The New Denver Zoo

Leading the Next Generation of Scientists & Conservationists through Incredible Experiences
DENVER ZOO FACILITY MASTER PLAN Executive Summary

Denver Zoo Facility Master Plan
March 2015 Executive Summary
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Above: Bring the Zoo to You!
After school program showcases 2-3 live animals developing a connection with the natural world.
Available for grades K-6th.

Denver Zoo makes it a priority to engage various demographics of all ages, backgrounds and interests. Pictured above is an example of our children's programs connecting with the animal collection. The array of educational programming aims to create defining moments for the more than 2 million guests through shows, classes, camps, tours and up-close animal encounters.
I am pleased to share Denver Zoo’s new master plan with you. It truly represents our commitment to be a world class zoo. This plan is a result of over 10,000 hours spent with staff and trustees, community leaders, and industry leaders in design. All departments and disciplines at Denver Zoo were involved in the master plan development. The plan aligns with Denver Zoo’s mission, vision, values, and strategic imperatives. We hope our new design will help every guest leave our campus with the feeling they have gained something – knowledge, inspiration, connection. Denver Zoo is deeply engaged in the community and wants to help our schools succeed. Our dream in this plan extends beyond the boundaries of the Zoo - supporting teachers and students in a radically different way:

• **Real experiences** - Learning starts with natural curiosity, and students are most curious before the age of 9. As we shift to online and mobile learning, the value of the real experience needs to be more differentiated to capture the attention of young minds.

• **Satellite classrooms** - This plan imagines education satellites across the Zoo, integrated with animal exhibits and supporting technology to create memorable learning experiences. Educators are empowered with the tools they need before visiting.

• **Immersive programs** - They will be deeply immersed in an animal rich environment during the visit and provided with the guidance and connections they need after their visit to continue to inspire Colorado’s students.

More than anything, Denver Zoo strives to create a place to experience awe and wonder, and to have one-of-a-kind connections to animals. This plan elevates the guest experience to new heights, and *The New Denver Zoo* promises to be a treasured resource for the entire community. There are several layers to this document and I encourage you to read through it in detail. Not only does it contain the map for Denver Zoo’s future, it also shares a vision of Denver Zoo’s role in supporting our local community in an ever-changing world.

Shannon Block
President and CEO

The communities of Denver and Colorado deserve an exceptional zoo. To fulfill this goal requires a thoughtful vision and the resources needed to achieve it. This Master Plan serves as a roadmap to our destination. It is comprehensive, yet contains the latitude to modify our approach based on changing circumstances and challenges.

The document *The New Denver Zoo* is a carefully considered plan for the future of the Zoo based on the following fundamental principles:

• **Animal care and conservation** - Denver Zoo will establish new standards for animal care and exhibits, based upon state of the art practices which will assure optimal physical and emotional animal health. We will connect our guests to the conservation work Denver Zoo leads to protect threatened and endangered species and wild places throughout the world.

• **Guest experience** - Denver Zoo is committed to connecting our guests to animals as safely and intimately as possible, in order to maximum opportunities for personal growth and sheer enjoyment. The Denver Zoo will be a place where enduring memories are made!

• **Education** - Denver Zoo will be a leader in education and create unique and inspirational learning experiences by connecting our guests to the natural world.

• **A sustainable future** - Just as Denver Zoo has served generations of families over 118 years, we need to stay relevant and vibrant to assure that our commitment to our communities is fulfilled continuously. Our model for business sustainability goes hand-in-hand with our commitment to maintaining leadership in environmental sustainability in all of our activities.

The depth and vision embodied in this plan is a testament to the incredible level of work and investment by many individuals and groups committed to the future of the Zoo. These contributions highlight the importance and strength of the relationships between Denver Zoo, the City and County of Denver, and all the communities we serve together.

Dennis O’Malley
Board of Trustees Chairman
DENVER ZOO FACILITY MASTER PLAN Executive Summary

Introduction

Why a New Master Plan?
In 1999, Denver Zoo adopted the Millennium Master Plan (MMP). That plan outlined four phases. Upon completion of the first two phases (Toya Elephant Passage was the final piece of the second phase, completed in 2012) – the zoo took time to re-evaluate the second portion of the MMP to confirm the direction was still in line with facility needs, the mission, and direction of the institution. This evaluation of the second half of the MMP, along with data collected during the Facility Assessment, led staff to rethink and create a new master plan, instead of simply revising the existing plan.

Facility Assessment 2012
The Facility Assessment, from 2010-2012, took inventory and analyzed the current state of zoo facilities, from circulation to building conditions. This analysis, coupled with the last phases of the MMP, identified areas of high facility need which were outside the scope of the MMP. The timeline of the first two phases of the MMP was longer than originally imagined and therefore many of the facility needs changed.

A New Master Plan
The new master plan outlines four exhibit projects: Africa, Coastal, Denver Zoo Into the Wild, and Asia. The zoo intends to complete these projects over the next 15-20 years, with the exception of Denver Zoo Into the Wild (this project initially had four zones – however, only one, Peaks to Prairie, is planned to be completed over the next 15-20 years).

The Strategic Imperatives, Denver Zoo Mission, and Guiding Principles guided the plan and will guide the implementation and priorities moving forward.

An Inclusive Planning Process
Denver Zoo used an innovative and inclusive design process to produce this plan. Bringing more minds, perspectives, passion, and professionalism to the design effort yielded the greatest results. This process was lead by a diverse group of trustees, the Executive Team and a Zoo Master Plan Committee with representatives from every zoo department. The group also received assistance and consultation from CLR Design, an architectural firm specializing in zoo design. 165 Zoo staff members were directly involved in the master plan process. Over 10,000 hours were devoted by staff throughout the process including eight 3-day workshops facilitated by CLR. The Zoo Master Plan Committee spent over 50 meeting hours working on the plan and over 150 hours outside formal meetings doing related work and research.

In addition, Denver Zoo lead a series of community engagement forums. These meetings were augmented with an online feedback module. Over 550 individuals participated in these engagement and feedback opportunities.

Strategic Imperatives

Mission
Secure a better world for animals through human understanding.

Vision
Continuously innovate to inspire life-changing human and animal connections.

1. Inspire awe and appreciation of human and animal connections by continuously improving our guest experience while upholding our animal care best practices.

2. Connect Colorado to Denver Zoo as an educational organization that creates positive, ever-changing learning experiences.

3. Develop a future state operating model that meets our needs and ensures future growth.

Icons: Tradition presents a zoo as cultural institution to view animals and their environments. At Denver Zoo we are focused on the future of the zoo as a living institution. We are building a zoo where everyone learns, infrastructure is responsive to demands, and the environments and research are cutting-edge. We are creating a place centered on education, scientific research, and connecting people to the animals. Here we emphasize the shared nature of environments and moments between the people and planet. We want our guests and animals to be immersed in each other’s journey.

Throughout the plan, the icons above will highlight ideas tied to the imperatives.
Guiding Principles

Guest Experience
Experiences and moments which connect our guests to animals create lasting memories, inspire awe, and create life changing human and animal connections. Crafting these experiences and moments at a variety of scales throughout the zoo and for visitors of City Park is a priority in this plan.

Securing Our Future
Making meaningful connections between individuals and groups and supporting a strong relationship with the City and County of Denver is critical to a successful future. Creating positive relationships and an operating model that meets our needs will ensure future growth.

Education
Connecting guests to the natural world through recreation and learning inspires them to take action for animals and the environment. By utilizing Denver Zoo’s Program Content Standards to define stories, environments, exhibit elements, and interpretation we will help guests achieve what we want them to know, feel, and do.

Sustainability
Connecting guests to the natural environment and sustainable ideas will inspire zoo visitors and communities to meaningfully reduce their environmental impact.

Context: How do we fit?

Local and Regional
Denver Zoo is the most visited cultural organization in Colorado. In 2012, the Zoo served over 2 million people – primarily within the Denver Metro area. Many of the Zoo’s programs connect underserved audiences to animals, science, and conservation, both on-site and in the community. Additionally, as part of the Zoo’s agreements with the City and County of Denver and a commitment to remaining accessible to the entire community, the Zoo provides at least seven free days every year to remove financial barriers to community members who otherwise might not visit the park. The Zoo’s ability to serve the community as a resource in education has driven the master plan team to look at how the stories and educational aspects of this new zoo will attract and be relevant to diverse audiences throughout the local community.

AZA Community
Denver Zoo has been an accredited member of the Association of Zoos and Aquariums (AZA) since 1976. The AZA is a community of organizations and individuals dedicated to the advancement of zoos and aquariums in the areas of conservation, science, education and recreation.

Worldwide Conservation Community
Denver Zoo is committed to the conservation of biological diversity. This includes focusing on vulnerable species through conservation and research programs, both regionally and internationally. Since 1996, Denver Zoo has been involved in over 600 wildlife conservation projects in 62 countries, representing all seven continents.
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Facility Assessment
From 2010 - 2012, Denver Zoo’s Planning Department performed a Facility Assessment to document and gain a campus wide understanding of the state of the facility. This process and the information gathered created a basis of understanding for the master planning process. This section organizes a portion of the Facility Assessment data, or site inventory and analysis used as base information which informed decisions during the planning process.

Management
GOVERNANCE
Denver Zoo began formal operations in 1896. From that time until July 1956, the Zoo was directly owned, operated, managed, and controlled by the City and County of Denver through the Department of Parks & Recreation. The Denver Zoological Foundation Inc. (DZF) was established and incorporated in November 1950 as a Colorado not-for-profit 501c3 organization for the express purpose of “developing, improving and maintaining the Zoo’s gardens and animal exhibits in cooperation with the City and County of Denver.” On July 27, 1956, DZF and the City and County of Denver signed the first cooperative agreement:

An updated and restated agreement was renegotiated and approved by the DZF and the City and County of Denver in November 1998. Under the new terms, the City and County of Denver retain ownership of the Zoo’s grounds and all attached physical buildings and exhibits. The Foundation assumes direct ownership of the animal and plant collections, equipment, supplies, vehicles, and all other personal property at Denver Zoo. The Foundation also has “the responsibility and authority to maintain, administer, manage, operate, and control the Denver Zoological Gardens”.

ZOO MANAGEMENT BOUNDARY
These changes in governance also led to a physical separation between Denver Zoo and City Park. In 1957, a perimeter fence was constructed around the zoo and its boundaries have remained unchanged. Any improvements, including new exhibits and modifications, must occur within the zoo’s perimeter fence. This presents a challenge that forces staff to use space wisely during every redevelopment phase.

Site Analysis and Operating Environment

Denver Zoological Gardens is established and maintained by the Denver Zoological Foundation Inc., for the people of the City and County of Denver and for the general public in cooperation with the Denver Parks and Recreation Department.
DENVER IS A GROWING TOURIST DESTINATION
The Zoo’s location, like many zoos in the country, is close to the urban core of the city. This presents opportunities as well as challenges.

As Denver grows and continues to invest in the Lower Downtown area, more and more people are living and working in the city center. Denver has made significant investments in public transportation with the implementation of the Light Rail system which has portions still under construction. Although public transportation to City Park is minimal, the distance to downtown, a major transportation hub, is 2.5 miles. This proximity offers opportunities as Denver continues to grow as a tourist destination.

The Light Rail line from Downtown Denver to Denver International Airport (DIA) is scheduled to be completed in 2016. Denver Zoo is 21 miles from DIA and 1.7 miles to the nearest proposed light rail stop (I-70 and Colorado Boulevard) serving the airport.

DENVER’S CITY PARK
City Park is bound by 26th Avenue, Colorado Boulevard, York Street and 17th Avenue. Denver Zoo is in the center of the park, however it feels like the edge of the park as 23rd Avenue acts more as an arterial road than a park road. Furthermore, City Park Golf Course (north of 23rd Avenue) solidifies the sense that the park ends at 23rd Avenue, since most park activities occur south of 23rd Avenue.

Denver Museum of Nature and Science is located within the park as well. Denver Zoo serves nearly 2 million visitor annually while Denver Museum of Nature and Science’s annual attendance is approximately 1.3 million. Together with events hosted by Denver Parks and Recreation, City Park is a heavily visited park.

Cooperation and coordination between the Zoo, the Museum, and Denver Parks and Recreation is increasingly important as the visitation to the park continues to increase.

Parking within the park is a challenge. A multifaceted approach to parking and inter-agency cooperation is necessary to respond to the parking demands within the park. Increasing the number of parking spaces is only part of the solution.

The Operational Projects section discusses the Zoo’s proposal of 500 underground parking spaces within the Zoo’s management boundary.
Campus Givens and Assumed Conditions

**CAMPUS GIVENS AND ASSUMED CONDITIONS**

At the onset of the Master Plan planning process, assumptions were made about which areas of the zoo would and would not be considered for redevelopment in the plan. The most recent exhibits were not considered for changing in the next 15-20 years.

In this map, legacy trees and areas on the National Historic Registry are also identified. While these areas may be slated for redevelopment, special consideration will be taken for preservation.

**HISTORIC STRUCTURES**

In 1982, Denver’s parks and boulevards designed during the City Beautiful movement of the 1890s - 1920s were added to the National Historic Registry. There are several zoo buildings and features that are included in this designation: the Chapel, Bear Mountain, Duck Lake, Duck Lake Island, and the “City Park Shop Buildings,” now referred to as Old Monks, the Stone Garage, Operations, and Building C.

Campus Construction Timeline

**AGING FACILITY**

The time of construction was mapped during the Facility Assessment. The infrastructure and underground utilities in most areas have not been touched since their construction. The buildings and grounds in the areas have been maintained. However, as the buildings age, the cost of maintenance grows.

As this map indicates, there are many older areas of the zoo defined as “Outdated.” These large areas in red indicate facility needs and outdated exhibit models. The location of the red areas present an opportunity for large exhibit areas. Since the red areas are for the most part, aggregated in large swaths; very large animal yards and exhibit sequences are now a possibility.
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Tree Canopy

PRESERVING OUR TREE CANOPY
The zoo’s tree collection is a priceless visitor amenity: it frames and characterizes many of the zoo’s landscapes, provides shade during hot months, and is the result of longitudinal planning and generations of care. Some trees are nearly 100 years old.

As part of the Facility Assessment, the Planning and Horticulture departments identified mature trees of value within the zoo. These trees are identified as “Legacy Trees” and were selected based on age, species, aesthetics and general health. There are other trees identified which contribute to the tree canopy but are not specifically “Legacy” trees. These trees are irreplaceable and should be preserved whenever possible in new exhibit areas. The process of identifying trees is still in progress.

Parking Inventory

Denver Zoo is within and a part of City Park and therefore all parking is shared by zoo guests, park users and Denver Museum of Nature and Science (DMNS) guests; the exception to that is any parking within our management boundary does not have to be shared.

Parking often overflows into the adjacent neighborhoods. Adding parking spaces within City Park has been contemplated, but is not feasible at this time. It is a priority to create spaces within the Zoo’s management boundary to address parking needs.

Despite the construction of two parking garages within the park, one at DMNS (2004) and one at Denver Zoo (2002), parking continues to be an issue. As DMNS and Denver Zoo continue to grow in annual visitation and the park continues its success, parking remains a challenge.

There have been a number of operational changes implemented to relieve the pressure on parking; staff and volunteers are asked to park off site during the busy months and alternative transportation is incentivized.
The New Master Plan

Master Plan Scope
The plan is made up of four exhibit zones and an experiential circulation spine that transects all four exhibits. The four exhibit zones are: Africa, Coastal, Denver Zoo Into the Wild, and Asian Highlands and Asian Predators. The Braided Path is the circulation spine.

These four zones and the Braided Path are located within the oldest areas of the zoo. The areas not contemplated within the redevelopment areas are Primate Panorama, Operations, the Front Entry, Predator Ridge, Avian Propagation Center, Tropical Discovery and Toyota Elephant Passage.

Plan Framework: Site Planning Strategies
The Site Planning Strategies create a framework for design decisions. Guided by the Mission, Strategic Imperatives and the Guiding Principles, these strategies were developed through a collaboration between the design team and zoo staff.

The strategies are as follows: Zoo as a Classroom, Guest Experience Hubs, Flow, Clustering, Frontage, Animal Collection, and Campus Ecology.

Master Plan Projects: Four Project Zones
The Master Plan Projects are the result of layering or stacking the Site Planning Strategies. This section describes what is imagined for the four exhibit zones.

1. Africa: A Wild Savanna
   a. The Watering Hole: Premier Restaurant
   b. The West Portal: Program Space and Dedicated Program Entrance
   c. The Veterinary Hospital

2. Coastal: Change at the Coast
   a. The East Portal: Program Space and Dedicated Program Entrance

3. Denver Zoo Into the Wild: Worldwide Impact
   a. Peaks to Prairie: Local Impact

4. Asia: Asian Predators and Asian Highlands
   The guest path transect, the Braided Path and the Zoo/Community Interface will also be described. The Braided Path touches all four exhibit zones and is not contemplated to be constructed on its own. It will be built as a part of each of the four exhibit zones. This is also true for the Zoo/Community Interface which will be a part of every exhibit zone improvement project.
The Zoo as a Classroom

Integrated Learning

Two planning strategies expressed in this plan speak directly to Denver Zoo’s Strategic Imperative to connect Colorado to Denver Zoo as an education institution.

1. Two Program Entry Portals establish and contextualize an immersive and interactive visit upon entry for program participants. The Portals are entry gateways and program spaces integrated into exhibits. The two Portals are located along the Zoo’s frontage and will be discussed as a planning strategy to enhance Zoo frontage on page 24. The East and West Portals will be described in more detail on pages 51 and 39.

2. Education Satellites disperse resources throughout the Zoo, making every exhibit a potential classroom. Satellite facilities are 1000sf conditioned classroom spaces integrated within the exhibits. The diagram above marks potential Satellite locations. Satellite classrooms are themed learning spaces which provide an interactive and engaging setting for program participants within the Zoo environment. Their location, integrated into a surrounding exhibit, provides more than a classroom – it creates a dramatic and immersive experience.

Guest Experience Hubs

Serve, Engage, and Organize

Hubs are notable geographic locations at major pathway intersections and provide a range of guest experiences and services. Each Guest Experience Hub will offer the following amenities: food and beverage, retail, seating, children’s interactive play space, animal encounter, and restrooms.

There are four Tier 1 visitor experience hubs that have been identified in this plan:

1. Coastal Exhibit Hub (New-Proposed)
2. The Watering Hole (New-Proposed)
3. Africa and the West Portal (New-Proposed)
4. Toyota Elephant Passage (Existing)
Visitor and Service Circulation
Separating guest flow and service flow will increase operational efficiencies while improving the guest experience. This plan identifies a perimeter service drive that would allow easy access by service vehicles, animal care staff and other operational functions. Additionally, animal barns are planned adjacent to the service drive to maximize efficiency and to minimize the frequency of service traffic within guest areas. Barn clusters will be discussed in more detail below.

Guest flow can be described as a figure 8 with a cut-through. The figure eight allows for clear navigation while the cut-through offers maximum flexibility in visit duration.

Service Flow
- Outside Perimeter
- Primary Path
- Discovery Path

Clustering Creates Efficiencies
By grouping associated behind-the-scenes operational functions, staff can easily access and utilize the resources they need to perform their work. Barn clusters maximize efficiency by placing animal holding buildings and their affiliated programming needs in close proximity to each other and adjacent to the perimeter service path. This clustering will create efficiencies in work tasks and resources. Additionally, by clustering barns on the perimeter, there will be less area dedicated to service drives and "back-of-house" areas since they will be shared and make the most efficient use of space.

Zoo/Community Interface
Zoo Perimeter Improvements
Denver Zoo is within City Park and the interface between Park users and Zoo uses has been carefully considered in this plan. The south side of the Zoo interacts most directly with Park users and therefore has a different proposed typology than the north side of the Zoo which is where the majority of guests enter the zoo and where Zoo entry and orientation happen.

- Parking: Increased parking within the Zoo perimeter is identified but will not solve parking issues in the Park. Denver Zoo and City Park will continue to work together to address parking and safety in the Park.
- Zoo Entry Frontage: Iconic architecture featured at two new program entrances will create an engaging visitor experience upon zoo arrival.
- Zoo Park Frontage: Zoo perimeter fence improvements and community connections.
Animal Collection

Exhibit Adaptations

Two strategies in the plan support the zoo’s animal collection objectives. The first strategy is the use of larger expanses for animal exhibits. These habitats aren’t large just for the sake of size - they are designed to better meet the health needs of particular species, provide flexibility for current use and future shifts in philosophy, and present a more immersive and engaging experience for visitors. The plan also creates more intersections or crossings between animal spaces and guest spaces.

Four new indoor exhibit buildings are included in the plan. The goal is to increase and enhance indoor viewing opportunities.

Campus Ecology

Design Elements Inspired by Nature

Campus Ecology is a concept that highlights and celebrates natural processes and elements within the zoo landscape. Two key site planning strategies incorporate the concept of campus ecology.

- Campus Reforestation increases the Zoo’s tree canopy, provides shade for visitors and animals, and diversifies the age of the trees on campus.
- The “Braided Path” is designed to offer an immersive, exploratory experience. The path encourages visitors to navigate options within their environment. This confluence of zoo landscapes, visitor experiences, and natural processes on the zoo campus will connect zoo guests with their immediate environment.
### Exhibit Projects and Narratives

**Narratives Process**

The projects outlined in this chapter are the result of layering the Site Planning Strategies in the previous chapter to define how each area works; circulation, guest amenities, barn locations, animal yards, etc. The Guiding Principles and Strategic Imperatives guide the narrative and program details. In this section, the narratives paint a picture of what the exhibit areas may feel like, what the animal collection may be, and what guests might experience while there.

When the design process begins for a master plan project, some constraints around the project may not be the same as they are today. Specifically, the animal collection may change as there are dynamic sets of criteria for animal selection. The Strategic Imperatives, Guiding Principles, and the Site Planning Strategies will not change - they will guide the design, especially during the Project Ideation phase (which will be discussed in more detail in the Design Framework chapter). The Project Ideation phase of the design is the first phase, prior to hiring an architect, where Zoo stakeholders define the animal collection, project narrative, education outcomes, guest experiences, event needs, staff needs, and all other program needs.

The identified projects are the result of the Zoo’s rigorous planning process and the Strategic Imperatives, Guiding Principles, and Site Planning Strategies should be apparent. The three animal exhibit projects build on past successes and expand on new ideas in zoo exhibits. The Veterinary Center envisions comprehensive facility upgrades and presents the range of work performed by the Zoo’s veterinary staff. The Braided Path reimagines the traditional landscape associated with a major guest thoroughfare and establishes a new array of possibilities. In spite of their varied emphases, each relates to and flows with the overall plan – which will be realized in the full build-out. These are the projects which will shape and define the future of Denver Zoo.
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Denver Zoo New Master Plan
Africa: A Wild Savanna

Africa’s Connections
Interactions among living and non-living things, between plants and animals, and between animals and people serve as the heart of Denver Zoo’s new Wild Savanna exhibit. Mirroring the complex interactions of the African grasslands are the experiences of Zoo guests exploring this large, multifaceted exhibit. As they meander along the braided pathway, this landscaped thoroughfare invites children and adults to interact with grasses, rocks, puddles and trees immersing them in the landscape. The large open animal habitats surrounding the braided path are connected with a land bridge that allows for animal movements over guests below.

Candidate Species:
Black rhinoceros, giraffe, Grevy’s zebra, gerenuk, okapi, bongo, ground hornbills, storks, vultures, waterfowl, and cranes

The West Portal Education Tree-house
This is the largest satellite in the sequence of Education Department facilities and due to its size is called a ‘super satellite.’ As a portal it will provide zoo access for programs from the West end of the parking garage. Imagine their excitement as children walk across the wooden bridge to what appears is a tree house. Its location capitalizes on the view overlooking the African savanna and will have an interactive indoor venue for live animal encounters and audio visual presentations. The primary use is as an educational space for assemblies or public shows, but events activities, large meetings, and guest speakers will be possible here as well. Trained birds can be released from this space to fly across the savanna to the delight of guests waiting at the restaurant. The ground floor of the West Portal will have approximately 6,000 square feet devoted to housing animals used in the indoor venue on the upper floor and in the Habitat Theater outdoors. Species will be aligned with the specific needs for the education department’s public shows and on-site assembly programs, as well as the African themed animal experiences envisioned for the outdoor location.

Animal Hospital
Denver Zoo’s current animal hospital was built in 1969. While significant renovations have occurred since then, advances in veterinary medicine and zoo animal management have outpaced those changes and a new Animal Hospital is a priority in the new plan. This hospital will provide treatment rooms, critical care units, a surgical suite, laboratory, pharmacy, and quarantine facilities that will be furnished with state of the art equipment. Additionally, this facility will provide increased opportunities for research, collaboration, and teaching. The design will also incorporate opportunities for zoo guests to get a behind the scenes experience at both this facility and the exceptional work that will occur here.

The new Animal Hospital will offer interactive interpretation to allow our visitors a deeper understanding of the dedication, the resources, and the care and passion the Zoo’s animals receive inside the veterinary hospital.
The highlight of the exhibit comes as guests encounter some of the most charismatic and beloved species of the northern shores. Polar bears are an ideal species to illustrate the challenges we all face in a changing and uncertain climate future. They have delighted guests and connected our community to the Zoo since the original Northern Shores exhibit opened in 1989. In the mid-1990s, Denver Zoo became known around the world for two popular polar bear cubs, “Klondike” and “Snow”.

Polar bears face great threats to their survival, as the sea ice they call home retreats in response to global climate change. The opportunity to consider how these animals adapt to changing environments, and how people must also adapt as ecosystems which we belong to and influence change, provides a rich backdrop for interpretive messages that build on the connections between animals and people.

As guests explore the village, they are oriented to the extreme seasonal changes in light that inhabitants of the most northern climates endure – perhaps through a short video or simulated light show in the East Portal grand hall. The Education satellite, built to exemplify a fishing vessel along the wharf or a tribal longhouse, tells the stories of people adapting to this ever-changing way of life, and the way they live alongside the animals in this dynamic ecosystem.

Candidate Species:
Polar bears, sea lions, harbor seals, and Steller’s sea eagles

**Coastal: Change at the Coast**

**Education Satellite: A Fishing Vessel**

The Coastal exhibit contains an Education Satellite classroom that provides an immersive learning environment with unique views into exhibits, as well as innovative connections to animals or behind the scenes areas.

**The East Portal: An Events and Education Center**

The East Portal, embedded within the Coastal Exhibit, is imagined as an architecturally iconic building on the Zoo’s highly visible north frontage. Its primary functions are to serve as an entrance for special events as well as large school groups. As an event center the East Portal will capitalize on its dynamic settings, featuring multiple and flexible four-season spaces that create up-close encounters with some of the Zoo’s most charismatic species and the greatest venue in Denver.

Once inside, a grand hall serves as a check-in and orientation point for students or an elegant location for a 750 person plated dinner. The hall provides awe-inspiring underwater views to the sea lion and polar bear exhibits.

Classroom and rental spaces look out over the water’s edge. Their views will offer unique opportunities for expanded education programs and events.

The East Portal is one in a series of facilities that increases the zoo’s overall program and rental event and meeting capacity, which results in the reduction of conflict over desired spaces as well as creation of space for future growth.
Peaks to Prairie Pavilion
A view of the Peaks to Prairie Pavilion and surrounding exhibits. Note the building’s main feature: a sustainable “green” roof, with grasses and flowers, which evokes the rolling hills of the prairie. Also, in the foreground, a prairie dog exhibit features an active and charismatic species and connects the exterior and interior spaces of the exhibit.
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DENVER ZOO INTO THE WILD

PEAKS TO PRAIRIE

Denver Zoo Into the Wild

Worldwide Impact

This innovative exhibit is envisioned to be like nothing currently on the zoo grounds. Denver Zoo Into the Wild will be a place for guests to discover how Denver Zoo is a leader in conserving species, conserving natural resources, and conserving animals and ecosystems around the world. Because this is a more abstract concept and not linked to one biome or particular ecosystem, the exhibit will be highly interactive, allowing guests of all ages opportunities to explore and understand how we help animals in these three primary ways. Denver Zoo Into the Wild is comprised of four distinct exhibits, each with a different theme or twist on this major theme (e.g. Peak to Prairie below). The goal is to engage guests in our mission-based conservation work and encourage them to practice simple conservation actions here and then commit to repeating these behaviors after returning to their home. Each zone includes indoor spaces or pavilions for visitors and the animal collection planned to replace lost facilities in the existing Bird World and Emerald Forest.

Candidate Species:
Species representing animal care stories, like those in SSP programs: Humboldt penguins, amphibians, Asian turtles, flamingos, passerines, penguins, cranes, condors, or primates.

Species representing field conservation: Rocky Mountain wildlife, tropical species from focal areas

Peaks to Prairie:

Conservation Needs in our Own Backyard

Peaks to Prairie is one of four exhibits that comprise the Denver Zoo Into the Wild sequence. Peaks to Prairie showcases our conservation field work in the Rocky Mountain region. It also features our animal care evolution by contrasting the historic Bear Mountain exhibit with a modern, sustainable indoor pavilion. This hands-on exhibit involves guests in connecting with local wildlife and wild places. Anchored around prairies, mountain forests, and riparian streams, children and adults will have opportunities to engage in play-based or actual field research activities that foster an understanding and appreciation for how Denver Zoo helps animals.

The Peaks to Prairie Pavilion green roof is planted with grasses and prairie flowers, curving downward on the east end to appear as a continuation of the prairie dog colony exhibit. Sustainable features of the building, including its roof and other energy and water conservation elements, speak to the conservation of resources theme present in Denver Zoo Into the Wild, giving zoo visitors instruction on at-home conservation efforts they can employ.

Candidate Species:
Prairie ecosystems: prairie dogs, black-footed ferrets, burrowing owls, and reptiles
Mountain ecosystems: mountain lion, lynx or wolverine
Riparian ecosystems: beaver, river otter, fish, and amphibians
Asia: Asian Highlands & Asian Predators

Conservation Impact

Asia is the home of our most comprehensive and robust field conservation program and Conservation Biology focal area. Since 1996, the zoo has been working in Mongolia to preserve important habitats and wildlife, with a focus on transitioning the Ikh Nart Nature Reserve from an area without any government funding or other support, to a thriving sanctuary worthy of being selected by the United Nations to serve as a model for other nature reserves and parks worldwide.

The Asia Exhibit will have two zones, “Asian Highlands” and “Asian Predators,” and is designed as a complimentary experience to the themes presented in Toyota Elephant Passage (TEP). TEP features mostly tropical Asian species while the new exhibit features mostly temperate Asian species. These animals can tolerate cold weather and will be the foundation of great exhibits, comfortable being outside and active even in inclement conditions.

The predator component of the exhibit has evolved since conceived in the 1998 Millennium Master Plan, largely due to the success of Predator Ridge and its rotational exhibit model. For Asian Predators, the spaces will recreate habitats found in temperate Asian ecosystems. Up to three big cat species will shift through multiple habitats and make choices within these exhibits, providing mental and physical enrichment. Also, the predators featured here (Amur tiger, snow leopard, and Amur leopard) are integral to Denver Zoo’s story. The Zoo has been extremely successful breeding these endangered AZA priority program species and anticipates even greater success with this new exhibit.

For Asian Highlands, many current and past hoofstock species are envisioned as candidates for the steppe (grasslands) habitat. Prezwal斯基’s horses, Bactrian camels and takins are all animals that have lived and bred at Denver Zoo and are all from the Asian focal area. A replica version of the field research site from Ikh Nart would be incorporated and used for guest engagement, connecting zoo visitors with the important conservation efforts Denver Zoo is leading in Mongolia. The field research set will also be used for overnight campouts conducted by the Education and Volunteer Services Department. This tented camp would feature several small or a few large, Gers (traditional Mongolian tents), accommodating sleeping arrangements for up to 50 people.

Education Satellite

An Education satellite facility in the Asian Predators exhibit transports program participants to a mountain forest. This satellite could be themed as an ethereal structure blending into the birch forests where Amur tigers and leopards roam, or a traditional home reminiscent of Mongolian or Nepalese mountain cottages, native to the snow leopard habitat.

Candidate Species:

Amur tiger, snow leopard, Amur leopard, takin, Prezwal斯基’s horse, Pallas Cat, Bactrian camel, d’holes, sloth, cinereous vulture, bustards, and cranes
Grassy Hummocks with Ample Tree Canopy for Shade

Secondary Path

Discovery Path

Primary Path / Emergency Access

Animal Tracks in Paved Surface to Continue in Lesser Paths (As a temporary Enhancement)

Larger Boulders at Edges for Seating, Locate in Shady Areas (typ.)

Depressed Dry River Bed with Stones and Grasses

Primary Path / Emergency Access

Secondary Path

Discovery Path
This confluence of zoo landscapes, visitor experiences, and natural processes on the zoo campus will connect zoo guests with their immediate environment.
DENVER ZOO FACILITY MASTER PLAN Executive Summary

ZOO/ COMMUNITY INTERFACE
PERIMETER • PARKING • ENTRY

Zoo in the Park
Denver Zoo is within and part of City Park, and has been there since 1896. The interface has changed through the years and reflects the different operational realities that have evolved over time. The interface between Denver Zoo and City Park and the greater community cannot be described as only one thing. There are different conditions and different functions of each section of the interface. The north side of the Zoo on 23rd Avenue has distinctly different opportunities and constraints as does the south side of the Zoo. The interface conditions have been studied in this plan and the below design objectives have been developed to guide and identify improvement projects.

Design Objectives
1. Celebrate Visitor Entry and Arrival
2. Improve parking and circulation
3. Visually integrate into City Park landscape
4. Continue to build partnerships with neighboring institutions
5. Soften Zoo to Park edge at the Waste Management Building
6. Meet Safety Standards

Zoo interface improvements can be organized into three categories and will be described in more detail in the following pages: Entry Frontage, Park Frontage, and Parking. The Waste Management Building, part of the Park Frontage, will be described separately as it has a specific set of conditions and opportunities.
Entry Frontage
East and West Portal/ Iconic Architecture

The visibility of the zoo’s northern edge along 23rd Avenue provides an opportunity to develop iconic architecture and landscapes along 23rd Avenue. The frontage will advertise the Zoo not only as a place to see animals, but as a venue to host large special events in a unique setting and provide group educational experiences not found anywhere else in Denver.

Two program entrances that will feature iconic architecture visible from 23rd Avenue have been proposed. The East Portal (p. 21), part of the Coastal exhibit and the West Portal (p. 19), part of the African exhibit and connected to the Veterinary Hospital (p. 19).

Park Frontage
Integrate into park visually and open access points to Zoo

The south side of the Zoo is also the middle of City Park. Understanding the role of this edge to a Park user is essential as we continue to make improvements along this perimeter. To visually integrate into the park can mean many things and we will continue to work with Parks and Recreation and community members as we move forward. The Zoo/Park interface at the south side of the zoo has various conditions which require multiple strategies for improvements: plantings, public art, perimeter fence. Specifically, the Waste Management Building presents a unique opportunity to celebrate Denver’s commitment to sustainability and Denver Zoo’s goal of zero waste by 2015. Design strategies will be discussed in the next pages.

Parking
Increase parking

Denver Zoo is within and part of City Park and therefore all parking is shared by zoo guests, park users and Denver Museum of Nature and Science (DMNS) guests; the exception to that is any parking within our management boundary does not have to be shared. Parking has been a challenge since the 1980’s prior to the construction of two parking garages within the park, one at DMNS and one at Denver Zoo. Despite these additional spaces, parking continues to be an issue as DMNS and Denver Zoo grow in annual visitation and as the park continues its success.

There have been a number of operational changes implemented to relieve the pressure on parking; staff and volunteers are asked to park off site during the busy months and alternative transportation is incentivized. However, despite these efforts, parking remains to be a challenge.

This plan increases the total number of spaces within the Zoo’s perimeter by adding structured, underground parking under the proposed Veterinary Hospital and under the East Portal. Both structures are shown to have 250 spaces each.
Zoo Perimeter Fence

The diagram to the right describes continued improvements to Denver Zoo’s perimeter fence. There are some sections that will remain unchanged as they are either recently improved or do not require updates or changes.
Section 1

C. Park Boulevard 1 at Proposed Tiger Barn

Proposed Park road, Park Boulevard 1, and zoo barn section at the proposed Tiger barn (area C, left). More detail can be found on the Park Boulevard 1 section in the City Park Circulation and Use Plan 2011.
Waste Management Building

To activate and visually integrate the facade of the Waste Management Building into the City Park Landscape, multiple design strategies will be employed but can be broken down into two parts:

**Building Face:**
The building face offers opportunity for art or murals, an architectural treatment, and/or planted with vines. See the following page for many possibilities that will continue to be explored.

**Building Foreground:**
The Foreground of the building will be heavily planted with species appropriate to the challenging planting conditions to create a foreground and sense of depth to integrate the building facade into the existing landscape.

**Facade Treatment**
Formal execution of facade elements explored.

**Duck Lake**
View of Duck Lake from City Park.
DENVER ZOO FACILITY MASTER PLAN

Executive Summary

Building Face: Facade Treatments

Mural or other Fine Art
Vines
Architectural Screen

Foreground: Planting
Trees
Wetland Plantings
Grasses and Shrubs

Waste Management Building Facade: Design Possibilities
Staff Hub
Zoo employees use a variety of points to begin and conclude their shifts, work in many different areas, and use several separate break spaces. This is due to the variety of work happening on any given day at the zoo. A single staff hub combines most of the employee resources, functions, and features currently spread throughout the zoo campus. These include a universal information center to communicate employee news and updates, updated restrooms and new shower/locker facilities, computer work stations for staff without access to office spaces, a dedicated and secure employee entrance, and a common break area with meeting spaces, private spaces, tables and seating, and a staff kitchen. While it is not a direct public or animal project, it addresses needs identified in the master planning process for additional resources for the employees—the committed individuals who dedicate their work to the zoo and its mission. It also creates opportunities for random interactions and collaborations between work groups that may not typically share the same work areas. These planned and unplanned meetings can also increase the sense of community among zoo employees.

Deferred Maintenance
Many major capital improvement projects identify and provide solutions for major exhibit needs for the zoo. Often underestimated are the less notable but equally important maintenance repairs and preventative work that is part of managing a zoo campus. Current assessment of the zoo’s facilities has identified a robust list of maintenance projects specifically addressing major repair or preventative projects which allow the zoo to continue to operate. The estimated total cost for this work totals over $9 million. Some examples include: addressing roof leaks in zoo buildings throughout the campus, mechanical and plumbing repairs for the 1959 pachyderm building, and extensive hardscape work on service drives and visitor paths. In many cases, the entirety of this work won’t be performed within the scope of the major projects outlined in the Master Plan. However, the maintenance of existing and aging facilities in need of major work is necessary to avoid catastrophic failure of the zoo’s structures and landscapes.

Operational Projects

Sustainability Retrofits
As part of its Sustainable Management System, the Zoo continually seeks methods and innovations to improve its use and management of natural resources. When possible, zoo staff and consultants analyze and evaluate current facilities and operational practices and determine which areas could yield sustainability gains through modifications. Some examples include: switching irrigation zones currently fed with potable water to tie into reuse water feeds, swapping out lamps and fixtures to conserve electricity, and redesigning mechanical systems to operate more efficiently.

Small Capital Projects and Infrastructure
Each department has an opportunity to request improvements, modifications, and renovations that will support departmental needs and enhance Zoo wide experiences. The small projects are focused on: animal enrichment and health, education, guest experience, human capital, revenue generation, safety and sustainability. Projects are designed to address the strategic imperatives.
DENVER ZOO FACILITY MASTER PLAN Executive Summary

Phasing

Master Plan Phasing Criteria
The phasing for any master plan is a result of the analysis of many complex and dynamic factors. Some of these factors are inherent in the physical facility; others are external factors that have an impact on strategy and implementation. Final phasing and funding strategies will be approved by the Board of Trustees.

Phasing criteria to be considered:

Facility Needs
The specific needs of the facility as buildings, grounds, and infrastructure in varying stages of age, condition, technology, relevance, etc.

Animal Collection Planning
The short, medium, and long-term animal collection plans as developed for our goals as well as the greater goals of zoos and animal needs around the world.

Construction Sequencing and Impacts
The location, size, duration, and impacts of specific projects or project components on the zoo campus, adjacent land uses, and on visitor and operations.

Stakeholder Feedback
Input from visitors, staff, trustees, volunteers, city partners, and neighbors. Existing and Future Donations- The current donations or the anticipated donor interest for specific projects.

Business Planning
Evaluate phasing sequences in terms of capital investment, operational costs, and revenue generating capacity.

Framework for Planning and Design

Design Framework: Project Ideation
The design process for the capital projects outlined in this document will begin with project ideation, when a diverse group of stakeholders will define the goals and outcomes of the new exhibit using the guiding principles and objectives as a guide. This process of defining the project will typically happen before an architect is hired, but does not have to. As stated in the guiding principles: This plan is contemplated using the following guiding principles with the emphasis on finding the dynamic balance of these ideas working in concert. Each one of the principles is important to us as an individual mandate, but every principle must yield to the others with the goal of creating a unique and innovative future for Denver Zoo.

Typical Sequence for Design and Construction
The zoo follows a standard design process to ensure each project has the site, structure, features, and functionality to achieve its full potential. The planning department initiates and organizes collaboration from multiple departments throughout the zoo. While not every individual will be a part of the design process for a given project, all departments have representation at some level.

Project Ideation
A core group of stakeholders begins working on concepts prior to hiring an architectural consultant. The initial stages of the process include pre-design work (which has begun with the concepts in the overall master plan) to identify the basic goals, needs, and problems the project will address. These translate into the project’s program, which guides the project into the next phase of design.
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