



+ ConsultEcon, Inc.



PROPOSAL #P490-16653

# MITCHELL PARK HORTICULTURAL CONSERVATORY FUTURE PATH & FEASIBILITY STUDY

524 S. LAYTON BLVD. MILWAUKEE, WISCONSIN 53215

MARCH 20, 2017

## CONTACT INFORMATION

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March 20, 2017

Julie Bastin  
Project Manager  
Milwaukee County  
633 W. Wisconsin Avenue, Suite 1000  
Milwaukee, Wisconsin 53203

Re: Proposal #P490-16653, Mitchell Park Horticultural Conservatory Future Path & Feasibility Study

Dear Julie:

Milwaukee is a great place to call home. As a firm known for our commitment to the institutions that make our city a visitor destination, HGA is excited about the partnership we have formed with ConsultEcon, a nationally recognized leader in cultural economic and market feasibility planning, to develop a plan for a sustainable future for Mitchell Park and the Conservatory. This team has worked successfully together, and bring just the right balance of national perspective and local insight. Most importantly, we propose holistic approach to improving the operational, market, financial and physical environments at Mitchell Park.

We propose the following team to realize your vision:

HGA will lead the team and be your primary point of contact. Our experience with Milwaukee's iconic civic and cultural destinations demonstrates our contribution to the success of clients like you. HGA's local architectural, engineering and planning resources will bring innovative technical solutions to this complex set of structures. We will also bring the national perspective of our cultural team that serve clients with educational missions around the country, with a specialized focus on sustainability and historic structures.

ConsultEcon will provide leadership for the feasibility related tasks of this study (Phase I). We understand the significance of the decisions that will be made based on the outcome of this strategic planning. The ConsultEcon team brings a deep expertise creating operational and financial models, resulting in positive social and economic impact for cultural institutions, and their communities.

Quorum Architects will lead the Community Outreach related tasks (Phase II). Quorum's strong reputation for thoughtful engagement of their clients and communities ensures that all stakeholder groups are heard. Quorum's programming and planning expertise will be integrated into the space needs analysis and functional planning led by HGA in Phase III.

Montgomery Smith offers deep technical expertise in the area of conservancy and greenhouse consulting. This knowledge will be valuable to the team and to the leadership group at Mitchell Park. Jim Smith's experience with renowned conservatories will provide specific insights into both the programmatic and facility challenges and opportunities that others are facing today.

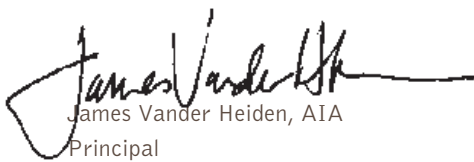
Kapur & Associates understands the Mitchell Park site well, and will provide insight and expertise to the planning team as we address infrastructure, water management and other site-related systems.

Middleton Construction Consulting is a partner that we have come to rely on for construction cost consulting throughout Wisconsin, and will support the complex cost assessments that will evolve from our planning with their knowledge of prior assessments.

Additionally, your horticulturists and team will bring first-hand experience and expertise to our collective analysis of opportunities.

Julie, we have enjoyed our past experiences working with you and your Milwaukee County team on some very complex projects. We appreciate your consideration, and look forward to the opportunity to discuss the project with you at your convenience.

Sincerely,



James Vander Heiden, AIA  
Principal

Hammel, Green and Abrahamson, Inc.  
HGA Architects and Engineers, LLC  
HGA Architects and Engineers, LLP  
HGA Architecture and Engineering, PC  
HGA Mid Atlantic, Inc.

333 East Erie Street | Milwaukee, Wisconsin 53202  
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# Qualifications & Experience

## DESTINATIONS AND ATTRACTIONS EXPERIENCE

Iconic cultural institutions and successful civic destinations have entrusted HGA to lead their projects for both new buildings and renovations, resulting in projects like Discovery World, the Milwaukee Art Museum Expansion and Addition, the Butterfly Conservatory and IMAX Theater at the Milwaukee Public Museum (their top attractions), the Harley Davidson Museum, and the Museum of Wisconsin Art to name a few. This list comprises top attractions in Southeast Wisconsin, and in designing these projects Jim Shields, FAIA, your project designer, has shown a deep understanding of what it takes to develop a top regional civic or cultural attraction.

Our Destination Specialist, Marc L'Italien has more than 25 years of experience in the design of public museums and attractions including, most notably, the Exploratorium, San Francisco's Museum of Science, Art and Human Perception that moved to its new home on the Embarcadero in 2013.

ConsultEcon, Inc. specializes in providing consulting and advisory services for museums and attractions. The firm's market and economic studies have been the basis for major investments and organizational improvements in museums, attractions, and performance venues. Outcomes based on objective project reviews include site selection, project justification, planning development strategies, operating plans, and project funding.

## BOTANICAL GARDENS AND GREENHOUSES

HGA was engaged by the City of Madison Parks Division and the Olbrich Botanical Society to create the Master Plan for the Olbrich Botanical Gardens. The highly-collaborative and interactive planning and design effort to develop long-term growth strategies generated concepts that address the long-term needs of the institution and the community.

For over 35 years Montgomery Smith Inc. has been providing design services for the construction of new greenhouse structures for research, education and public facilities. Montgomery Smith Inc. also offers expertise in the design and development of new innovative environmental control equipment and controls for the rehabilitation of period glasshouses, new greenhouses and conservatory spaces.

ConsultEcon has extensive experience providing services that support the economic success of botanical gardens, arboretums and civic parks, such as Tower Hill Botanic Garden, Rocky Hills Botanical Garden, Taltree Arboretum & Gardens, Seattle Japanese Botanical Garden, and dozens of others.

## HISTORIC PRESERVATION EXPERIENCE

HGA has significant Historic Preservation experience, having worked on numerous Nation Register historic buildings, as well as Mid-Century Modern buildings that were not listed. Jim Shields, served on Milwaukee's Historic Preservation Commission for 17 years, and was elected to the Chairmanship of that City Commission three times. As HPC Chair, he was intimately engaged in numerous contentious public hearings and meetings, and understands the strong feelings that some in the community have towards unique buildings that are important to their lives. HGA has the experience and sensitivity to assist in the process of public engagement where everybody has a voice and will be respected and listened to. Good lasting solutions can emerge from such efforts.

Montgomery Smith Inc. has been providing professional services for the preservation of historic buildings, greenhouses and conservatories for the past 35 years.

## PROJECT EXPERIENCE

The five projects below represent a strong overview of our team's capabilities. They also demonstrate the range of skills our firms have across industries, markets and geographies, and were specifically chosen to represent our experience with:

- ▶ Economic and Marketing Analysis
- ▶ Botanical Gardens
- ▶ Master Planning
- ▶ Public Attractions, and
- ▶ Historic Restoration

This means our team is well positioned to bring a comprehensive, thoughtful and actionable Future Path and Feasibility Study that truly understands your needs, respects your place in the community and charts a path for your future growth.



## OLBRICH BOTANICAL GARDENS

### MASTER PLAN

Madison, Wisconsin

Olbrich Botanical Gardens has experienced exponential growth due to its popularity, which has driven the need for new facilities. HGA worked with the City of Madison and Olbrich Botanical Gardens in a highly collaborative and interactive planning and design effort to develop long-term growth strategies. Through the planning and design process, HGA explored planning concepts that leverage the extraordinary gardens that currently exist, while addressing the need for a higher level of integration between indoor spaces and garden facilities. With more than 250,000 visitors annually and a growth rate of more than 300 percent, both immediate and long-term needs of the institution and community were addressed.

The programming and master planning process included meetings with a core team representing staff and volunteers, the City of Madison, key stakeholder groups, the Olbrich Botanical Society Board of Directors, and several interactive community engagement workshops.

Building upon Olbrich's notoriety for their premier gardens, the Master Plan was guided by the goal to elevate the facilities to the same level of excellence. The plan completely transforms the entrance, provides new space for plant shows and education programs, doubles the size of the gift shop, adds classrooms, and adds a garden roof and rain garden.







### **BELLE ISLE CONSERVANCY CULTURAL CAMPUS PLAN**

Detroit, Michigan

ConsultEcon worked as part of a team to support the concept of the proposed Belle Isle Cultural Campus. This effort included evaluation of current operation of facilities, benchmarking and industry trends for aquariums and conservatories, evaluation of available resident and tourist markets, and identification of capital improvements projects.

In addition, we helped to evaluate the market potential and operating outcomes from alternative redevelopment strategies for the Aquarium and Conservatory and Gardens.

The resulting business plan included attendance potential, earned revenue, personnel plan operating costs and estimates of additional funding requirements over the next five years, with a focus on "right sizing" the physical improvements and expansions to maximize economic sustainability and community benefits.



## **ALBUQUERQUE BIO PARK**

### **MASTER PLAN**

Albuquerque, New Mexico

As part of a multi-disciplinary team, ConsultEcon provided input for a Master Plan that included an assessment of the current operating profile, as well as the future operating potential given an enhanced product and expanded revenue streams.

ConsultEcon also conducted resident and tourist market analysis, review of experience of local visitor attractions, and that of similar attractions' operations and expansion programs.

Input included market appeal, attendance and ticket price impacts, revenue potential and operating costs associated with various redevelopment and expansion options and phasing considered in the planning process.



## **DESERT DISCOVERY CENTER** CONCEPT AND PROGRAM DEVELOPMENT Scottsdale, Arizona

Working as part of a multi-disciplinary team, ConsultEcon helped create the proposed concept and program for the proposed Desert Discovery Center and in this process, ConsultEcon oversaw and contributed to concept development. In addition, ConsultEcon prepared estimates of attendance and revenue potential, and an operating plan. In a second phase of work, a refined market analysis with consumer testing of alternative interpretive techniques and offerings was prepared. This phase of work also included a detailed operating plan including personnel plan, operating costs by category and a detailed earned and contributed revenue analysis and plan. A pre-opening plan by year was also prepared.

Currently in the third phase of planning, Arizona State University has joined DDC as a research and education partner regarding sustainability in desert environments and DDC development is moving forward. ConsultEcon is preparing the plan to integrate ASU and other project partners and revising the market study and business plan for this indoor 48,000 SF facility.



**PHIPPS CONSERVATORY & BOTANICAL GARDEN**  
**VICTORIA ROOM RENOVATION AND GREENHOUSES**  
Pittsburgh, Pennsylvania

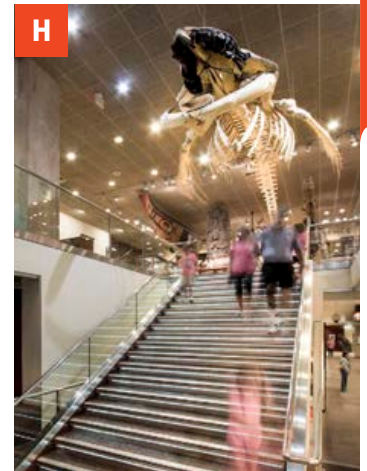
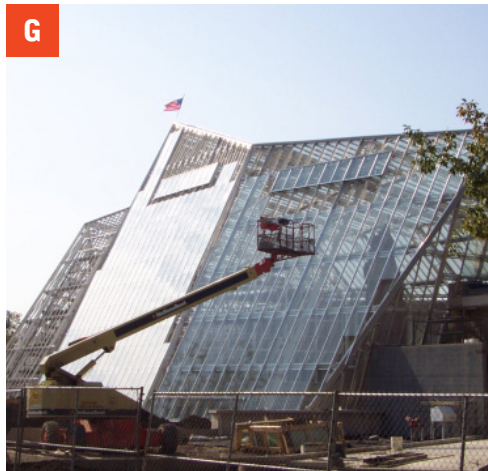
There are thirteen connected greenhouse structures that make up Phipps Conservatory's original configuration of display houses. Starting in 2001 a comprehensive evaluation and restoration program was started to systematically restore each of the 13 greenhouse structures in order of deteriorated condition. The first structure to receive a historically correct restoration was the "Victoria Room." Since that project three more original structures have been completed, a new visitor's center and entrance built and a new modern conservatory constructed behind the original.

Constructed by Lord and Burnham in 1892 the Victoria Room is one of thirteen interconnected glasshouses that comprise Phipps Conservatory.

Last restored in 1984 with wood and annealed glass, the Victoria Room was in extremely poor condition and was the primary candidate from the 2001 CAP Assessment for complete restoration.

This restoration concentrated on the "Gutter-up" components including: aluminum extrusions to replicate the original wood roof glazing rafters, aluminum replicated ventilation sash, laminated lapped glass glazing system, replicated castings, re-creation of the vestibule entry and ridge cresting, lead coated copper valleys, complete refinishing of the interior painted components, new automatic ventilation sash operating equipment and new copper interior down spouting components.

**MONTGOMERY SMITH-INC.**



**A** COMO PARK - EDUCATION RESOURCE CENTER | HGA, Inc. **B** MITCHELL PARK HORTICULTURAL CONSERVANCY - LOBBY | Quorum Architects **C** MILWAUKEE BUCKS - ARENA | Kapur & Associates **D** MINNESOTA STATE CAPITOL - RESTORATION | HGA, Inc. **E** DISCOVERY WORLD AT PIER WISCONSIN - MUSEUM AND AQUARIUM | HGA, Inc. **F** PHIPPS CONSERVATORY - TROPICAL RAINFOREST & PRODUCTION GREENHOUSES | Montgomery Smith **G** CLEVELAND BOTANICAL GARDEN - MARKET & FEASIBILITY STUDY - CONSERVATORY | ConsultEcon and Montgomery Smith **H** MILWAUKEE PUBLIC MUSEUM - INTERIOR AND EXTERIOR RENOVATION | HGA, Inc.





**LEADERSHIP TEAM**

**James Vander Heiden**  
PRINCIPAL-IN-CHARGE  
HGA

**Thomas Martin**  
PLANNING PRINCIPAL  
CONSULTECON

**MANAGEMENT**

**Russ Drewry**  
PROJECT MANAGER  
HGA

**Robert Brais**  
PLANNING PROJECT MANAGER  
CONSULTECON

**FEASIBILITY + PLANNING TEAM**

**James Shields**  
DESIGN ARCHITECT  
HGA

**Jim Smith**  
GREENHOUSE CONSULTANT  
MONTGOMERY SMITH

**Jason Drebitko**  
PROJECT ECONOMIST  
CONSULTECON

**Marc L'Italien**  
CULTURAL DESTINATION  
SPECIALIST  
HGA

**Kevin Byrne**  
SITE DEV. AND WATER STRATEGIES  
KAPUR & ASSOCIATES  
MBE

**COST ESTIMATING**

**Thomas Middleton**  
MIDDLETON CONSTRUCTION CONSULTING  
SDVOSB

**COMMUNITY ENGAGEMENT**

**Allyson Nemec**  
QUORUM ARCHITECTS  
WBE



# James Vander Heiden

## PRINCIPAL | AIA, PE

Jim is dedicated to his client’s success. He utilizes his expertise in the planning of cultural, educational and community-based projects to align client aspirations with forward-thinking design solutions.

Jim’s leadership of interdisciplinary teams leads to innovation that responds to functional needs while assuring long term sustainability. Jim’s goal is to develop physical environments that ultimately inspire community, meaningful interactions, and memorable experiences.

### ▶ SELECTED EXPERIENCE

#### OLBRICH BOTANICAL GARDENS | MASTER PLAN

Madison, Wisconsin

#### DISCOVERY WORLD AT PIER WISCONSIN

Milwaukee, Wisconsin

#### MILWAUKEE PUBLIC MUSEUM | PUELICHER BUTTERFLY VIVARIUM | IMAX THEATER | GROUND FLOOR MASTER PLAN

Milwaukee, Wisconsin

#### MILWAUKEE ART MUSEUM | RENOVATION AND EXPANSION

Milwaukee, Wisconsin

#### CITY OF MILWAUKEE | DEPARTMENT OF CITY DEVELOPMENT | MENOMONEE VALLEY PASSAGE PEDESTRIAN BRIDGE | SOHI DISTRICT MASTER PLAN

Milwaukee, Wisconsin

#### THE CATHEDRAL OF ST. JOHN THE EVANGELIST | RESTORATION AND REJUVENATION

Milwaukee, Wisconsin

### ▶ EDUCATION / AFFILIATIONS

#### BACHELOR OF SCIENCE, ARCHITECTURE

University of Wisconsin-Milwaukee

#### AMERICAN INSTITUTE OF ARCHITECTS

Member

#### REGISTERED PROFESSIONAL:

Architect: WI#6758-5, Electrical Engineer: WI#22652-6



# Russ Drewry

## PROJECT MANAGER | AIA

Russ brings a unique perspective to technically sophisticated buildings. As project architect with 30 years of experience, Russ complements the design team with insight into building systems, codes, specification writing, and construction documents. While he crafts building details that respond to technical requirements, he also focuses on team and client collaboration design concept through construction. His project management creates continuity, quality control and attention to detail. Russ is passionate about a thriving Milwaukee community, and has been working with Milwaukee County on several important projects recently.

### ▶ SELECTED EXPERIENCE

#### MILWAUKEE COUNTY WAR MEMORIAL | BIRD CAGE STAIR CURTAIN WALL REPLACEMENT

Milwaukee, Wisconsin

#### MILWAUKEE COUNTY ZOO | CONSERVATION EDUCATION CENTER | ELEPHANT EXHIBIT

Milwaukee, Wisconsin

#### DISCOVERY WORLD AT PIER WISCONSIN

Milwaukee, Wisconsin

#### LINCOLN PARK ZOO | PROPOSED ZOO CENTER

Chicago, Illinois\*

#### MILWAUKEE ART MUSEUM | RENOVATION AND EXPANSION | KOHL’S ART GENERATION STUDIO

Milwaukee, Wisconsin

#### MILWAUKEE PUBLIC MUSEUM | GROUND FLOOR MASTER PLAN | IMAX THEATER | PUELICHER BUTTERFLY VIVARIUM

Milwaukee, Wisconsin

#### MUSEUM OF WISCONSIN ART

West Bend, Wisconsin

\*PRIOR TO HGA

### ▶ EDUCATION / AFFILIATIONS

#### MASTER OF ARCHITECTURE

University of Illinois at Chicago

#### AMERICAN INSTITUTE OF ARCHITECTS

Member

#### REGISTERED PROFESSIONAL:

Architect: WI#6775-5





## James Shields

### DESIGNARCHITECT | FAIA

Jim is a results-driven architect that sees design as a logical, practical discourse that the client can share in. Jim has built an extensive architectural portfolio of projects that are both beautiful and functional, and that enhances the communities and neighborhoods to which they connect.

Clients can be confident that Jim will create design solutions that respond to their unique needs, and within the project's parameters. He aligns his experience in programming, master planning and design to immerse himself in the development process with the client, and has provided design solutions for some of our city's most treasured destinations.

#### ▶ SELECTED EXPERIENCE

##### OLBRICH BOTANICAL GARDENS | MASTER PLAN

Madison, Wisconsin

##### DISCOVERY WORLD AT PIER WISCONSIN

Milwaukee, Wisconsin

##### MILWAUKEE ART MUSEUM | RENOVATION AND EXPANSION | KOHL'S ART GENERATION STUDIO

Milwaukee, Wisconsin

##### MILWAUKEE COUNTY WAR MEMORIAL | BIRD CAGE STAIR CURTAIN WALL REPLACEMENT

Milwaukee, Wisconsin

##### MILWAUKEE PUBLIC MUSEUM | GROUND FLOOR MASTER PLAN | IMAX THEATER | PUELICHER BUTTERFLY VIVARIUM

Milwaukee, Wisconsin

##### MUSEUM OF WISCONSIN ART

West Bend, Wisconsin

##### THE CATHEDRAL OF ST. JOHN THE EVANGELIST | RESTORATION AND REJUVENATION

Milwaukee, Wisconsin

#### ▶ EDUCATION / AFFILIATIONS

##### MASTER OF ARCHITECTURE

University of Wisconsin-Milwaukee

##### AMERICAN INSTITUTE OF ARCHITECTS, COLLEGE OF FELLOWS

Member

##### REGISTERED PROFESSIONAL:

Architect: WI#5950-5



## Marc L'Italien

### CULTURAL DESTINATION SPECIALIST | FAIA, LEED AP BD+C

With more than 25 years of experience designing high visitation cultural destinations, Marc has worked with public and non-profit institutions from master planning /conceptual design through opening and media outreach. He has led and participated in client visioning sessions and public workshops and has a depth of experience collaborating with specialty consultants, such as crowd control experts, horticulturists, exhibit curators, developers, designers/fabricators. He is a leader in high performance design, having designed four net zero energy buildings and has won three national AIA Committee on the Environment Top Ten Awards. His designs have been published widely and recognized with numerous national design, architecture and museum awards.

#### ▶ SELECTED CULTURAL DESTINATION EXPERIENCE

##### JOHN G. SHEDD AQUARIUM | Wild Reef: Sharks at Shedd; Amazon Rising: Caribbean Reef & Central Rotunda restoration | Chicago, Illinois\*

##### THE PRITZKER FAMILY CHILDREN'S ZOO AT LINCOLN PARK ZOO | Chicago, Illinois\*

##### EXPLORATORIUM AT PIERS 15/17 | San Francisco, California\*

##### MONTEREY BAY AQUARIUM | Monterey, California\*

##### AQUARIUM OF THE PACIFIC EXPANSION | Long Beach, California\*

##### GOLDEN GATE BRIDGE MASTER PLAN & 75TH ANNIVERSARY EXHIBIT | San Francisco, California\*

##### AQUARIUM AT THE TOLEDO ZOO | Toledo, Ohio\*

##### PHILADELPHIA ZOO | Big Cat Falls Exhibit | Philadelphia, Pennsylvania\*

##### NATIONAL MUSEUM OF MARINE BIOLOGY/AQUARIUM | Taiwan, Republic of China\*

\*Prior to Joining HGA

#### ▶ EDUCATION / AFFILIATIONS

##### MASTER OF ARCHITECTURE

Yale University

##### BACHELOR OF SCIENCE IN ARCHITECTURE

Taubman College of Architecture & Urban Planning, Univ. of Michigan

##### REGISTERED PROFESSIONAL:

CA, CO, CT, FL, IL, IN, MI, NY, OH, PA, WA

# ConsultEcon, Inc.

## ECONOMIC AND MANAGEMENT SPECIALISTS

ConsultEcon, Inc. is an economic research and management consulting firm serving the museum, attractions, and tourism industry domestically and internationally. The firm specializes in providing consulting and advisory services for new museums and for renovations and expansion of existing museums and attractions.

ConsultEcon's market and economic studies have been the basis for major investments and organizational improvements in museums, attractions, and performance venues. Outcomes based on objective project reviews include site selection, project justification, planning development strategies, operating plans, and project funding.

Clients benefit from the firm's breadth of practice that includes all types of museums, aquariums, zoos, performing arts, cultural districts, heritage parks, and comprehensive master planning. ConsultEcon serves large and small museums, established institutions, and start-ups. The firm maintains strict standards for each assignment to ensure that our work is timely, accurate, and respected by clients, funders, professionals, and public reviewers.

### ▶ SELECTED EXPERIENCE

#### TOWER HILL BOTANICAL GARDEN

Boylston, Massachusetts

#### TALTREE ARBORETUM & GARDENS

Valparaiso, Indiana

#### ROCKY HILLS BOTANICAL GARDEN

Cold Spring, New York

#### SEATTLE JAPANESE BOTANICAL GARDEN

Seattle, Washington

### ▶ CONTACT

545 Concord Avenue, Suite 210

Cambridge, Massachusetts

T: 617.547.0100



# Thomas Martin

## PLANNING PRINCIPAL | AICP

Mr. Martin is President and founder of ConsultEcon, Inc., a national and international market, management, and economic development consultancy. He has over 35 years experience in providing consulting services to the museum, travel, tourism and recreation industry, and historic preservation communities.

In addition to consulting on individual museums and attractions, Mr. Martin has been involved in site-specific projects, area-wide studies, national strategy plans, and research and development in the cultural and recreational attractions field.

### ▶ SELECTED EXPERIENCE

#### CLEVELAND BOTANICAL GARDENS

Cleveland, Ohio

#### SEATTLE JAPANESE BOTANICAL GARDEN

Seattle, Washington

#### WESTSIDE PARK MASTER PLAN

Frederick, Maryland

#### LAKE SUPERIOR ZOO MASTER PLAN

Duluth, Minnesota

#### GETTYSBURG NATIONAL MILITARY PARK VISITOR CENTER

Gettysburg, Pennsylvania

#### LAUMEIER INTERNATIONAL SCULPTURE PARK

St. Louis, Missouri

#### EVANS & ROSEDALE NEIGHBORHOOD

Revitalization Plan

Dallas, Texas

#### CHARLES RIVER MASTER PLAN

Boston, Massachusetts

### ▶ EDUCATION / AFFILIATIONS

#### MASTER OF ARTS, PLANNING

University of Washington

AMERICAN INSTITUTE OF CERTIFIED PLANNERS | URBAN

LAND INSTITUTE | NATIONAL PARKS AND RECREATION

ASSOCIATION | AMERICAN ASSOCIATION OF MUSEUMS

Member



# Robert Brais

## PLANNING PROJECT MANAGER | MBA

Mr. Brais is a consultant to an array of client types including non-profit institutions, developers and business owners, national, state and local governments and agencies. He has been identifying success strategies for master plans, development projects and existing institutions for over two decades.

Much of Mr. Brais' work has been in formulating implementable strategies for economic development of municipalities, districts or regions. This includes tourism strategies, development master plans, downtown studies and waterfront plans. Mr. Brais also has extensive experience in land master plans, visitor attractions such as museums, science centers, aquariums, zoos, and entertainment districts.

### ▶ SELECTED EXPERIENCE

#### TOWER HILL BOTANICAL GARDEN

Boylston, Massachusetts

#### ROOSEVELT SANCTUARY AND AUDUBON CENTER

Oyster Bay, New York

#### BELLE ISLE CONSERVANCY CULTURAL CAMPUS PLAN

Detroit, Michigan

#### WALLACE DESERT GARDEN

Scottsdale, Arizona

#### WOODLAWN MUSEUM, GARDENS & PARK

Ellsworth, Maine

#### NIAGARA FALLS AT NIAGARA PARKS MASTER PLAN

Ontario, Canada

#### BOUNDARY TREE MASTER PLAN

Cherokee, North Carolina

#### GETTYSBURG NATIONAL MILITARY PARK VISITOR CENTER

Gettysburg, Pennsylvania

### ▶ EDUCATION / AFFILIATIONS

#### MASTER OF BUSINESS ADMINISTRATION

University of North Carolina, Chapel Hill

#### BACHELOR OF ARTS, ECONOMICS AND POLITICAL SCIENCE

Boston College



# Jason Drebitko

## PROJECT ECONOMIST

Mr. Drebitko brings a broad set of strategic and hands-on operations experiences to his projects and the organizations with which he has worked. His work non-profit and visitor attraction projects during the last two decades has included project development and evaluation; consumer behavior research; fundraising; business and partnership development; executive management; facility planning and capital project management; economic research; new program/exhibit/product development and organizational repositioning strategies.

He has assisted a variety of public and private clients with cultural and arts facilities, historic sites, science centers, zoos, aquariums, natural history museums, environmental attractions, botanical gardens and parks.

### ▶ SELECTED EXPERIENCE

#### SEATTLE JAPANESE BOTANICAL GARDENS

Seattle, Washington

#### HOG ISLAND AUDUBON CENTER

Bremen, Maine

#### ADIRONDACK ECONOMIC DEVELOPMENT STRATEGY

Adirondack Park, New York

#### SUNNYLANDS CENTER AND GARDENS

Rancho Mirage, California

#### GETTYSBURG NATIONAL MILITARY PARK VISITOR CENTER

Gettysburg, Pennsylvania

#### WILD WALK AT THE WILD CENTER

Tupper Lake, New York

#### SHEDD AQUARIUM

Chicago, Illinois

### ▶ EDUCATION / AFFILIATIONS

#### MASTER OF ENVIRONMENTAL MANAGEMENT

Yale University

#### MASTERS OF EDUCATION: RESEARCH METHODS AND PROGRAM EVALUATION

Harvard University



# Sub-Consultants

PARTNER FIRMS	ROLE	% OF TOTAL SERVICES
<b>HGA, Inc.</b> 333 E. Erie Street, Milwaukee, Wisconsin 53202	Management, Planning + Design	50%
<b>ConsultEcon, Inc.</b> 545 Concord Ave. Suite 210, Cambridge, MA 02138	Market, Operational, + Economic Study and Planning	31%
SUB-CONSULTANTS	ROLE	% OF TOTAL SERVICES
<b>Kapur &amp; Associates, Inc.</b> 7711 N. Port Washington Road, Milwaukee 53217	Site Development and Water Strategies	2%
<b>Quorum Architects, Inc.</b> 3112 W. Highland Blvd., Milwaukee, Wisconsin	Community Outreach	13%
<b>Montgomery Smith, Inc.</b> P.O. Box 383, Burlington, KY 41005	Greenhouse Consultant	1%
<b>Middleton Construction Consulting</b> 6009 Cottontail Trail, Madison, WI 53718	Cost Estimating	2%

# Kapur & Associates, INC.

## SITE DEV. AND WATER STRATEGIES | MBE

Kapur & Associates, Inc., established in 1981, is a full service consulting engineering firm with corporate offices on the northeast side of Milwaukee as well as branch offices in Burlington, Green Bay, Wausau, and Chicago. With over 200 professionals, Kapur delivers successful projects to State Agencies including WDSF, WDNR, and WisDOT; Counties and Municipalities; WE Energies; MMSD; as well as Private Development clients and contractors for over 35 years.

Long recognized as an MBE that can deliver, Kapur has positioned themselves to take part in the largest of projects in the City of Milwaukee and Milwaukee County including the Bucks New Arena, Zoo Interchange, Corners of Brookfield, Hoan Bridge, and numerous DSF projects like John R Moses Skilled Nursing Facility, the UW-Accelerator Building, and the UW-Milwaukee School of Public Health.

Kapur staff have provided design and planning services throughout the Mitchell Park grounds since 2005. This includes improvements for access, parking, pedestrian facilities, athletic facilities, lighting, grading, stormwater management, natural resource protection, as well as hazardous material investigation, remediation, and closeout.

The site design team has assisted both Milwaukee County and MMSD on projects within the park, improving water quality through improved runoff control and containment as part of the MMSD Canal Wet Weather Project, and by removing leaking storage tanks on the north side of the park for the County Greenhouse Development Project.

### ▶ SELECTED EXPERIENCE

#### MITCHELL PARK DOMES SITE DESIGN AND PLANNING

Milwaukee, Wisconsin

#### MILWAUKEE BUCKS NEW ARENA

Milwaukee, Wisconsin

#### THE BREWERY DEVELOPMENT

Milwaukee, Wisconsin

### ▶ CONTACT

7711 N. Port Washington Road  
Milwaukee, Wisconsin 53217  
T: 414.751.7200



# Kevin Byrne

## PM/LANDSCAPE ARCHITECT | ASLA, RLA

With 15+ years combined design and management experience in site development, engineering, storm water management, sustainability, landscape architecture and construction, Kevin's diverse knowledge and meticulousness provides the foundation for organizing successful projects.

Collaborating with owner, architect, and engineer, Kevin forges thorough understanding of a project's challenges and vision before establishing a comprehensive, cohesive concept. Throughout design development, Kevin orchestrates detailed plan completion while maintaining constant oversight on project milestones, reviews and approvals.

### ▶ SELECTED EXPERIENCE

#### UWM ACCELERATOR BUILDING (LEED SILVER)

Innovation Park, Wauwatosa, WI

#### ABB CORPORATE HEADQUARTERS (LEED GOLD)

Innovation Park, Wauwatosa, WI

#### UW-MILWAUKEE SCHOOL PUBLIC HEALTH (LEED GOLD)

Milwaukee, WI

#### THE BREWERY DEVELOPMENT (LEED PLATINUM)

Milwaukee, WI

#### MARQUETTE ENGINEERING BUILDING (LEED GOLD)

Milwaukee, WI

#### NORTHWESTERN MUTUAL FRANKLIN (LEED CERTIFIED)

Franklin, WI

#### JF AHERN HEADQUARTERS (LEED GOLD)

Milwaukee, WI

#### MILLER PARK (LEED CERTIFIED)

Milwaukee, WI

### ▶ EDUCATION / AFFILIATIONS

#### BS, LANDSCAPE ARCHITECTURE

University of Wisconsin-Madison

#### AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

#### REGISTERED LANDSCAPE ARCHITECT:

WI, IL

LEED ACCREDITED BD+C

# Quorum Architects, INC.

## COMMUNITY OUTREACH | WBE

Quorum Architects, Inc. is an urban revitalization firm specializing in renovations to the existing built environment. The firm is a diverse group of design professionals with ten registered architects, urban planners, and several interior designers. Quorum believes in a holistic approach to design, with all of the design fields (architects, interiors, landscape architects and engineering consultants) working together in order to create a harmonious and unified finished product. Quorum's strengths include the ability to listen carefully to their client's specific needs and adapt those needs to fit within the unique restraints of each building and site that they encounter. As a result, the firm creates efficient, affordable and functional design solutions that also deliver aesthetic satisfaction.

Quorum specializes in complex community outreach and engagement solutions, such as the Washington Park Revitalization Master Plan that resulted in increased stakeholder buy-in and consensus; and sensitive historical modernization, such as the Blatz Pavilion, whose renovation allowed Lincoln Park to generate revenue from rental spaces and increased community involvement with events like family reunions, parties and weddings.

### ► CERTIFICATIONS

#### DAVID SCHULZ AQUATIC CENTER AT LINCOLN PARK

Milwaukee, Wisconsin

#### BLATZ PAVILION | RENOVATION

Milwaukee, Wisconsin

#### URBAN ECOLOGY CENTER | WASHINGTON PARK CONCEPTUAL PLAN

Milwaukee, Wisconsin

#### WASHINGTON PARK | REVITALIZATION MASTER PLAN

Milwaukee, Wisconsin

### ► CONTACT

3112 W. Highland Blvd.

Milwaukee, Wisconsin

T: 414.265.9265



# Allyson Nemec

## OUTREACH PRINCIPAL | AIA, LEED AP

Allyson has a diverse academic and professional background. Her studies in Architectural History and professional experience in historic preservation architecture make her well-suited for coordinating the architectural and engineering services on renovation and adaptive re-use projects. Allyson has developed Quorum Architects approach to commercial architectural services, which centers on their specialization in programming and understanding the client's business and organization. Allyson is a careful and efficient programmer. She is involved in the schematic design and design development of the firms' projects. In this capacity she has handled many tenant build-outs for various independent renovation and new construction clients.

### ► SELECTED EXPERIENCE

#### MILWAUKEE COUNTY WASHINGTON PARK | REVITALIZATION PLAN

Milwaukee, Wisconsin

#### MILWAUKEE COUNTY COURTHOUSE STUDY PHASE II

Milwaukee, Wisconsin

#### MILWAUKEE COUNTY CONSOLIDATED FACILITY PLAN | CITY CAMPUS RELOCATION

Milwaukee, Wisconsin

#### NORTHWESTERN MUTUAL CAMPUS CONNECTION PROJECT | SIGNAGE & SITE DESIGN

Milwaukee, Wisconsin

#### URBAN ECOLOGY CENTER - WASHINGTON PARK | MASTER PLAN

Milwaukee, Wisconsin

#### WGEMA CAMPUS | RENOVATION MASTER PLAN

Milwaukee, Wisconsin

#### UNIVERSITY OF WISCONSIN - MILWAUKEE | NORTHWEST QUADRANT REDEVELOPMENT PLAN

Milwaukee, Wisconsin

### ► EDUCATION / AFFILIATIONS

#### MASTER OF ARCHITECTURE

University of Wisconsin-Milwaukee

# Montgomery Smith, INC.



# James Smith

## GREENHOUSE AND CONSERVATORY CONSULTANT

Montgomery Smith, Inc. (MSI) is a firm specializing in providing professional services for: Historic Restorations involving Greenhouses and Conservatories, Needs Assessments and Structural Surveys for a wide variety of historic building types with a focus on glasshouse structures and Greenhouse Design for new research facilities and Botanical Gardens.

The owner, James M. Smith, has been involved with historic restoration projects for over forty years and has been involved in glasshouse design, engineering and construction for over 35.

The firm is currently involved with new large-scale public conservatory projects, public conservatory restoration projects, new research greenhouse projects at several universities and public gardens as well as numerous private conservatory and glasshouse renovations and installations.

### ▶ SELECTED EXPERIENCE

#### UNITED STATES BOTANICAL GARDEN

Washington D.C.

#### PHIPPS CONSERVATORY

Pittsburgh, Pennsylvania

#### LEWIS GINTER BOTANICAL

Richmond, Virginia

#### BROOKLYN BOTANICAL GARDEN

Brooklyn, New York

#### BIRMINGHAM BOTANICAL GARDENS

Birmingham, Alabama

#### CLEVELAND BOTANICAL GARDEN

Cleveland, Ohio

#### GARFIELD PARK CONSERVATORY

Chicago, Illinois

#### FREDERIK MEIJER GARDENS

Grand Rapids, Michigan

### ▶ CONTACT

P.O. Box 383

Burlington, Kentucky 41005

T: 859.586.6508

## GREENHOUSE CONSULTANT

James has consulted for a wide range of clients and institutions involved in new research greenhouse design, conservatory design and large scale production greenhouse design. Personal expertise ranges from greenhouse evaluations and design through large-scale restoration construction with an emphasis on systems design for conservatories and research greenhouses.

He leverages his eight years of historic preservation and restoration management into strong systems design and construction management.

### ▶ SELECTED EXPERIENCE

#### PHIPPS CONSERVATORY & PRODUCTION GREENHOUSES

Pittsburgh, Pennsylvania

#### SMITHSONIAN INSTITUTION PRODUCTION GREENHOUSES

Washington, DC

#### UNITED STATES BOTANICAL GARDEN

Washington, DC

#### DENVER BOTANICAL GARDENS

Denver, Colorado

#### DUMBARTON OAKS GREENHOUSE

Washington, DC

### ▶ EDUCATION / AFFILIATIONS

#### B.F.A., DESIGN AND ART

University of Cincinnati College of Design, Architecture, Art and Planning

AMERICAN INSTITUTE OF ARCHITECTS, ASSOCIATE

| AMERICAN PUBLIC GARDENS ASSOCIATION |

INTERNATIONAL SOCIETY FOR HORTICULTURAL SCIENCE

| IMA HORTICULTURAL SOCIETY | CONSERVATION

ASSESSMENT PROGRAM | NATIONAL TRUST FOR HISTORIC PRESERVATION

Member



# Middleton Construction Consulting



## Thomas Middleton

### **COST ESTIMATING** | SDVOSB

Middleton Construction Consulting (MCC) is composed of a group of highly skilled professionals who focus on Construction Cost Estimating and Owner's Representation. The firm's objective is to help clients complete their projects on time and on budget.

MCC has an experienced staff that have the skills to manage our clients' construction costs. They have expertise in construction management and construction cost estimating. Cost estimates can be provided at all design stages and for all construction disciplines.

They use the latest technologies and software to prepare our estimates, which allows them to complete estimates with the highest levels of accuracy, timeliness and consistency. MCC's digital takeoff software enables them to measure quantities with incredible accuracy. Those quantities are then imported into estimating software that contains thousands of unit costs that have been developed through the historical data we have collected. MCC consistently maintains the most current material costs and productivity rates, and has the ability to adjust labor rates according to the region that the project is in. They also utilize BIM (building information management) and Revit models to supplement estimating efforts. MCC is committed to utilizing all resources available to our industry so that they may provide the highest levels of service to clients.

#### ▶ **SELECTED EXPERIENCE**

##### **CITY OF WISCONSIN RAPIDS WATERFRONT PARK DEVELOPMENT**

Wisconsin Rapids, Wisconsin

##### **CITY OF MADISON MUNICIPAL BUILDING**

Madison, Wisconsin

##### **UNIVERSITY OF WISCONSIN AT MADISON NEAR WEST PLAYFIELDS**

Madison, Wisconsin

#### ▶ **CONTACT**

6009 Cottontail Trail  
Madison, Wisconsin 53718  
T: 414.716.4400

### **COST ESTIMATOR** | CPE

Tom leads cost estimating services for all projects. He has 18 years in the commercial construction industry leading many major projects to successful completion. His experience ranges from healthcare to commercial buildings to schools and corporate headquarters. Tom has worked in both direct, hands-on, field roles as well as project leadership roles.

Based on his intimate knowledge of the construction process he understands the nuances of taking an idea from concept to completion. Tom is a Certified Professional Estimator with the American Society of Professional Estimators. He is an active member of the Society of American Engineers (SAME), and the American Society of Professional Estimators (ASPE).

#### ▶ **SELECTED EXPERIENCE**

##### **CITY OF WISCONSIN RAPIDS | WATERFRONT PARK DEVELOPMENT**

Wisconsin Rapids, Wisconsin

##### **MILWAUKEE COUNTY | PARK LAKE BRIDGE**

Milwaukee, Wisconsin

##### **CITY OF MADISON | NAKOOSA TRAIL FACILITY**

Madison, Wisconsin

##### **MILWAUKEE PUBLIC MUSEUM | STRUCTURAL REPAIRS TO THE NORTH PLAZA**

Milwaukee, Wisconsin

#### ▶ **EDUCATION / AFFILIATIONS**

##### **BA, INTERNATIONAL BUSINESS**

Frostburg State University

##### **SERVICE DISABLED VETERAN - SDVOSB**

##### **SOCIETY OF AMERICAN ENGINEERS**

##### **AMERICAN SOCIETY OF PROFESSIONAL ESTIMATORS (ASPE)**

##### **AMERICAN SOCIETY OF PROFESSIONAL ESTIMATORS (CPE)**



# Project Approach

## FUTURE PATH AND FEASIBILITY STUDY

HGA and ConsultEcon share longstanding commitments and national reputations for our collective experience with the planning and design of important cultural destinations throughout the country. ConsultEcon specializes in the early assessment of market conditions, both capital and operational financial feasibility, and organizational strategies that have assisted their clients to position themselves for a sustainable future. HGA brings deep expertise in the programming, planning and design of cultural facilities, together with an urban design perspective that enhances the communities in which these facilities are located. Our collective approach toward the study that you have defined in the RFP is an outcome of integrating our best practices and, together with the consultant team that we have assembled, tailoring our efforts to focus on the specific opportunities and constraints that exist at Mitchel Park today.

## Phase I - Feasibility Study

The objective of Phase I is to identify the long term opportunities for the Park and Conservatory through evaluation of the Programs and Services, Revenue Generation and Financial impacts, Operations and Management, Social and Economic Impacts, and Site and Facilities. ConsultEcon will lead our Phase I effort, with the support of HGA and the input of our consultant team where appropriate.

Our study will be initiated through review of relevant past studies, public input and other data currently available for the site in order to deepen our current knowledge regarding Mitchell Park, its history and its place in the community. HGA has a high level of site knowledge due of its base in and ties to Milwaukee, and Jim Shields has a deep personal knowledge of the design work of Architect Don Grieb based on past research. We will build on this knowledge by completing in-depth interviews with leadership and stakeholders as the project is initiated.

### GOALS AND OBJECTIVES

The goals that you have outlined for the study have directly informed the process that we are recommending in this proposal. Goal setting is an essential step in our process, and we will facilitate discussion around the specific objectives that you have for the future of this important cultural facility.

These goals and objectives may include:

### GOALS

- ▶ Increase overall attendance
- ▶ Improve seasonality
- ▶ Increased flexibility and long-term adaptability to balance day to day programming and evening events
- ▶ Encourage repeat visitation
- ▶ Attract new audiences especially out-of-towners
- ▶ Increase education and public programs
- ▶ Improve group and event facilities to provide more public service and increased net income
- ▶ Improve auxiliary revenue opportunities and possible new sources for overall new increased earned revenues
- ▶ Replace / repair failing or inadequate building systems and building fabric
- ▶ Improve operating efficiency
- ▶ Augment and/or change the organization to provide a level of operations, customer service, education and outreach commensurate with the market opportunity, facility capacities, optimum use of available resources, and most beneficial balance of revenues, expenditures and public benefits
- ▶ Justify increased grants, gifts and public and private support
- ▶ Enhance Mitchell Park Horticultural Conservatory as a well-used and even more beloved Milwaukee icon

## OPPORTUNITIES

The nature of the opportunities that are identified, together with the criteria that we utilize to evaluate each, are inspired by a highly interactive process with the leadership and staff that understand the existing facility and current state of operations best.

Each of the opportunities that evolve from our process are evaluated on the basis of decision drivers, that include the following:

- ▶ Audience Development opportunities
- ▶ Physical Environment improvement opportunities
- ▶ Visitor Experience opportunities
- ▶ Operations / Organizational opportunities
- ▶ Improved Economic Outcome opportunities
- ▶ Preservation of beloved historic buildings/neighborhood amenities
- ▶ Sustainability in all its forms—the important historical buildings, the plant collections, contributions to environmental sustainability and economic sustainability

Because the Future Path and Feasibility Study is based on balancing these topics for the optimum outcomes, and because the topics and their opportunities for change affect each other, a multi-disciplinary and iterative process is the best approach as outlined in your RFP.

Benchmarking best practices around the country will be an important element of the process of envisioning a new “future state” for the Conservatory. We will bring our national knowledge and experience to you, supplemented by information researched regarding your peer group. This process has proven to spark new insights and fresh opportunities that can have a significant impact on the direction that is ultimately chosen.

From beginning to final report, Milwaukee County leadership, other stakeholders and the public at large will be frequently asked for their input on goals, opportunities, challenges and solutions, and to provide input into the evaluation of the tradeoffs, which are inherent in revitalizing such an important public place.

## CHALLENGES

In addition to identifying and analyzing opportunities through all three phases, we will address both the existing and potential future challenges that Mitchell Park Horticultural Conservatory faces. These too will be addressed in a systematic and multi-disciplinary process, sharing the same approach to opportunities. Indeed, many “opportunities” create new sets of “challenges” in their own right. Our process will identify, evaluate, weigh and prioritize the challenges, so as to create clarity around those that stand in the way of your long term vision.

A few of these challenges are evident today, and include:

- ▶ Aging and inadequate building systems
- ▶ Need for structural repairs
- ▶ Site and infrastructure upgrades
- ▶ Obsolescence of some of the available spaces compared to contemporary needs
- ▶ Need to create enhanced visitor experiences that change by season and over time
- ▶ Highly seasonal attendance pattern
- ▶ Need for more revenues from current categories, and possibly new categories
- ▶ Operating efficiencies in facility and campus operations
- ▶ Attracting new non-government partners and increased public involvement

## STRATEGIC PLANNING AND EVALUATION

Driven by the leadership of ConsultEcon’s team, a multi-disciplinary analysis of up to six opportunities, or “big ideas”, with corresponding cost implications will emerge from our strategic assessment and discussion with the Task Force. The specific opportunities will be tested continuously throughout the Phase I process, with the goal of capturing the perspective of this important community leadership group.

The opportunities that are chosen by the Task Force to advance to Phase II may include a range of strategies, including physical alterations and expansions, new or enhanced visitor experiences and management and operations changes.

# Phase II - Public Outreach Program

The objective of Phase II is to facilitate a meaningful community dialogue around the future of Mitchel Park and the Conservatory, utilizing the specific opportunities that were identified in Phase I to focus the conversation. We understand that this dialogue will provide important insight that will be utilized by the Task Force to ultimately prioritize opportunities that will form a final concept for implementation. Quorum Architects will lead our Phase II effort, with the support of ConsultEcon, HGA, and our consultant team where appropriate.

Our approach toward designing and facilitating a public outreach program on behalf of Milwaukee County is to strategically target stakeholder groups whose perspective will be of greatest value to the Task Force, while creating portals for broad input from the community at large. We will work with Task Force leadership to build upon past community events so that appropriate continuity is maintained with groups that have previously invested their time and energy into this process. Content from our analysis in Phase I relative to the opportunities selected by the Task Force will be utilized to inform and educate the public audience about each opportunity and corresponding implications.

It should be noted, that any given opportunity should not be evaluated in isolation. Cumulative effects and total plan impact must be considered in the evaluation of opportunities.

The outcome of Phase I is critically important, as it will form the basis of the remaining process, and serve as a platform for community input in Phase II, and ultimately the basis for implementation planning in Phase III.

## OUTREACH PROGRAM

We envision a program that includes:

- ▶ A continuation of the web-based portal that has already been established for input, with new content that will focus the dialogue on the specific opportunities selected by the Task Force.
- ▶ A series of four Town Hall format meetings, with a presentation of the opportunities by our consultant team to focus the discussion.
- ▶ Meetings with four community/stakeholder groups, selected by the Task Force, to better understand their perspective on which opportunities best create a long term platform for success.

The input will be collected and documented in a way that identifies shared “points of view” regarding the community’s priorities. Ultimately, this information will be presented to the Task Force for consideration as they identify opportunities that will be advanced to Phase III for implementation planning.



# Phase III - Implementation Planning

The objective of Phase III is to develop conceptual implementation plans for up to three opportunities that were identified by the Task Force. The implementation plans will translate ideas and opportunities into conceptual plans, ultimately providing definition for the scope of each set of proposed physical improvements. HGA will lead our Phase III effort, with the support of ConsultEcon and our consultant team where appropriate.

## CONCEPT DEVELOPMENT

Definition of the physical characteristics for each opportunity will be developed and include the following:

- ▶ Space Needs analysis, resulting in a conceptual level space program
- ▶ Facility planning resulting in functional diagrams that illustrate key adjacencies, new functions for existing space, relationship of existing and new space, and key functional site elements.
- ▶ Conceptual design that illustrates the potential of each opportunity, and identifies the scope of physical modifications required for implementation.

Our approach to developing a conceptual vision of each opportunity will be to utilize the expertise and input from our entire team to shape a design concept that responds to the functional, physical, and operational requirements that were identified. Modifications required to major building systems will be identified, and the scope of any new buildings defined.

## BUDGET DEVELOPMENT

Budgets will be developed for each opportunity concept, including building related costs, infrastructure requirements and long term O&M costs. In addition to the traditional cost estimating related to the physical improvements being proposed, ConsultEcon will provide deeper investigation and insights into the earned revenue potential and operating approaches/costs that should be anticipated by each concept. The budget analysis will ultimately be evaluated on the basis of ROI, including not just capital and operating dollars, but also the socio-economic impacts and planning for the surrounding urban areas. In addition, we will work with the Task Force to identify funding alternatives that will uniquely support each opportunity.

## INNOVATIVE APPROACH

As an example of how the multi-disciplinary team of HGA, together with the diverse expertise of our entire team will bring an innovative approach to Phase III tasks, we offer the following insights into addressing the complex issues regarding the failing building envelopes of the domes.

While a strict historic preservation attitude is one possibility for the domes, there is another direction perhaps more in keeping with the original experimental attitude that architect Donald Grieb brought to his work decades ago. Just as the arrival of precast concrete and large float glass production gave architect Donald Grieb the freedom to design the domes, new materials continue to arrive on the scene that might provide insights for the restoration of the domes.

One such material is ETFE, and highly durable, strong yet lightweight plastic that has been making significant inroads in greenhouses and conservatories. The world-renown "Eden Project" conservatory in Cornwall, England is entirely clad in ETFE. With several tall domes and irregular glazing shapes the Eden Project shares some striking similarities with Milwaukee's Domes. HGA has closely followed the developments in ETFE, and has recently organized a seminar at UWM with one of Europe's technical experts in the field. The German company Novum Structures is leading in the ETFE industry, and interestingly their North American HQ is here in Milwaukee. It is a strong possibility that ETFE might be a "silver bullet solution" for the domes. With its weight just a fraction of glass, ETFE could significantly reduce dead loads on the existing precast structure. Inflated "pillows" of ETFE (which are common) can have several layers, increasing their thermal performance. ETFE is also available in a very transparent, form and can admit more daylight than glass products. The pillows can also be designed with a "dynamic solar shading" function, such that at the touch of a dial the pillows can alter their configuration such that summer solar gain is reduced throughout the facility.









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**SUBCONTRACTOR/SUBCONSULTANT/SUPPLIER INFORMATION SHEET**

Milwaukee County requires the following collection of information on all subcontractors, sub-consultants and/or suppliers submitting quotes on Milwaukee County projects. This information is to be submitted with bid/proposal.

**PROVIDE THE FOLLOWING INFORMATION ON EACH BID/QUOTE**

Name	CERTIFICATION DBE, MBE, WBE or none	Address	Date Firm Established	Work or Service to be Performed
Kapur & Associates, Inc.	MBE	7711 N. Port Washington Rd Milwaukee, WI 53217	1981	Site Development and Water Strategies
Quorum Architects, Inc.	DBE + WBE	3112 W. Highland Blvd. Milwaukee, WI 53280	1993	Community Outreach
Middleton Construction Consulting	DBE	6609 Cottontail Trail Madison, WI 53718	2012	Cost Estimating

**Note: Information gathered on the background and financial status of firms is protected from disclosure by Federal Regulation.**





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