# Mitchell Park Horticultural Conservatory

## Presented to:
## Milwaukee County

## January 4, 2017

GRĀEF

# Current Conditions

GRĀEF

# Current Conditions

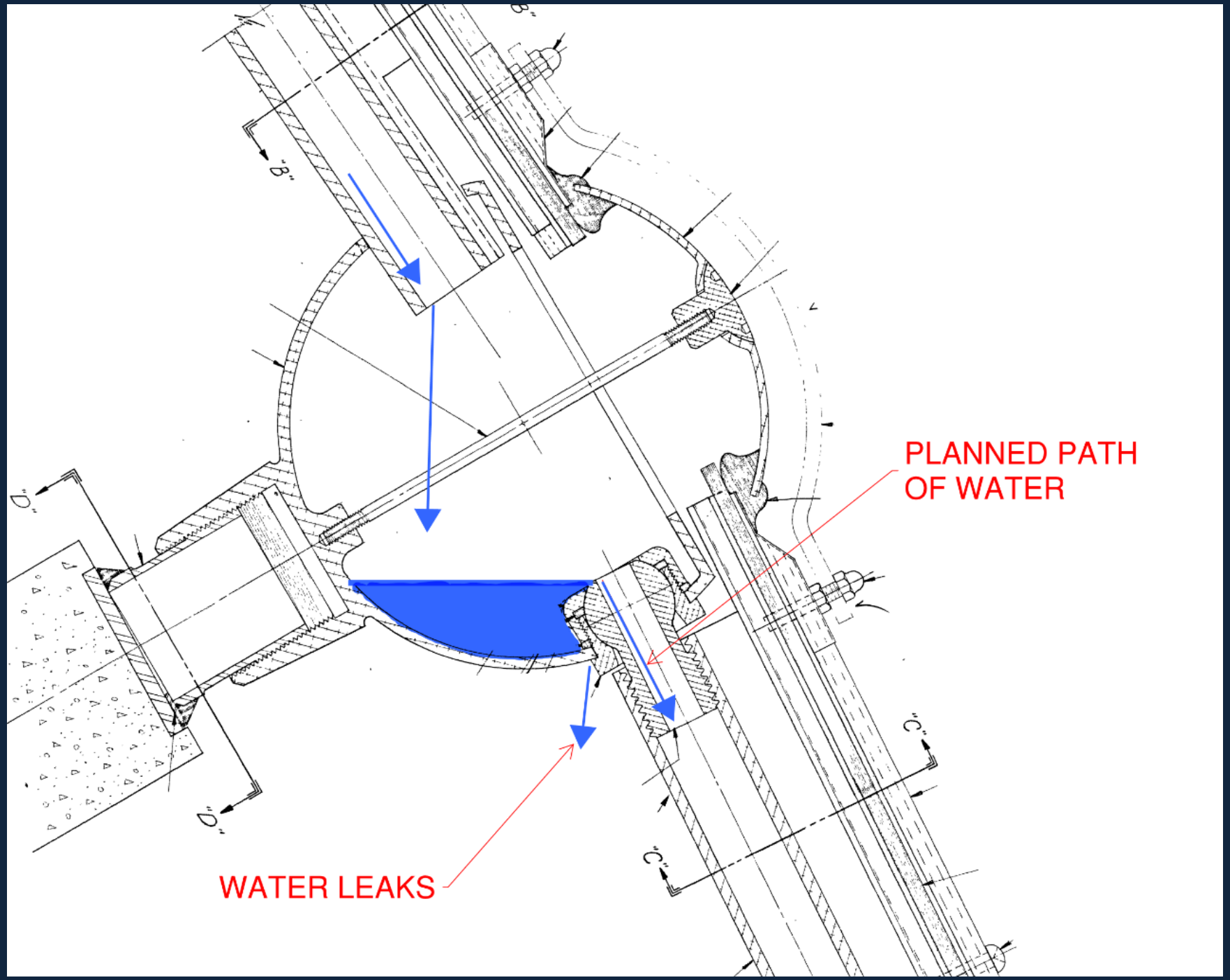
## Construction

- Concrete frame with steel plates at window attachment
- Aluminum hubs and window system

# Current Conditions

## Window System Condition

- Cracked panes of glass
- Leaks within window system


"B"
"D"
"C"
PLANNED PATH
OF WATER
WATER LEAKS

# Current Conditions

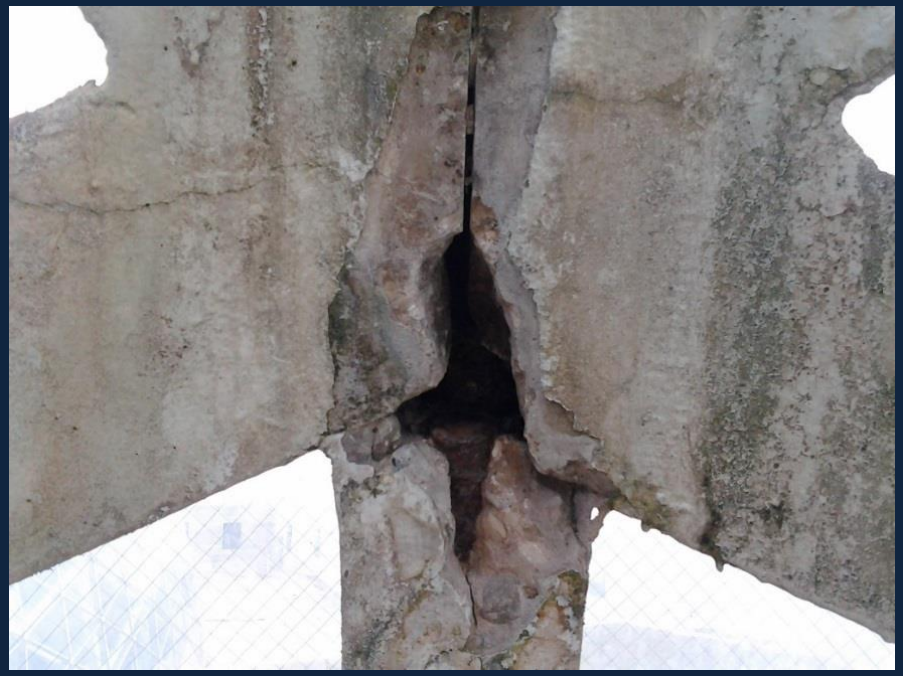
## Concrete System Condition

- Cracking concrete at edge of embedded plate

# Current Conditions

## Concrete System Condition

- General condition is good at this time, but will deteriorate with continued exposure to water
- Isolated areas of rebar deterioration



# Current Conditions

## Access for Inspection and Repair

- Interior – Special lift, requires Dome closure, affects plants
- Exterior – Crane for window pane replacement

# 2016 Update on Costs and Options for Domes

GRÄEF

# 2016 Update on Costs and Options for Domes

## 2008 Cost Study Options

- Replace only damaged glass
- Replace all glass
- Replace all glass – install new aluminum façade
- Install new glass and new self-supporting aluminum façade
- Install new glass and new self-supporting aluminum façade and remove concrete frame

# 2016 Update on Costs and Options for Domes

## Previous Studies and Repairs

| | |
|---|---|
| 1965-1992 | Minor Repairs and Glass Replacement |
| 1993-1999 | Inspection and Repairs |
| 2006-2008 | Study and Report |
| 2012-2014 | Glass Repairs in Tropical Dome |
| 2013-2014 | Inspection and Removal of Loose Concrete |
| 2015-2016 | Inspection and Installation of Mesh |

# 2016 Update on Costs and Options for Domes

## Changes since 2008

- Physical
- Horticultural
- Lessons Learned
- Market Changes
- Changes in Scope of Project

# 2016 Update on Costs and Options for Domes

## Physical Changes *(since 2008)*

- Continued leakage causes rusting of embedded plates
- Rusting plates cause cracking of concrete
- Leakage threatens reinforcing in the concrete ribs
- 1,150 out of over 9500 panes of glass have been replaced
- Minor shifting of aluminum framework
- Stainless steel mesh installed in 2016

# 2016 Update on Costs and Options for Domes

## Horticultural Changes *(since 2008)*

- Leaking has impacted plant layout and plant health
- Temperature control is difficult and affects plant health
- Some plants are rare, difficult to move or replace
- New greenhouse provides an opportunity to store plants

# 2016 Update on Costs and Options for Domes

## Lessons Learned *(since 2008)*

- Access to exterior surfaces improved with customized work platforms
- Access to interior surfaces improved with new articulated lift
- Cost of access more defined
- Shifting aluminum framework
- Brittleness of wire glass

# 2016 Update on Costs and Options for Domes

## Market Changes *(since 2008)*

- Inflation of construction costs
- Revised budgetary estimates from suppliers
- Local / regional competition
- Economic climate has improved

# 2016 Update on Costs and Options for Domes

## Changes in Scope of Project

- Code compliance
- ADA upgrades
- Variable project contingency
- Project soft costs adjusted to current conditions

# 2016 Update on Costs and Options for Domes

## 2016 Cost Update Caveats

- Comparative study – not a project cost or budgetary estimate
- 2019 project construction
- Foundations assumed to be in good condition
- Operating costs may vary substantially
- Horticultural impacts may vary
- Revenue and revenue flexibility will vary
- All options to meet code and ADA requirements

# 2016 Update on Costs and Options for Domes

## Option R

- Complete replacement (in kind) on existing foundation
- New aluminum and glass façade
- Remove concrete frame, replace with new concrete frame
- New mechanical system
- Code / ADA upgrades

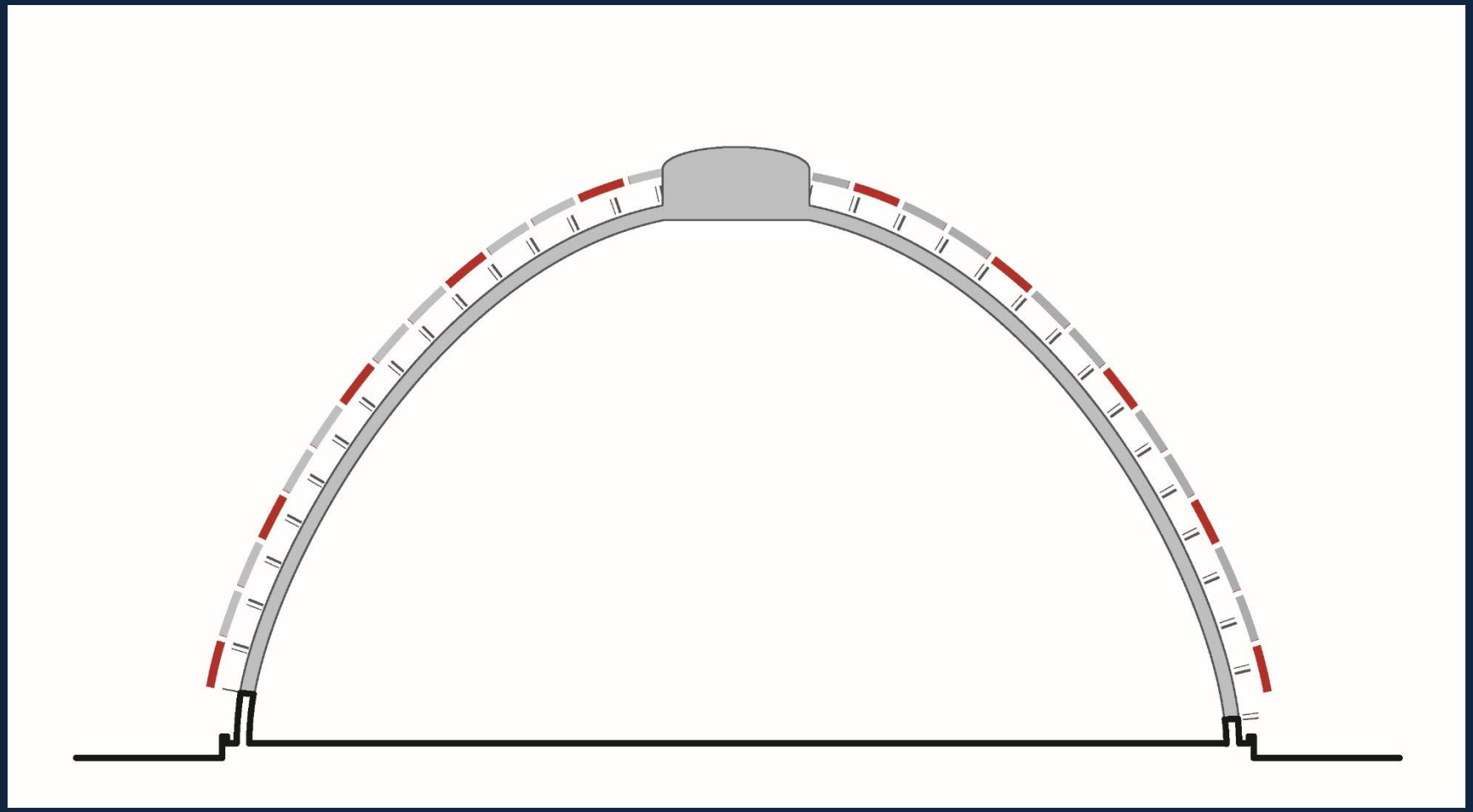
Estimated Cost = $64 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is Removed

# 2016 Update on Costs and Options for Domes



## Option 1 – Replace Broken Glass

# 2016 Update on Costs and Options for Domes

## Option 1

- Replace only broken glass
- Replace all gaskets for all glass
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

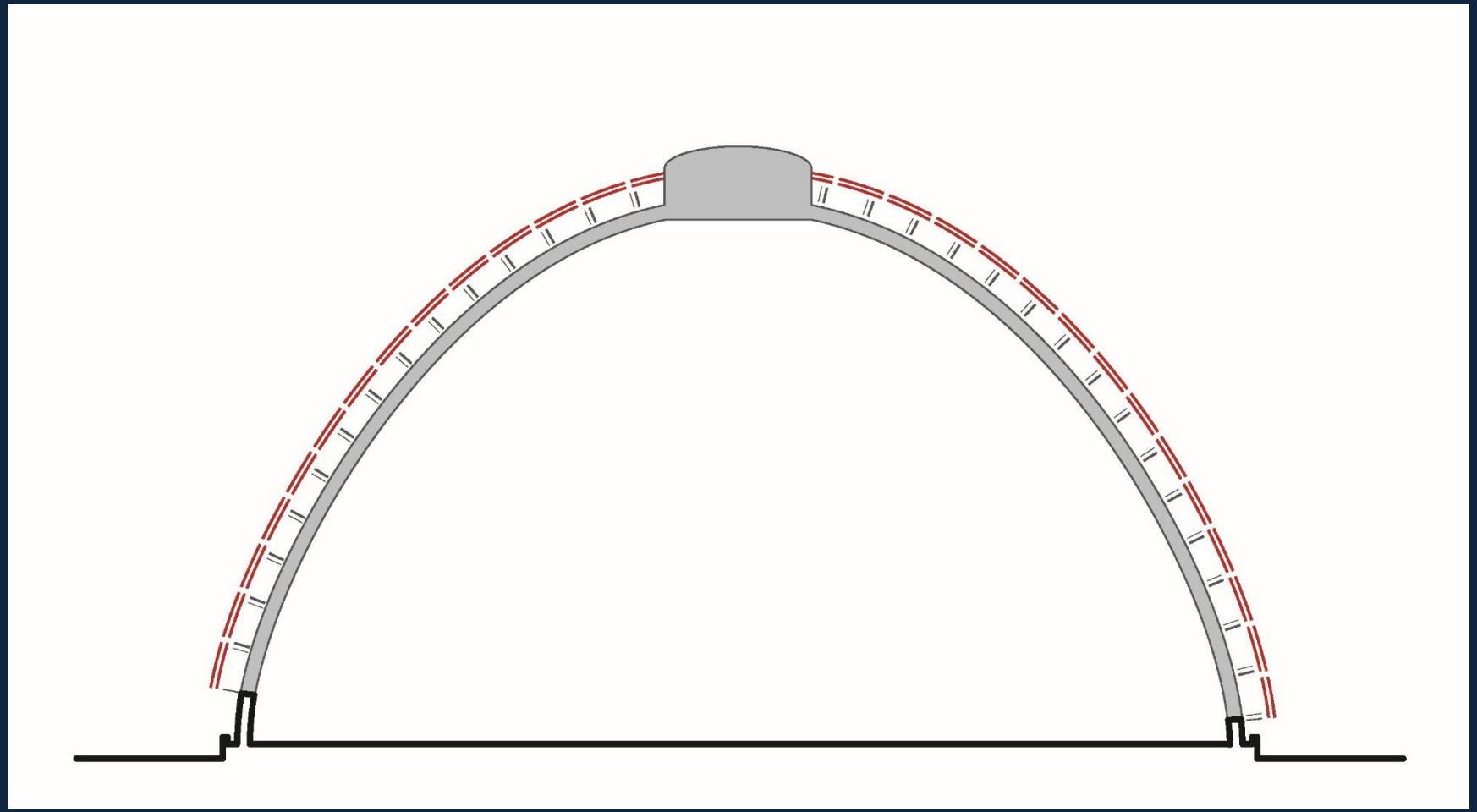
Estimated Cost = $14 million

Estimated Life = 5-10 years

Very High Level of Maintenance Required

Wire Mesh Remains

# 2016 Update on Costs and Options for Domes



## Option 2 – Replace All Glass

# 2016 Update on Costs and Options for Domes

## Option 2

- Replace all glass with insulated glass
- Replace all gaskets for all glass
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

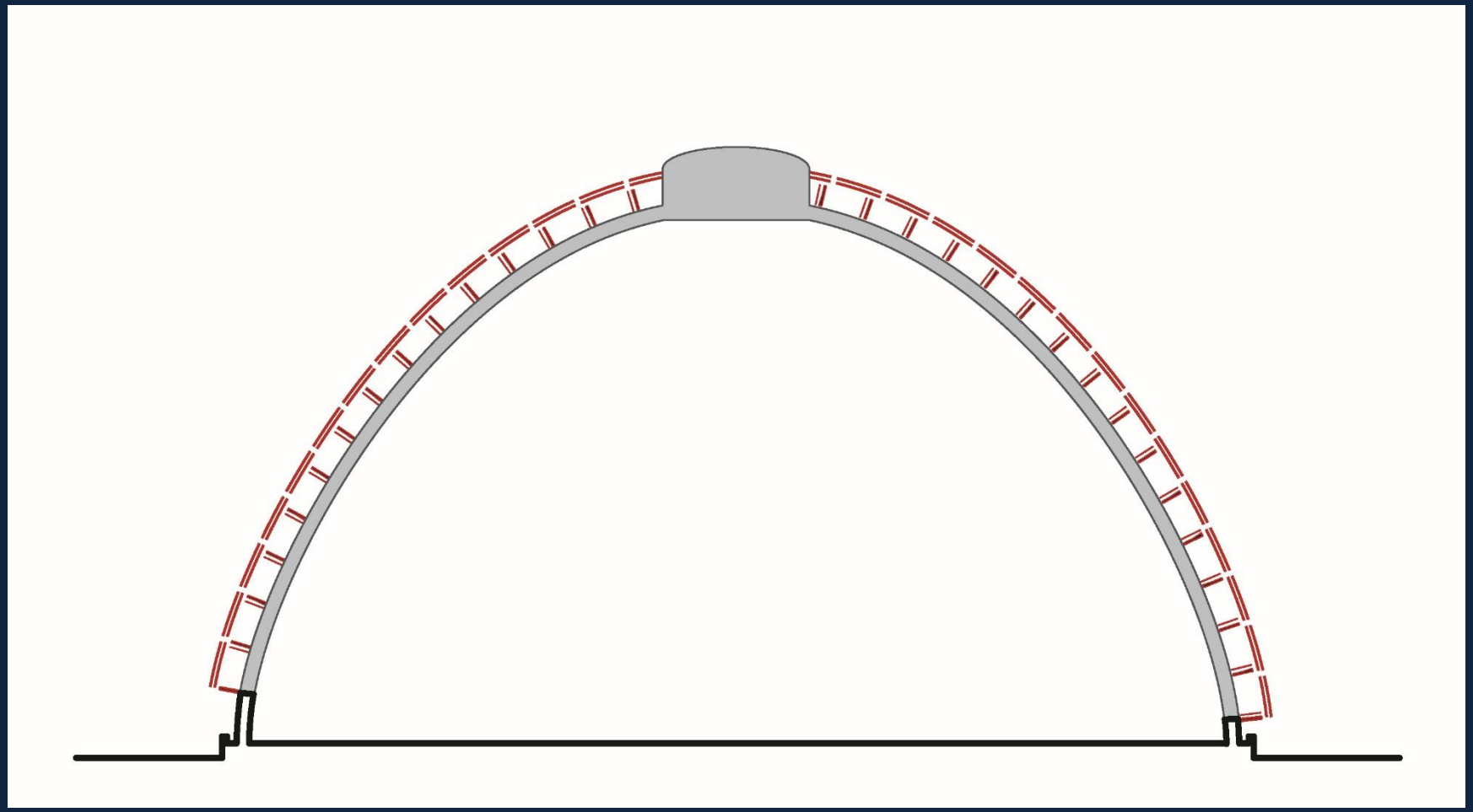
Estimated Cost = $38 million

Estimated Life = 15-20 years

High Level of Maintenance Required

Wire Mesh Remains

# 2016 Update on Costs and Options for Domes



Option 3 – New Façade

# 2016 Update on Costs and Options for Domes

## Option 3

- Replace all glass with insulated glass
- Complete replacement of aluminum framework
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

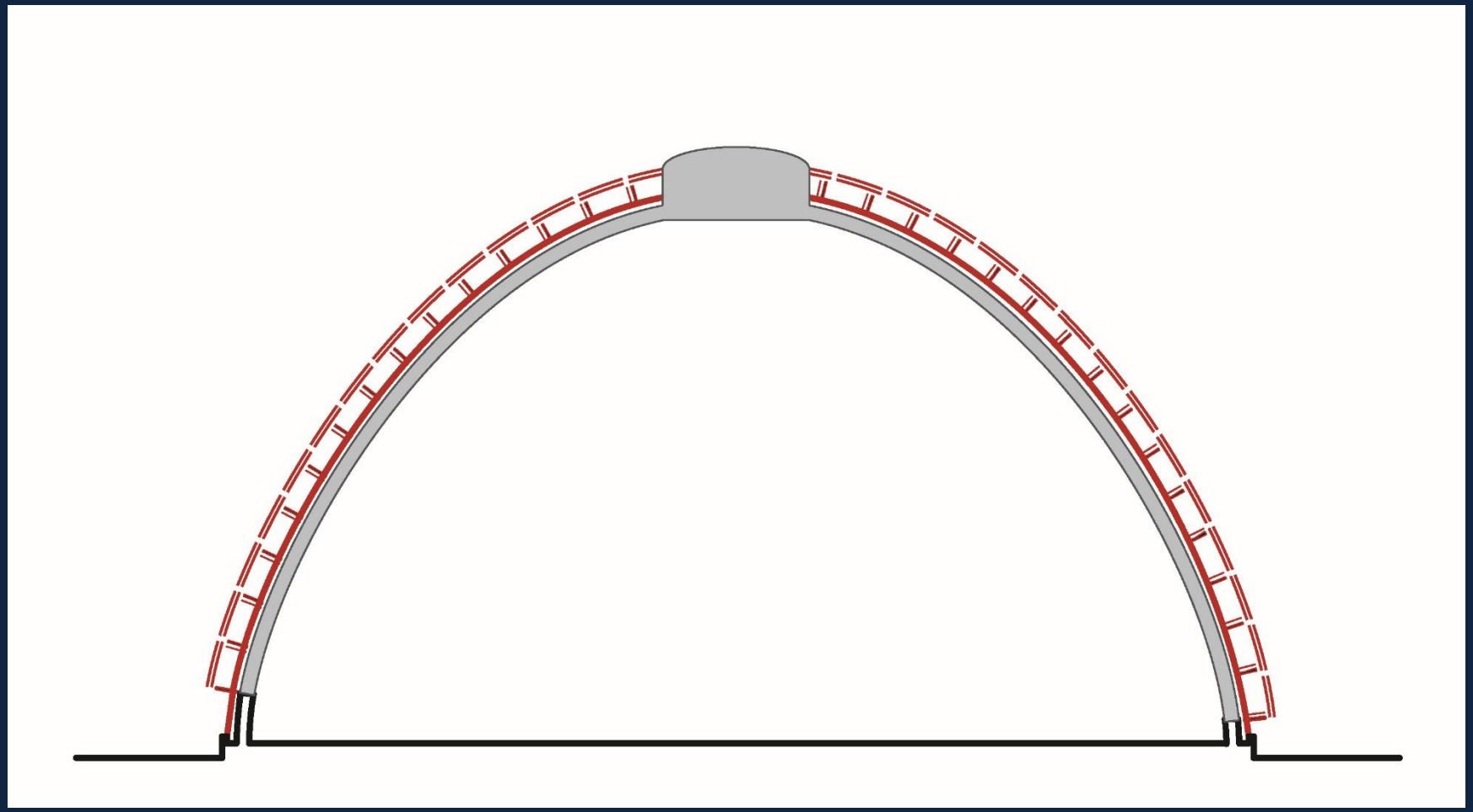
Estimated Cost = $47 million

Estimated Life = 25-30 years

High Level of Maintenance Required

Wire Mesh Remains

# 2016 Update on Costs and Options for Domes



Option 4 – New Self-Supporting Façade

# 2016 Update on Costs and Options for Domes

## Option 4

- Replace all glass with insulated glass
- Complete replacement of façade with new self-supporting aluminum framework
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

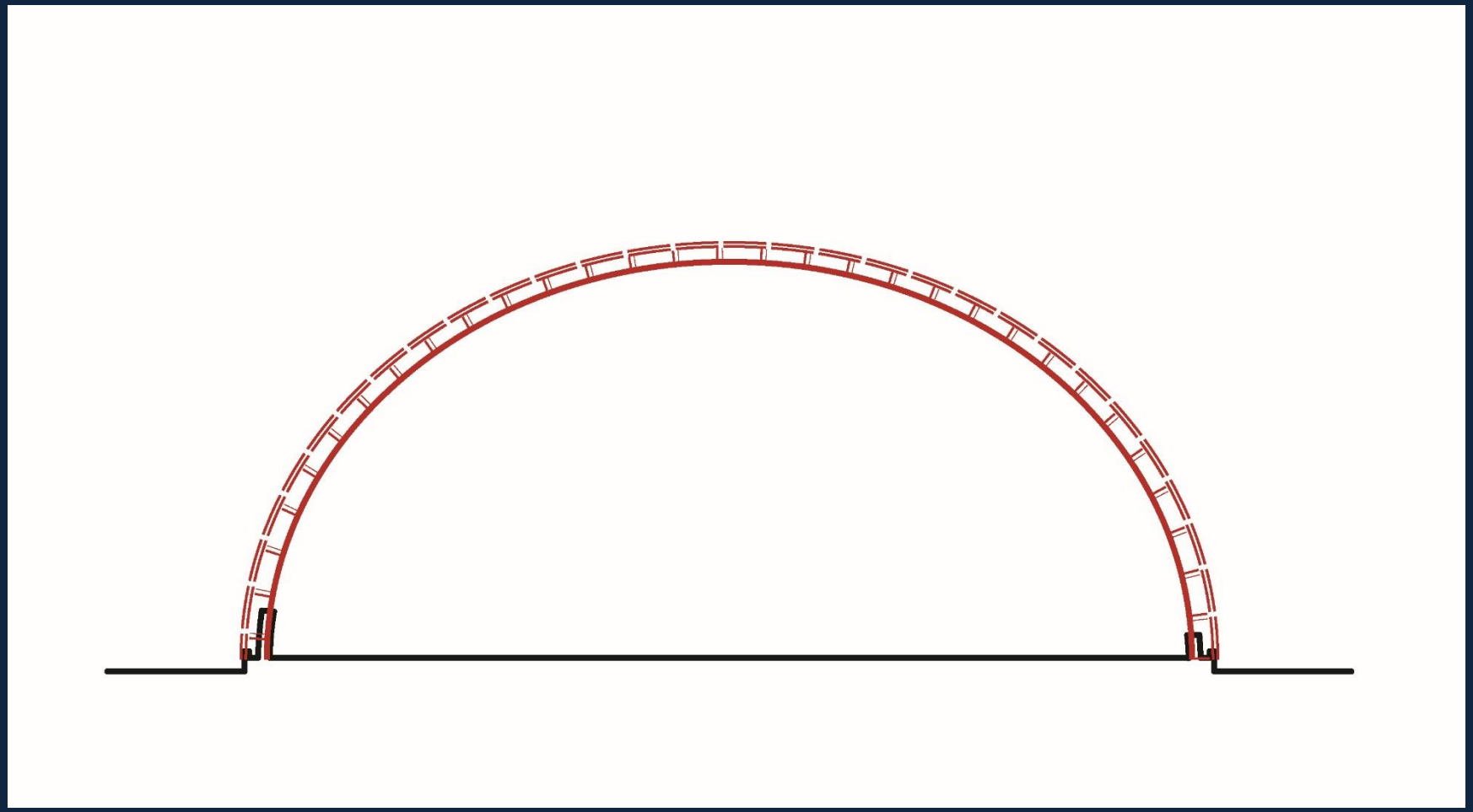
Estimated Cost = $54 million

Estimated Life = 25-30 years

High Level of Maintenance Required

Wire Mesh Remains

# 2016 Update on Costs and Options for Domes



## Option 5 – New Self-Supporting Façade and Remove Concrete Frame

# 2016 Update on Costs and Options for Domes

## Option 5

- Replace all glass with insulated glass
- Complete replacement of façade with new self-supporting aluminum framework
- New geodesic profile 10-15 ft. lower than current
- Remove concrete frame
- Replace all mechanical equipment

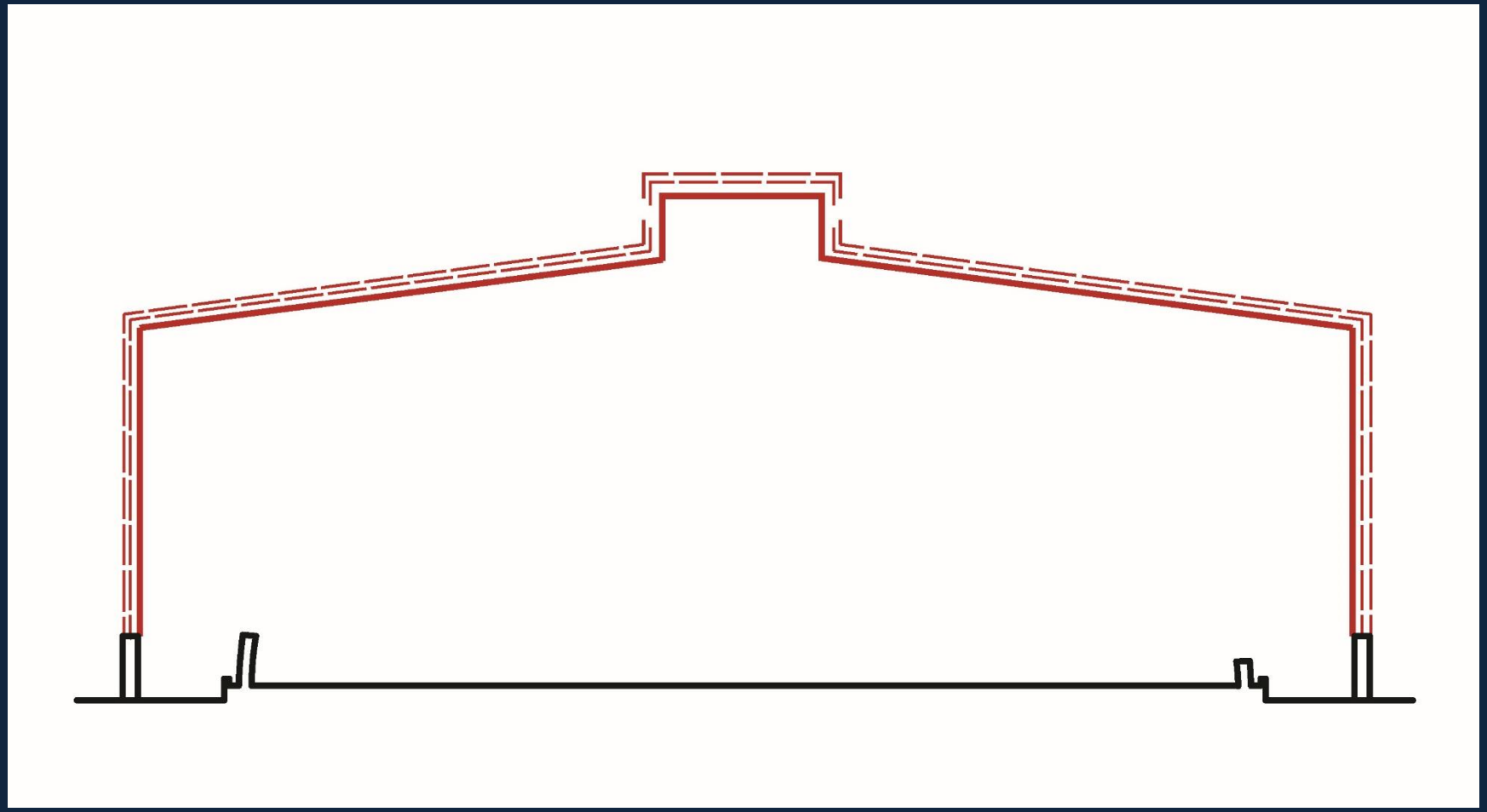
Estimated Cost = $50 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is not Necessary

# 2016 Update on Costs and Options for Domes



## Other Options – New Facility

# 2016 Update on Costs and Options for Domes

## Other Options

- General comparative cost only
- Excludes cost of infrastructure
- Demolition of existing domes is included
- Display space assumed to be the same as current
- Support spaces modified to address current shortcomings

Estimated Cost = $50-$70 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is not Necessary

# 2016 Update on Costs and Options for Domes

## Summary

- Option R – New Façade – Rebuild Concrete Frame = $64 million
- Option 1 – Replace Broken Glass = $14 million
- Option 2 – Replace All Glass = $38 million
- Option 3 – New Façade = $47 million
- Option 4 – New Self-Supporting Façade = $54 million
- Option 5 – New Self-Supporting Façade and Remove Concrete Frame = $50 million
- Other Options – New Facility = $50-$70 million

# CASE STUDIES

## What can we learn from other facilities?

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
| --- | --- | --- | --- |

# FRAMEWORK OF ISSUES & OPTIONS

## Structure & Functionality

- Historic value
- Type of structures
- Functionality
- Organization
- Size
- Costs
- Integration of uses

## Programming & Operations

- Attendance
- Plant value
- Staff size
- Exhibits
- Shows
- Education
- Track record

## Revenue, Finance, & Management

- Expenses
- Revenue
- Donations
- Fee
- Ownership
- Site control

## Social & Economic Impact

- Community identity
- Community engagement
- Architectural value
- Tourism impact
- Economic benefits

# MITCHELL PARK CONSERVATORY

## Structure & Functionality

- Historic recognition
- 3 “unique” (conoidal) domes
- 46K sf plants
- 100K sf +/- other
- Inflexible layout
- Does not meet codes
- Small non-plant areas
- High costs: repair, maintenance, and renovation
- Inefficient energy systems

## Programming & Operations

- 200-300k attendance
- Limited hours
- Plants @ $3.2M
- 10 +/- conservatory staff
- Strong potential
  - ✓ *“Friends” group*
  - ✓ *track record*
  - ✓ *education program*
  - ✓ *events program*
- Programming with available space
- Limited park integration
- No outdoor programs
- Facility shortage

## Revenue, Finance, & Management

- $1.4M expense
- $0.8M earned revenue
- Limited donations
- Low fee $7
- Mission support
- Public ownership
- Dual site management

## Social & Economic Impact

- Community icon
- Limited area impact
- Neighborhood potential
- Attracts visitors
- Minimal direct economic impact

# SELECTED CASE STUDIES

Missouri Botanical Garden (St. Louis, MO)

Phipps Conservatory and Botanical Gardens (Pittsburgh, PA)

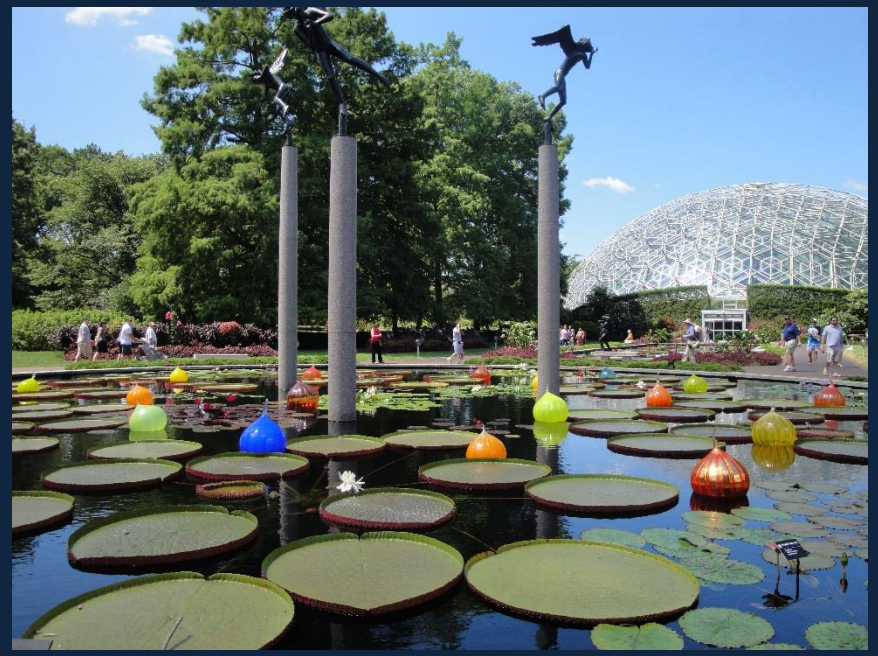
Lucile Halsell Conservatory at the San Antonio Botanical Garden (San Antonio, TX)

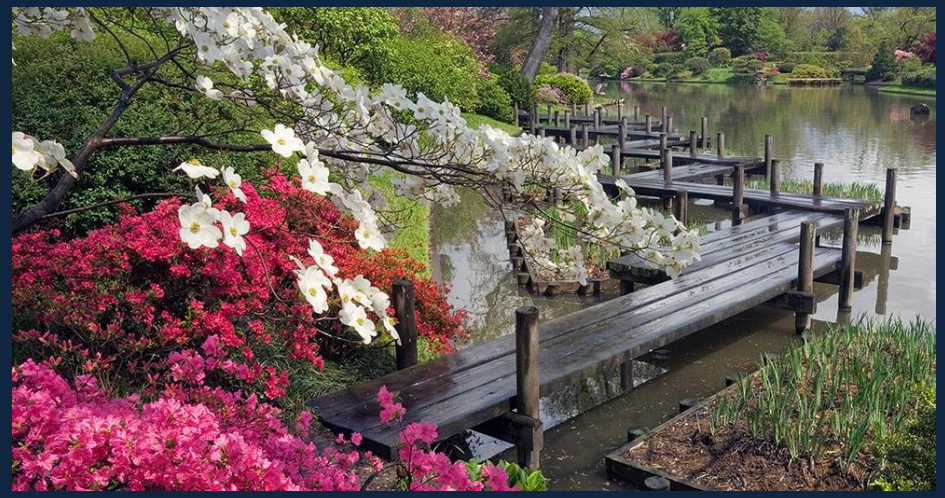
Forthcoming:

Garfield Park Conservatory (Chicago, IL)

Garfield Park Conservatory & Sunken Garden (Indianapolis, IN)

# MISSOURI BOTANICAL GARDEN St. Louis





# MISSOURI BOTANICAL GARDEN St. Louis

## Structure & Functionality

- Geodesic dome 1960
- 23K sf; 79 acres
- 380K sf of exhibitions, research, and offices
- Attend: 1.04M
- Victorian District & Grove House 1849
- Founded in 1859
- National Historic Landmark;
- National Register of Historic Places

## Programming & Operations

- Teacher development
- Therapeutic horticulture
- Master gardeners
- Community gardening
- Center for Conservation & Sustainable Development
- Cafés
- 435 staff

## Revenue, Finance, & Management

- Exp: $43M
- Rev: $45M
- Net Rev: $2.6M
- General Admission: $8 (discounted for St. Louis City/County residents)
- Zoo & Museum District provide tax-based revenue
- Corporate sponsors with naming rights
- Donations: $8M
- Not-for-profit trust
- independent of local gov't

## Social & Economic Impact

- Historical structures
- Community outreach and education
- Benefits from larger tax district
- Public-private partnerships

# PHIPPS CONSERVATORY & BOTANICAL GARDENS

Pittsburgh

# PHIPPS CONSERVATORY & BOTANICAL GARDENS

Pittsburgh

## Structure & Functionality

- Original Victorian-style conservatory built in 1893 (43.5K sf)
- Additional 229K sf: Welcome Center, Production Greenhouse, Tropical Conservatory, Lecture Hall, & special education spaces
- Founded in 1893

## Programming & Operations

- Monthly programming and specialty shows
- Art collections, certificate classes, seasonal camps, internships
- Teacher Advisory Committee
- Homegrown healthy food initiative
- Phipps Research Institute for Biophilia and Science Engagement
- Café

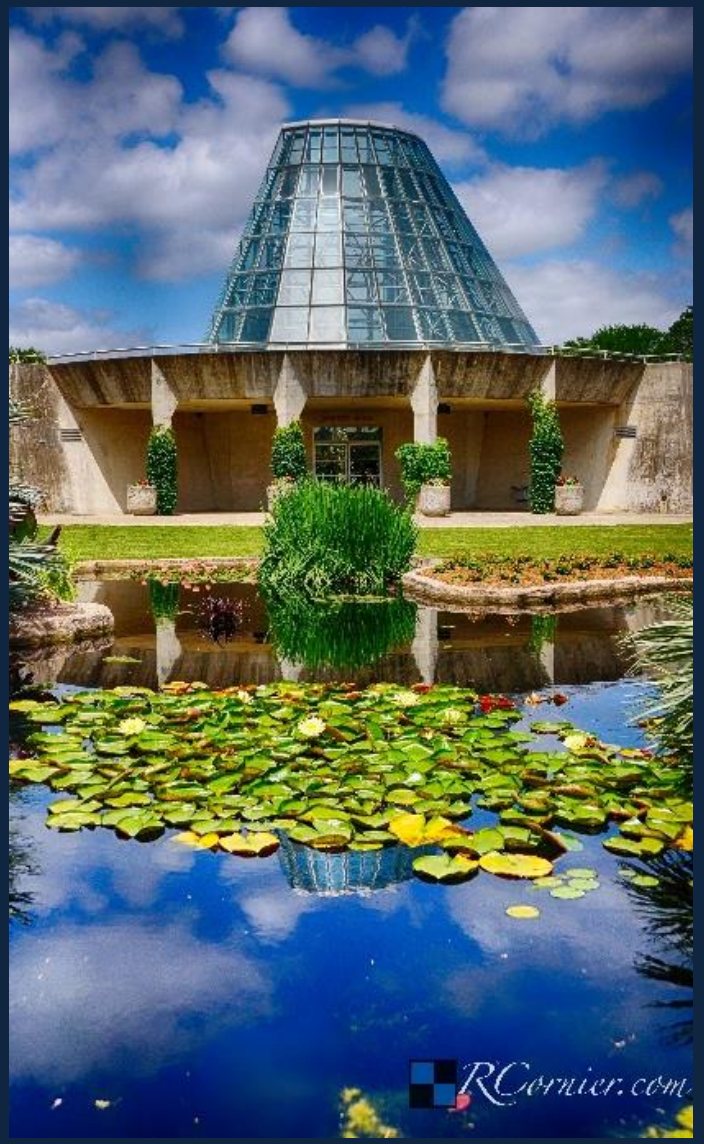
## Revenue, Finance, & Management

- Exp: $9.5M; Rev: $10.1M
- Net Rev: $642K
- Grants & donations: $6.5M
- Program revenues: $2.3M
- General admission: $17.95 (free for members)
- Non-profit organization manages ongoing operations
- Park/facility/collection owned by City
- 199 staff

## Social & Economic Impact

- Historical, classic conservatory structure
- National Register of Historic Places; local historic designation
- Neighborhood outreach and involvement
- Ongoing research

# LUCILE HALSELL CONSERVATORY San Antonio





# LUCILE HALSELL CONSERVATORY San Antonio

## Structure & Functionality

- Conservatory located within San Antonio Botanical Garden
- Opened in 1988
- Features five rooms and pavilions with 40K sf of space
- Additional facilities supplemented by Daniel J. Sullivan Carriage House (dated to 1896)

## Programming & Operations

- Exhibitions and special programming
- Classes: flower arranging, photography, rainwater harvesting, waterwise gardening
- Children's Vegetable Garden Program, Nature Camp, Animal Botanical Classes
- WaterSaver Garden and Lane

## Revenue, Finance, & Management

- Exp: $1.2M; Rev: $5.1M
- Net Rev: $3.4M
- Program Revenues: $769K
- General admission: $10 (free for members)
- Non-profit organization manages ongoing operations
- 39 acres
- 31 staff, 1,000 volunteers
- City-owned, but mgmt. is transitioning

## Social & Economic Impact

- Linkages to larger botanical gardens
- Unique architecture
- Sustainability initiatives
- Large volunteer base

# MITCHELL PARK CONSERVATORY

## Structure & Functionality

- Historic recognition
- 3 “unique” (conoidal) domes
- 46K sf plants
- 100K sf +/- other
- Inflexible layout
- Does not meet codes
- Small non-plant areas
- High costs: repair, maintenance, and renovation
- Inefficient energy systems

## Programming & Operations

- 200-300k attendance
- Limited hours
- Plants @ $3.2M
- 10 +/- conservatory staff
- Strong potential
  - ✓ *“Friends” group*
  - ✓ *track record*
  - ✓ *education program*
  - ✓ *events program*
- Limited park integration
- No outdoor programs
- Facility shortage

## Revenue, Finance, & Management

- $1.4M expense
- $0.8M earned revenue
- Limited donations
- General admission: $7
- Mission support
- Public ownership
- Dual site management

## Social & Economic Impact

- Community icon
- Limited area impact
- Neighborhood potential
- Attracts visitors
- Minimal direct economic impact

# CASE STUDY TAKEAWAYS: "Compared to the Domes…"

## Structure & Functionality

- Integrated with botanical gardens
- One admission to view all gardens
- Promotion of historic structures

## Programming & Operations

- Larger operations: staff, programming
- Other revenue sources (cafés, special events, etc.)
- Leverage assets and personnel
- Public-private partnerships
- Operational efficiencies

## Revenue, Finance, & Management

- Operated by private non-profits
- Admission fees and revenue are generally higher
- Extensive inside and outside gardens
- Full-time fund development staff
- Annual giving and capital campaigns

## Social & Economic Impact

- "Critical mass"
- Integrated programming
- Broad spectrum of revenue sources
- Neighborhood engagement and educational programs

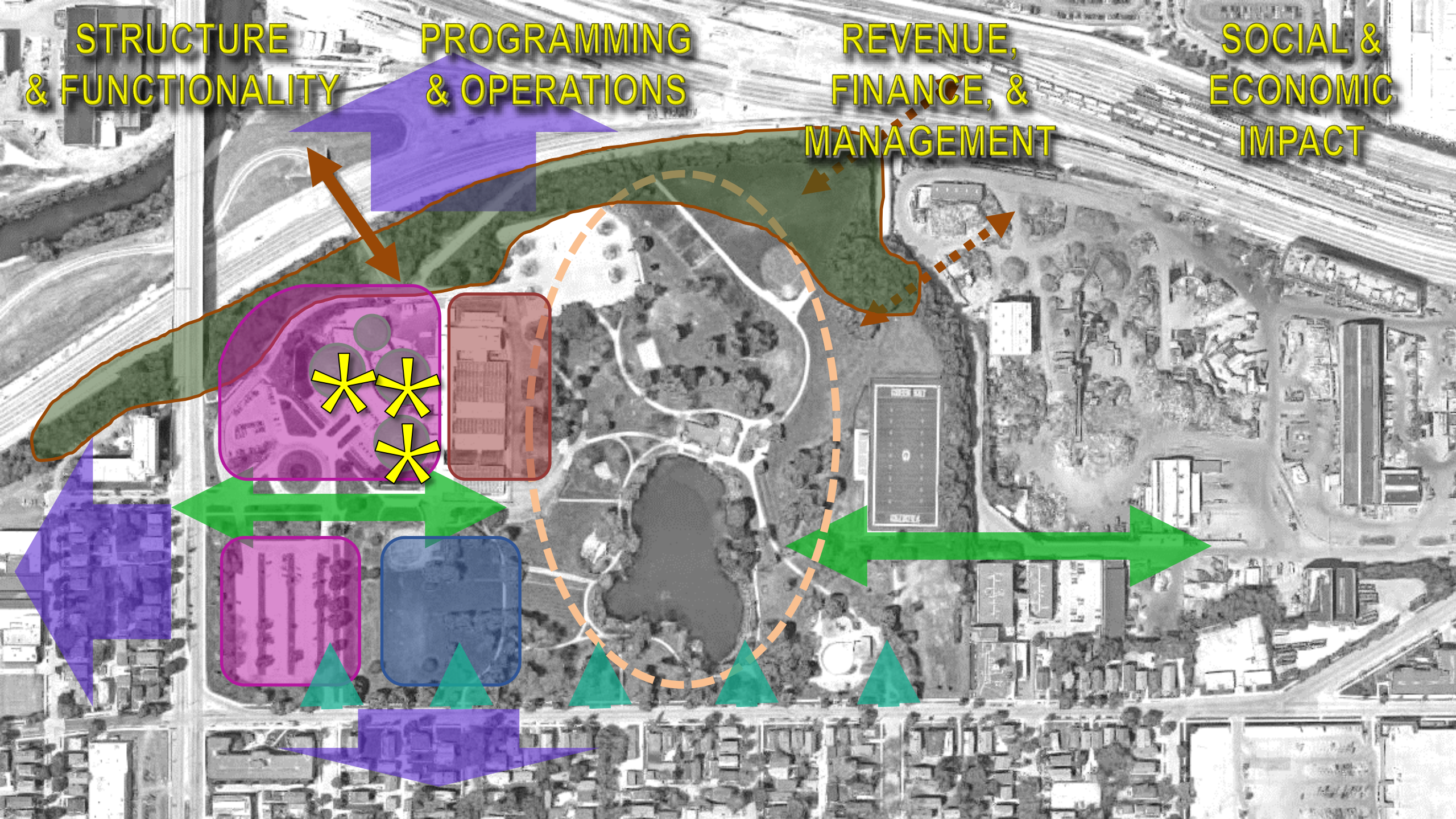
## *ALL LONG-TERM PLANNING STRATEGIES SHOULD EMBODY FOUR GOALS:*

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
|---|---|---|---|
| *Apply a process that clearly addresses strengths and weaknesses (including historic value).* | *Find a solution that expands programs, events and associated earned revenue.* | *Develop an organizational and financial structure that enhances earned revenue and donations, expands program and staff capacity, and ensures public accountability.* | *Create a combined facility that serves as a valued, community-wide cultural asset.* |

*Action: Create a contemporary conservatory that becomes a year-round education and entertainment destination…*

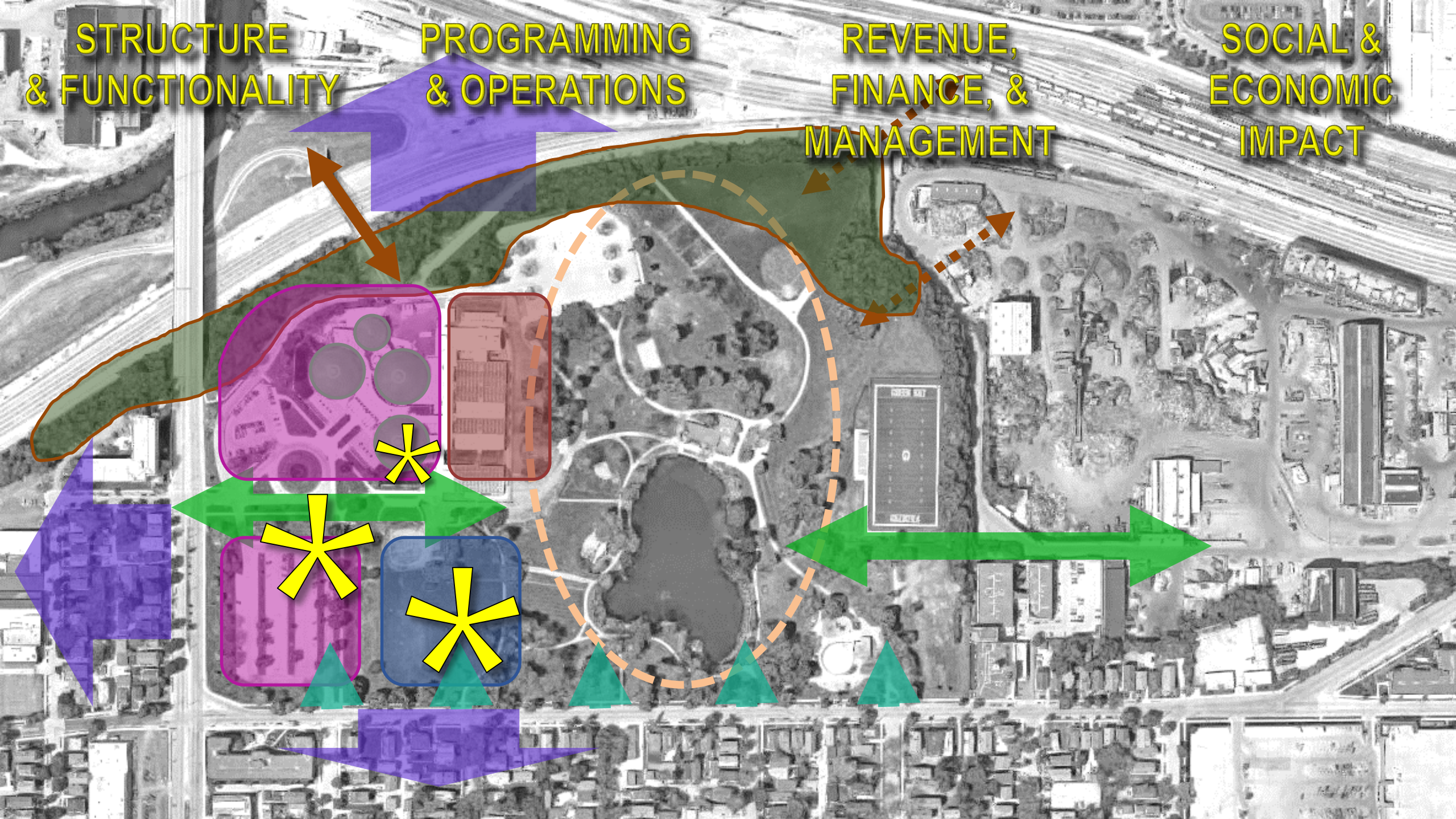
# 1. RESTORE ALL DOMES NOW, NEW FACILITY COMES LATER WHEN REVENUE AVAILABLE

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
|---|---|---|---|
| *Preserves or replicates structures and landscape, meets codes, improves functionality* | *Limits programs to current capacity, delays program expansion* | *Funding from County is highly limited, limited likelihood of finding major donors* | *Maintains status quo at best* |


STRUCTURE & FUNCTIONALITY
PROGRAMMING & OPERATIONS
REVENUE, FINANCE, & MANAGEMENT
SOCIAL & ECONOMIC IMPACT

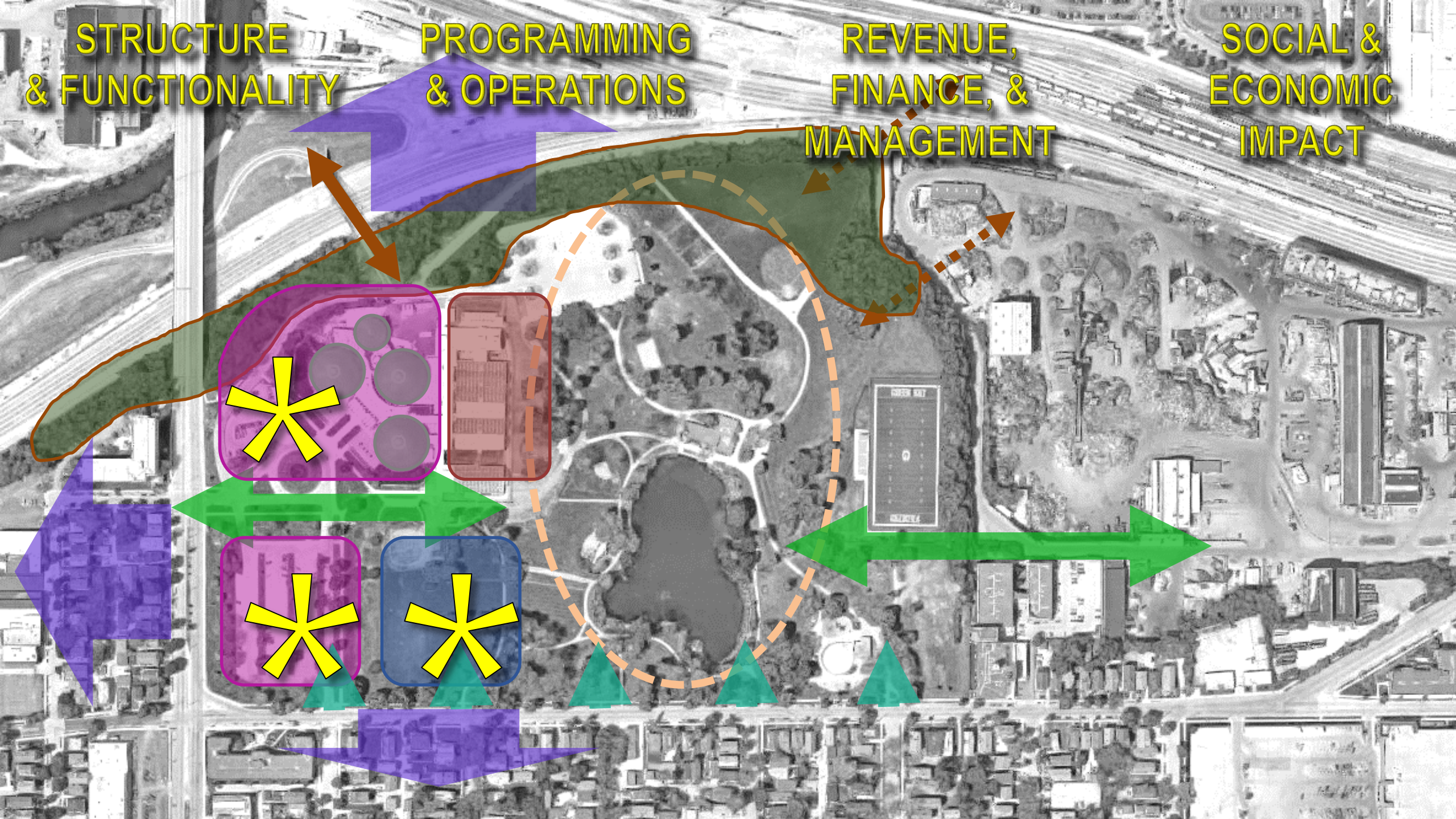
# 2. BUILD NEW FACILITY ON SITE, RESTORE ONE DOME NOW

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
|---|---|---|---|
| *Long-term continuation of 1 dome, 2 others have short-term fix* | *Some new additional facilities allow for more programs and earned revenue* | *Front end funding from County lessened, expanded programs engage more donors, new private not-for-profit entity facilitates funding for preservation and special projects* | *Starts to increase social value of the Domes and generates larger economic impact* |


STRUCTURE & FUNCTIONALITY
PROGRAMMING & OPERATIONS
REVENUE, FINANCE, & MANAGEMENT
SOCIAL & ECONOMIC IMPACT

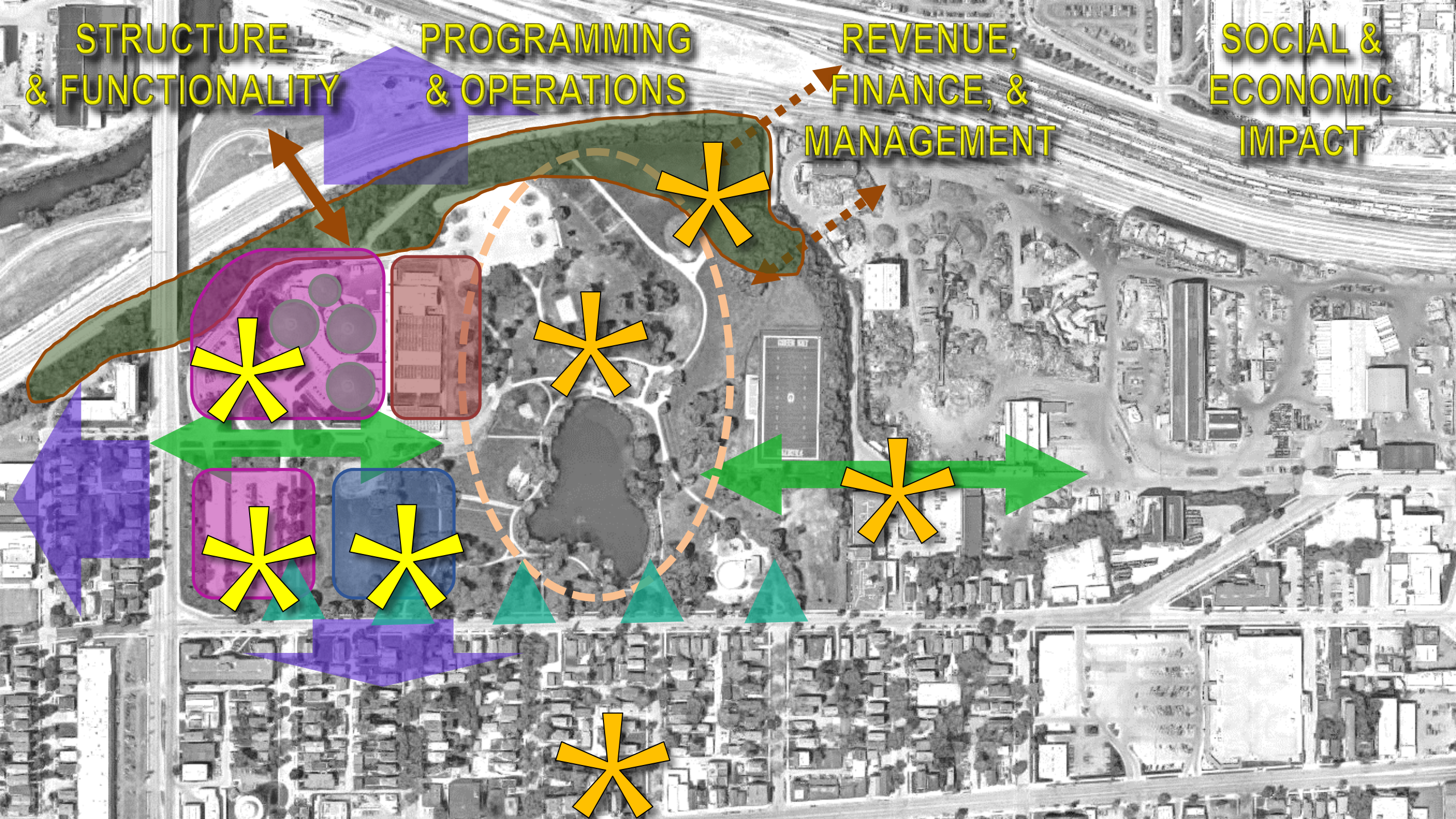
# 3. BUILD NEW FACILITY ON SITE

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
|---|---|---|---|
| *3 domes get short-term fix pending funding* | *Substantial new facilities allow for major new programs, maximizing earned revenue, expanding social/economic impact* | *Front end funding from County lessened, expanded programs engage more donors, new private not-for-profit entity facilitates funding for preservation and special projects* | *Significant increase in social and economic value of entire facility* |


STRUCTURE & FUNCTIONALITY
PROGRAMMING & OPERATIONS
REVENUE, FINANCE, & MANAGEMENT
SOCIAL & ECONOMIC IMPACT

# 4. BUILD NEW FACILITY ON SITE AND WORK ON NEIGHBORHOOD REDEVELOPMENT

| Structure & Functionality | Programming & Operations | Revenue, Finance, & Management | Social & Economic Impact |
|---|---|---|---|
| *3 domes get short-term fix pending funding* | *Substantial new facilities allow for major new programs, maximizing earned revenue, expanding social/economic impact, larger park experience engages wider community* | *Front end funding from County lessened, expanded programs engage a wider range of donors, new private not-for-profit entity facilitates funding for preservation and special projects, possible TIF subsidy* | *Significant increase in social and economic value of entire facility, neighborhood improvement, broader appeal and reputation* |


STRUCTURE & FUNCTIONALITY
PROGRAMMING & OPERATIONS
REVENUE, FINANCE, & MANAGEMENT
SOCIAL & ECONOMIC IMPACT

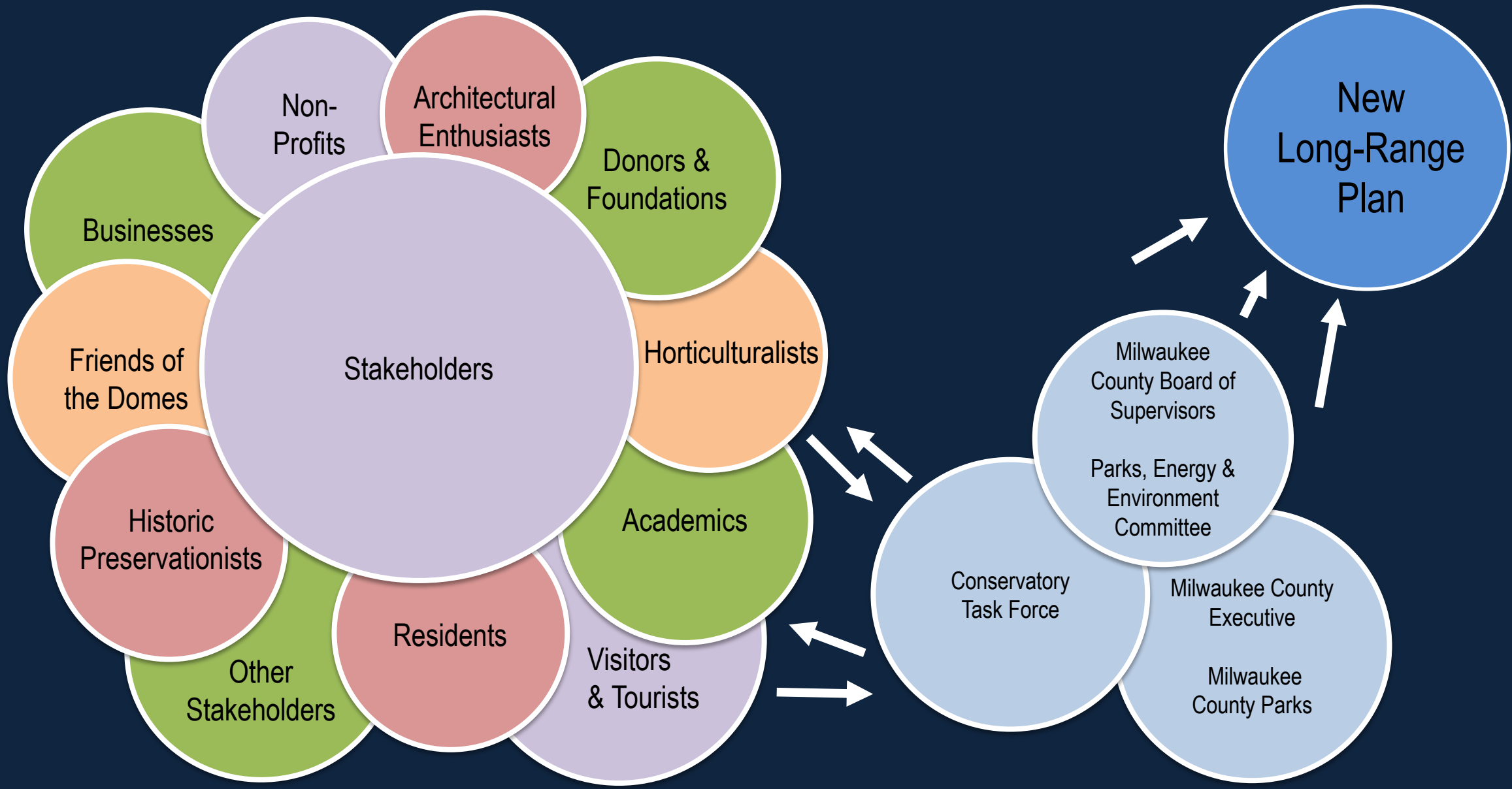
# COMMUNITY ENGAGEMENT WORK TO DATE

- Website: http://county.milwaukee.gov/Domes
- Open House at Show Dome Opening (April 30)
- Meetings with Friends of the Domes (May 14 & June 12)
- Public Discussion at NEWaukee Night Market (September 14)
- Community Survey (ongoing since Summer 2016) http://county.milwaukee.gov/DomesSurvey

Upcoming:

- "Meeting in a Box" Presentations by County staff
- Community Open House & Hearing

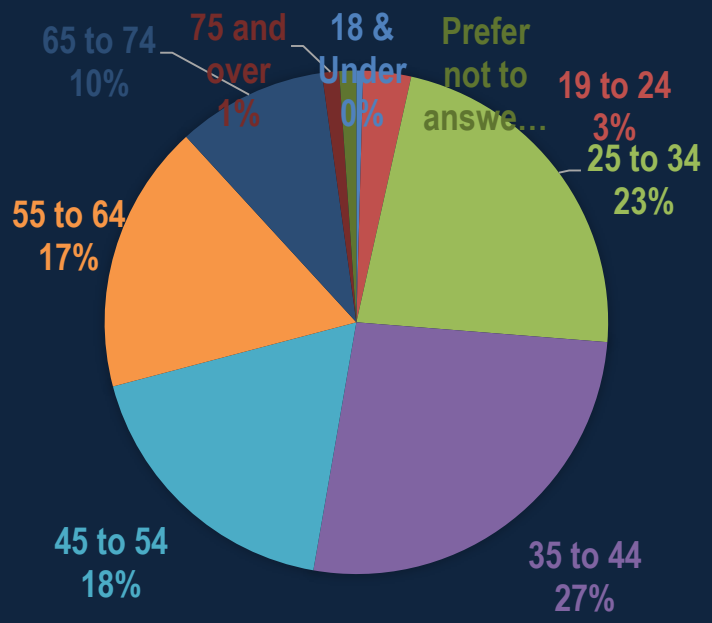
# KEY ELEMENTS OF COMMUNITY ENGAGEMENT



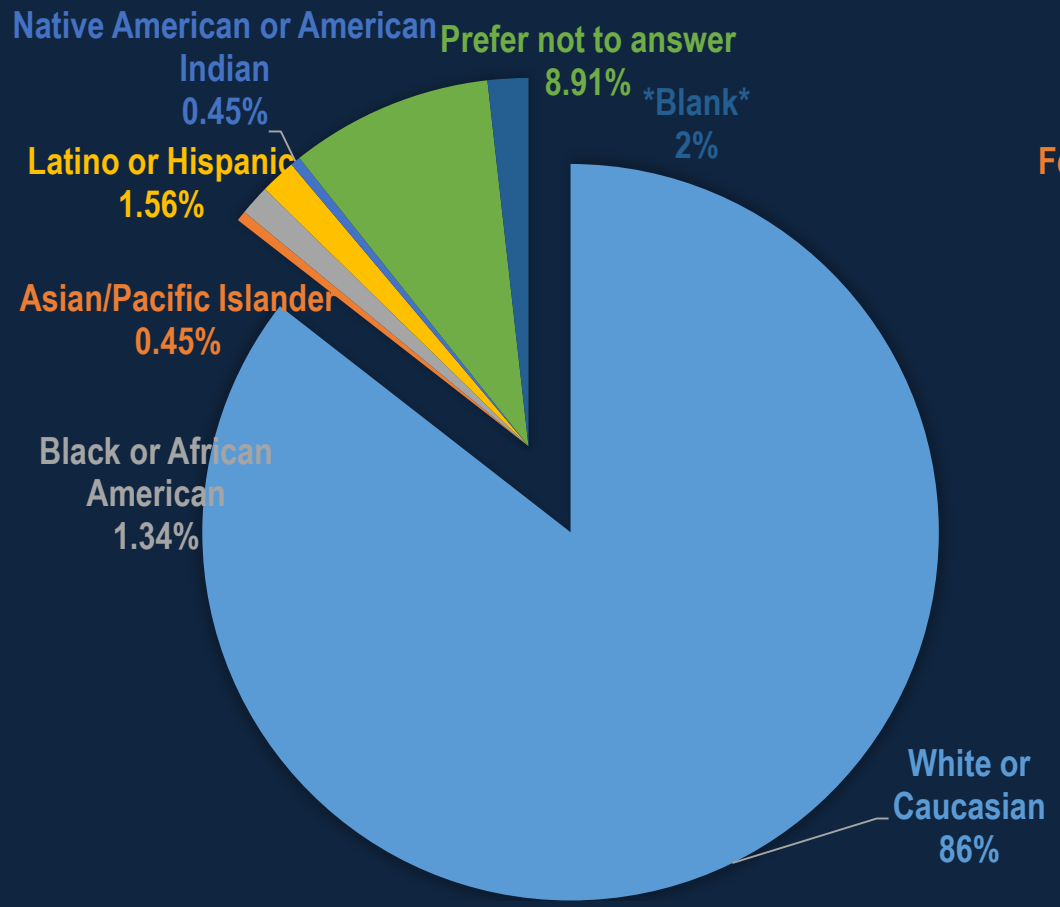
# SHOW DOME OPENING: April 30


# ONLINE SURVEY RESULTS:
# Demographics of Respondents

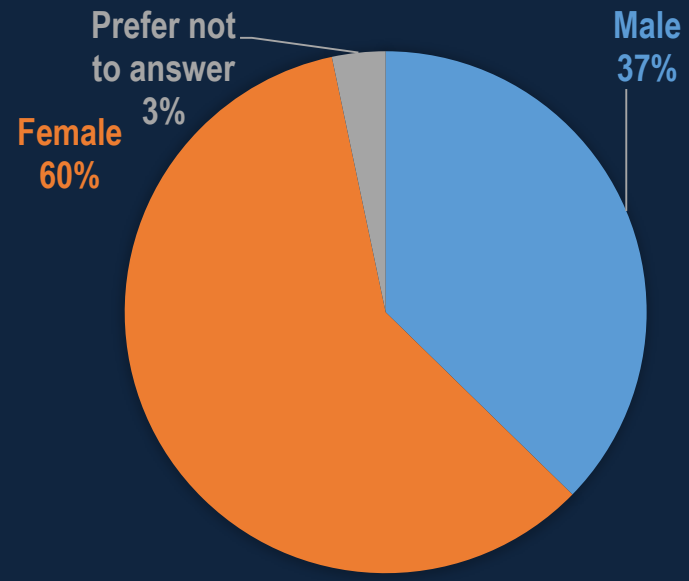
## AGE



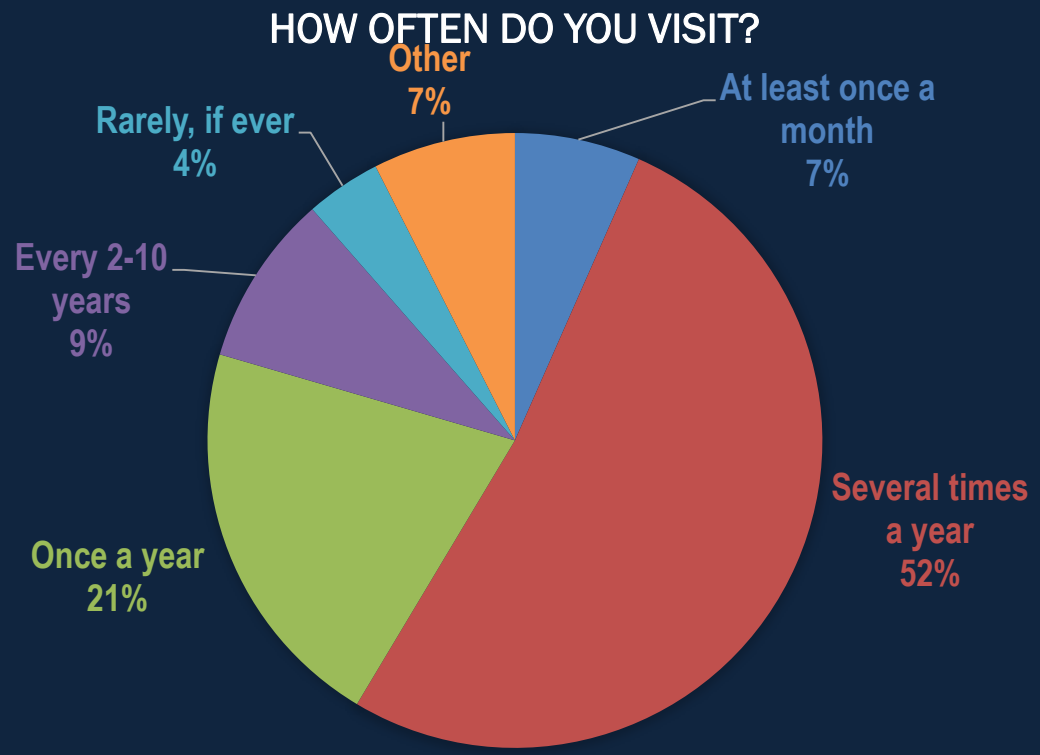

## ETHNICITY

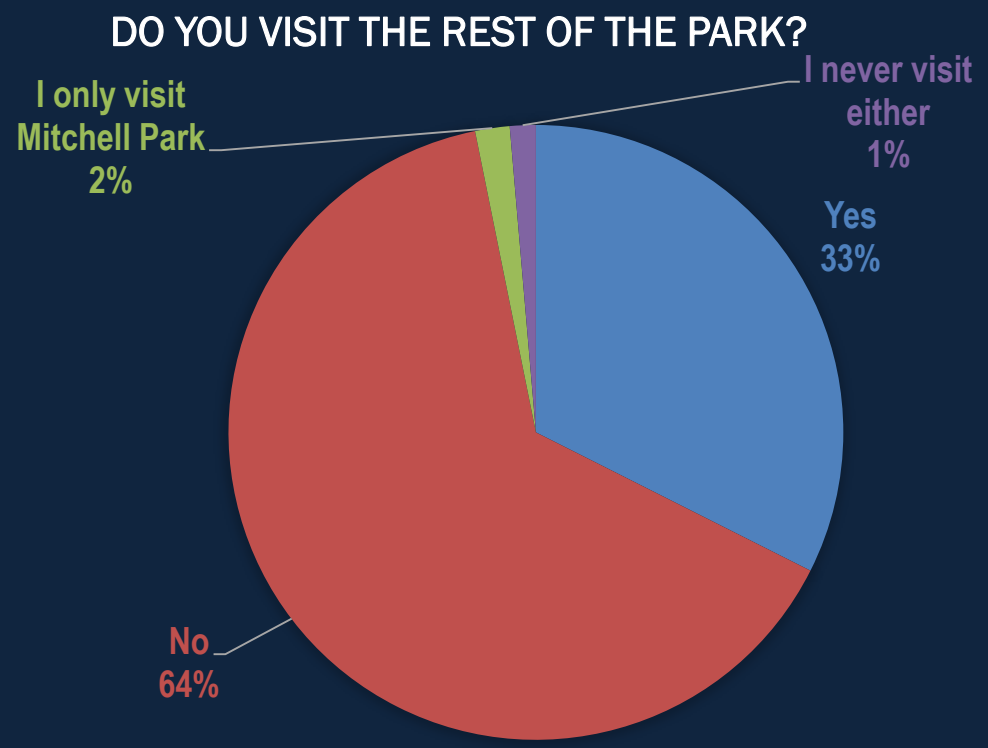



## GENDER



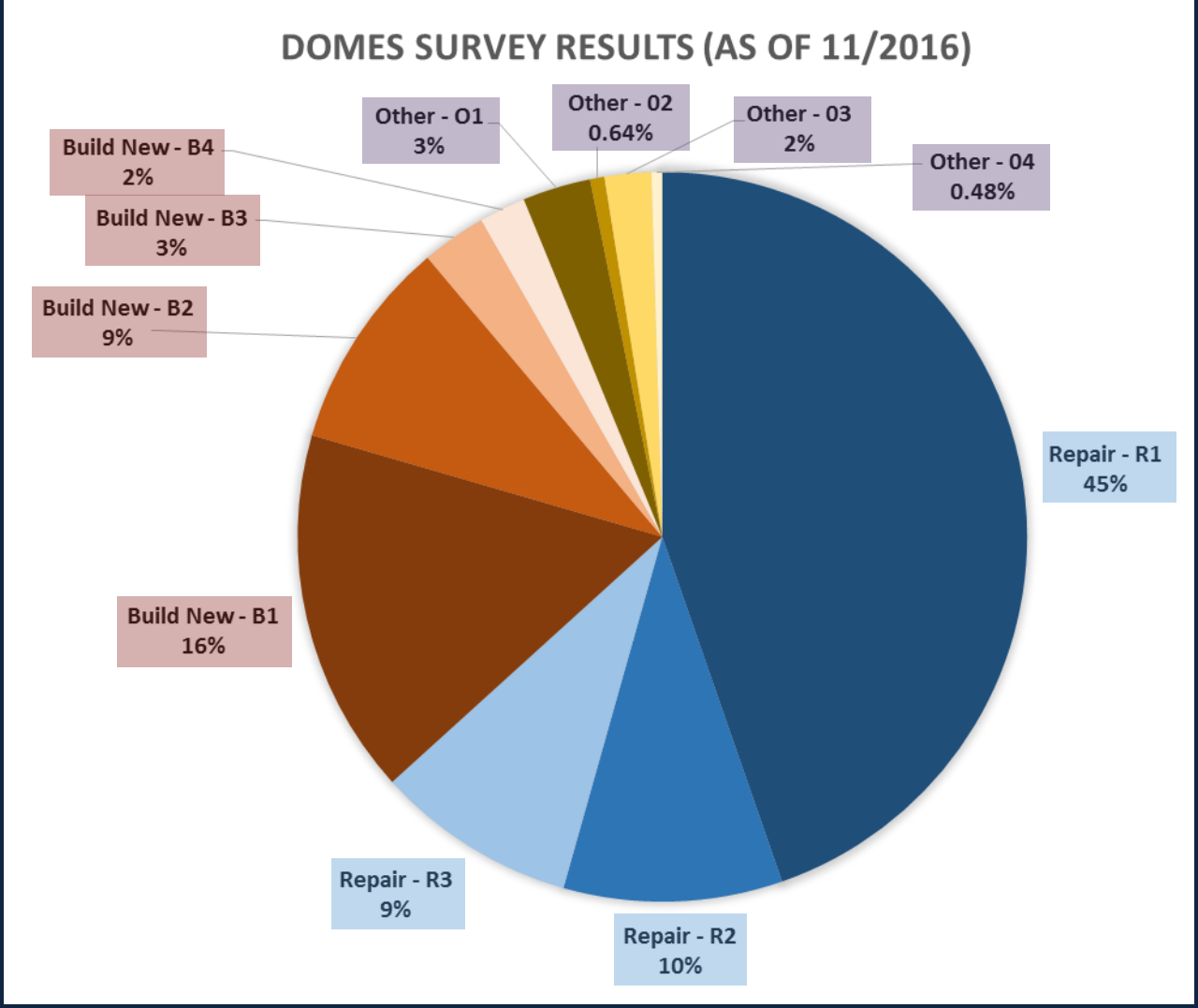
# ONLINE SURVEY RESULTS: SUMMARY



# ONLINE SURVEY RESULTS

Respondents selected their preferred option for the Conservatory:




**Survey Options → Cost Options**

*Repair Option (R)*

Cost Option 1, 2, 3, 4, 5

*Remove & Build New (B)*

Cost Option R, 6

*Other Remove & Reinvest*

Cost Option 6

# COMMENTS & FEEDBACK

“I love the domes, but if a different glass structure is more practical and easier to maintain, then that sounds viable to me.”

“These are my domes don't destroy them.”

“The Domes are iconic and a one of a kind cultural amenity that is enjoyed by many.”

“…All done with green intentions and energy efficiency.”

# COMMENTS & FEEDBACK

"…Maintain, repair, and improve a cultural landmark in the city."

"Sell to a private company and remove the tax burden."

"It is a location that holds meaning to my family."

"…Make it a membership deal to get a little discount for the residents of Milwaukee."

"The domes are unique amongst location and help to define something that is uniquely Milwaukee."

"… A nostalgic sentiment of a limited group"

# ENGAGEMENT: Working Draft of Potential Groups

**Open Houses & Hearings**
**Focus Groups & Listening Circles**

## Adjacent Neighborhood Groups

- Clarke Square Neighborhood Initiative / Journey House
- Layton Boulevard West Neighbors
- Silver City District (National Avenue businesses)
- Sixteenth Street Community Health Centers
- Southside Organizing Committee
- 27th Street BID
- Walker's Point Youth & Family Center

## Commerce & Tourism

- African American Chamber of Commerce
- Greater Milwaukee Committee
- Hispanic Chamber of Commerce
- Hmong Wisconsin Chamber of Commerce
- Metropolitan Milwaukee Association of Commerce
- Potawatomi Casino
- Public Policy Forum
- Rotary Club
- Visit Milwaukee

**Who else should we include?**

**Can Task Force members help sponsor these?**

# ENGAGEMENT: Potential Groups

## Education & Youth

- Journey House
- Milwaukee Public Schools
- Urban Ecology Center
- Green Schools Consortium of Milwaukee
- Kids, teachers, parents

## General Community & Civic Groups

- Neighborhood Leadership Institute
- Neighborhoods funded by:
  - Greater Milwaukee Foundation
  - Zilber Family Foundation
  - Northwestern Mutual Foundation
- NEWaukee
- Milwaukee County Board
- City of Milwaukee Alders
- City of Milwaukee Department of City Development

**Who else should we include?**

**Can Task Force members help sponsor these?**

# ENGAGEMENT: Potential Groups

## Health

- Aurora Health Care
- Froedtert & the Medical College
- Sixteenth Street Community Health Centers
- Wheaton Franciscan Healthcare

## Historic Preservation

- Historic Milwaukee, Inc.
- Milwaukee County Historical Society
- Milwaukee Preservation Alliance
- Wisconsin Historical Society

## Park & Horticultural Groups

- Friends of the Domes
- MATC
- UW-Extension Master Gardeners
- Preserve Our Parks
- Park People
- Rotary Club Environment & Ecology Committee

**Who else should we include?**

**Can Task Force members help sponsor these?**

# NEXT STEPS

1. GRAEF:
   Complete report on case studies and recommendations.  Submit report to Park Staff, Task Force, and Parks Committee.

2. Task Force and Milwaukee County:
   Conduct final round of civic engagement using “Meeting in a Box.”  Speak to general public, key user groups, and support groups.

3. Task Force and Milwaukee County:
   Based on reports and public input, recommend next steps for each part of the proposed framework:

   - Structure & Functionality
   - Programming & Operations
   - Revenue, Finance, & Management
   - Social & Economic Impact

4. Milwaukee County:

   Based on reports, civic input, Task Force, and additional knowledge, draft an initial operations and revenue plan for future action. This may include actions such as:

   - Consultation with American Public Gardens Association (APGA) and other experts: historic structures, programming, fundraising, financing, and social and economic impact
   - Attendance at conference on fundraising for public gardens (February)
   - Facilitating discussions with local donors, foundations, and cultural facilities' leaders
   - Site evaluation and infrastructure cost estimates
   - Consideration of neighborhood potential
   - Write a program statement with plan for: operations, earned revenue and financing, organizational control and management, life cycle costing, and infrastructure analysis and needs

5. Milwaukee County:

   Design the "design process" including a Request for Qualifications (RFQ), Request for Proposals (RFP), Charrette, Competition

   - Propose a project timeline, budget, and selection process for consultant(s)
   - Review with key stakeholders
   - Seek approval from Parks Committee, County Board, and County Executive