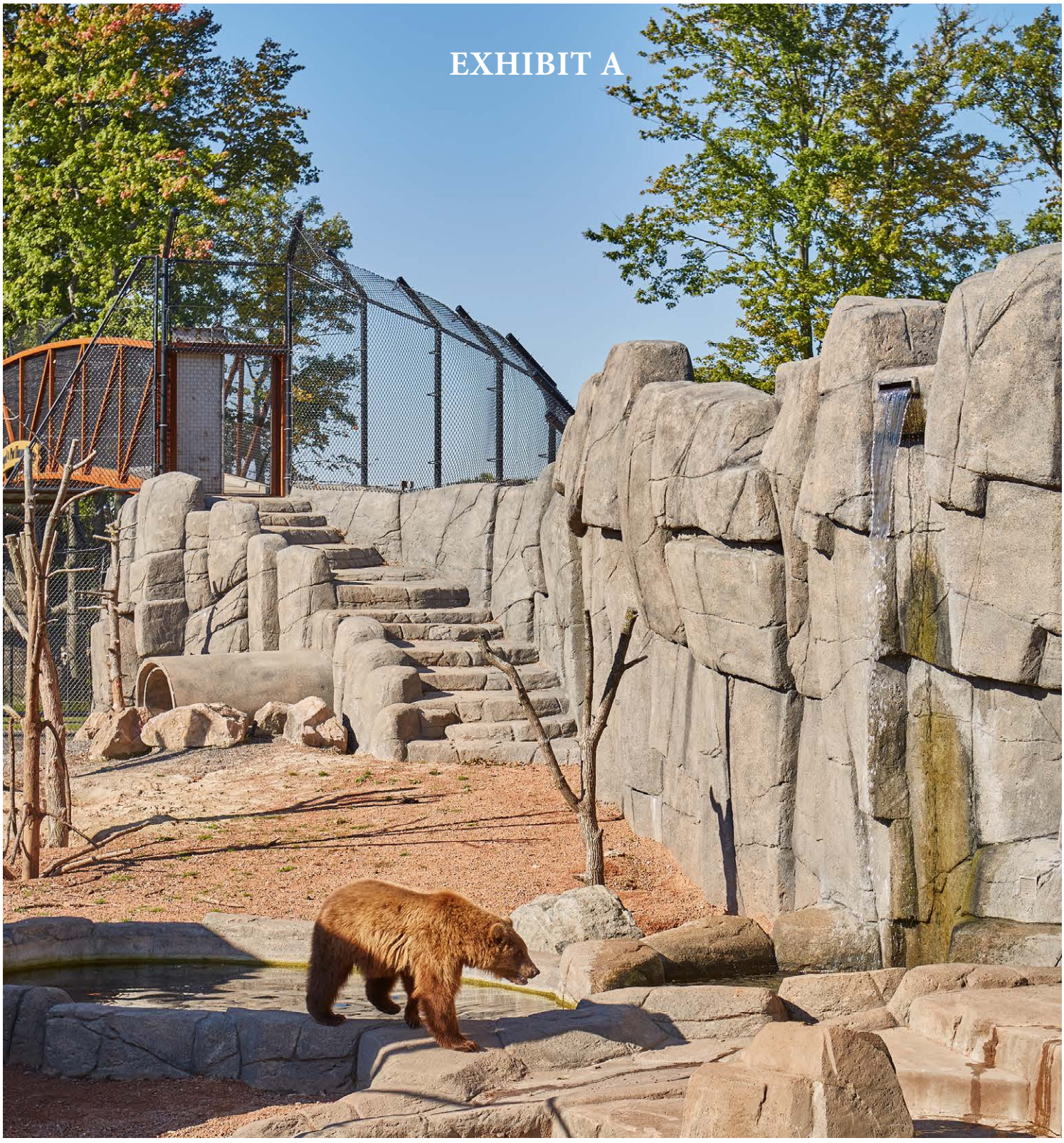
EXHIBIT A



HGA

pja architects landscape architects, p.s

TJP INC. ENGINEERING

DESIGN SERVICES PROPOSAL PREPARED FOR THE CITY OF DULUTH

Lake Superior Zoo

POLAR SHORES / BEAR COUNTRY PROJECT RFP NUMBER 19-08AA

PROPOSAL CONTENTS

HGA

architects landscape architects, p.s
pja

TJP INC. ENGINEERING

420 North 5th Street, Suite 100
Minneapolis, MN 55401

612.758.4000
HGA.COM

May 15, 2019

City of Duluth
Purchasing Division
City Hall, room 100
411 West 1st Street
Duluth, Minnesota 55802

Re: Design Services Proposal Prepared for the City of Duluth, Lake Superior Zoo - Polar Shores / Bear Country Project
RFP Number 19-08AA

Dear Members of the Selection Committee:

It is a great pleasure to submit our proposal for design services for the Lake Superior Zoo – Polar Shores/Bear Country project. The rehabilitation of the Polar Shores exhibit in to Bear Country is an opportunity to revitalize this area of the zoo and provide unique opportunities for visitors to engage with the exhibit while re-using as much existing built environment as possible.

To be successful, Zoo projects require a high degree of specialized technical knowledge, combined with a creative and collaborative approach. To assist the Lake Superior Zoo achieve your goals, our team brings a wealth of experience with animal habitats/landscape, animal care, creative approaches of enhancing the visitor experience along with the architectural, civil, structural, mechanical, plumbing, electrical and life support systems engineering expertise necessary to complete the project.

PROVEN TEAM

The HGA/PJA/TJP team has worked together on various projects for the Lake Superior Zoo including the original design of Bear Country as well as identifying numerous value engineering ideas for discussion to meet the project budget.

Our team prides itself on working cohesively with you to truly listen to achieve your exhibit goals.

We look forward to collaborating with you on this important project.

Sincerely,

Jennifer McMaster, AIA, LEED AP
Principal-in-Charge / Project Manager
Direct: 612.758.4325 | Fax: 612.758.4199
JMcMaster@hga.com

1. HISTORY & EXPERIENCE

HGA

Established in 1953, HGA is a nationally-recognized, multi-disciplinary firm built on the belief that enduring, impactful design results from the inspired application of original insight into the human condition. The drive for deep understanding shapes the way we collaborate with each client and deploy the diverse resources within our firm. It's how we deliver unexpected solutions that bring added value. Ultimately, it's the way we create a legacy for our clients and ourselves.

Our architects, engineers, planners, lighting designers, landscape architects, interior designers, cost estimators and administrators work together—from feasibility studies through construction—to create holistic designs for our clients. Our team-based design process encourages a cross-fertilization of knowledge about systems, culture, program, technology, economics and aesthetics, bringing all of the integral elements together to result in purposeful and beautiful buildings.

Our responsibility is both inspiring and humbling: to create a positive, lasting impact for our clients and communities. We believe that design excellence results from the inspired application of original insights into our clients, their markets and the human condition. We value empathy, are fueled by curiosity, and embrace the hard work that leads to innovation.

HGA's Minneapolis office is composed of more than 320 architects, engineers and interior designers who collaborate with healthcare, higher education, cultural and performing arts, government and corporate clients. With a commitment to design excellence and environmental stewardship.
HGA is not a Targeted Group Business

OUR APPROACH

Our work process is highly interactive. We invite our clients to engage in the design process as much as possible, because we believe that the best outcomes result when decision-makers are well-informed, active participants. The success of this integrated approach hinges on the right combination of talent and character. HGA aspires to a work ethic that is genuinely collaborative; it is our job to lead the process with expertise rather than personality, to facilitate rather than dominate, to balance artistry with utility, and to listen carefully—asking the right questions of the right people at the right time.

ZOO EXPERTISE

HGA is experienced in designing beautiful, functional habitats that connect people with wildlife and provide educational programming within natural environments. Our projects establish high impact opportunities for discovery, exploration, interactive learning, social gathering and entertainment. These places and spaces are carefully planned and designed for optimum animal wellbeing, acknowledging keeper needs, cleaning and proper maintenance. From aquatic exhibits to botanical gardens, our teams have developed highly specialized expertise in the design of these unique destinations that celebrate local natural history and attract visitors to our communities.

Curiosity is the root of our creativity.

426 ARCHITECTS 212 LEED ACCREDITED PROFESSIONALS 14 WELL ACCREDITED PROFESSIONALS 70 MECHANICAL ENGINEERS 46 ELECTRICAL ENGINEERS 46 STRUCTURAL ENGINEERS 05 CIVIL ENGINEERS 05 INDUSTRIAL ENGINEERS 05 LANDSCAPE ARCHITECTS 97 INTERIOR DESIGNERS 10 SPECIFICATIONS 03 COST ESTIMATING 24 INFORMATION TECHNOLOGY 139 ADMINISTRATIVE 884 TOTAL EMPLOYEES 11 OFFICES

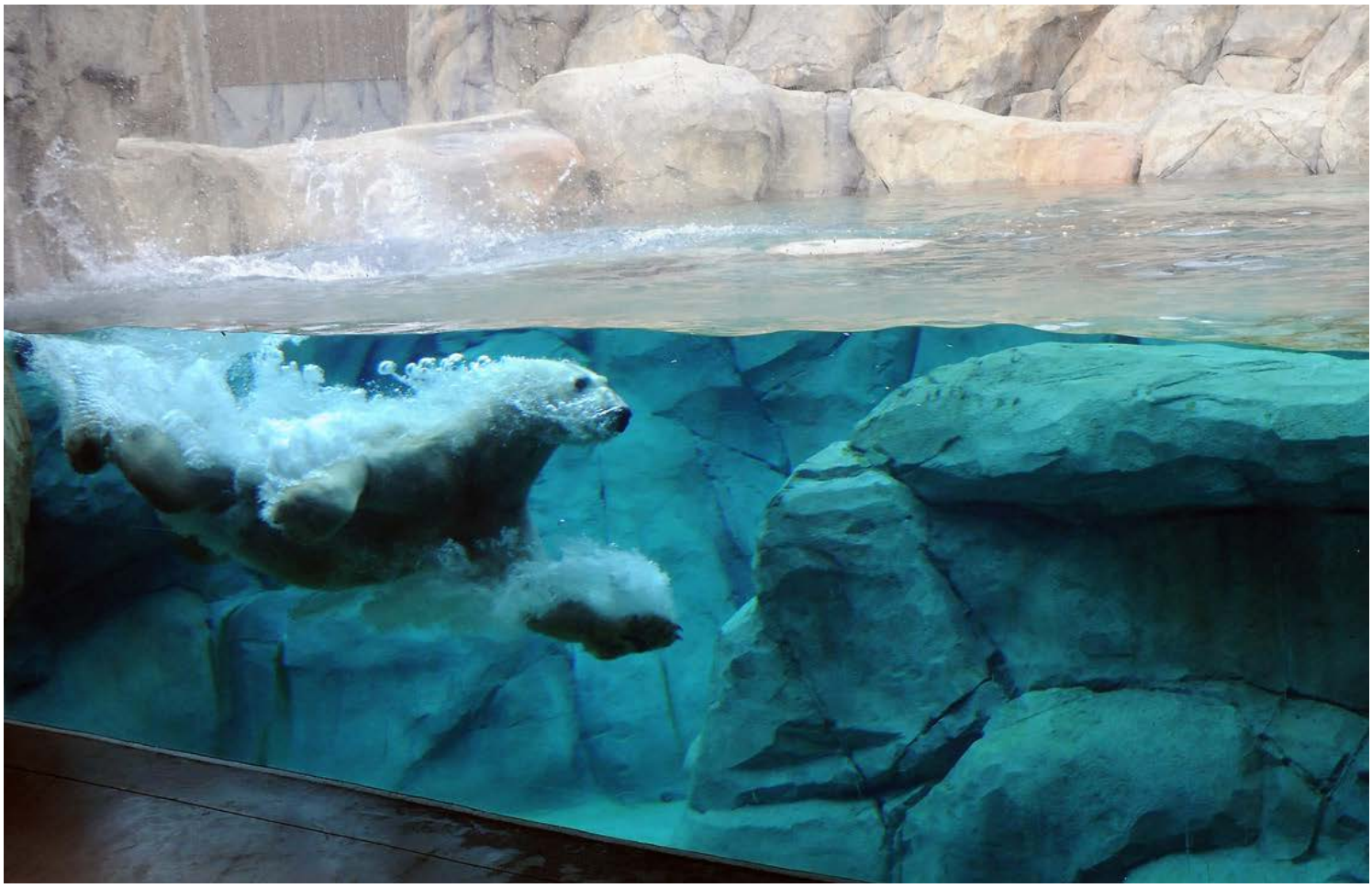
California Trail | Oakland Zoo | Oakland, California

PJA Architects + Landscape Architects, p.s. is a professional services corporation licensed and registered in the states of Washington and Ohio. The firm, established in 1997 following the completion of Disney's Animal Kingdom, has been working on projects throughout the world while maintaining the highest quality of client services at every level.

PJA Architects + Landscape Architects, p.s., provides a broad scope of design and management services to the public and to private sectors while delivering projects consistently on time and within budget. PJA has developed a team of professionals whose goal is to establish innovative trends in zoological and botanical planning and design, theme parks, wildlife sanctuaries, and in the interpretation of nature and culture. Creativity, innovation, and design excellence are characteristics of work produced by the firm.

Our principals and staff professionals will work closely with each client to understand and meet the individual needs of every projects, translating those needs into aesthetic, functional, cost effective design solutions.

We believe that a clear understanding of the relationship between nature and man is critical to maintaining a quality of life for all, as well as for the proper stewardship of our planet. By providing a wide range of design services, we can make a meaningful and hopefully unique contribution to our natural, man-made, and social environment.



TJP Inc. is a full service design engineering firm focused on animal life support systems and specialty aquatics. Their water treatment systems provide sustainable environments for mammal, fish, reptile, bird and invertebrate exhibits, as well as interactive public facilities.

TJP has the largest, dedicated specialty aquatics staff in the industry. Their team has developed zoological facilities, aquariums, and marine parks both nationally and internationally. Collectively, TJP's staff has designed life support systems for virtually every aquatic animal exhibited in zoological facilities. They are unparalleled in their understanding of these systems and the importance of efficiency, reliability and easy-to-clean manageability in their designs.

Regardless of project scope, complexity, and scale, TJP brings proven expertise and creativity, delivering exceptional solutions and service on each project.

2. PROJECT TEAM

CITY OF DULUTH

LAKE SUPERIOR ZOO

HGA / PJA TEAM

Jennifer McMaster, HGA
PRINCIPAL / PROJECT MANAGER

Patrick Janikowski, PJA
ZOO DESIGN PRINCIPAL

Jay Dertinger, PJA
ZOO PROJECT MANAGER

Jim Brighton, PJA
ZOO LANDSCAPE DESIGN PRINCIPAL

Amy Frerker, HGA
PROJECT ARCHITECT

Sarah Jorczak, HGA
STRUCTURAL ENGINEER

Ben Gutierrez, HGA
ELECTRICAL DESIGNER

Craig Bailey, HGA
MECHANICAL ENGINEER

Kenny Horns, HGA
CIVIL ENGINEER

Ted Lee, HGA
LANDSCAPE ARCHITECT

Terri Johnson, TJP
LIFE SUPPORT SYSTEMS SPECIALIST

Joey Fallon, TJP
PROJECT ENGINEER

Our proven team has a history of successful project collaboration spanning two decades. HGA has a portfolio of past and current zoo projects from across the upper Midwest, including Minnesota Zoo, Como Park Zoo and Conservatory, and Milwaukee County Zoo. Leading HGA's team, Jennifer McMaster brings over 20-years of experience in project management. Jennifer led the Lake Superior Zoo team during the master planning process..

HGA, PJA and TJP have brought our strengths together on this pursuit because we have working knowledge of the process that evolved from the Lake Superior Zoo project thus far. HGA will lead the design and engineering effort for the project, working closely with PJA and TJP, zoo design consultants.

JENNIFER MCMASTER

AIA, LEED AP

PRINCIPAL / PROJECT MANAGER | HGA

Jennifer has over 20 years experience at HGA as project manager. She has organized and delivered projects ranging in scale from large corporate campuses to small renovations to complex phased projects. She effectively and efficiently leads the day-to-day efforts of the project team integrating all areas of the architectural and interior designs with the design requirements of the client. She has developed a history of successful projects with her dedication to a design process that provides a quality product while respecting the client's budget.

EDUCATION / AFFILIATIONS

Master of Architecture
University of Minnesota

Registered Architect - Minnesota

PATRICK JANIKOWSKI

AIA

ZOO DESIGN PRINCIPAL | PJA

Patrick Janikowski, is the founding Principal of PJA architects + landscape architects and has specialized in zoo planning and design for the past twenty years. He is an architect, with extensive experience working with zoos, wildlife sanctuaries, botanical gardens and theme parks. Patrick's ability designing animal exhibits, holding facilities, health care facilities, and thematic public buildings is evidenced by his many successful projects and repeat clients. His completed works include projects in Europe, Asia, United Kingdom, Africa, and North America.

EDUCATION / AFFILIATIONS

Master of Architecture
University of Utah

Registered Architect - WA, HA, OH, TX, MO, AL, IL, AZ, IN

AMY FRERKER

AIA, CSI

PROJECT ARCHITECT | HGA

Amy's history of leading innovative design strategies on behalf of our HGA team will translate easily to the understanding of the technical requirements of your project and exhibits. Her years of experience working in the design and construction field enables an efficient process and speed to market.

EDUCATION / AFFILIATIONS

Bachelor of Arts in Architecture
University of Washington

Registered Architect - Washington

SARAH JORCZAK

PE, LEED AP BD+C

STRUCTURAL ENGINEER | HGA

Sarah has nearly 20 years of structural analysis experience on a variety of construction types. Her past experiences and knowledge base will be useful during design to quickly identify viable structural system options. Sarah is an expert at facilitating open coordination and cross-discipline communication. Her organizational skills and her collaborative style make her a valued member of the HGA team.

EDUCATION / AFFILIATIONS

Bachelor of Science Civil Engineering
Purdue University, 1999

Registered Structural Engineer - Minnesota

JIM BRIGHTON

ASLA

ZOO LANDSCAPE DESIGN PRINCIPAL | PJA

Jim Brighton is a Principal at PJA architects + landscape architects and has specialized in zoo planning and design for the past twelve years. He is a landscape architect, with extensive and varied experience working with zoological parks, wildlife sanctuaries, botanical gardens and nature based interpretive planning. Jim's ability to coordinate and lead teams on diverse projects throughout the world, to communicate design concepts in interactive workshop formats, and to produce high quality products has resulted in a series of successful projects.

EDUCATION / AFFILIATIONS

Master of Landscape Architecture
Cornell University, Ithaca, NY

Registered Landscape Architect - WA, TX, OH, UT, OK

JAY DERTINGER

AIA, LEED AP

ZOO PROJECT MANAGER | PJA

Jay Dertinger is a senior associate at PJA with experience in managing and leading the production of the concept drawings, plans, sections, sketches, vignettes. He is a registered professional architect and LEED certified, with 12 years' experience at PJA developing exhibit concepts through construction documents and directing in-house staff. Jay has experience designing buildings and habitats for many animal species and has been the project manager for several of our projects

EDUCATION / AFFILIATIONS

Bachelor of Architecture
University of Idaho, Moscow, Idaho

Registered Architect - Washington

BEN GUTIERREZ

ELECTRICAL DESIGNER | HGA

With over 20 years of experience, Ben specializes in making large, complex projects achievable including large data centers, stadiums, corporate facilities and hospital campuses. His focus is on cultural projects such as performing art centers, auditoriums and community and civic centers. Ben has been involved with all aspects of project creation, from project conceptual planning and design through construction administration. Ben's responsibilities as a project system designer include design coordination, electrical team organization along with preparation of plans, details and specifications for construction.

EDUCATION / AFFILIATIONS

Associates Degree, CAD
Western Dakota Technical Institute

CRAIG BAILEY

PE

MECHANICAL ENGINEER | HGA

Craig brings over 15 years of experience as a mechanical engineer/designer with areas of specialty in the design of large chiller plants, mechanical rooms and coordination intensive mechanical spaces. He has been involved in a variety of projects including education buildings for science and engineering labs, corporate office spaces and healthcare facilities. In addition to his engineering and design experiences, Craig leads the mechanical department in 3D CAD software which brings a higher level of coordination to all his projects..

EDUCATION / AFFILIATIONS

Bachelor of Science | Mechanical Engineering
Minnesota State University, Mankato

Registered Professional Engineer - Minnesota

KENNY HORNS

PE, LEED AP BD+C

CIVIL ENGINEER | HGA

Kenny has over 35 years of diverse experience as a project manager and project engineer on a variety of public and private projects including site development, storm water management, street design and utility systems. He prepares site plans with careful attention to regulatory requirements and processes that impact project schedules and budgets. Through attentive project involvement he has helped Owner's resolve specific site concerns including access, cultural resources, environmental and geotechnical conditions, utility services, and water resources.

EDUCATION / AFFILIATIONS

Bachelor of Landscape Architecture
University of Minnesota

Licensed Landscape Architect - Minnesota (+30 Others)

TED LEE

ASLA, PLA, SITES AP, LEED AP

LANDSCAPE ARCHITECT | HGA

Ted provides leadership to collaborative design teams in the development of a wide range of award-winning projects. Since joining HGA over 20 years ago, he has become a thought leader for the firm by providing direction in site master planning, design, documentation and construction administration. He works closely with Clients to find best fit solutions that align their desires with the realities of cost and time. His teams are successful because they bring life to the work they collaboratively create and implement together.

EDUCATION / AFFILIATIONS

Bachelor of Landscape Architecture
University of Minnesota

Licensed Landscape Architect - Minnesota (+30 Others)

TERRI JOHNSON

PE

LIFE SUPPORT SYSTEMS SPECIALIST | TJP ENGINEERING

As President and CEO at TJP, Terri has over 20 years of experience designing water and wastewater treatment facilities, including several aquatic animal exhibit water treatment systems. In addition to overseeing the administration and management of TJP, she also manages her own projects. Prior to forming TJP Terri was a project manager and engineer at ENARTEC where she worked on several zoo, aquarium and marine park projects. Her notable work includes projects for the Oregon Zoo, Fort Worth Zoo, Houston Zoo, Al Ain Zoo and the Dallas Zoo, among many others.

EDUCATION / AFFILIATIONS

Master of Science in Civil Engineering
San Diego State University

Licensed Professional Engineer - California (+15 Others)

JOEY FALLON

EIT

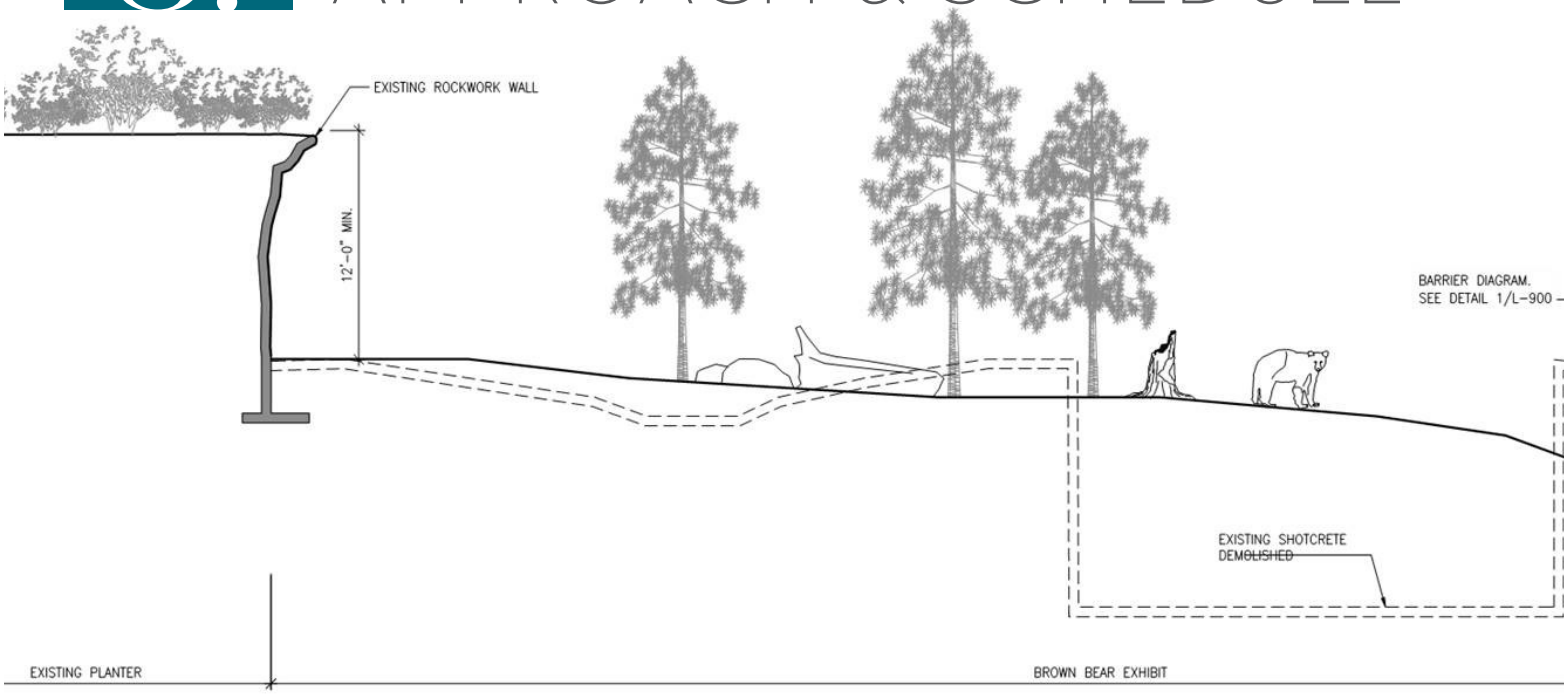
PROJECT ENGINEER | TJP ENGINEERING

Joey is a project engineer at TJP and he has been with the company for 16 years. Joey's broad range of LSS experience has made him a valuable member of TJP's team. His primary duties now include developing projects throughout the design process, scheduling of equipment, coordinating with architects and other engineering disciplines, hydraulic modeling, construction administration, and construction site visits. Joey has completed several LSS projects including St Louis Zoo Polar Bear and Grizzly Exhibits, Buffalo Zoo Polar Bear, Oakland Zoo Grizzly Bear, Brevard Zoo South America, Fort Worth Zoo Serengeti, and the Houston Zoo Heart of the Zoo, Pantanal, and Galapagos Projects.

EDUCATION / AFFILIATIONS

Bachelor of Science in Civil Engineering
San Diego State University

3. APPROACH & SCHEDULE



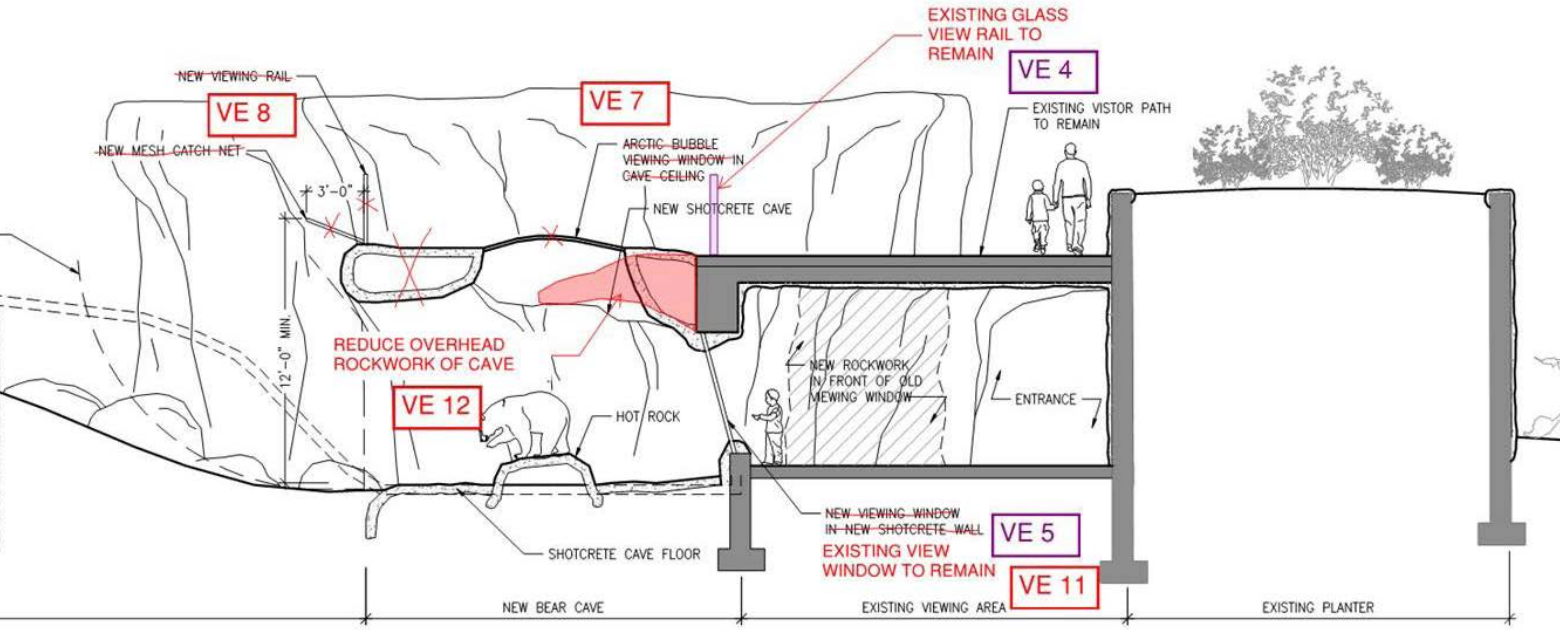
The new Bear Country is a way to build on the legacy of providing close-up animal experiences at the Lake Superior Zoo. The Bear Country exhibit takes the best of existing infrastructure and turns it in to a new destination in the Zoo to explore.

The Bear Country exhibit rehabilitates the existing elephant building into the new holding area for the bears. The 1930's stone building has been a recognizable structure and is in good condition despite the flood damage suffered in 2012. The Bear Country exhibit design re-uses and adapts as much of the existing exhibit as possible in order to provide a new exhibit for exploration while meeting Lake Superior Zoo's budget.

We understand that Lake Superior Zoo/City of Duluth will be engaging the services of a Construction Manager at Risk and they will be part of the team for pricing as well as technical drawing review. We welcome collaboration with the Construction Manager at Risk on the team.

The design for Bear Country is the result of numerous explorations and creative options for value engineering in order to meet the budget. The design development drawings for Bear Country will take the original concept drawings for Bear Country in 2016 and apply the value engineering ideas that were developed by the team in late 2018 and early 2019. The incorporation of these value engineering elements in to a new Design Development set will allow the Lake Superior Zoo/City of Duluth have the drawings estimated by the Lake Superior Zoo's Construction Manager at Risk. We understand that the estimated construction cost for the exhibit is $3,100,000 and will work with the Lake Superior Zoo to meet this budget.

Rehabilitating the existing building and exhibit provides some unique challenges because of the condition of the building after the 2012 flood. Although the structure of the building has been reviewed and found to be sound, there is a significant amount of clean-up and demolition that will be part of the project. The interior of the building will need to be cleaned out and existing equipment removed. It is recommended that the majority of the existing equipment that has been in the building be removed and new equipment is provided to meet the new needs for the exhibit. As the building is still in the flood plain, it is also recommended that all equipment be placed on the first floor and not in the basement of the building.



We understand that there are adjacent habitats that the Lake Superior Zoo plans to refurbish to meet current animal care standards and provide more natural habitats for the various animals. The design for the life support systems for the adjacent Otter exhibit will be included with the design for Bear Country, however, exhibit design and other design element documentation and rehabilitation will be completed by the Lake Superior Zoo. The HGA/PJA/TJP design will concentrate on the area for Bear Country.

MN SUSTAINABLE GUIDELINES - MSBG

We understand that the Bear Country project will pursue MSBG. HGA has extensive expertise on MSBG projects, dating back to the pilot version of the rating system. HGA has successfully administered the MSBG on a variety of project types in Hennepin and Ramsey County Libraries, University of Minnesota, State of Minnesota and MN Zoo projects for both new and renovation projects.

HGA has experience working with the MSBG for zoo and renovation projects and understanding what is required to meet the guidelines. These projects require additional discussions with the Center for Sustainable Building Research to determine how to best comply with the guidelines.

APPROACH TO MINNESOTA B3 GUIDELINES

HGA strives to implement sustainable design, construction and operational strategies in our projects that align with our clients' mission and specific facility goals. Our team will hold meetings in each phase of the programming, design and construction of the building that are dedicated to discussing and determining the best approach to specific B3/SB 2030 guidelines. Where quantifiable, we use metrics to establish these goals, communicate critical factors for success, and track our progress toward achieving these goals. These goals may be focused around impact areas such as indoor air quality, energy efficiency, resiliency or community health.

				May				June				July				
	Owner Meetings	Start	Complete	6	13	20	27	3	10	17	24	1	8	15	22	29
RFP Issued			5/3/2019													
Proposal Responses Due			5/15/2019													
Award approval by City Council			5/28/2019													
Contract signed			6/11/2019													
Design Development																
Project kick-off	6/11/2019															
Translate VE redlines to Design Development drawings		6/11/2019	7/12/2019													
Issue Design Development Drawings for pricing			7/12/2019													
Optional Site Investigation (By Others)	Est. Duration	6/10/2019	8/23/2019													
Hazardous Material Testing (if required)																
Scoping of below grade piping (recommended)																
Design Development Pricing		7/15/2019	8/2/2019													
Construction Manager @ Risk pricing		7/15/2019	7/26/2019													
Owner Review		7/15/2019	7/26/2019													
Meeting to discuss pricing & identify early demolition package items	7/30/2019															
Owner approval for Design Development cost estimate & scope			8/2/2019													
Early Demolition Package		8/5/2019	8/23/2019													
Issue architectural, mechanical, electrical demo package			8/23/2019													
Bidding for Early Demolition Package		8/26/2019	9/13/2019													
Design - Build Roofing (By Others)	Est. Duration															
Early Demolition Package - Construction Start	Est. Duration															
Construction Documents		8/5/2019	9/20/2019													
Construction Document Progress Meeting	8/27/2019															
Issue Construction Document Quality Assurance Set			8/30/2019													
Owner & Construction Manager @ Risk Review of QA Set		9/2/2019	9/13/2019													
Quality Assurance comments due to Design Team			9/13/2019													
Issue Construction Documents			9/20/2019													
Bidding	Est. Duration	9/23/2019	10/11/2019													
Construction Award			10/11/2019													
Construction	Est. Duration	10/21/2019	6/19/2019													

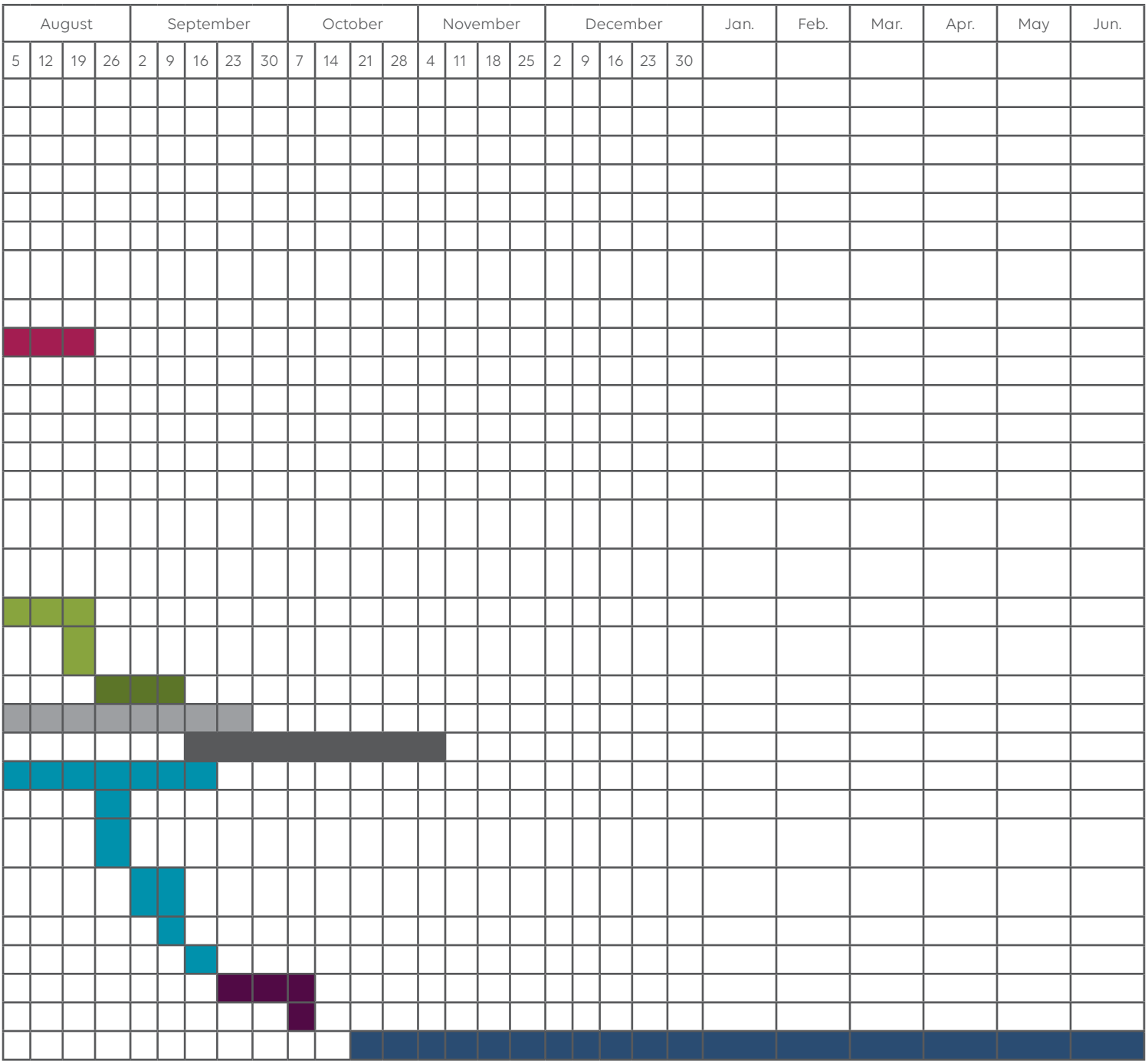
SCHEDULE NOTES:

1. Value engineering redlines from HGA/PJA/TJP design development set dated December 2018 translated in to a new set of Design Development drawings for pricing to verify target construction cost of $3,100,000.

2. Drawing sets for Design Development and Construction Documents to be cost estimated and reviewed by City of Duluth and Lake Superior Zoo's Construction Manager at Risk for cost estimating and technical review.

3. Estimated durations for additional site investigation, roofing and demolition packages are shown above for reference.

4. Schedule durations may be revised based on discussions with Lake Superior Zoo and the Construction Manager @ Risk.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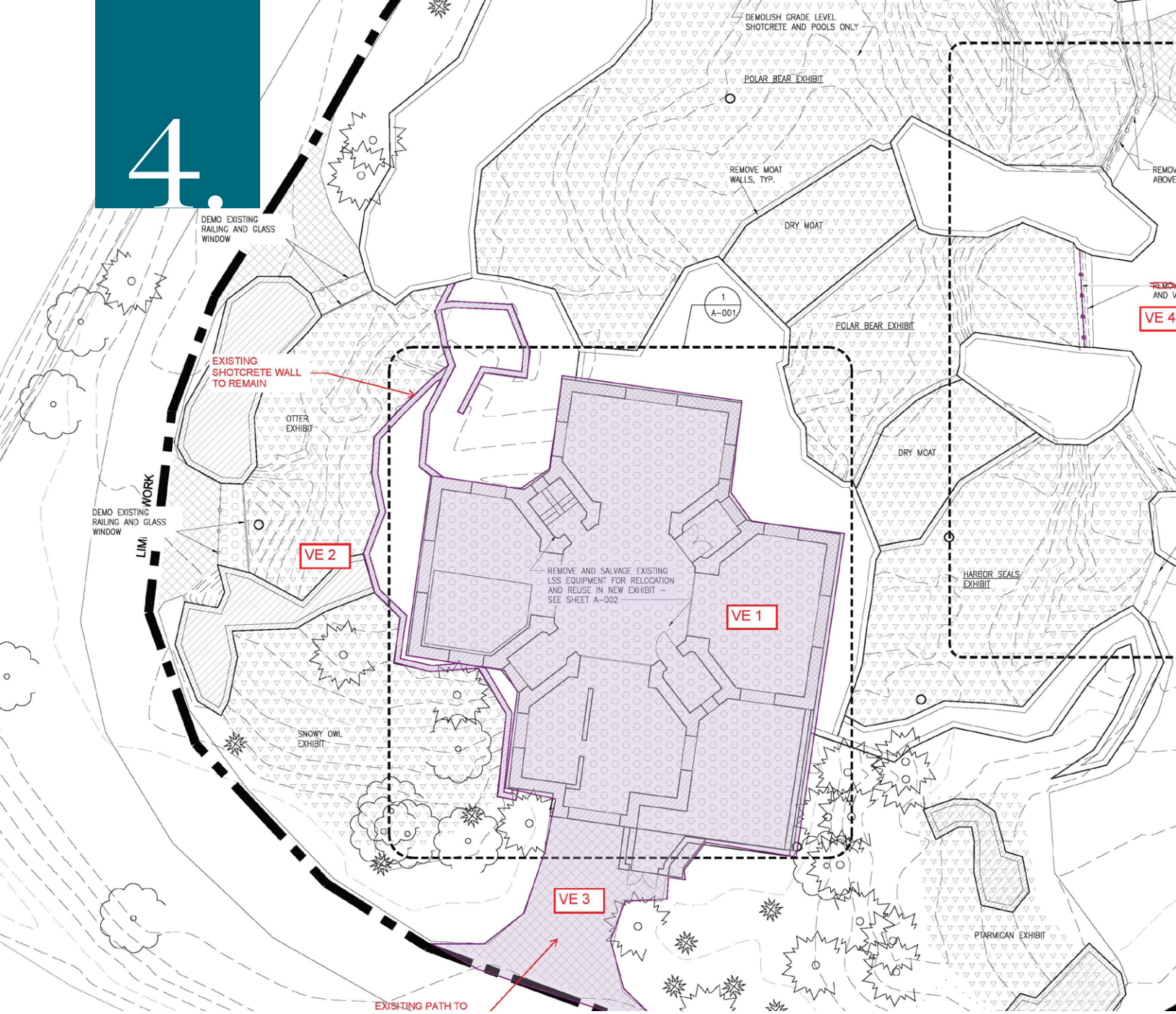
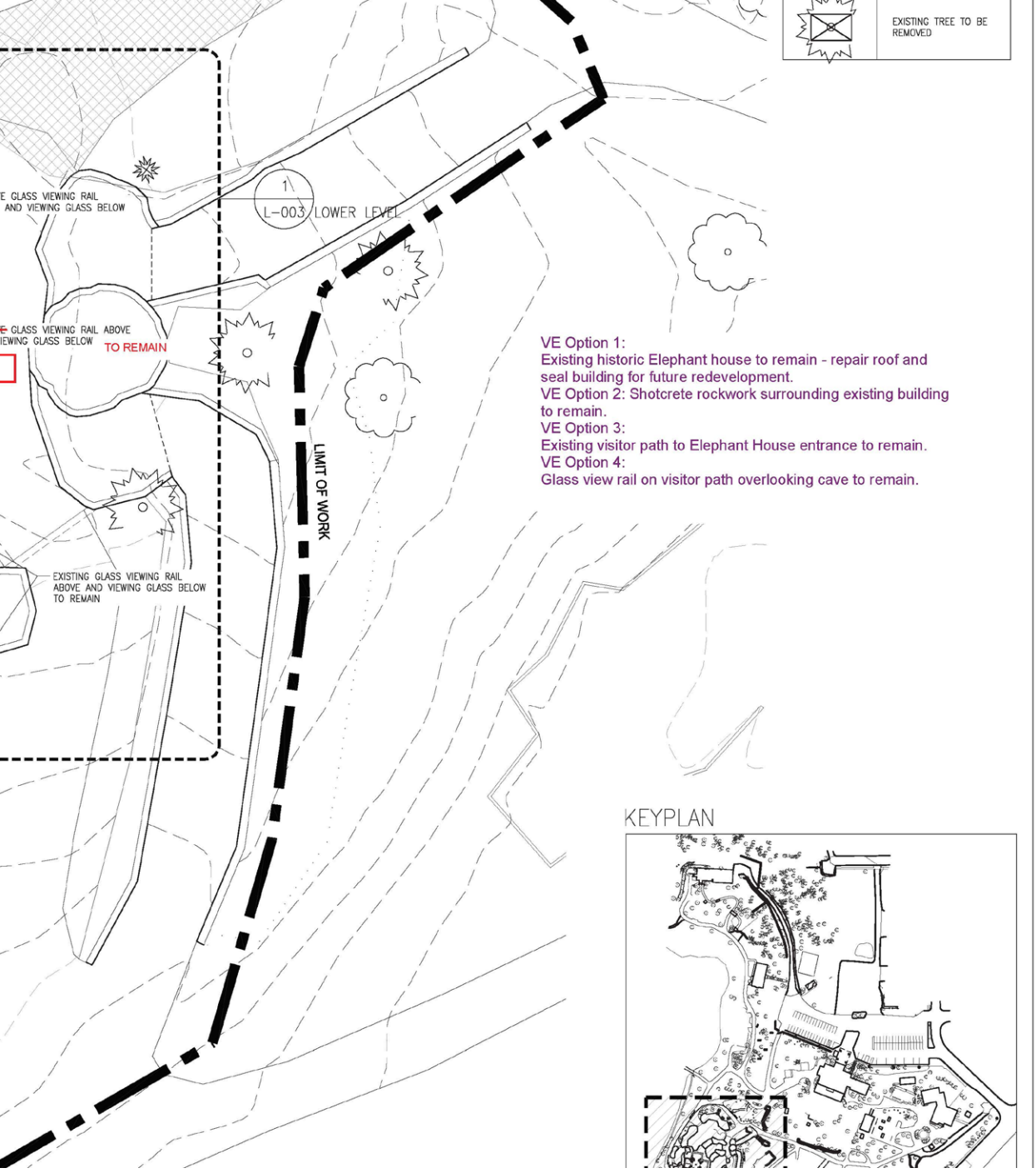


PROJECT EXPERIENCE

The following projects represent our combined team's experience, expertise, and commitment to innovation in the design of zoos and related cultural facilities. Chosen specifically for their relevance to the Lake Superior Zoo's project goals, these examples focus on historic re-purposing, the creation of welcoming and functional entrances, the seamless melding of architecture with exhibit space, enhanced public engagement and education spaces, and creative uses/transformations of landscape. In addition to achieving our client's goals for technical performance and efficiency, each of these projects resulted in re-energized, activated spaces that increased the ability of visitors to engage with and learn from the wildlife within, while enhancing the institution's ability to study and ensure their well-being.



VE Option 1:
Existing historic Elephant house to remain - repair roof and seal building for future redevelopment.
VE Option 2: Shotcrete rockwork surrounding existing building to remain.
VE Option 3:
Existing visitor path to Elephant House entrance to remain.
VE Option 4:
Glass view rail on visitor path overlooking cave to remain.

KEYPLAN

LAKE SU
BEAR

architects landscape architects, p.s.
pja
210 third ave. south, suite 2b - seattle, washington 98104
p: [206] 442-9702 - f: [206] 405-3305 - www.pjarchitects.com

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420 North 5th Street, Suite 100
Minneapolis, Minnesota, USA 55401
P: 612.758.4000
F: 612.758.4199

TJP INC. ENGINEERING
137 Eider Avenue
Imperial Beach, CA 91932
P: (619) 423-8700

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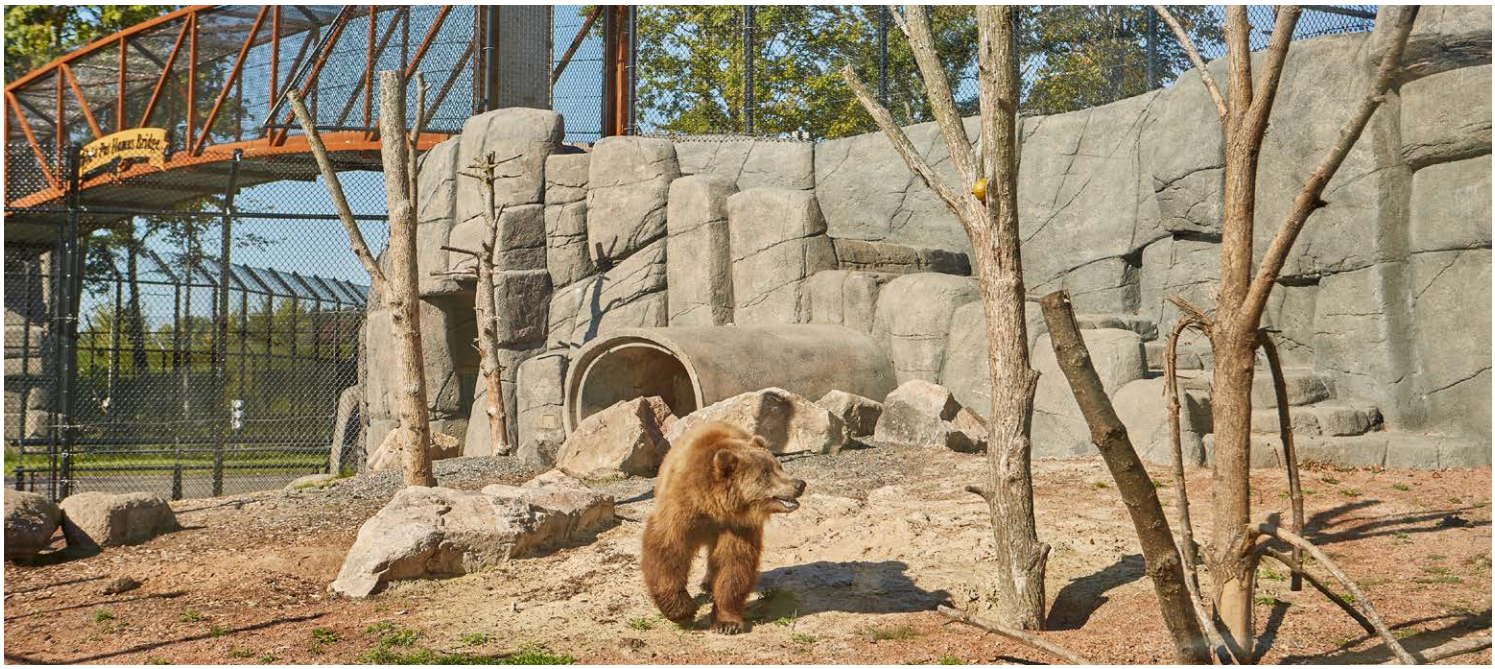


ADLER FAMILY KODIAK BEAR EXHIBIT

WILDWOOD PARK & ZOO | MARSHFIELD, WISCONSIN

The new Kodiak Bear Exhibit at the Wildwood Zoo will be the first of its kind in the State of Wisconsin. The exhibit will be home to two Kodiak bear cubs left orphaned and rescued from the west side of Alaska's Kodiak Island.

Featuring a new den, waterfall, a 14-foot viewing window, and a bridge the bears can walk over to reach an enclosed section of the woods, the exhibit provides many opportunities for enrichment in a home-like environment. The design of this enclosure purposefully incorporates more natural elements such as grass, trees and water than the previous black bear exhibit.

The new one-acre attraction will serve as an example of Wildwood Zoo's continued dedication to providing its animals with the highest quality of care, and its visitors with premier wildlife viewing and educational opportunities.

Team: HGA

Services Provided: Architectural Design

Project Size: 39,000 SF

Cost: $1.2M

HEART OF THE ZOO

MINNESOTA ZOO | APPLE VALLEY, MINNESOTA

The Heart of the Zoo entry pavilion was part of an overall master plan that included over 100,000 square feet and was the most significant architectural undertaking by the Minnesota Zoo in decades. Situated along and within three of the Zoo's original 1975 buildings, the addition and renovation serve as the connective tissue between these existing structures.

The entry included three interconnected components: permanent exhibits of active, social animal species; a guest-friendly visitor center; and an Environmental Education Center. The amenities create a gracious, light-filled, welcoming experience, while showcasing the natural beauty and wildlife of the Minnesota landscape. The project was inspired by the nature of circulation associated with modern animal exhibitry and a desire to embrace the lake and natural surroundings of the site.

One of the biggest challenges was reusing two large whale tanks that had been abandoned 15 years earlier. The larger tank was adapted to create a new 210-seat theater for the Zoo's indoor bird show and for a variety of additional presentation formats. The smaller tank provided ideal space for bird holding adjacent to the performance space, which is critical to operational efficiency and bird safety.

Team: HGA

Services Provided: Architectural/Design, Programming, Master Planning, Schematic Design and Design Development

Project Size: 2.5 AC Master Plan / 40,000 SF Renovation

Cost: *Master plan:* $49M (2011); escalated 2021 equivalent: $69M | *Renovation:* $13M (2011); escalated 2021 equivalent: $18.3M

ELEPHANT EXHIBIT

MILWAUKEE COUNTY ZOO | MILWAUKEE, WISCONSIN

Because of the recent updates to the AZA standards, some zoos are electing to not house elephants any more. That shift makes the Elephant Exhibit at the Milwaukee County Zoo that much more important to the community and surrounding areas. HGA's team is endeavoring to make this space a true home for its elephants, and a spectacular and educational attraction for the community and the region.

In order to gain accreditation and meet new rules regarding space from the Association of Zoos and Aquariums Standards, the Milwaukee County Zoo decided to relocate its elephant exhibit to a five-acre area, which used to house the moose, brown bear and wolf exhibit yards. HGA designed the exhibit to include a watering hole, a 24,620-square-foot elephant barn/visitor center and enough space for up to five elephants.

In conjunction with PJA Architects, HGA is helping the Milwaukee County Zoo raise the quality of care for the elephants to exceed AZA standards; enhance and continue to be recognized for wildlife and conservation efforts; and create a fun, educational destination for families and communities in the Midwest.

Throughout the design process, the design team used technologies such as virtual reality to enable stakeholders and key team members to make the best decisions for the project.

Team: HGA, PJA, TJP

Services Provided: Architectural Design, MEP Engineering, LEED Services, Cost Estimating

Project Size: 5 AC

Cost: $14M (2017); Escalated 2021 equivalent: $16.6M

ADDITIONAL HGA EXPERIENCE

GIRAFFE EXHIBIT | MILWAUKEE COUNTY ZOO | MILWAUKEE, WISCONSIN

The Milwaukee County Zoo sought to expand its giraffe habitats, improve the existing indoor enclosure and expand the outdoor yard. The project involved complete renovation of the existing giraffe facility and doubled the size of the yard, which now accommodates separation into two, should the need arise. The real "wow" for visitors is the addition of an elevated platform where visitors can see eye-to-eye with the animals and are allowed to feed the giraffes.

KAREN PECK KATZ CONSERVATION EDUCATION CENTER | MILWAUKEE COUNTY ZOO | MILWAUKEE, WISCONSIN

The 30,000 SF Karen Peck Katz Conservation Education Center is located at the edge of the Milwaukee County Zoo's grounds. The facility contains a double-height entrance/gathering room, eight classrooms, one lab, and administrative and teacher offices. The light and transparent gathering space allows passersby to glimpse activity inside as students assemble for class. WE Energies and the Milwaukee Metropolitan Sewerage District (MMSD) supplied grants that allowed for the construction of a green roof, making it the fourth in the City of Milwaukee.

WOLF WOODS EXHIBIT | MILWAUKEE COUNTY ZOO | MILWAUKEE, WISCONSIN

This renovated exhibit provides a new home for a young pack of timber wolves. The facility features a waterfall cascading into a stream, new foliage, landscaping and a new den. The exhibit viewing enclosure is a 900-square-foot log cabin with six eye-level windows facilitating ample viewing of the animals. Interpretive displays tell the story of the wolves' resurgence in Wisconsin. A covered boardwalk winds through the exhibit and provides a close-up view of the new den.

POLAR FRONTIER

COLUMBUS ZOO AND AQUARIUM | COLUMBUS, OHIO

Polar Frontier simulates an abandoned mining building set in the Alaskan wilderness. Sitting at the edge of the Arctic Circle, wind swept conifer forests meet the vast and stark arctic tundra. This extreme environment is home to polar bears, brown bears and Arctic fox. All, to an extent, share overlapping territories where competition for food is fierce and demanding.

The project features a 1.32 acre polar bear habitat with a 167,000 gallon saltwater pool. Spectacular underwater views into this pool are afforded with a 30 foot long acrylic 'J' window. The brown bear habitat, at almost an acre, includes a 42,000 gallon freshwater pool stocked with trout. The Arctic fox habitat represents a mining shed that the foxes now use as a den. In addition to these habitats, the project includes a children's activity zone, a new food and beverage facility, and an interpretive center that is re-purposed from an existing church on the site. Here, issues relating to global warming and habitat conservation are interpreted.

Team: PJA

Services Provided: Architecture, Landscape Architecture, Exhibit and Caging Design - Concept through Construction Administration

Project Size: 5 AC

Cost: $19M

ANDEAN BEAR

NASHVILLE ZOO | NASHVILLE, TENNESSEE

Opened in March 2018, the Nashville Zoo Andean bear project welcomes visitors to a South American plaza with small animal exhibits centered around a spectacular bear exhibit. Visitors approach the experience from a paved path, encountering small animal exhibits and ending in a lively visitor plaza inspired by Peruvian mountain lodges and marketplaces. The bear viewing building is the centerpiece with a dramatic roofline hinting at the sloped exhibit visible from inside.

The bear exhibit is inspired by the varied terrain where Andean bears roam, from rocky mountains to grassy flatlands. The exhibit provides several opportunities for Andean bears to demonstrate their excellent climbing ability.

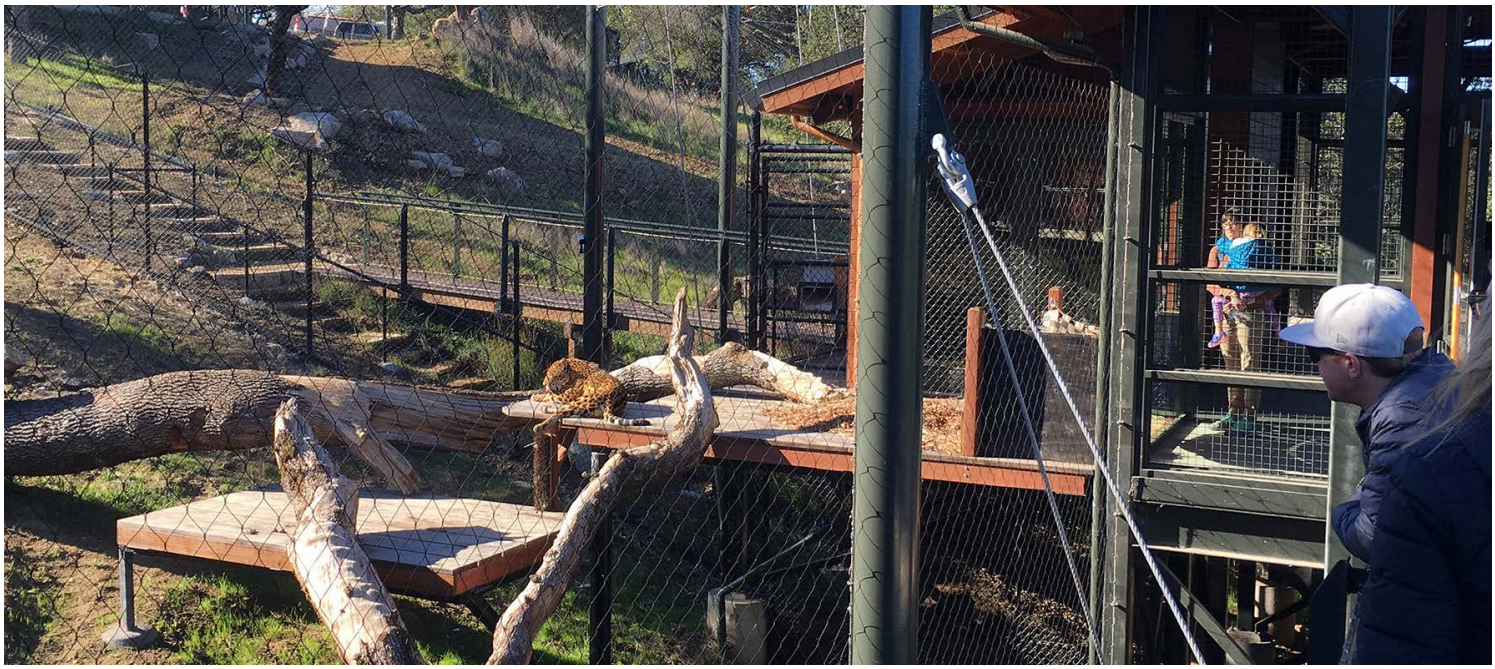
A small stream bisects the exhibit, beginning at the holding building from two waterfalls and winding down to a pool by the viewing building.

The viewing building is designed to accommodate a large number of daytime visitors and to transform for more intimate private events. Aside from the panoramic views of the bear exhibit, the viewing building also features a traditional Peruvian cobb oven, stingray exhibit, and detailed theming throughout.

Around the plaza, visitors can enjoy a pudu and viscacha exhibit and a guinea pig exhibit. Their holding buildings and a public restroom building reinforce the Peruvian mountain lodge theme. In the restroom, visitors to the women's room will be delighted by a surprise marmoset exhibit. The bear holding building is designed to accommodate the original bear population and future offspring. It has a generously-sized maternity room complete with den and private yard.

Team: PJA

Services Provided: Architecture, Landscape Architecture, Exhibit and Caging Design through Contract Documents



CALIFORNIA TRAIL

OAKLAND ZOO | OAKLAND, CALIFORNIA

The new area called California Trail is located in a remote area of the zoo accessed by an aerial tram. The new expansion zone is more akin to a wild animal park then to a traditional zoo; animals are viewed in large open natural habitats surrounded by the existing native plants of the site.

Visitors are transported by an aerial tram up steep grassy hillsides and ravines thick with oaks. Arriving at the orientation plaza visitors are introduced to the natural occurrences of extinction, geologic change, and human impacts on the natural environment of California.

A short walk down a wooden boardwalk provides visitors with excellent views of bald eagles, California condor, a wolf pack and the secretive jaguar whose historical range stretched north into California. Grizzly bear roam freely across the open grassland, mountain lion is viewed from beneath the leafy canopy of mature oaks, and black bear range over a steep hillside of widely scattered oak trees.

An interpretive center exhibits live animals and interactive components that present current information about native species in the bay area. Returning back to the tram station, visitors have an opportunity to purchase gift items or dine at the view restaurant in the visitor center.

Team: PJA

Services Provided: Architecture, Landscape Architecture and Exhibit Design - Concept through Schematic Design and then Exhibit and Caging Design through Contract Documents

Project Size: 15 AC

Cost: $32 M

FLORIDA: MISSION EVERGLADES

ZOO MIAMI | MIAMI, FLORIDA

The native Florida exhibits at the Miami Metro Zoo highlight the unique habitats and animals of South Florida. The exhibits encourage exceptional interactivity between visitors and animals.

The client encouraged PJA to find creative ways to involve their visitors in experiences that were fun, memorable and unique. Visitors will view animals underwater, in the tree-tops, underground, and from directly above their watery habitats. The fauna and flora collection will highlight five of the major habitat types evident in the Everglades.

The meandering air-boat ride has additional animal viewing combined with theatrical and cultural elements along the banks of the river. The total experience will be one that is spontaneous, highly interactive, and entertaining for children of all ages.

Team: PJA, TJP

Services Provided: Landscape Architecture, Exhibit and Caging Design - Concept through Construction Administration

Project Size: 4.5 AC

Cost: $17 M

REFERENCES

WILDWOOD PARK & ZOO | MARSHFIELD, WISCONSIN

Ed Englehart, Director, City of Marshfield Parks & Recreation Department | 715.384.4642
ed.englehart@ci.marshfield.wi.gov

MINNESOTA ZOO | APPLE VALLEY, MINNESOTA

Derik Otten, Project Manager, Minnesota Zoological Garden
952.431.9234 | derik.otten@state.mn.us

MILWAUKEE COUNTY ZOO | MILWAUKEE, WISCONSIN

Chuck Wikenhauser, Director, Milwaukee County Zoo
414.256.5402 | charles.wikenhauser@milwaukeecountywi.gov

COLUMBUS ZOO AND AQUARIUM | COLUMBUS, OHIO

Rick Schwartz, President and CEO
615.833.1534 | rschwartz@nashvillezoo.org

NASHVILLE ZOO | NASHVILLE, TENNESSEE

Rick Schwartz, President and CEO
615.833.1534 | rschwartz@nashvillezoo.org

OAKLAND ZOO | OAKLAND, CALIFORNIA

Dr. Joel Parrott, Executive Director
510.632.9525 x172 | drparrott@oaklandzoo.org

ZOO MIAMI | MIAMI, FLORIDA

Carol Krause, Director
305.251.0400 x50-84910 | J.Carol.Krause@miamidade.gov

AWARDS

HGA has received over 800 design awards from professional and client industry organizations including awards for architecture, engineering and specialty disciplines. HGA has been presented five (5) national AIA Honor Awards for Architecture. In 1992, HGA was awarded the first Firm Award by AIA Minnesota "...for outstanding service to clients, community and the profession through exceptional and enduring architectural design and technical achievement."

HEART OF THE ZOO MINNESOTA ZOOLOGICAL GARDEN

2012 IES/IIDA Regional Guth Award for Interior Lighting Design

2012 IES/IIDA Section Guth Award for Interior Lighting Design

2011 AIA Minnesota Honor Award

MILWAUKEE COUNTY ZOO KAREN PECK KATZ CONSERVATION EDUCATION CENTER

2006 AIA Wisconsin Honor Award

2005 Wisconsin Green Building Alliance, SE² Award of Excellence

MARINE EDUCATION CENTER MINNESOTA ZOOLOGICAL GARDEN

1998 Consulting Engineers Council of Minnesota Grand Award-Building Support Systems

1998 Consulting Engineers Council of Minnesota Honor Award-Structural System

WEESNER FAMILY AMPHITHEATER MINNESOTA ZOOLOGICAL GARDEN

1993 International Design Magazine National Design Award

1993 Consulting Engineers Council of Minnesota Grand Award-Structural Engineering

1992 AIA Minnesota Honor Award

1989 Minnesota Chapter American Society of Landscape Architects Honor Award

COLUMBUS ZOO AND AQUARIUM, POLAR FRONTIER

2011 American Zoological Association Top Honor Award

LINCOLN PARK ZOO – REGENSTEIN CENTER FOR AFRICAN APES

2006 American Zoological Association Significant Achievement Award

HOUSTON ZOO – NATURAL ENCOUNTERS

2007 American Zoological Association Significant Achievement Award

JACKSONVILLE ZOO – LAND OF THE TIGER

2015 American Zoological Association Significant Achievement Award

CITY OF DULUTH
PURCHASING DIVISION
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purchasing@duluthmn.gov

Addendum #1
File # 19-08AA
Final Design Services
Lake Superior Zoo Polar Shores/Bear Country Project

This addendum serves to notify all bidders of the following submitted questions and responses:

1. What Design phase will this project start? Construction Documents? The project is at Final Design stage.
2. Can you provide access to the existing documentation and design prior to responding to the RFP? The project consists of the renovation of animal habitats; including the preservation of two existing animal care buildings. No new buildings will be constructed; instead the existing buildings will be renovated and the adjacent habitats will be refurbished to meet current animal care standards and provide more natural habitats for the various animals. The structural reports for both areas are attached. The plans that were developed as a result of the RFP in 2016 have been extensively red-lined, since the project scope has changed since those designs were completed. However, we will be providing them within the next few days.
3. Is HGA allowed to bid on this work as they were the earlier design architect involved? Yes, HGA is allowed to propose.
4. Does the zoo prefer a local A/E firm to lead the work? No.
5. At what design stage is the selected architect currently at? Conceptual, Design, Construction? This has impact for the schedule to meet the stated completion date. See #1.
6. Will the preliminary designs developed after an initial master planning effort by HGA and pja architects + landscape architects be made available to those seeking a submission? To be able to determine the amount of design work effort still needed and cost associated this would be important. See #2.
7. Do you have a construction and overall project budget established for the work? We are aware of the bonding dollars allocated but would like to understand the full budget you are trying to achieve and value engineer from the design that has been done thus far. The total estimated construction cost is $3,150,000.

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8. What is the overall project schedule? The goal is to have the project completed before the end of 2019.
9. Is there a reason for the short turn around on the proposal submission relative to the overall schedule? Will consideration be made to extend this for teams to be able to put comprehensive proposals together for such a project? We see a lot of RFP's and this timeframe is rare for the amount of work that goes into them. The short turnaround is related to the goal of having construction completed this season.

Please acknowledge receipt of this Addendum by including a copy with your proposal.

Posted: May 9, 2019

KRECH OJARD & ASSOCIATES, P.A. Engineers & Architects

August 31, 2012

Joe Miller
Facilities Operations Supervisor
City of Duluth
1532 W. Michigan Street
Duluth, MN 55806

Subject: Structural Assessment of the Polar Shores Exhibit for Flood Damage
KO Job No: 121146

Mr. Miller,

On behalf of Krech Ojard & Associates, I am pleased to provide you with the completed structural assessment report of possible damage to the Polar Shores Exhibit of the Lake Superior Zoo in Duluth attributable to the June 2012 flood. The report includes summary of visual observations.

Thank you for the opportunity to present you with this assessment and report. Should you have any questions or require further clarifications of these observations, the documentation or our recommendations, please do not hesitate to contact us at your convenience.

Best Regards,

Sara D. Ojard, P.E.
Project Engineer
Krech Ojard & Associates

I HERBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SARA D. OJARD

SIGNATURE

45176 — REG NO

8/31/12 — DATE

Enclosure: Structural Assessment Report

Polar Shores Exhibit at Lake Superior Zoo
Structural Assessment of Flood Damage

Duluth, MN

City of Duluth Contact
Joe Miller
1532 W. Michigan Street
Duluth, MN 55806
Phone: 218.730.4432

FJJ Contact
Jim Johnson, PE
345 Canal Park Drive,
Suite 200
Duluth, MN 55802
Phone: 218.722.3060

KOA Contact
Sara Ojard, PE
227 W. 1st Street
Suite 200
Duluth, MN 55802
Phone: 218.727.3282

BACKGROUND

Krech Ojard and Associates (KO) was contracted to provide a structural assessment of the Polar Shores Exhibit of the Lake Superior Zoo located in Duluth, Minnesota. This assessment focuses on structurally assessing the exhibit for damage caused by the flooding in June of 2012.

The Polar Shores Exhibit consists of a large 1930's stone building and animal viewing spaces which were constructed in the 1980's. During the recent flood, the waters filled the building and exhibit areas approximately 14 feet deep with water.

Krech Ojard made several site visits. KO initially observed the site on July 24th, 2012. General observations were made and we listened to witnessed events of the flood. On August 1st, 2012 KO performed another site visit with Peter Pruett from the Zoo and Dean Johnson from Johnson Wilson. We directed Johnson Wilson to excavate certain areas of the sidewalk and behind retaining walls for further investigation and to see the limits of soil failure. Two additional site visits were made on August 14th and 16th to observe the excavations.

We have noted five different locations that were chosen for excavation to help determine the extents of soil erosion or retaining wall cracking. These were damaged areas that were possibly attributable to flood. There were other areas of the exhibit and building that have cracked and deteriorating concrete and corroded steel, but these issues pre-existed the flood and so are not addressed in the report.

The following sections of this report will summarize the observation, areas that were specified for excavation, and observations of the excavations.

LIMITATIONS OF THE ASSESSMENT

The review of the exhibit was limited to visual assessment of the readily accessible areas plus excavations of a limited number of areas around the exhibit. The following report and recommendations are based on these visual observations. In addition, only structural elements were reported. Damage to items such as windows and doors is not a part of this report.

OBSERVATIONS & RECOMMENDATIONS

Figure 1 is an isometric aerial photo of the Polar Shore Exhibit at the Lake Superior Zoo. It is included for an overall reference to show the locations of witnessed sidewalk failures and sinkholes and to note locations of excavation. Please note that the photo is slightly outdated, since the cold-formed steel addition on the south west corner of the building is not shown, however it is a clear view of the exhibit for general reference and discussion.

Figure 1 – Isometric Photo of the Polar Shore Exhibit at the Lake Superior Zoo

Location #1

At Location #1 in Figure 1, a sink hole of the asphalt sidewalk was visible after the flood waters receded. Figure 2 shows the sidewalk after the flood. The visible rock work walls in the photo consist of shotcrete applied to a surface created by a welded-wire type mesh. The rock work was designed to considerably overhang the structural foundation by varying distances. It was not designed to be ground-supported.

Figure 2: Sidewalk Failure

The area was excavated for KO to observe the exhibit foundation wall adjacent to the sinkhole and the extent of the soil erosion under the sidewalk. Figure 3 shows the same area after excavation. The following items were observed:

- The ground water table was at the top of the footing, but during excavation it was witnessed that the native soil was still under the footings.
- The foundation wall did not have any visible cracks.
- The excavated material appeared to be a sandy, engineered fill.
- The rockwork that overhangs the foundation wall does not have soil compacted underneath it - creating a void between the outside face of the rockwork and the structural foundation wall. It appears the soil under the sidewalk at the viewing

Figure 4 – Vertical cracks in retaining wall

Figure 5 – Backside of retaining wall after excavation

Location #3

Zoo personnel had shared witnessing water coming out the stream bank into the stream. We excavated a small section behind the stream bank to see if there was a broken water pipe in this area. No pipe was observed and the soil was well compacted. See Figure 6.

Figure 6 – Excavation near stream

Locations #4 and #5

The asphalt sidewalk settled in these areas. Excavations were done to see the extent of the soil erosion. Location #4 was chosen since it was near a manhole. Location #5 was chosen because it was near the edge of the structural concrete supporting the upper exhibit viewing area. Figures 7 and 8 show these areas. In neither of the areas did the extent of soil erosion continue to adjacent structures causing structural concern.

Figure 7 – Location #4 excavation near manhole

Figure 8 – Location #5 excavation upper viewing area

After all the areas were observed, the fill was replaced and compacted to create a level walking surface. Any broken asphalt sidewalk pieces were removed. However, the sidewalk was not replaced.

SUMMARY

After completing our structural assessment of the Polar Shores Exhibit, we noted no structural damage to the exhibit foundation or retaining walls that appears to have been caused by the flood. There were local areas where soil was washed away causing failures of the sidewalks. However, the extent of soil erosion does not appear to have caused structural failure of the buildings or walls. The cracks in the retaining walls leading down into the underwater viewing areas appear to have not been caused by the flood waters since the soil behind the walls was dry.

There were other areas of cracked and deteriorating concrete walls and slab and corroded steel within the exhibit and building. These items pre-existed the flood and do not appear to be directly attributable to it. They also do not appear to be an imminent life-safety concern. However, we recommend a separate investigation to examine them and possibly recommend repairs to them before they do deteriorate to a serious condition.

Please contact us at your convenience with any questions or discussion. We would be happy to provide additional investigation of the exhibit to address the non-flood related concerns.

February 14, 2019

Ms. Tiersa Wodash
DSGW Architects

Sent by Email to: Twodash@dsgw.com

Re: Bear Exhibit Condition Review
NCE Job No.: 19-020

Dear Tiersa,

This is a visual structural condition review of the bear exhibit at the Duluth Zoo. I reviewed the exhibit on February 5, 2019.

The concrete structure has an arch-shaped footprint and consists of two levels. It was built during the 1930's and remodeled in later years. In this report the long direction of the tunnel is oriented north and south with the exhibit area on the east side.

The first level consists of two parallel passageways, or rings. The outer is intended for human traffic; the inner intended for holding animals and allowing human access to cages. There are entry points between rings at the south and north ends and at the center. The inner ring is separated into small spaces created by cage doors at the entry points and at intermittent points within the ring. The outer ring is continuous from one end to the other. There are access windows and doors through the wall separating the inner from the outer ring.

The first level is constructed of cast-in-place concrete walls presumably on concrete footings. The floors are concrete slab on grades. The ceiling is a concrete slab bearing on the inner wall of the perimeter walls of the rings and the central wall between the rings. The outermost wall of the outer ring is backfilled with soil.

The second level is a continuous area situated primarily above the inner ring. The concrete ceiling of the first level serves as the floor for the second. This floor carries the concrete and steel structure that forms the structural framework of the shotcrete "rock" found in the exhibit.

Emanating from the inner ring are three "fingers" of shotcrete exhibit rocks. These rocks are also supported by concrete and steel support structures that extend up from foundations at grade. These fingers were not accessed during my review but viewed from the second level at available locations.

The following was noted during my visit:

1. The overall condition of the structure is fair. With the exception of the areas noted below the concrete walls and ceiling are solid. I sounded them with a hammer in randomly selected areas with and without visual distress and the concrete was hard and did not fracture from the hammer blows. The backfilled wall of the outer ring is not leaning inwards from lateral earth pressure. Lateral pressure transmitted through the concrete ceiling or through concrete struts and door headers is not causing displacement in the center and inner wall.

2. Conditions seem reasonably dry in the first level. There are ground water stains emanating from cracks on the outer wall and at the ceiling wall interface. The leakage appears old and not serious. The floor was not layered with ice from rising groundwater. It is my understanding that a previous remodeling project included the installation of drain tile along the backfilled back wall. This tile may account for the lack of water currently noted in the space.

3. The structure has been unheated throughout its life and the lack of heat has caused settlement or seasonal frost displacement in selected areas throughout the building. The northwest corner (Item 7 on the attached floor plan) is rotated and settled. A nearby corner in the center wall and adjacent door header is fractured and settled (Item 8). At the center entry point between the outer and inner rings two interior corners (Items 3 and 5) are settled. The settlement of the interior corner at Item 5 has translated into a long settlement crack in the wall between the outer and inner ring (Item 6). This crack extends nearly half the distance to the northern end of level 1.

4. The floor of the outer ring and to a lesser degree, the inner ring floor shows the effects of displacement from seasonal frost and settlement. It appears that portions of the outer ring floor may have been previously replaced or topped since original construction to deal with this problem. The uneven surface presents a tripping safety hazard.

5. The door headers are in poor condition. These headers are Items 1, 2, 4 and 8. The condition appears in part due to the steel cage door structure that is partially embedded into the headers. Fracture points form along the embedded surfaces. Also it appears that these headers have been influenced by seasonal frost movement. The movement of the steel doors (which are attached to the displacing walls) fractures the concrete. Over time it appears that parts of the fractured concrete have been removed creating holes and jagged edges in the headers. I could see reinforcement in some of the cracks but where all the concrete is tied together with steel is unknown.

6. The framing supporting the shotcrete rock is in fair to good condition. The exposed steel is surface corroded but has quite a bit of section remaining. The concrete in some areas is cracked with efflorescence emitting from the cracks. The efflorescence is most likely due to water penetration through the shotcrete "rock". Spalling of the members was not observed.

7. I did not evaluate the shotcrete as it was not in the scope of this review. I did note cracks and a few holes in the material from second level. Such openings allow water to enter the interior and penetrate the concrete framing, causing efflorescence. It also appears to pond on the floor and enters Level 1 below.

Opinions – In my professional opinion the ring structure comprising the first level is fairly massive. It can and has suffered a fair amount of abuse since its original construction. The settlement cracks, while severe in appearance, in my opinion to not represent conditions that would make the structure unsafe. The safety issues in my opinion are found in the fractured door headers and uneven floor surface.

Before any repairs are attempted to this structure the internal temperature must be maintained at a minimum of 40 degrees (F) to negate the season frost displacement that takes place. Without reducing this movement any repairs to concrete surfaces (using concrete products) will eventually lead to future cracks and spalls.

Once heat is established in the concrete structure I would monitor the walls for continued movement. Barring such movement one could embark on concrete repairs as follows:

Item 1: Door headers found in four locations. Remove existing header concrete while attempting to salvage reinforcement. Replace in kind utilizing existing reinforcement or doweling in additional reinforcement into concrete walls. Beams could be poured through the ceiling or shotcreted. Modify existing doors to frame into headers without intrusion into concrete. An alternate repair would be to use a steel header and expansion anchor ends to the concrete walls.

Items 2 and 4: Door headers in two locations. Remove existing header concrete and reinforcement. Replace in kind by doweling new concrete into existing concrete walls. Beams could be poured through the ceiling or shotcreted. Modify existing doors to frame into headers without intrusion into concrete. An alternate repair would be to use a steel header and expansion anchor ends to the concrete walls.

Items 3 and 5: Wall corners in two locations. Remove existing concrete to sound material. Hand patch void with cementitious or polymer modified mortar suitable for vertical surfaces.

Item 6: Horizontal crack in center wall: Remove loose material along length of crack. Epoxy or polyurethane inject crack.

Item 7: Settled and rotated corner. Remove loose material along crack. Inject cracks with polyurethane resin.

Item 8: Cracked corner. Remove loose material in crack. Dry pack crack with cementitious or polymer modified mortars suitable for horizontal overhead repair.

Outer Ring Floor: Remove existing floor in sections so as not to destabilize outer backfilled wall. Install drain tile along outer wall in pea gravel bed. Prepare subgrade for new slab. Pour new slab on grade for floor.

Level 2: There are obvious cracks and holes allowing water infiltration. These holes and cracks should be patched with correct materials. The deterioration of the "rock" support structure is not a life-safety concern at this point. However there will be a future date that this structure will need to be restored to prolong the life of the exhibit.

Sincerely,

John Woodworth, PE
Principal

Professional Certification:
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

John R. Woodworth, P.E.
MN Reg. No. 15643

2/14/2019
Date

CITY OF DULUTH
PURCHASING DIVISION
Room 120 City Hall
411 West First Street
Duluth, Minnesota 55802-1199
218/730-5340
purchasing@duluthmn.gov

Addendum #2
File # 19-08AA
Final Design Services
Lake Superior Zoo Polar Shores/Bear Country Project

This addendum serves to notify all bidders of the following:

The red-lined plans prepared by pja are now available on the city website at http://www.duluthmn.gov/purchasing/bids-request-for-proposals/

Please acknowledge receipt of this Addendum by including a copy with your proposal.

Posted: May 13, 2019

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HGA

pja architects landscape architects, p.s

TJP INC. ENGINEERING

420 North 5th St, Ste 100
Minneapolis, MN 55401

T 612.758.4000
F 612.758.4199

COST SUBMITTAL

	Fees
Design Development	$91,700
Construction Documents	$181,640
Construction Administration	$87,500
Reimbursables	$26,900

ASSUMPTIONS

1. Site visits assumed:

Design Development: No site visits assumed. All meetings to be by phone or Zoom.

Construction Documents: One site visit by PJA, HGA

Construction Administration:

PJA: 4 site visits

TJP: 1 site visit

HGA (as follows):

1 site visit - mechanical

1 site visit - electrical

2 site visits - architectural/project manager

2. Includes fees for Minnesota B3 documentation.
3. It is assumed that all drawing distribution will be electronic and that no printed sets are required.
4. Reimbursables to be billed at cost.
5. Lighting design to be a continuation of current Lake Superior Zoo design standards.
6. Owner to provide information regarding telecom and security requirements. Design will provide backboxes and conduit.

EXCLUSIONS

1. Design and documentation for changes to the existing Otter, Ptarmigan, or other exhibits outside of the Bear Country area.
2. Does not include design of roof replacement documentation. It is assumed that roof replacement will be accomplished design-build. If included, design fees will be required for additional site investigation as well as design documentation. No drawings have been available for the roof to date.
3. Netting design
4. Audio-visual, security and telecom design is not included.
5. Testing or verification of existing equipment. It is assumed that existing equipment has not been used since 2012. It is recommended that equipment that has been without use for that long should be replaced.
6. Design, documentation or survey for hazardous materials is not included.
7. If required, geotechnical information to be provided by Owner.
8. Telecom and security design by Owner.

NOTES

1. We welcome discussion regarding fees.
2. Construction Administration scope may be changed to an hourly fee, if desired.

HOURLY RATES

HGA

Principal	$175 - $220
Project Manager	$140 - $210
Senior Project Architect/Coordinator	$110 - $213
Project Architect/Coordinator	$100 - $170
Architect or Design Coordinator	$ 90 - $150
Intern or Technician	$ 65 - $105
Senior Project Engineer	$125 - $285
Project Engineer or Senior Designer	$105 - $185
Engineer or Designer	$ 95 - $155
Staff	$ 75 - $135
Administrative Assistant	$ 85 - $135

PJA

Principal	$175
Senior Associate	$125
Associate I	$ 95
Associate II	$ 85

TJP

Senior Professional Engineer	$180
Professional Engineer	$160
Associate Engineer	$135
Senior Designer	$110
Designer	$100
Drafter	$ 80
Clerical	$ 70