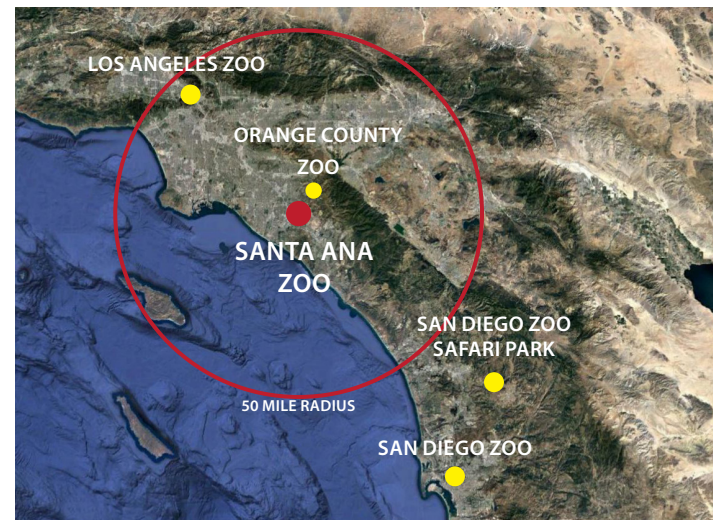
The Planning Team's goals and objectives and resulting action steps lay out an ambitious and exciting plan for the Zoo for the future. A good plan is a dynamic plan; a path that is open to change and adjustment as needed but one that stays true to its vision. Through a consistent program of regular reviews and updates, performance checks and metrics, the Zoo will maintain the course and achieve its goals, but it is only by embracing a shared vision and goals and working hand in hand that we will realize true success.

The goals are all connected and each is a priority to ensure long-term organizational successes. You cannot achieve progress in one without advancing the others. These goals guide the organization and serve as a way to focus energy, resources, and efforts.

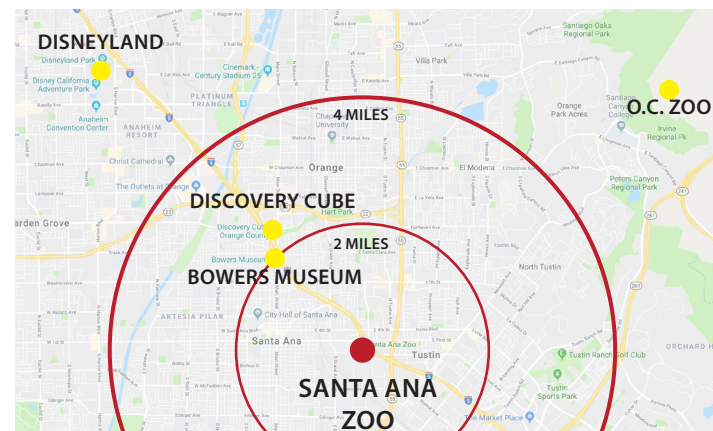
- I. **ANIMAL WELFARE:** Strengthen the Zoo's commitment to providing first-rate animal welfare and wellness and communicate that commitment to the community.
- II. **CONSERVATION & EDUCATION:** Advance the Zoo's role as a force for conservation action in the community.
- III. **FINANCIAL SUSTAINABILITY:** Create a stronger, more sustainable fiscal model by broadening funding sources and driving increases in all revenue streams.
- IV. **GUEST EXPERIENCE & FACILITIES:** Enhance the Zoo by continually delivering high-quality improvements to the guest experience.
- V. **ORGANIZATION:** Build staff capacity; continue to strengthen staff culture.
- VI. **BRAND & AWARENESS:** Maximize and increase visibility of the Zoo's unique brand by providing guests intimate experiences in an urban oasis.

## OVERVIEW

This final report represents completion of the master planning process for the Santa Ana Zoo, summarizing over 8 months of site inventory, analysis, concept testing, and plan development. This Facility Master Plan presents a comprehensive approach for how the Santa Ana Zoo can be developed over the next 15-20 years. Concepts for the various project zones are backed by both mission drivers, such as collection diversity and conservation/education initiatives, as well as physical site campus drivers including the beautiful mature trees and several of the more recently developed exhibit attractions. The Strategic Business Plan (under separate cover), developed hand in hand with the Facilities Plan, has informed all aspects of the vision to enhance the guest experience, increase revenue opportunities, and bolster mission driven programs.



REGIONAL CONTEXT



CITY CONTEXT

## PLANNING PROCESS

Throughout the eight-month Planning Process, several new ideas and concepts were generated by the Planning Team, comprised of the Zoo, FOSAZ, City, CLR and Zoo Advisors. During the initial stages of the Planning Process, CLR facilitated workshops with the full Planning Team to discuss key broad issues such as land use, visitor and service circulation, parking and access, and city and regional context. During the later stages of the Planning Process, special focused discussions were conducted with various departments (animal, health, operations, etc.) to discuss site-specific issues and new development concepts.

### INVENTORY AND ANALYSIS

During the first phase of the Planning Process, CLR walked the site and studied the campus looking for opportunities and observing constraints. In addition to these site walks, CLR also collected as much relevant site data from drawings and interviews with the Planning Team. Maps were prepared to document existing patterns of circulation, site access and parking, land use, land form, visitor services, visitor experiences, operations facilities, exhibits and attractions, vegetation, and utilities, and were used to identify the positive and negative attributes of the site.

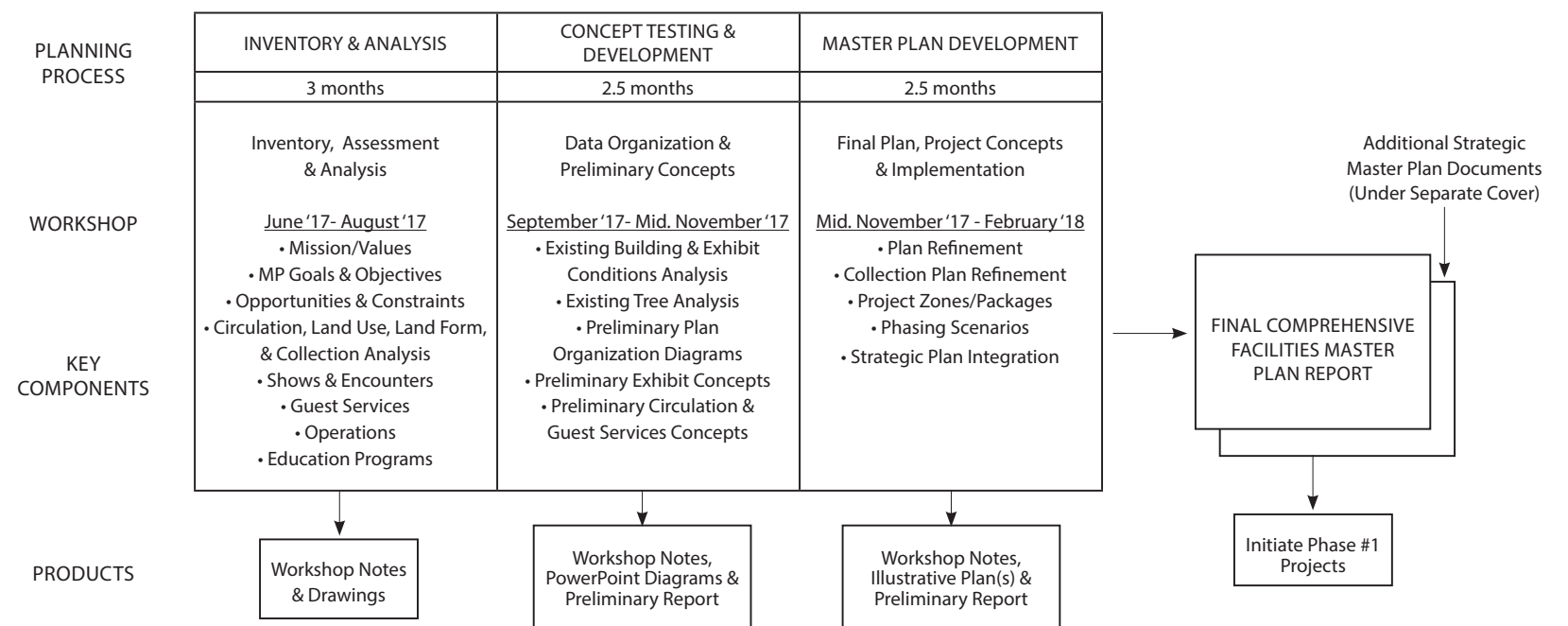
### CONCEPT TESTING & DEVELOPMENT

As the process transitioned to concept testing, further assessment of existing buildings and exhibits occurred to better understand life span and suitability, as related to building code, accessibility, animal welfare, and, in general, integration within the vision of the plan. Utilizing the collected site inventory data and

conclusions reached during the first phase of the Planning Process, several new land use and circulation concepts were considered and developed. Preliminary concepts such as the arrival and entry experience, improved patterns of guest flow and hub placement, collection plan and organization of comprehensive habitat experiences, education and research programs and encounters, and the critical zones for operations and animal care, were all carefully evaluated, tested and discussed with the Planning Team. Creating a simplified vehicular and pedestrian circulation system throughout the Zoo, with an expanded main parking hub, was a key driver in the spatial organization of the Master Plan. The existing mature trees throughout the campus, along with the desire to maintain an immersive guest experience, were a critical aspect of new land use permutations.

### MASTER PLAN DEVELOPMENT

A draft Facility Master Plan was presented for review, comment and revision during this phase of the process. Individual exhibit zone concepts, visitor service facilities, and infrastructural projects were tested and revised after discussions. Preliminary project packaging concepts along with budgets were developed to test various implementation and strategic return-on-investment scenarios. Implementation timelines, as illustrated in this report, were driven by both strategic opportunities as well as the physical priorities of the campus. The final comprehensive plan provides a roadmap for how capital projects and programs can be carried out over the next 20 years, with a strong focus on a balanced investment on infrastructure, visitor services, and attractions.



# MASTER PLANNING DRIVERS

During Workshop #1, the Planning Team identified the following “Site” (physical campus / facilities-focused) and “Strategic/Mission” drivers for the development of the Master Plan:

## SITE DRIVERS

- Increase animal land use.
- Significantly improve animal welfare and facilities.
- Develop a more organized visitor circulation system; the geometry at the entry is confusing and there is currently no sense of flow.
- Make visitor circulation more accessible. Current dirt paths hinder mobility in some parts of the Zoo.
- Provide better visitor amenities throughout the campus with plenty of options for seating and shade.
- Maintain public open space in Prentice Park for residents in surrounding neighborhoods.
- Preserve as many mature trees as possible.
- Maintain intimacy of the Zoo. Smaller pathways with a large tree canopy provide a sense of enclosure.
- More green strategies: solar, stormwater management, etc.
- Zoo edges need improving.
- Master Plan needs to focus on global / Zoo campus issues as well as day to day issues that have been ignored or deferred for decades.
- New development along Elk Lane could impact sightlines and parking. Be mindful of this in future plans.
- Existing infrastructure, etc.: storm water drainage, electrical, sanitary sewer, potable water needs to be assessed for long term plans.

## STRATEGIC / MISSION DRIVERS

- Regain and maintain AZA accreditation.
- Zoo needs a compelling story, concept and purpose that is marketable to city officials.
- Need options for more capital and operational support for funding.
- Develop new facilities, habitats, education and interpretive elements, and programming to showcase the Zoo’s efforts in animal conservation and welfare.
- Increase animal diversity in the Zoo collection.
- Consider more and/or enhanced revenue generators, such as shows, event facilities, education opportunities, etc.
- Increase annual attendance.

- Implementation of the Master Plan needs to be feasible, with a balanced approach addressing animals, staff needs, and guests.
- Need to build momentum on all levels: operations, capital projects, zoo conservation ties, public awareness, etc.
- Young kids love Santa Ana Zoo; need to build upon that.

## INVENTORY AND ANALYSIS SUMMARY

During the first phase of the Master Planning process existing Zoo maps were reviewed, and site tours were conducted to document and study the existing conditions of the Santa Ana Zoo. The following summarizes CLR’s analysis of the site:

### ENTRY AND CIRCULATION

- Vehicular traffic near Chestnut and Elk can be dangerous due to the left-hand turn and no traffic light.
- Park space in front of the entry is underutilized.
- Visitor circulation is unclear and can be confusing. There is no obvious main visitor circulation path or path hierarchy.
- Dirt paths can be problematic and muddy in the rainy season.
- Entry to the amphitheater is hard to find because visitors need to make a hard-right turn after entering the Zoo.
- Public park is separating Zoo entry from parking.

### OPERATIONS

- Operations buildings are aging. Permanent structures are needed in replacement of trailers.
- Operations facilities will need to be expanded with projected growth of Zoo staff.
- FOSAZ and USGS both have trailers on the zoo campus.

### VISITOR SERVICES

- Gift shop in undersized.
- Ticket booth needs renovations.
- Front entry food is superior to typical zoo food.
- Food options are lacking in the rest of the Zoo.
- There are no guest amenities at the north end of the campus.

### EXHIBITS, ATTRACTIONS & LAND USE

- The mature trees around the Zoo are beautiful and give character to the Zoo.
- The Zoo has a South American-dominant species collection.
- Many of the primate exhibits in the north are outdated and do not meet current AZA standards.
- There are a few recent exhibits such as Tierra de Las Pampas Grasslands and the Ocelot exhibit that are in good shape and are positive experiences.
- Amazon’s Edge is currently scheduled to be renovated and will incorporate Giant River Otters and Howler Monkeys.



PARK AND ZOO ENTRY



CREAN FAMILY FARM

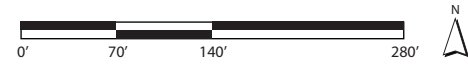


TIERRA DE LAS PAMPAS



JACK LYNCH AVIARY

## EXISTING LAND USE



LEGEND	
<b>CIRCULATION</b>	
	Visitor Path
	Service Road
<b>ANIMAL MANAGEMENT</b>	
	Exhibit
	Exhibit Building
	Animal Holding
	Off-exhibit Yard
<b>BUILDINGS &amp; FACILITIES</b>	
	Visitor Amenity
	Admin / Support
	Amphitheater
	Open Air Structure
<b>LANDSCAPE</b>	
	Buffer
	Water



**AMAZON'S EDGE:** a strong exhibit attraction at the heart of the Zoo, this zone will be redeveloped for Giant River Otters, Howler Monkeys, and other primates.



**ENTRY GEOMETRY:** the existing Zoo entry has geometric layout constraints and is beyond its lifespan from a material and systems standpoint. The Master Plan calls for a new Entry Village with much-improved guest flow, expanded services, and enhanced revenue opportunities.



LAND USE CALCS		
<b>TOTAL SANTA ANA ZOO AREA</b>	<b>791,000 SF</b>	<b>/ 18 ac+/-</b>
Animal Exhibits	70,748 SF	8.94%
Visitor Buildings & Amenities	16,323 SF	2.06%
Exhibit Buildings	5,788 SF	0.73%
Animal Mgmt Facilities & Yards	16,502 SF	2.09%
Admin/Support Facilities	18,460 SF	2.33%
Visitor Parking (179 spaces)	60,000 SF	7.59%
Overflow Parking (170 spaces +/-)	78,000 SF	9.86%
Buffer Landscape, Paving, Misc.	525,179 SF	66.40%

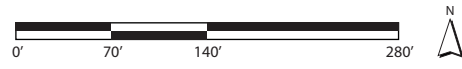


**TRAIN STATION AND FERRIS WHEEL:** strong attractions within the campus that will remain in the long-term plan.



**AMPHITHEATER:** currently an under-utilized facility that will be redeveloped with new animal holding and support for an enhanced wildlife show.

# ILLUSTRATIVE PLAN



## SITE PLAN LEGEND

- Visitor Amenity
- Exhibit Building
- Admin / Support
- Habitat Space
- Holding
- Off-Exhibit Yard
- Ponds / pools
- Shrubs
- Tree
- Rocks
- Buffer Vegetation
- Visitor Path
- Service Path

LAND USE CALCS		
TOTAL SANTA ANA ZOO AREA	791,000 SF	/ 18 ac+/-
Animal Exhibits	131,200 SF	16.59%
Visitor Buildings & Amenities	23,300 SF	2.95%
Exhibit Buildings	7,300 SF	0.92%
Animal Mgmt Facilities & Yards	27,600 SF	3.49%
Admin/Support Facilities*	20,600 SF	2.60%
Visitor Parking (336 spaces total)	207,100 SF	26.18%
Buffer Landscape, Paving, Misc.	373,900 SF	47.27%

\*Additional Level 2 Administration Area= 11,480 SF. Total gross area is 13,620 SF greater than existing.



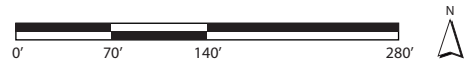
SANTA ANA ZOO SATELLITE IMAGE



# AERIAL PERSPECTIVE



# IMPLEMENTATION PLAN SUMMARY



## 0-5 YEAR IMPLEMENTATION

1. Ticket Booth & Amphitheater Spruce Up
2. Perimeter Fence (repair & replace)
3. Ticket System
4. Elevated North Sign
5. Phase-out Aging Primate Exhibits
6. Freeway Sign
7. Picnic Area at Amazon's Edge
8. Vet Hospital
9. Giant River Otter & Howler Monkeys
10. Animal Encounters (throughout campus)
11. Expanded Monkeys at Amazon's Edge
12. Farm Spruce-up
13. Primate Forest

## 6-10 YEAR IMPLEMENTATION

14. Commissary
15. Zoo Parking East
16. Red Barn Spruce-up
17. Education Hub & Ambassador Animal Support
18. Forest Station
19. East Riverine Exhibits
20. Reptile and Amphibian Station

## 11-15 YEAR IMPLEMENTATION

21. Shops and Equipment Storage
22. Emergency Response and Visitor Egress (campus-wide)
23. Zoo Parking West & Prentice Corner Park
24. Entry Village
25. Riverine Zone Completion
26. Grasslands Habitats
27. Wildlife Show: Animal Holding

## 16-20 YEAR IMPLEMENTATION

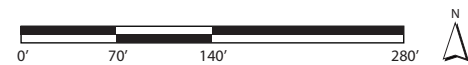
28. Additional Animal Support (campus-wide)
29. Forest Station Café
30. North Anchor Exhibit
31. Forest Floor Completion
32. Camel Exhibit

**LEGEND**

- 0-5 Year Implementation
- 6-10 Year Implementation
- 11-15 Year Implementation
- 16-20 Year Implementation



# IMPLEMENTATION 0-5 YEARS



## KEY STRATEGIES

- Although the Zoo entry will be redeveloped in the 11-15 year plan, there are immediate structural issues with the existing **ticketing structure**. An updated ticketing system is also needed. This includes the existing **amphitheater** appears to be in good condition and only needs minor enhancements to be servicable for animal demonstrations. The holding building will be added in the 11-15 year plan to allow for enhanced wildlife shows. (Projects 1 & 3)
- The **Crean Family Farm** overall is in adequate condition. Enhanced animal experiences are proposed to increase the quantity of animals in this zone, and to improve the guest experience, including a new elevated goat walk as well as other kid-friendly exhibits and play elements. (Project 12)
- The primate exhibits in the north are outdated and need to be replaced. Gradual **phase-out** will occur, while new developments take place, such as the Amazon's Edge renovation. (Project 5)
- A new elevated, digital **billboard** visible from I-5 is under consideration along the east edge of the Zoo property. This will provide revenue through a lease agreement with the Zoo and City. Enhancements to the Santa Ana Zoo sign, and adjacent landscape at the north end of the site are also proposed. (Projects 4 & 6)
- Amazon's Edge** is currently undergoing a redesign to prepare for Giant River Otters and **Primate Trail** exhibits. Due to the proposed location of these new monkey exhibits, the existing **picnic area** will need to be relocated just north of its current location. (Project 7, 9, & 11)
- Primate Forest** is the other anchor attraction proposed in this phase of the plan. Combined with the expanded monkey exhibits at Amazon's Edge, this will considerably improve animal welfare for the primate collection at the zoo. (Project 13)
- A new modern Vet Hospital is proposed for enhanced animal care and capacity for small to large animals. (Project 8)

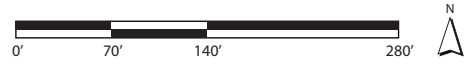


		2018	2019	2020	2021	2022
<b>INFRASTRUCTURE</b>						
1	Ticket Booth & Amphitheater Spruce-up	★				
2	Perimeter Fence		★			
3	Ticket System			★		
4	Elevated North Sign				★	
5	Phase-out Aging Primate Exhibits					★
<b>STRATEGIC</b>						
6	Freeway Sign			★		
7	Picnic Area at Amazon's Edge				★	
8	Vet Hospital					★
<b>ATTRACTIONS</b>						
9	Giant River Otter and Howler Monkeys				★	
10	Animal Encounters	●	●	●	●	●
11	Expanded Monkeys at Amazon's Edge					★
12	Farm Spruce-up	●	●	●	●	●
13	Primate Forest					★



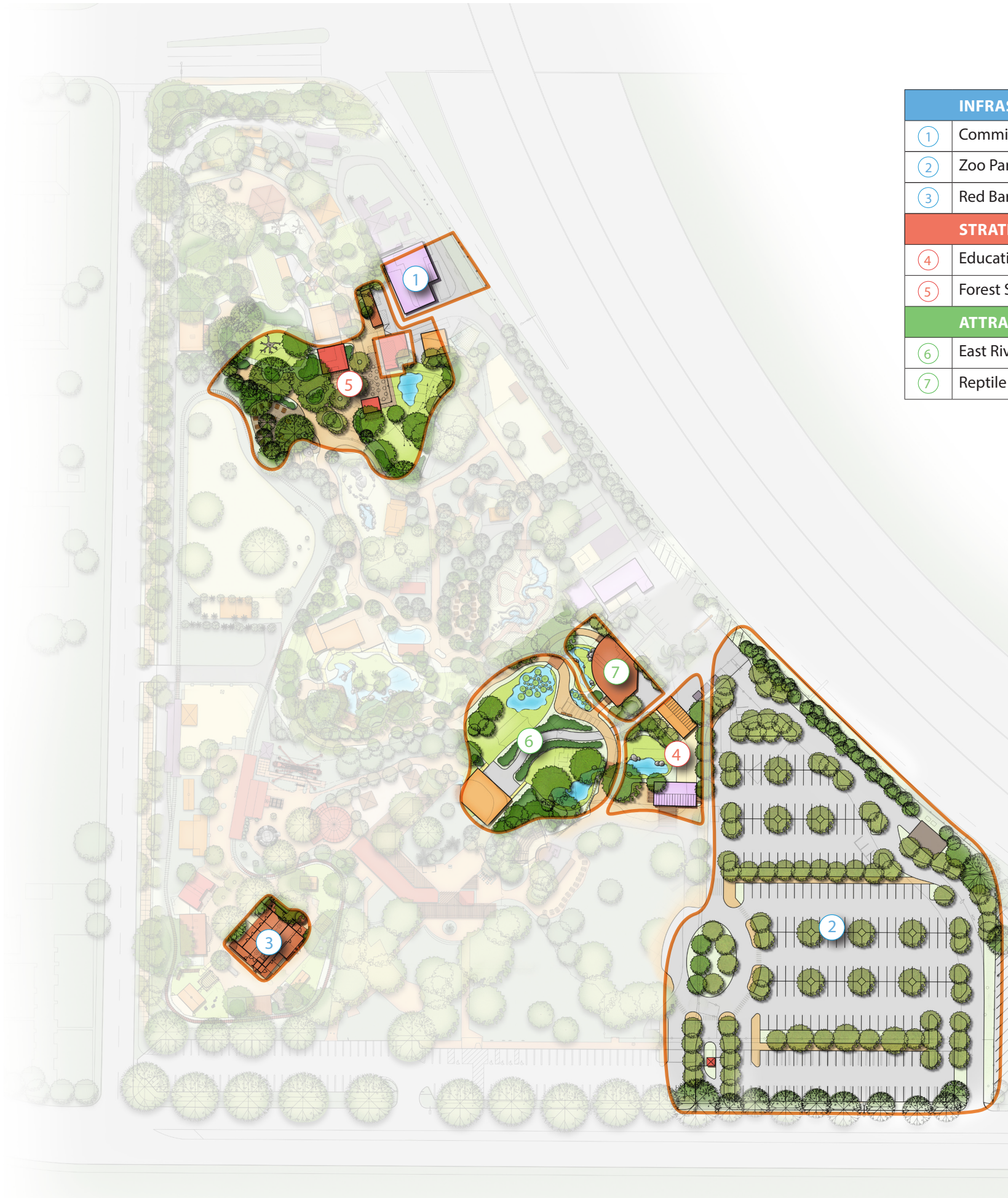
GIANT RIVER OTTER

# IMPLEMENTATION 6-10 YEARS



## KEY STRATEGIES

- To prepare for the new entry, redevelopment of the existing overflow gravel lot can be developed. During this process the current south parking and main entry can remain in use. This new parking lot (Zoo Parking East) will contain several stormwater management strategies including permeable paving and bioswales. (Project 2)
- With the campus-wide improvements proposed for animal exhibits, a new **commissary** will be required, as well as a 2nd-story space for office and meeting rooms. (Project 1)
- A new **education hub** will be built adjacent to the main entry and parking lot. This hub consists of a new building with flex classrooms, and a new holding building for ambassador animals. (Project 4)
- After the new education hub is implemented, the **Red Barn** (where much of the current ambassador animal collection is housed) will be ready for new enhancements. (Project 3)
- The **Forest Station**, including its adjacent exhibits, is a key strategic project in the plan at the north end of the Zoo. This will offer shaded seating and views into a mixed species habitat and bald eagle exhibit. There will also be adventure play components with adjacent shaded guest seating. As a lower capital cost implementation concept, the food and beverage portion of this project can start off as a food truck or similar set-up. (Project 5)
- The **Reptile and Amphibian Station** will house a collection of reptiles and amphibians. This will give visitors a chance to get up-close encounters with unique small animals in an immersive indoor/outdoor environment. (Project 7)
- Additional exhibits being developed during this phase include the mixed-species habitats on the eastern side of the **Riverine Zone**. This sequencing strategy will allow the existing play structure north of the Zoo entry to remain undisturbed during this phase. (Project 6)

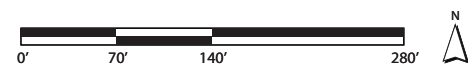


		2023	2024	2025	2026	2027
<b>INFRASTRUCTURE</b>						
①	Commissary	★				
②	Zoo Parking East				★	
③	Red Barn Spruce-up					★
<b>STRATEGIC</b>						
④	Education Hub	★				
⑤	Forest Station					★
<b>ATTRACTIONS</b>						
⑥	East Riverine Exhibits		★			
⑦	Reptile and Amphibian Station			★		



REPTILES AND AMPHIBIANS

# IMPLEMENTATION 11-15 YEARS

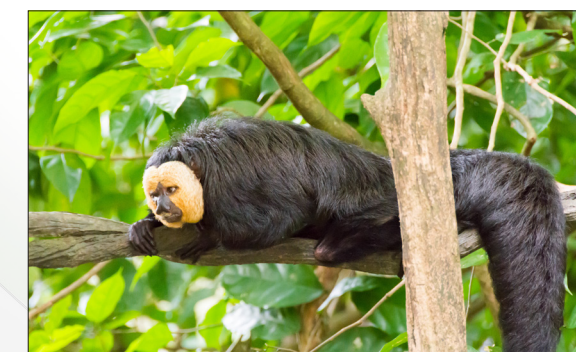


## KEY STRATEGIES

- The new **Entry Village** as proposed will drastically improve guest flow, safety, comfort, experience and revenue opportunities. From an implementation and sequencing standpoint, the new location will allow for gradual phase-out of the existing entry while the new Entry Village is being built. A new event lawn is a key aspect of this program. While construction activities are on-going, there may be the need for a temporary location within the campus for a season to maintain revenue streams during this process. (Project 4)
- The plan proposes to redevelop the existing south parking lot (identified as **Zoo Parking West**) to enhance safety and guest flow, with access to both the new entry as well as direct access to the Family Farm and Event Lawn for special events. This redevelopment improves land use on 2 fronts – guest flow and safety to the Zoo and public interface and access to the proposed new park on the corner of Elk and Chestnut. (Project 1)
- A new animal holding building and staff support space will bolster the existing Amphitheater, allowing for enhanced **wildlife shows** and demonstrations. (Project 5)
- The final phase of the **Riverine Zone** can now sequence in, including key animal species to bolster the collection plan and enhance the guest experience (Project 6)
- Additional **Grasslands Zone** animal habitats will be developed during this phase of the plan at the heart of the campus. (Project 7)
- Shops, equipment and vehicle storage, and horticulture** support facilities, critical components of the operations and animal care enhancements in the plan, will be implemented. (Project 3)

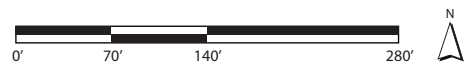


		2028	2029	2030	2031	2032
<b>INFRASTRUCTURE</b>						
①	Zoo Parking West		★			
②	Emergency Response and Visitor Egress			★		
③	Shops and Equipment				★	
<b>STRATEGIC</b>						
④	Entry Village - event lawn & guest service buildings	★				
<b>ATTRACTIONS</b>						
⑤	Wildlife Show: Animal Holding	★				
⑥	Riverine Zone Completion		★			
⑦	Grasslands Habitats (5-15 year range)					★



WHITE-FACED SAKI - developing new and expanded habitats for primates is a key objective of the Master Plan, and each 5-year implementation phase includes capital projects, such as the Riverine Zone, that support this mission

# IMPLEMENTATION 16-20 YEARS



## KEY STRATEGIES

- A key anchor attraction being developed as part of the final implementation phase is the **Sloth Bear habitat** within the Forest Zone. The existing timber-framed Treetops pavilion will be repurposed to provide up-close viewing of bears and will also serve as an "in-situ" forest lab, another adventure education satellite. (Project 3)
- Additional exhibits to be completed in this phase include the **camel** in the farm and the remaining exhibits in the south **Forest Zone**. These include a walk-through butterfly aviary as well as a mixed-species forest floor and canopy habitat featuring red pandas and muntjac. (Projects 4 & 5)
- At this stage of the implementation plan, animal land-use will have been increased significantly, as well as the collection plan, creating the need for expanded care facilities. A new, modern quarantine facility for back-of-house, large and small animals is proposed during this phase. (Project 1)
- The proposed long-term café structure, within Forest Station, will be developed during this phase, and will complete the development of this key visitor service hub at the north end of the campus. (Project 2)



	2033	2034	2035	2036	2037
<b>INFRASTRUCTURE</b>					
① Additional Animal Support	★				
<b>STRATEGIC</b>					
② Forest Station Café - if food truck is part of 5-10 year plan		★			
<b>ATTRACTIONS</b>					
③ North Anchor Exhibit		★			
④ Camel Exhibit				★	
⑤ Forest Floor Completion					★



SLOTH BEAR

## FUNDING MODELS

### BOLD VISION. SUSTAINABLE FUTURE

The Zoo's Strategic Master Plan is bold and envisions a future Zoo that not only meets but far surpasses the standards and needs of the animals in our care and the guests who pass through our gates.

While the team dreamed big, coming up with innovative exhibits, experiences, and amenities, the plan was created with financial sustainability at its core. The Zoo, and its partners, will need to expand their thinking beyond only smaller, incremental exhibit additions to larger, ground breaking improvements.

From both an operational and capital investment perspective, this bold future can be achieved through a manageable and phased approach to building out the plan. Elements to making the plan a reality include:

- A phasing strategy over the next 20 years that starts with smaller, less expensive projects which help to build momentum, generate excitement, and grow attendance.
- Exploring and securing new funding streams, including added public support, for investment, particularly for infrastructure and service needs.
- Packaging a combination of projects – exhibits, infrastructure, amenities – into a larger, integrated campaign that will have broad appeal to the City and the community.
- The addition of multiple features (e.g. new concessions and encounter areas) which can drive revenue growth.
- New play and activity elements which increase stay-time and thus can continue to add to guest spending.
- Collection enhancements that do not significantly grow operational costs.

### BALANCED FUNDING MODEL

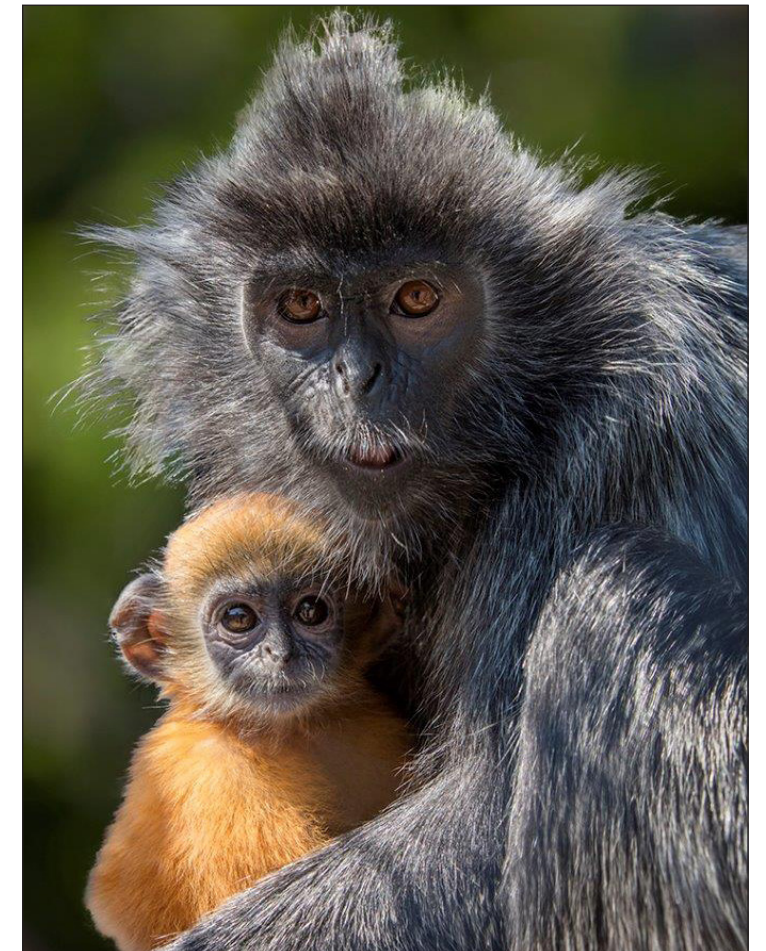
Almost all successful zoos have a balance of three funding sources that lead to financial sustainability – earned (all guest-related spending, admissions, membership, concessions, programs), contributed (donations, fundraising events), and public support (government funding through tax or other appropriations). The plan that has been created for the Santa Ana Zoo positions the Zoo well for growth in each of those areas.

**EARNED** – The core of all financial growth is at the front gate. Typically 60% or more of revenue is earned and the bulk of that is through ticket sales. The addition of several new signature, high-profile exhibits will drive increased attendance and add value to the experience. More guests at a higher price point quickly translates into more income. These additional guests, as noted previously, will be staying longer, riding rides, and buying more, all of which helps the bottom-line.

**CONTRIBUTED** – The Zoo is ideally situated in a thriving, growing, and relatively affluent region of the country. With the exciting vision that has been laid out in the plan, the Zoo is now ideally positioned to tap into that opportunity and secure more donor dollars. By showcasing the future potential and plans, the Zoo can develop a strong case for support for capital investment, linking its education and conservation mission with the benefits it offers to the community as a destination and urban oasis.

**PUBLIC** – Zoos across the country have successfully leveraged public support through a variety of tax initiatives to put them on exponential growth trajectories. The stories of zoos who have secured either dedicated or shared funding streams and have seen their attendance and budgets double abound. These serve as excellent case studies on how Santa Ana Zoo may also look to secure similar types of funding. Building community support, cultivating relationships with local and regional government officials, and having a solid and well-crafted plan are the starting points to getting that public investment.

By growing each of these sources, from both operating and capital sides, the Zoo will be on the road to greater financial sustainability with the successes of each year building on the previous one.



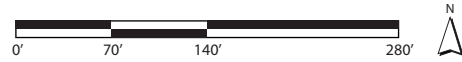
SILVER LANGUR





MASTER PLAN PROJECTS

# PROJECT ZONES



FOREST ZONE & FOREST STATION  
PAGE 26



GRASSLANDS ZONE  
PAGE 30



FARM & ADVENTURE PLAY  
PAGE 32

ZOO EDGES  
PAGE 35



OPERATIONS & ANIMAL CARE FACILITIES  
PAGE 36



RIVERINE ZONE  
PAGE 22



ENTRY VILLAGE, EVENT LAWN & PARKING  
PAGE 18



PROGRAM		
Overall Site	791,000 SF	18.15 AC
Zoo Entry	46,900 SF	1 AC
Event Space	22,700 SF	.5 AC
Zoo Parking & Drop-off	207,100 SF	4.75 AC
Prentice Corner Park	25,500 SF	.5 AC
Grasslands	80,000 SF	2 AC
Forest Zone & Forest Station	139,300 SF	3 AC
Riverine & Marshland	118,500 SF	3 AC
Farm & Adventure Play	91,400 SF	2 AC
Animal Care & Support	38,600 SF	.9 AC
Maintenance & Operations	22,000 SF	.5 AC

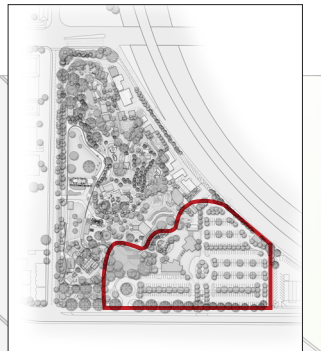
## ENTRY VILLAGE, EVENT LAWN & PARKING

The entry experience at a zoo needs to be easy and fun to create an impactful and positive experience at the beginning and end of the visit. The new Entry Village at the Santa Ana Zoo is positioned in such a way as to create the ideal arrival experience, leveraging access to parking in the most efficient land use geometry, and maximizing guest flow from entry to the heart of the campus. These patterns of guest circulation, or flow, are critical to the success of a zoo from an experience and revenue standpoint. The strategically positioned parking hub and Entry Village at the southeast quadrant of the Zoo allows for a clear point of entry for vehicles and the ability to create a new face for the Zoo fronting Chestnut Avenue. A new left turn lane on Chestnut Avenue is proposed as well as an efficient parking lot layout to minimize congestion and queuing on busy days. Direct access and drop-off for school buses, special groups, and event vehicles are accommodated in the new plan.

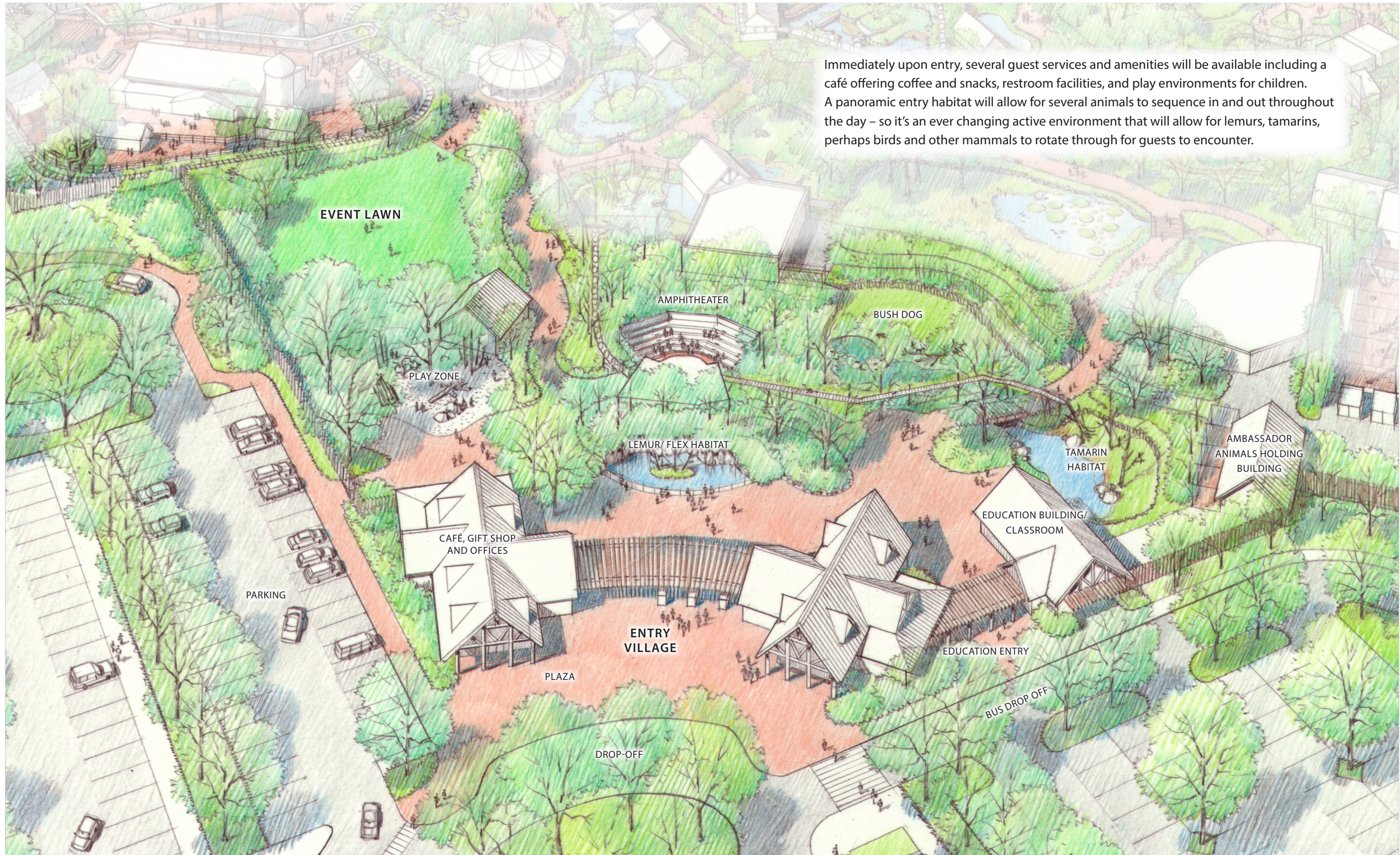
The Entry Village will have a safe and sizable plaza forecourt to allow guests to gather before proceeding to the ticket point of sale, or to the redemption gateway. All the core services of ticketing, gift, membership, security, and guest services are provided in a clear and organized layout. The look and feel of the buildings and landscape will be unique to the Santa Ana Zoo, focusing on that immersive and intimate park feel that exists today throughout much of the campus. In the end, it's about creating an efficient entry process that allows guests to get into the Zoo and experience the active animals, dynamic habitats, and lush park environment.



KEY



# AERIAL PERSPECTIVE



Immediately upon entry, several guest services and amenities will be available including a café offering coffee and snacks, restroom facilities, and play environments for children. A panoramic entry habitat will allow for several animals to sequence in and out throughout the day – so it's an ever changing active environment that will allow for lemurs, tamarins, perhaps birds and other mammals to rotate through for guests to encounter.

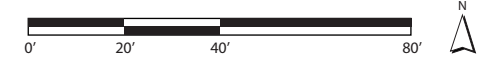
# ENTRY VILLAGE, EVENT LAWN & PARKING ENLARGED PLAN

PROGRAM	
Overall Zoo Entry	46,900 SF
Overall Event Space	22,700 SF
Overall Zoo Parking & Drop-off	207,100 SF
<hr/>	
Café, Gift Shop and Offices	4,400 SF
Restroom, Guest Services & Tickets	3,200 SF
Education/Flex Classroom	1,400 SF
Ambassador Animal Holding	1,000 SF
Ambassador Animal Yards	1,780 SF
Event Restroom	700 SF
<hr/>	
Amphitheater	1,500 SF
Amphitheater Support	1,000 SF
<hr/>	
Lemur/Flex Primate Habitat	780 SF
Tamarin Habitat	2,500 SF

## KEY STRATEGIES:

### Entry

- New main gift shop, bright and airy with easy access during entry and exit. The opportunity for gift shop access from “outside” the Zoo is a possibility to be explored.
- New café within main gift shop building, with adjacent shaded seating area overlooking the play zone and entry panorama habitat.
- New ticketing and membership point of sale building also including guest services, security, first aid, and restrooms.
- Both entry buildings include a second story with administrative offices for Zoo and FOSAZ departments.
- New gateway with Santa Ana Zoo graphic (a new face to the Zoo) with appropriate detailing to meet USDA perimeter requirements.



## ANIMAL COLLECTION PLAN

\*These animals are currently in the Zoo's collection plan, and will be exhibited in this project zone.

<b>*CURRENT COLLECTION:</b>	<b>POSSIBLE OPTION:</b>
Macaw	Flamingo
Lemurs	
Tamarins (various species)	

<b>*CURRENT AMBASSADOR ANIMALS:</b>	
Spectacled Owl	Blue-Tongued Skink
Opossum	Salamander
Hedgehog	Millipedes
Amazon Parrot	Pancake Tortoise
Macaw	Milksnake
Ball Python	Three-Banded Armadillo
Rabbit	Rosy Boa
Duck	Tarantula
Chicken	

<b>POSSIBLE AMBASSADOR ANIMAL OPTIONS:</b>	
Crowned Pigeon	Sloth
Whistling Duck	Monitor Lizard
Tamandua	Bullfrog
Serval	Sulcata Tortoise
Kookaburra	
Paca	

### KEY STRATEGIES:

#### Education & Ambassador Animal Hub

- New classroom labs and administrative hub for school groups and other special programs. Classrooms can be flexible in design and layout to maximize use potential by all Zoo/FOSAZ departments throughout the day.
- Option for second story administrative space for education staff and perhaps volunteers.
- Programmatically can be used for volunteer/group orientation and hub for bag drops with lockers and storage.
- As illustrated in the Conceptual Framework section of this report, this zone will serve as the adventure education hub, with various in-situ satellite classroom labs located throughout the campus in various habitat zones.
- New animal management facility for the Ambassador Animal collection. Sunning yards, as well as a flex-use exhibit space adjacent to the management building and Entry Village plaza for guest viewing and special encounters.
- Direct school/group bus drop-off and pick-up with a dedicated entry gate for busy days to bypass main visitor gate.
- Direct Zoomobile access for quick pick-up and drop-off for outreach programs.

#### Wildlife Show

- Reuse of existing amphitheater and stage area – enhanced with much-improved guest access and visibility.
- New animal holding and support facility for expanded show options. Holding can be used for Entry Village habitat.
- Arboreal trail linkages for primates to sequence in from adjacent Riverine habitats.
- Easy direct access to Education hub to leverage Ambassador Animal collection in shows.

#### Guest Parking

- Ideal vehicular flow to allow for clear arrival, option for drop-off, and direct access to parking zones east and west.
- The parking zone is at a relative low point of the campus, which can allow for various stormwater management strategies including best management practices such as bioswales and permeable paving.
- Shade tree implementation. Also, consider use of structured shade incorporating photovoltaic panels for solar energy harvesting, and shade for vehicles and pedestrians.
- Explore xeriscape opportunities throughout – low to no water use and maximize stormwater harvesting and passive treatment.



BIOSWALE CONCEPT AT PARKING



ANIMAL AMBASSADORS



UP-CLOSE ENCOUNTERS & WILDLIFE SHOWS

## RIVERINE ZONE

The Riverine Zone expands the look and feel of the existing Amazon's Edge exhibit with new habitats, water features, support facilities, and unique guest experiences. Upon entering the Zoo, a South American riverine and marshland environment sets the tone for the animal habitats and encounters throughout. Pathways and experiences, both animal and botanical, will be intimate while the beautiful mature trees create a sense of enclosure. Water will appear to flow from habitat to habitat, appearing as a seamless lowland environment.

From the Entry Village, guests will have the opportunity to flow east towards bush dogs and the Reptile & Amphibian Station, or west towards several mixed-species habitats including monkeys and tapirs. The loop circulation model proposed for the primary guest path at this south end of the campus, as well as the north Forest Zone, provides an easily accessible route with clear gateways to the secondary and tertiary exhibit trails.

### KEY STRATEGIES:

#### Colors of the Amazon and Picnic Zone

- This existing aviary is one of the stronger exhibit sequences that exists today, and the long-range plan is to maintain this habitat, set within the context of the expanded riverine environment.
- Enhancing landscape, properly maintaining water filtration systems for the stream, monitoring the existing mesh enclosures and structural supports, are all key aspects of preserving this key exhibit facility.
- The collection plan, although currently strong with a primary focus on birds, will be adjusted over time as the overall Riverine Zone is implemented. The goal is to create a comprehensive river's edge environment and this existing facility will remain and play a key part in the guest experience.
- The existing picnic area just south and west of the aviary will be shifted to the north slightly to take advantage of an underutilized landscape zone. With this move, additional terrestrial and arboreal primate habitats can be developed contiguously with the exhibit zones to the west as part of the Amazon's Edge redevelopment. The existing picnic zone offers an intimate and immersive experience, and the character of this setting and proximity to the main guest parking area will be preserved.



# AERIAL PERSPECTIVE

## ANIMAL COLLECTION PLAN

\* These animals are currently in the Zoo's collection plan, and will be exhibited in this project zone.

### \*CURRENT COLLECTION:

- Giant River Otter
- Howler Monkey
- Titi Monkey
- Tamarin (various species)
- Pygmy Marmoset
- White-Faced Saki Monkey
- Amazon Parrot
- Macaw
- Boa Constrictor
- Poison Dart Frog
- Green Iguana
- Various Softbills (scarlet ibis, wood-rail)
- Various Waterfowl (whistling ducks)
- Western Pond Turtle
- Ocelot

### BOTANICAL HIGHLIGHTS:

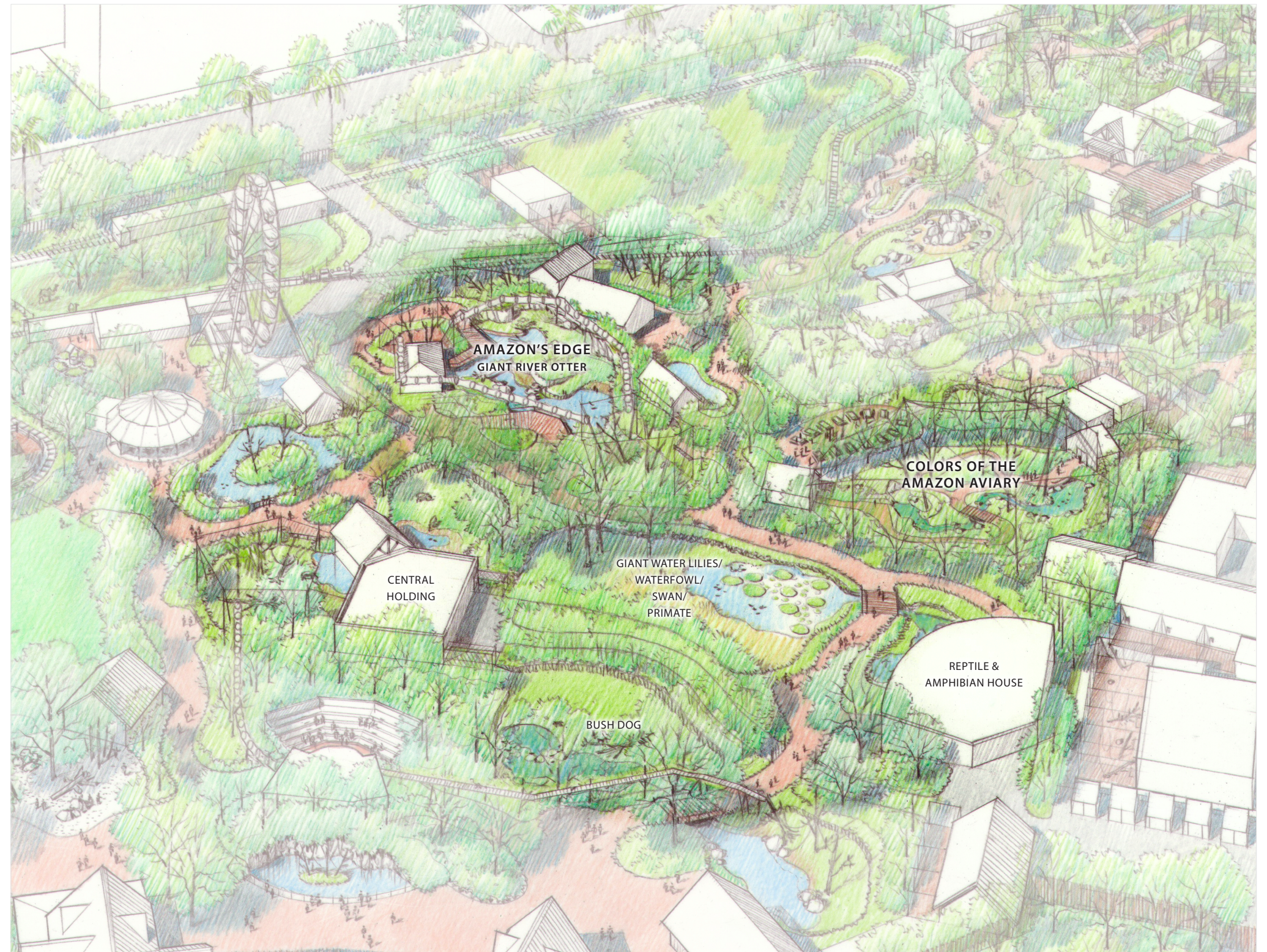
- Giant water lilies
- Tabebuia
- Ficus sp.
- Rushes
- Aquatic plants, etc.

### POSSIBLE OPTIONS:

- Crocodylian Species (Caiman/Alligator)
- Crested Screamer
- Various Reptiles
- Venomous Snake (yellow palm viper)
- Anaconda
- Piranha
- Assorted Tropical Fish
- Crane or Stork (saddle-billed stork, crowned-crane)
- Assorted Amphibians
- Flamingo
- Chelonians (mata-mata, side-necked turtle)
- Terrestrial Invertebrates
- Electric Eel
- Tapir
- Capybara
- Black-Necked Swan
- Bush Dog
- Freshwater Stingray
- Various Softbills (guira cuckoo, fruit doves, tanagers, toucans)

### MIXED SPECIES ARRANGEMENTS:

- Primate/Primate - Spider/Capuchin
- Primate/Primate - Saki Monkey / Tamarin
- Primate/Bird - Tamarin/Softbill
- Bird/Rodent - Softbill/Agouti/Paca
- Primate/Fish - Tamarin / Freshwater Ray
- Tapir/Capybara/Stork/Waterfowl
- Primate/Tapir/Capybara
- Bird/Reptile/Fish - Toucan / Iguana / Tropical Fish
- Primate/Bird - Tamarin/Parrot





# RIVERINE ZONE ENLARGED PLAN

## PROGRAM

Overall Riverine	110,000 SF
Amazon's Edge - Giant River Otter	4,800 SF
Saki / Titi / Spider Monkey Habitat A	1,300 SF
Saki / Titi / Spider Monkey Habitat B	1,500 SF
Howler Monkey Habitat A	550 SF
Howler Monkey Habitat B	1,400 SF
Caiman/Alligator Habitat	720 SF
Caiman/Alligator Exhibit House	400 SF
Amazon's Edge Holding	900 SF
Primate Holding	540 SF
Amazon's Edge Viewing	560 SF

### KEY STRATEGIES:

#### Amazon's Edge and Surrounding Primate Habitats

- Redeveloped Amazon's Edge for Giant Otters, Howler Monkeys, and other primates to create dynamic and active mixed species zone.
- Redevelopment includes an arboreal primate trail system, linking multiple habitats. Monkeys can be rotated through the different habitats using this trail system.
- Supplementary holding building for added primate habitats.
- Ficus trees and bamboo landscape provide a sense of enclosure.
- Repurposing of restroom into holding and exhibit building for alligators and caiman.
- Waterfalls and flowing stream to provide native animal habitats and white noise.



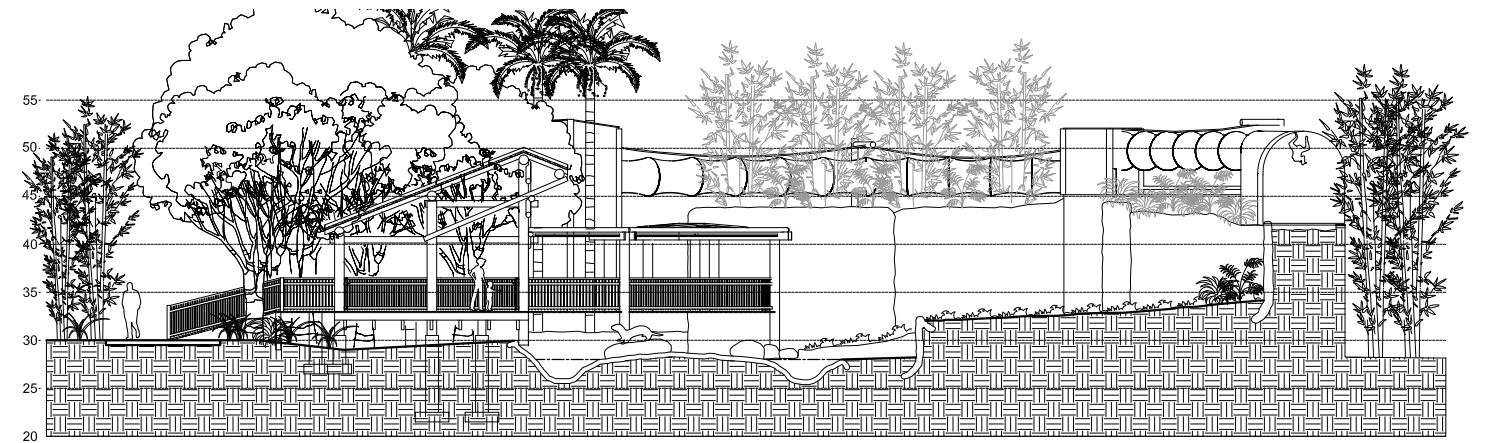
OVERALL GIANT OTTER HABITAT AND PERIMETER ARBOREAL PRIMATE SYSTEM FOR HOWLER MONKEY AND OTHER PRIMATES



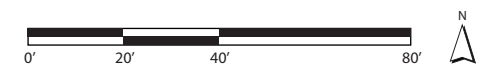
VIEW FROM OTTER HABITAT OVER DEEP SWIM POOL AND UNDERWATER VIEWING GUEST ZONE



BIRD'S EYE PERSPECTIVE OF OTTER UNDERWATER VIEWING ZONE AND OVERHEAD PRIMATE TRAIL CROSSING; HIGH VOLUME PRIMATE HABITAT TO RIGHT



CONCEPTUAL SECTION THROUGH GIANT OTTER AND HOWLER MONKEY HABITATS



# RIVERINE ZONE ENLARGED PLAN

## PROGRAM

Overall Riverine	110,000 SF
Freshwater Ray / Macaw / Flex Habitat	2,900 SF
Tapir/Capybara/Primate Habitat A	3,500 SF
Tapir/Capybara/Primate Habitat B	2,800 SF
Giant Water Lilies / Other sp. Habitat	7,800 SF
Bush Dog Habitat	5,000 SF
Reptile & Amphibian Station	3,000 SF
Reptile & Amphibian Station Exhibit	1,300 SF
Colors of the Amazon Aviary	7,700 SF
Central Holding	2,300 SF
Holding	450 SF
Tapir/Capybara/Primate Viewing	540 SF
Aviary Vestibule South	320 SF
Aviary Vestibule North	230 SF

## KEY STRATEGIES:

### Central Riverine Zone

- Primary holding building offers keepers the opportunity to provide animal care to multiple species in one central location within an efficient building footprint.
- From the central holding building, animals will have access to their respective habitats and exhibit yards.
- Kids' play opportunities includes giant lilies to jump across mirroring the real giant lilies in the adjacent exhibit.
- Cultural artifacts and floodplain architecture typically found along these river's edge environments will characterize the landscape and provide play and other adventure education opportunities throughout.

### Reptile and Amphibian Station

- Diverse collection of amphibians, reptiles, insects, small mammals, and more, set within unique indoor/outdoor immersive sequence.
- Provides visitors with up-close and personal encounters with animals.
- Climate-controlled facility will provide ideal location for school groups and small evening events/rentals.



GIANT WATER LILIES



TAPIR

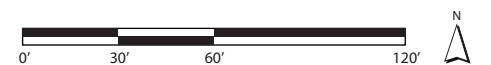


REPTILE & AMPHIBIAN STATION ENCOUNTERS

# FOREST ZONE & FOREST STATION

Currently comprised of aging primate exhibits, a complete redevelopment of this area of the campus will drastically improve the quality of animal habitats and support facilities, and in turn improve public perception. The short term goal is to regain AZA accreditation. Long term, the objective is to exceed welfare standards by providing the best in animal care and allowing the animals to make choices 24/7 within a realm of dynamic and complex enriching habitats. The Forest Zone will be comprised of two parts and connected in the middle by a Forest Station. The very north end of the campus will focus on the forest canopy while the area south of the Forest Station will focus on the forest floor.

As guests leave the Grasslands and transition into the forest, they begin seeing animals that move along the forest floor. The farther north they walk, the deeper into the forest they go, with animals moving from forest floor to mid and upper canopy. The abundance of large mature trees will lend to the character of the forest canopy. With this canopy, along with an arboreal trail system to link the habitats in the primate forest, visitors will feel completely immersed as they walk along the paths.



## ANIMAL COLLECTION PLAN

\* These animals are currently in the Zoo's collection plan, and will be exhibited in this project zone.

### \*CURRENT COLLECTION:

- Ocelot
- Two-Toed Sloth
- Binturong
- Prehensile-Tailed Porcupine
- Black-and-White Ruffed Lemur
- Ring-Tailed Lemur
- Black-and-White Colobus Monkey
- Brown-Headed Spider Monkey
- Golden-Headed Lion Tamarin
- Golden Lion Tamarin
- White-Handed Gibbon
- Trumpeter Hornbill
- Cotton-Top Tamarin
- Emperor Tamarin
- Crested Capuchin
- Macaw
- Bald Eagle
- Spectacled Owl

### POSSIBLE OPTIONS:

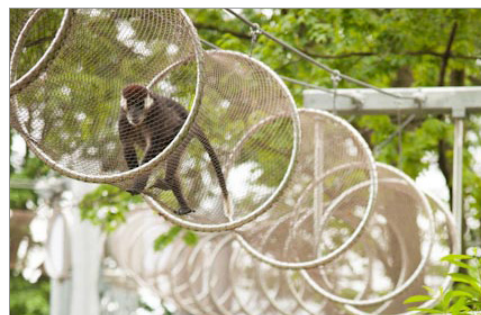
- Tamandua
- Sloth Bear/Black Bear
- Ocellated Turkey
- Red Panda
- Various Softbills (Nicobar Pigeon, Fruit Dove, Motmot, Hornbill, Tanagers, Aracari, etc.)
- Hornbill
- Bongo
- Small Ungulate (Duiker, Muntjac, Pudu)
- Babirusa
- Muntjac
- Terrestrial Invertebrates - Various
- Tarantula
- Centipede
- Mantid
- Reptiles and Amphibians - Various
- Butterflies
- Prevost's Squirrel
- Coatimundi
- Red-Footed Tortoise
- Small-Clawed Otter

### MIXED SPECIES ARRANGEMENTS:

- Colobus/Bongo/Duiker
- Bongo / Red River Hog / DeBrazza Guenon
- Various Monkeys / Red River Hogs
- Various Monkeys / Ungulates / Pheasants / Crowned Crane
- Red Panda/Muntjac
- Lemur/Turtle/Tortoise
- Gibbon / Small-Clawed Otter

### BOTANICAL HIGHLIGHTS:

- Orchids
- Bromeliads
- Ficus sp.
- Silk Floss Tree
- Bamboo, Pepper Tree
- Spathodea, Champaca



PRIMATE TRAIL



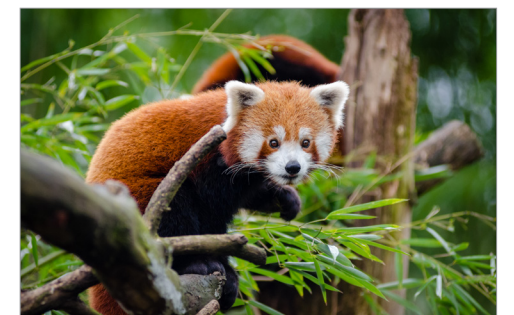
BONGO



SLOTH BEAR



RED RIVER HOG



RED PANDA

# FOREST ZONE & FOREST STATION - NORTH

## KEY STRATEGIES:

### Forest Zone North

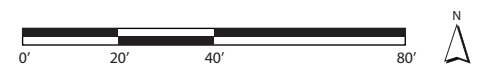
- Completely redeveloped north end of the campus to create a dynamic forest habitat zone focusing on primates, mammals, birds, and more.
- Opportunities for overhead primate linkages for dynamic, active flex rotational options.
- Feeder tree habitat for up-close animal encounters and training demonstrations.
- Maintain existing healthy trees wherever possible.
- Repurpose the existing Tree Tops timber frame pavilion as a new view station at the Bear Habitat.
- Niche habitats for insect and reptiles to be dispersed throughout zone for up-close encounters and collection diversity.
- Repurpose Jack Lynch Aviary into a new primate habitat.



COLOBUS MONKEYS



PROGRAM	
Overall Forest Canopy	70,500 SF
Overall Forest Floor	50,000 SF
Overall Forest Station	13,100 SF
<hr/>	
Bear Habitat	8,800 SF
Primate Habitat A	2,900 SF
Primate Habitat B (Jack Lynch Aviary)	2,100 SF
Primate Habitat C	820 SF
Primate Habitat D	2,000 SF
Bald Eagle Habitat	3,500 SF
Frog Pod	530 SF
Various Insects & Reptiles A	160 SF
Various Insects & Reptiles B	330 SF
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Bear Holding	970 SF
Bear Yard	690 SF
Primate Holding A	1,300 SF
Primate Holding B	320 SF
Primate Holding C	1,200 SF
<hr/>	
Food & Beverage	1,100 SF
Flex Room	350 SF
<hr/>	
Bear Viewing	1,500 SF



# FOREST ZONE & FOREST STATION - SOUTH

## Forest Station

- New guest services hub at the north end of the Zoo campus, including new restrooms and a café (belly-up window), themed as a forest station.
- Comfortable covered outdoor seating with mixed-species habitat viewing.
- Open plaza space with flex-use for events.
- Flexible classroom/meeting room available for parties, office meetings, board meetings, etc.
- Nature-themed kids' play opportunities including large termite mounds mirroring those in the adjacent meerkat exhibit.
- Beautiful mature existing trees in this area will be maintained to create a lovely setting and shade canopy.

## Forest Zone South

- Redevelop this area of the campus to focus on understory mammals, butterflies, and more.
- Butterfly walk-thru offers guest an up-close and interactive encounter. Can be seasonal (mesh enclosure) and converted into an aviary for birds in the off-season.
- Ocelot exhibit is one of the Zoo's newer exhibits and will remain in this Master Plan.



### PROGRAM

Overall Forest Canopy	70,500 SF
Overall Forest Floor	50,000 SF
Overall Forest Station	13,100 SF
Bongo / Red River Hog / Guenon	7,600 SF
Red Panda/Muntjac Habitat	3,500 SF
Butterfly Walk-thru	3,200 SF
Ocelot Habitat	930 SF
Sloth Habitat	1,500 SF
Bongo/Other Species Holding	840 SF
Red Panda / Muntjac / Butterfly Hold.	1,300 SF
Ocelot Holding	370 SF
Sloth Holding	370 SF
Restrooms	970 SF
Food & Beverage	1,100 SF
Flex Room	350 SF
Bear Viewing	1,500 SF
Butterfly Vestibule North	70 SF
Butterfly Vestibule South	70 SF



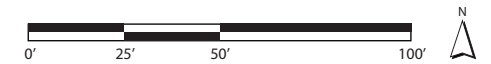
OCELOT HABITAT

## GRASSLANDS ZONES

The anchor of the Grasslands Zone is the existing Tierra de las Pampas habitat that opened in 2010. It is a large open grasslands exhibit featuring rhea and guanaco in an immersive setting, with exclusive viewing from the Zoofari Express Train ride. Just to the east, within the same landscape context, is the anteater habitat. The exhibit provides enrichment for these unique animals and promotes natural foraging behaviors. The Master Plan proposes to build upon this important part of the campus by developing 3 additional habitats including meerkats, armadillo and porcupines. Opportunities to create dynamic habitats that encourage natural behaviors are a key aspect of this concept, as well as integration of adventure/education encounters. Kids will be able to play, climb and burrow through termite mounds, just as meerkats do in the adjacent habitat.



MEERKAT



**KEY STRATEGIES:**

Existing Exhibits

- Both Tierra de las Pampas Grasslands and the Anteater exhibit were recently built and are strong components of the exhibit plan and guest experience.

Proposed Exhibits

- New grasslands habitats to increase collection plan including armadillo, porcupine and primates.
- Kids' play to be adjacent to the Meerkat exhibit and integrate termite mounds.

**ANIMAL COLLECTION PLAN**

\* These animals are currently in the Zoo's collection plan, and will be exhibited in this project zone.

**\*CURRENT COLLECTION:**

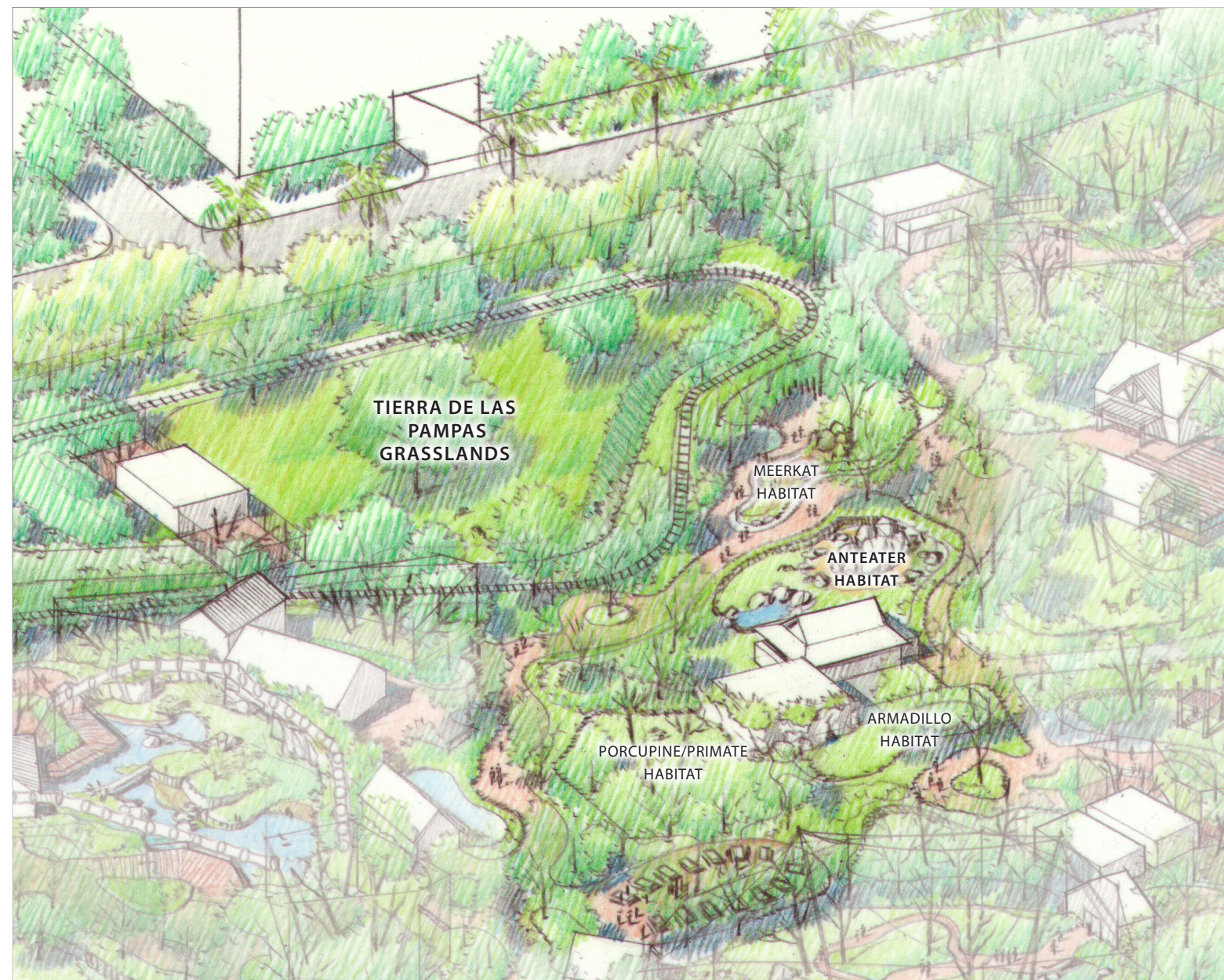
- Guanaco
- Rhea
- Anteater
- Black-and-White Colobus
- Crested Porcupine
- Three-Banded Armadillo
- Howler Monkey

**POSSIBLE OPTIONS:**

- Maned Wolf
- Peccary
- Vervet Monkey
- Patas Monkey
- Mountain Lion
- Tapir
- Andean Condor
- Degu
- Guira Cuckoo
- Red-Legged Seriema
- Tegu
- Tortoise
- Dik-Dik
- Meerkat
- Crested Screamer
- Savannah Monitor

**BOTANICAL HIGHLIGHTS:**

- Ombu Tree
- Pampas Grass



RHEA



ANTEATER



ARMADILLO



CRESTED PORCUPINE



## FARM & ADVENTURE PLAY

The Crean Family Farm opened in 2004 and included the 2-story red barn as well as several domestic animals – mostly rare breeds of hogs, goats, sheep, and other critters. Shortly following the farm development, the Conservation Carrousel ride was implemented in 2008 which provided a new and exciting attraction for guests, and another revenue source to compliment the train ride. With the addition of the Ferris wheel (scheduled to open in 2018), the north end of the farm zone is a strong part of the guest experience and revenue stream today, and will remain so in the long-term master plan as proposed.

The farm zone is a true asset to the campus today, and the long-term goal is to enhance the guest experience by creating more active, dynamic, and up-close animal encounters. This will be accomplished through a series of animal and play focused capital projects developed during the first 10 years of the implementation plan. New active goat habitats and elevated plank walks, a “Twilight Critters” nocturnal house, and several new habitats east and south of the red barn highlight a few of the key changes that will help maintain and enhance this zone for years to come.



GOAT WALK CONCEPT



KEY



### PROGRAM

Overall Farm & Adventure Play	99,500 SF
Goat Yard A	970 SF
Goat Yard B	1,200 SF
Goat Pen	470 SF
Camel Habitat	10,000 SF
Rabbit & Duck Yard	1,800 SF
Chicken Yard	1,300 SF
Barn Yards	1,100 SF
Hawk and Owl Habitats	300 SF
Goat Holding	560 SF
Camel Holding	900 SF
Rabbit Holding	300 SF
Duck Holding	300 SF
Chicken Holding	250 SF
Barn	3,500 SF
Restroom	1,300 SF
Twilight Critters	1,800 SF
Animal Encounter & Reading Nook	700 SF
Train Station	2,400 SF
Ferris Wheel	1,200 SF
Carrousel	1,800 SF
Train Storage	1,500 SF
Ferris Wheel Support	250 SF



## ANIMAL COLLECTION PLAN

\* These animals are currently in the Zoo's collection plan, and will be exhibited in this project zone.

### \*CURRENT COLLECTION:

- Domestic Goat
- Domestic Sheep
- Domestic Rabbit
- Domestic Chicken
- Domestic Cow
- Domestic Horse
- Domestic Turkey
- Domestic Chicken
- Domestic Goose
- Swainson's Hawk
- Barn Owl
- Camel

- Cockatiel
- Mice
- Rats
- Kestrel
- Peacock

### BOTANICAL HIGHLIGHTS:

- Coast Live Oak
- Jacaranda
- Olive
- Tipu
- Grapevine

### POSSIBLE OPTIONS:

- Pheasant
- Kingsnake
- Tree Frog
- Koi
- Aquatic Turtle

### KEY STRATEGIES:

#### Ride Zone

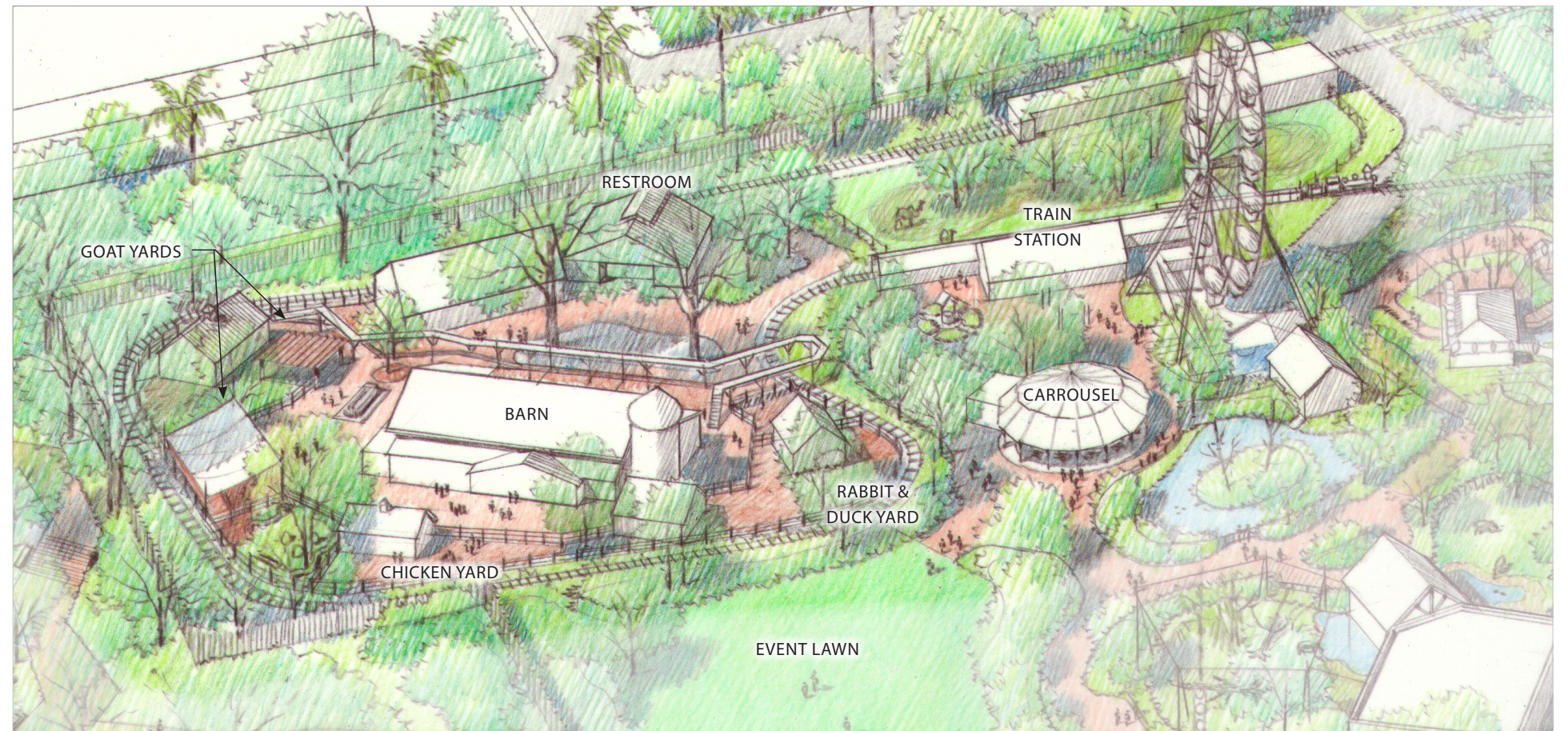
- Maintain cluster of 3 rides – carousel, train and Ferris wheel and increase guest capacity in this area for safer flow and potential for increased attendance.
- Maintain service access to the Ferris wheel but screen from everyday guest experience.

#### Active Animal Concepts & Encounters

- Large habitat to the west of the train station for camels.
- New elevated goat walk linking the redeveloped south Goat pen with a new habitat north of the Red Barn.
- Redevelop carriage house as a walk-thru nocturnal house.
- More up-close encounters through education animal presentations.

#### Site Improvements

- New nature-themed play opportunities and zones with comfortable seating and shade. Some themes for play include: tractor/farm equipment, dung beetle maze, tortoise shell play, and goat walk mirroring.
- Paved main path for improved accessibility.
- More softscape, gardens, and kids' play.
- More seating and shade.
- Coffee cart available for snacks.
- Opportunities for donors such as seating and a tree grove.



SWAINSON'S HAWK



KINGSSNAKE



NATURE PLAY ELEMENTS

## FARM & ADVENTURE PLAY

### KEY STRATEGIES:

#### Red Barn Redevelopment

- Lab Room and Kitchen Support room to be on display, so visitors can witness what happens “behind the scenes.”
- Current staff break area and storage to be combined into one large break area and meeting room for staff.
- Play area inside of barn includes slide and crates for climbing.
- Crates and cracks and crevices in the walls to display insects and snakes commonly found in barns and agriculture areas. These exhibits can be rotated with different animals.

#### Carriage House Redevelopment – Twilight Critters

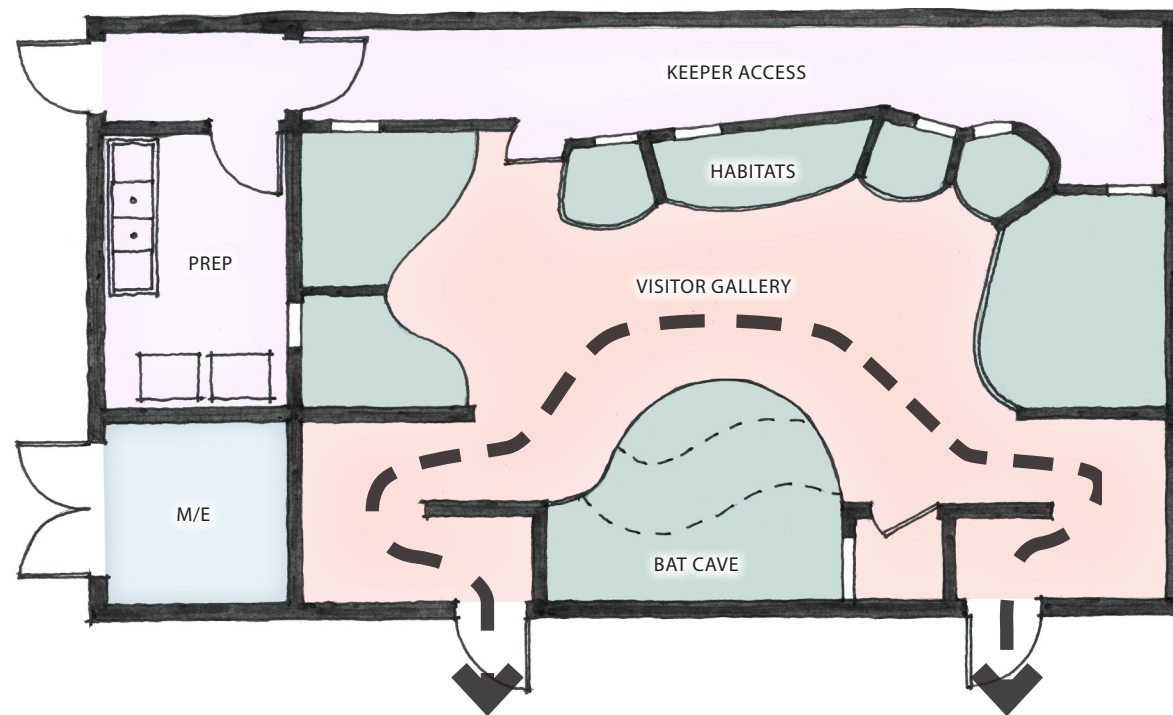
- Once the Ambassador Animal collection is relocated to the new hub adjacent to the Education Building and Entry Village, the Carriage House will become available for a new use. The plan calls for a repurposing of this structure to create a new and exciting nocturnal house walkthrough which will showcase “Twilight Critters”.
- Combination of small, medium and large habitat transects, developed in a fun kid-friendly low-light environment.
- Central crawl through bat cave where kids can pop-up in the middle and be immersed on all sides.
- New keeper support zone for diet prep, storage, and work space.
- New façade treatments to improve aesthetics, and to help control light levels as guests transition from bright (outdoors) to the twilight environment.



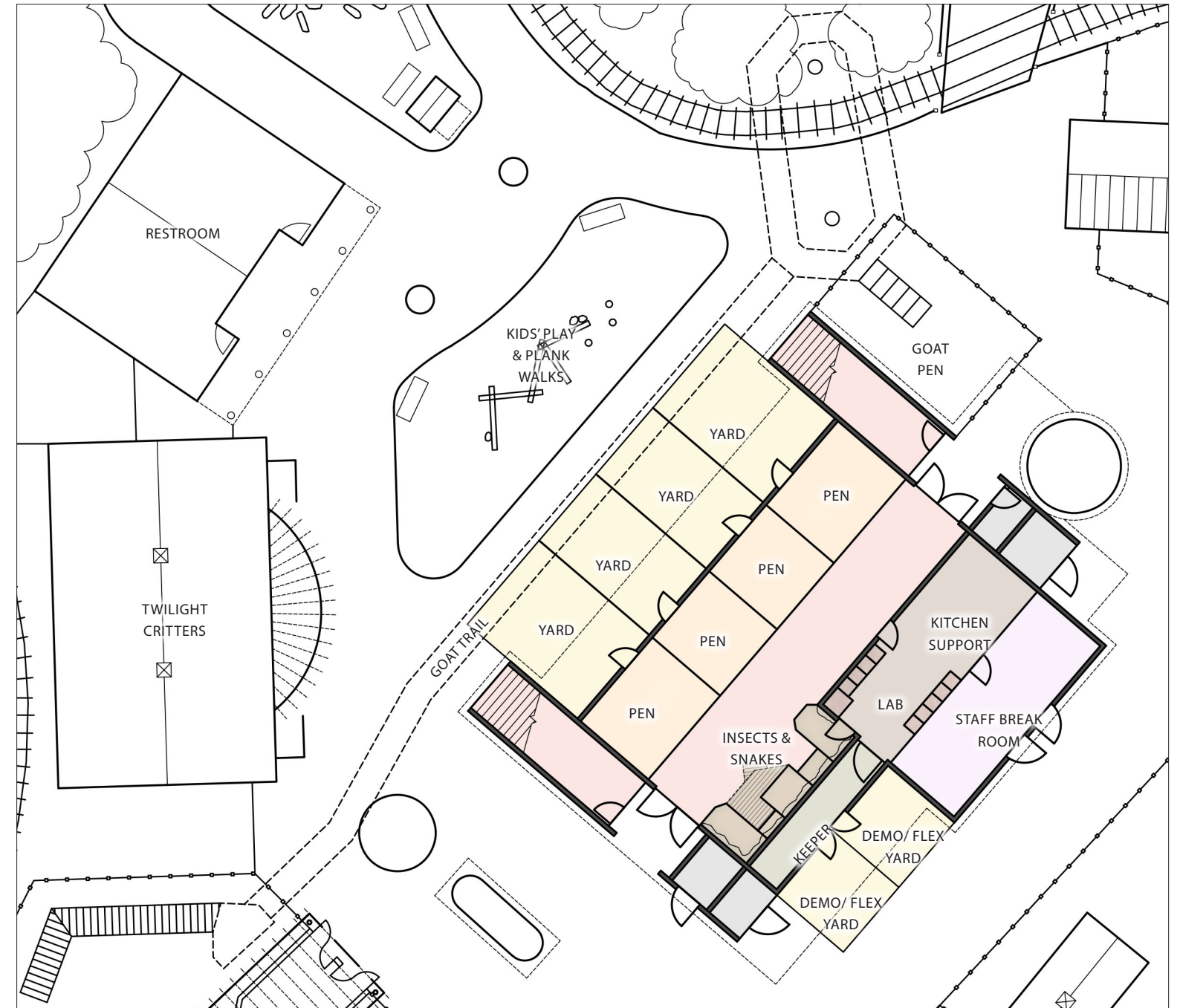
BARN OWL



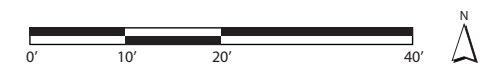
UP-CLOSE ENCOUNTERS WITH ANIMALS



TWILIGHT CRITTERS CONCEPT PLAN



FARM & ADVENTURE PLAY ENLARGED PLAN



# ZOO EDGES

## KEY STRATEGIES:

### Landscape along Elk Lane

- Streetscape to reflect the ongoing design studies for Elk and adjacent developments.
- Two access points along this edge for emergency and services vehicles.

### Zoo Sign and Perimeter Fence

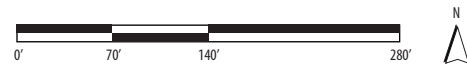
- Elevated Zoo sign to reflect the ongoing design studies for Elk and adjacent developments.
- Perimeter fence in need of repairs to keep up with current AZA standards.
- Landscape along First Street to be replanted.

### Prentice Corner Park

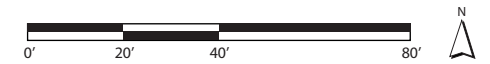
- Shift current open space west from the entrance to the corner of Elk Lane and Chestnut Avenue for local residents to enjoy.
- Coordinate program and aesthetics with other ongoing design studies for Elk and adjacent developments.
- Kids' play opportunities.
- Shade seating, water features, lighting, event use, and more.



LANDSCAPE ALONG ELK LANE



ZOO SIGN AND PERIMETER FENCE



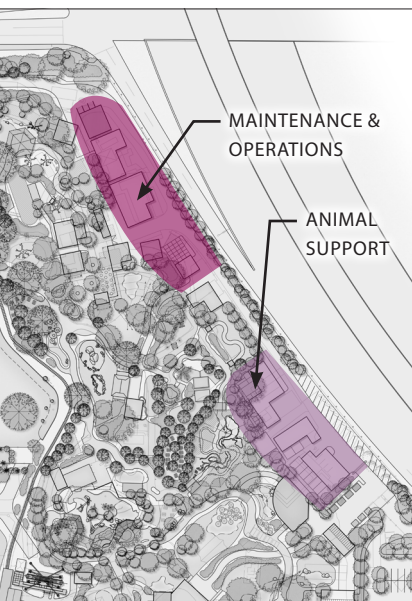
PRENTICE CORNER PARK



## OPERATIONS & ANIMAL CARE FACILITIES

With an expanded animal collection and additional staff to provide the necessary care for these animals, the operations and animal care facilities will also need to be expanded and updated. These facilities are located along the eastern edge of the campus. This geometry is the most efficient, utilizing an internal service road that will loop around the perimeter of the campus. The buildings, berms, and additional landscape will also assist in buffering the noise from the I-5 freeway.

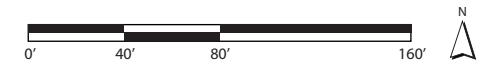
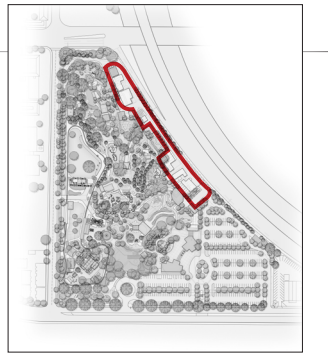
Two quarantine buildings and a new vet hospital will be added to the animal care facilities. The pathology lab is in adequate condition and will remain. These new facilities will allow staff to provide the best care for the animals in the collection. The new commissary will be a two story building and provide office space for USGS staff on the second level. The bottom floor will be used to prepare animal diets and provide a break area for staff. A new building and adjacent open air shelter will provide office space, a workshop, tool storage, and equipment/vehicle parking for Zoo maintenance and horticulture support. Material storage bins for mulch, gravel, sand, soil, and other substrates will be located along the service drive and allow for more on-site storage and bulk purchasing. Finally, there will be a new greenhouse to help maintain the botanical collection and supplementary browse for animals.



PROGRAM	
Overall Animal Health & Support	38,600 SF
Overall Maintenance & Operations	22,037 SF
Maintenance Shop	4,100 SF
Commissary & USGS Offices	4,000 SF
Greenhouse	740 SF
Small Animal Quarantine	2,900 SF
Pathology	870 SF
Vet Hospital	1,700 SF
Large Animal Quarantine	2,300 SF



KEY





**USGS CONSERVATION EFFORTS & THE SANTA ANA RIVER WATERSHED**

Through a partnership with the U.S. Geological Survey, the Santa Ana Zoo is able to actively provide and support conservation efforts for a number of species. While the animal collection at the Zoo primarily focuses on endangered animals around the world, the USGS staff at the Zoo primarily focuses on local species. The Zoo is able to demonstrate to the local community the importance of preserving species at home as well as species around the world. Within the current collection, USGS is doing research with the mountain yellow-legged frog and the western pond turtle. In the future this research can be expanded to the Santa Ana sucker, California red-legged frog, and the Santa Ana speckled dace, all endangered amphibians and fish from the Santa Ana River Watershed.

**ENDANGERED SPECIES AT THE ZOO**

While USGS focuses on local species, the Santa Ana Zoo primarily has a collection of species from South America. There are a number of monkey species at the Zoo that are listed as endangered: the golden lion tamarin and cotton-top tamarin from South America, and the ring-tailed lemur and black & white ruffed lemur from Madagascar. The Santa Ana Zoo's lemurs are one of many species part of a cooperative program called the Species Survival Plan, in which several zoos work together to maintain genetic diversity.

**CAMPUS ECOLOGY**

Campus Ecology is a CLR term for developing and operating a campus in a sustainable way. The recommended approach for the Santa Ana Zoo is to assess campus energy needs, water usage, the approach to stormwater management, material purchasing and recycling programs. Opportunities to harvest renewable resources such as wind and sun energy, reduce energy consumption, reduce potable water usage, and manage stormwater locally on-site utilizing best management practices will be pursued as much as feasible. Future utilities, such as non-potable water, should be explored and uses on-site considered, such as irrigation and equipment washdown. The ultimate goal is a multi-decade shift to a smarter, more sustainable way of operating the campus on all levels including maintenance, construction and material purchasing.

**RECYCLING CENTER**

Recycling helps to strengthen the Zoo's conservation efforts and can be beneficial to both the community and environment. Some of the benefits to recycling include: reducing the amount of waste sent to landfills, conserving natural resources, helping prevent pollution, and saving energy. Currently the Zoo shares these bins with other City Departments. If this continues, a secondary gate can be set up at the I-5 sign so Zoo back-of-house areas are kept restricted from the public.

**I-5 SIGN (MARKETING AND REVENUE OPPORTUNITY WITH LAND LEASE)**

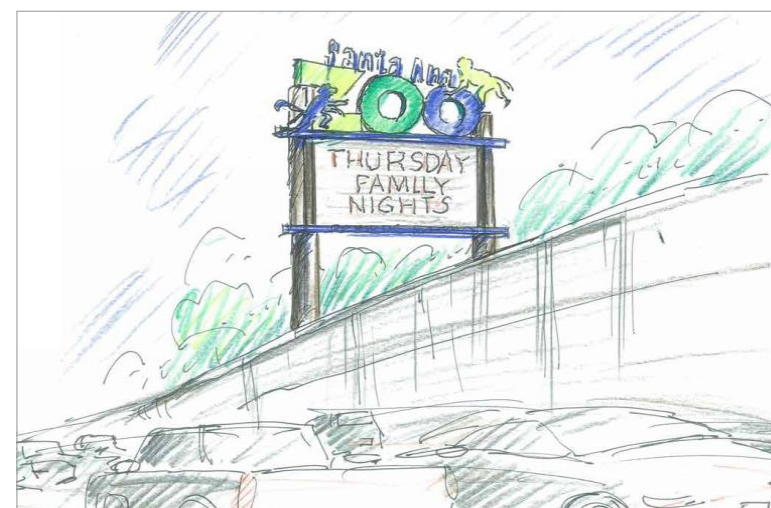
Previous research was done to locate the best location for a sign that could be seen from the I-5 freeway. This sign will have the Zoo logo and space for advertising. This can be a potential revenue source for the Zoo as well as a valuable marketing tool.



MAINTENANCE BARN CONCEPT WITH SOLAR ENERGY HARVESTING WITH PV PANELS



GREENHOUSE FOR ON-SITE HORTICULTURE SUPPORT



ZOO SIGN FROM INTERSTATE 5 (HUNT DESIGN)

# CONCEPTUAL FRAMEWORK

# ADVENTURE EDUCATION

With multi-dimensional, integrated concepts throughout the campus creating comprehensive habitat experiences, the spaces in and around the education hub and in-situ satellites can become dynamic learning environments that connect back to the mission of the Santa Ana Zoo. These multi-use spaces, integrated into surrounding landscape areas and unique places in buildings and habitats, provide more than “classrooms” – they create dramatic and immersive educational adventures that connect kids to animals, plants and nature.

**LEGEND**

- Adventure Education Hub Satellites
- Dispersed Kids' Play & Adventure Stations
- Animal Encounters & Keeper Talks

## WILDLIFE SHOW AMPHITHEATER

- Shaded seating, with room for expansion in future.
- Holding building to house show animals.
- Speaker / sound system
- Close proximity to Ambassador Animal collection to leverage use in shows.
- Arboreal primate trail linkages to allow for impromptu appearances during shows.

## KID'S DISCOVERY BARN

- New kid-focused experiences that require crawling and exploring to encounter animals.
- “What would you find in the wall of an old barn” gem box habitats featuring snakes, insects and more.
- Holding room for ambassador animals
- Food prep room viewable by visitors
- Break room
- Adjacent kids' play

## TREETOPS AT PRIMATE FOREST

- Shaded pavilion with up-close viewing of bears
- Satellite space designated for education keeper talks
- Adjacent kids' play

## DISPERSED KIDS' PLAY AND ADVENTURE STATIONS:

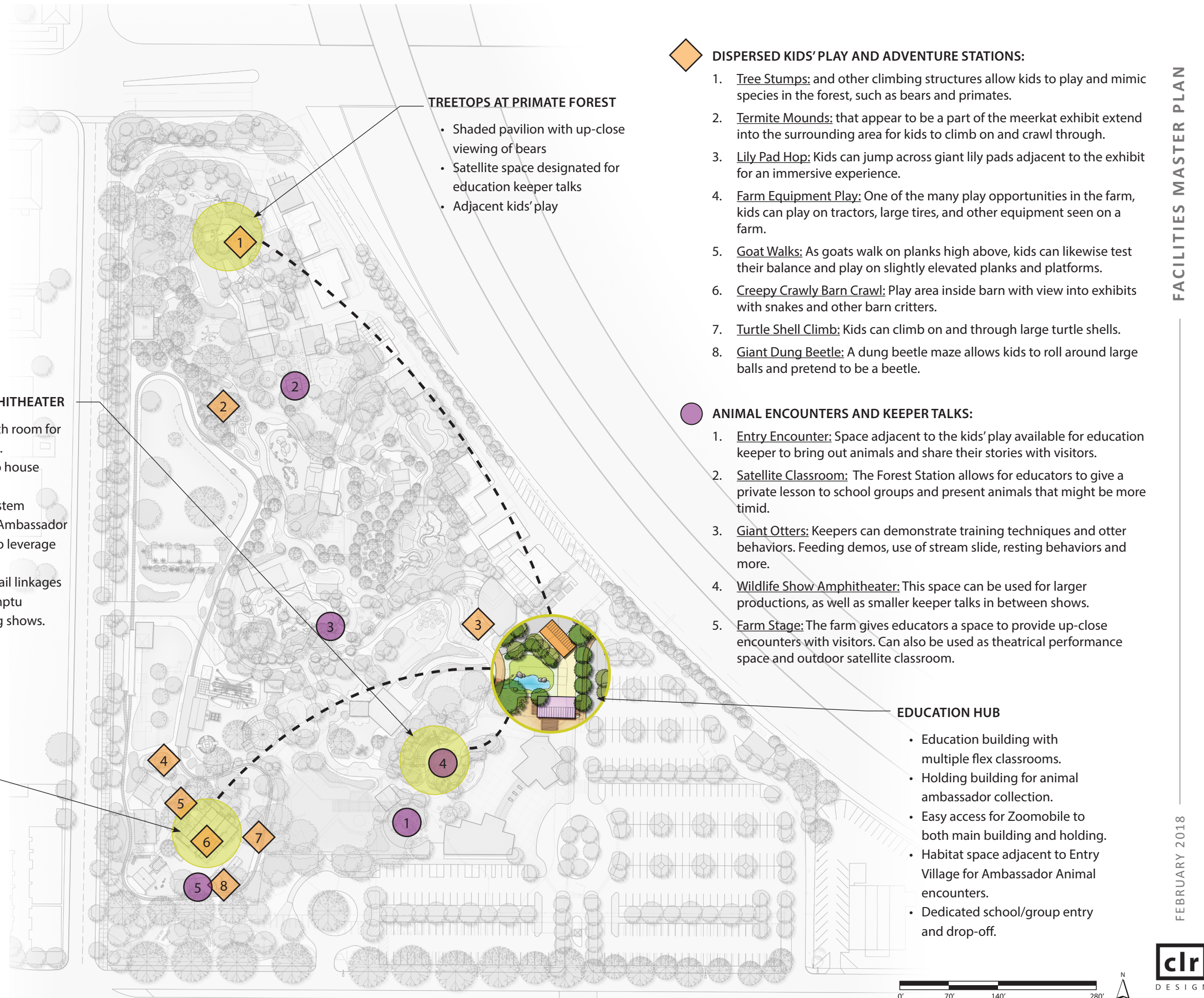
1. Tree Stumps: and other climbing structures allow kids to play and mimic species in the forest, such as bears and primates.
2. Termite Mounds: that appear to be a part of the meerkat exhibit extend into the surrounding area for kids to climb on and crawl through.
3. Lily Pad Hop: Kids can jump across giant lily pads adjacent to the exhibit for an immersive experience.
4. Farm Equipment Play: One of the many play opportunities in the farm, kids can play on tractors, large tires, and other equipment seen on a farm.
5. Goat Walks: As goats walk on planks high above, kids can likewise test their balance and play on slightly elevated planks and platforms.
6. Creepy Crawly Barn Crawl: Play area inside barn with view into exhibits with snakes and other barn critters.
7. Turtle Shell Climb: Kids can climb on and through large turtle shells.
8. Giant Dung Beetle: A dung beetle maze allows kids to roll around large balls and pretend to be a beetle.

## ANIMAL ENCOUNTERS AND KEEPER TALKS:

1. Entry Encounter: Space adjacent to the kids' play available for education keeper to bring out animals and share their stories with visitors.
2. Satellite Classroom: The Forest Station allows for educators to give a private lesson to school groups and present animals that might be more timid.
3. Giant Otters: Keepers can demonstrate training techniques and otter behaviors. Feeding demos, use of stream slide, resting behaviors and more.
4. Wildlife Show Amphitheater: This space can be used for larger productions, as well as smaller keeper talks in between shows.
5. Farm Stage: The farm gives educators a space to provide up-close encounters with visitors. Can also be used as theatrical performance space and outdoor satellite classroom.

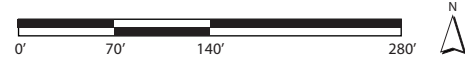
## EDUCATION HUB

- Education building with multiple flex classrooms.
- Holding building for animal ambassador collection.
- Easy access for Zoomobile to both main building and holding.
- Habitat space adjacent to Entry Village for Ambassador Animal encounters.
- Dedicated school/group entry and drop-off.





# ACTIVITY-BASED HABITATS



**LEGEND**

**ACTIVITY CONCEPT**

- Dynamic Mixed Species Habitats
- Flex Habitat (multi-species)
- 24/7 Choice & Flex
- Passages & Crossings
- ✱ Interactive Animal Encounter

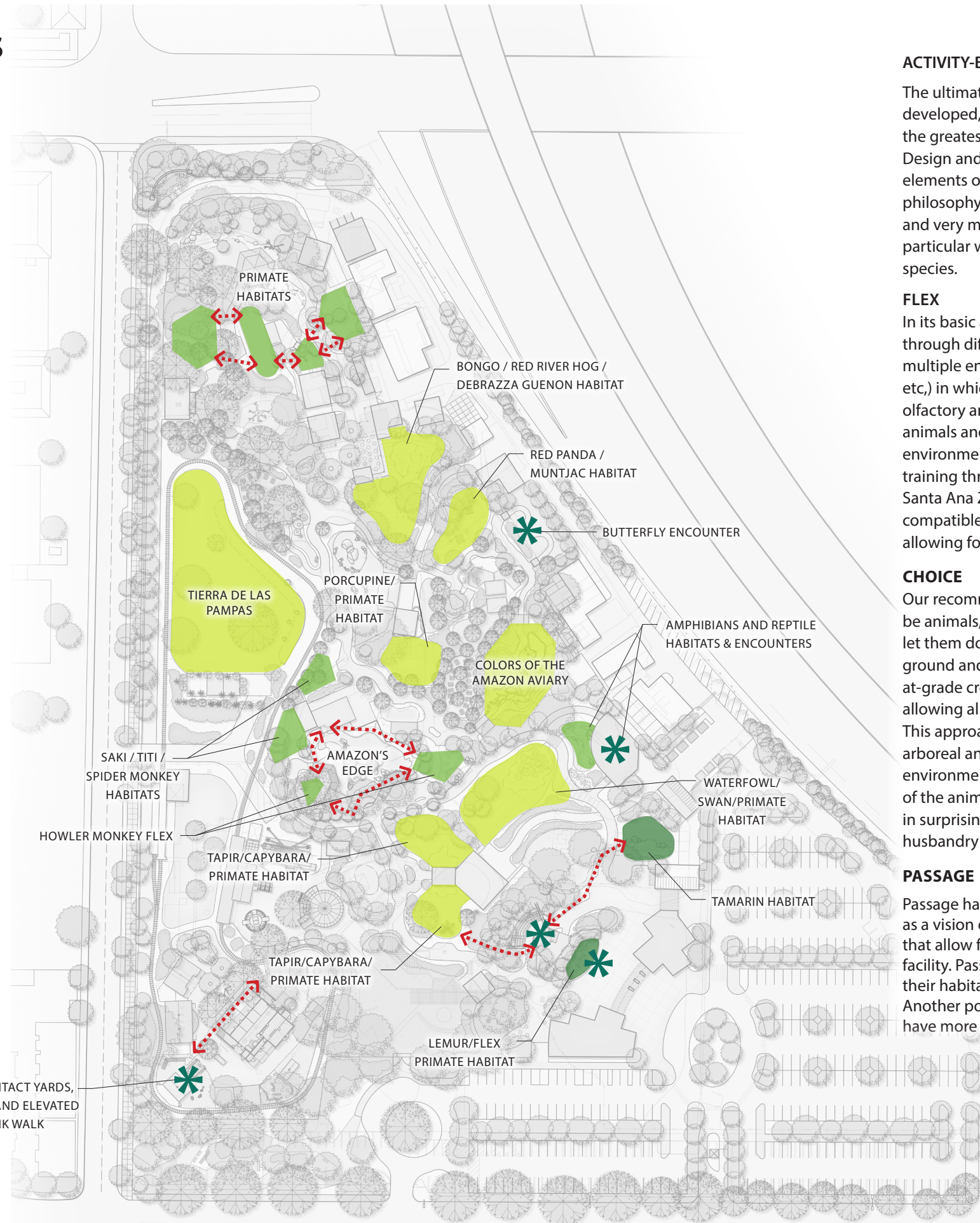


CONCEPT OF ANIMAL PASSAGE FOR CATS AND LARGE PRIMATES



CONCEPT FOR ARBOREAL HABITAT PASSAGE FOR MEDIUM TO SMALL PRIMATES

GOAT CONTACT YARDS, HABITATS AND ELEVATED PLANK WALK



## ACTIVITY-BASED HABITATS

The ultimate goal is to employ aspects of activity-based design with every project developed, and within the approach to managing habitats, in such a way that has the greatest impact on animals, guests and staff. CLR coined the term Activity-Based Design and it has been a part of our practice for over 30 years. It embodies 3 key elements of CLR's approach – Flex, Choice, and Passage. This design and operating philosophy has been discussed and tested throughout the master planning process and very much aligns with the mission of the Santa Ana Zoo going forward, in particular with the goal to create more dynamic habitats for primates and other species.

### FLEX

In its basic approach, flex habitats allow for multiple species of animals to rotate through different habitats and management areas, allowing animals to access multiple environments (ie, forest floor, tree canopy level, wet, dry, hilly, shaded, etc.) in which to move around and explore, and even mark territory, engaging olfactory and other senses. A result of Flex, in addition to the benefits for the animals and guests, is that staff are highly energized and motivated to work in these environments with the opportunity to plan out and choreograph animal flow and training throughout the day, and witness natural behaviors of these animals. For the Santa Ana Zoo, space is limited and flexible habitats can allow for certain, somewhat compatible (in terms of containment requirements) species to timeshare habitats allowing for maximum variability and choice for these animals.

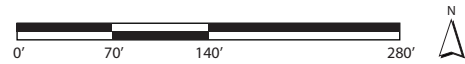
### CHOICE

Our recommendation is to test and explore exhibit experiences that will let animals be animals, provide them with 24/7 choice and activity as much as possible, and let them do all the things their wild counterparts do. Examples could include ground and tree canopy trails, towers for vertical and horizontal animal flow, and at-grade crossings connecting back and forth between indoor and outdoor habitats allowing almost all types of animals to have choice throughout the day and night. This approach enables animals to patrol their habitats at multiple levels, both arboreal and terrestrial, and guests to experience parallel trails and adventure play environments alongside. What follows will not only be good things for the welfare of the animals, but great experiences for the guests seeing natural animal behaviors in surprising ways, as well as empowerment of staff because they have the tools and husbandry needs to provide the absolute best care.

### PASSAGE

Passage has evolved partly as a result of how Flex habitats are linked up and partly as a vision driver to create linear spaces such as trails and longer, narrower habitats that allow for greater movement away from a home range habitat or holding facility. Passage has changed the way guests view and experience animals and their habitats. Guests now have to look up, down, and around more for the animals. Another positive result is that guests have a positive perception that the animals have more activity and choices throughout the campus.

# PROPOSED CIRCULATION

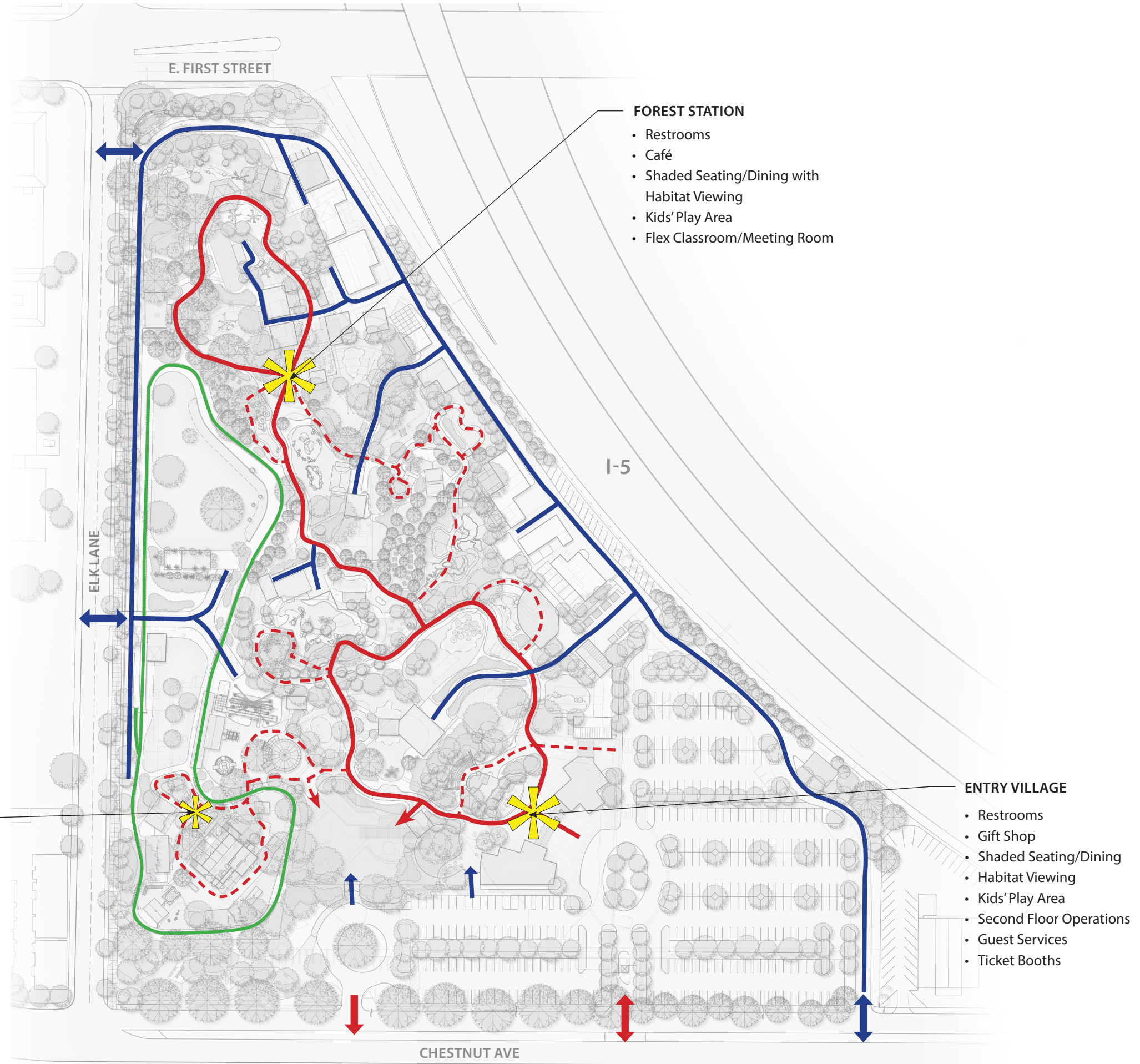


**LEGEND**

- Main Visitor Path
- - - Secondary Visitor Path
- Service Path
- Train
- ➔ Visitor Vehicle Access
- ➔ Service Vehicle Access
- ✳ Visitor Hub

Improving guest circulation or “flow” is a key Master Plan driver, with the goal of making it easy and comfortable for guests and staff to move through the campus. The plan proposes a balance of clearly defined main/primary paths, secondary trails and “Hubs” that include visitor services as well as access to shade and animal viewing.

A dedicated perimeter service road is proposed with carefully located secondary service roads that access more centrally located exhibit facilities. The ultimate goal is maximizing operating efficiency and guest safety.



- FOREST STATION**
- Restrooms
  - Café
  - Shaded Seating/Dining with Habitat Viewing
  - Kids’ Play Area
  - Flex Classroom/Meeting Room

- FARM HUB**
- Restrooms
  - Café Cart
  - Shaded Seating
  - Kids’ Play
  - Habitat Viewing

- ENTRY VILLAGE**
- Restrooms
  - Gift Shop
  - Shaded Seating/Dining
  - Habitat Viewing
  - Kids’ Play Area
  - Second Floor Operations
  - Guest Services
  - Ticket Booths

# INVENTORY & ANALYSIS

# EXISTING LAND USE

**LEGEND**

**CIRCULATION**

- Visitor Path
- Service Road

**ANIMAL MANAGEMENT**

- Exhibit
- Exhibit Building
- Animal Holding
- Off-exhibit Yard

**BUILDINGS & FACILITIES**

- Visitor Amenity
- Admin / Support
- Amphitheater
- Open Air Structure

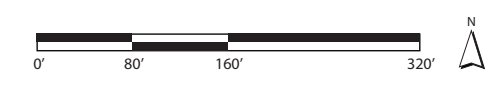
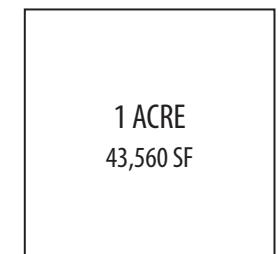
**LANDSCAPE**

- Buffer
- Water



**LAND USE CALCS**

Category	SF	%
<b>TOTAL SANTA ANA ZOO AREA</b>	<b>791,000 SF</b>	<b>18 ac +/-</b>
Animal Exhibits	70,748 SF	8.94%
Visitor Buildings & Amenities	16,323 SF	2.06%
Exhibit Buildings	5,788 SF	0.73%
Animal Mgmt Facilities & Yards	16,502 SF	2.09%
Admin/Support Facilities	18,460 SF	2.33%
Visitor Parking	60,000 SF	7.59%
Overflow Parking (170 spaces +/-)	78,000 SF	9.86%
Buffer Landscape, Paving, Misc.	525,179 SF	66.40%



# EXISTING SITE ANALYSIS

**LEGEND**

- Keep
- Enhance, Repurpose or Relocate
- Must Go



AGING, SMALL HABITATS



SEVERAL EXHIBITS NEED UPDATING



RIDES CREATE STEADY REVENUE



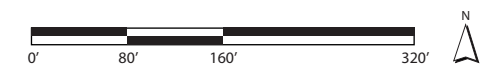
HIGH QUALITY EXHIBITS



ERODED DIRT PATHS



NICE EVENT SPACE CAN BE IMPROVED



# EXISTING CIRCULATION



# EXISTING TREE PLAN

