



FACILITIES MASTER PLAN & SCHEMATIC DESIGN REPORT

Prepared by:

HGA Architects, Engineers, & Planners / GRAEF / KBS

August 2, 2013



List of commonly used abbreviations:

OBG: Olbrich Botanical Gardens

OBS: Olbrich Botanical Society

GSF: Gross Square Footage

ASF: Assignable Square Footage

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0.0 Executive Summary

- 0.1 *General Project Scope & Description*
- 0.2 *Goals & Objectives*
- 0.3 *Site & Existing Buildings Description*
- 0.4 *Program & Design Summary*
- 0.5 *Budget Summary*
- 0.6 *Schedule Summary*

0.1 *General Project Scope & Description*

The goal of this project is to provide programming, master planning, and schematic design services for the Olbrich Botanical Gardens. The assessment and analysis required the study of the existing facilities and site, programming, sustainability, and cost estimating.

The site for the Olbrich Botanical Gardens study focused on the area north of Atwood Avenue, east of the neighborhood park, south of the railroad tracks, and west of Starkweather Creek. This study explored the expansion and reuse of the building in three different master plan schemes, selecting one of the options to further develop into a schematic design.

The project effort included:

- Observations & assessment of the existing facility and site
- Benchmarking
- Codes & regulations
- Programming & space needs analysis
- Program planning options
- Site planning options
- Implementation consideration
- Building systems
- Budget & schedule



OBG has grown tremendously since the last addition was made to the facility in 1991. It has grown across the board in visitorship, membership, and program offerings.

BUILDING CHALLENGES

- Facilities expanded over time since 1977 and do not function or perform for OBG's needs.

↓

- Building is out-of-date, in poor condition and energy inefficient

VISITOR GROWTH

- Increase parallels Madison region's population growth in past 20 years.

↓

- 2025: estimated 325,000 visitors (1.5x today's levels, based on population growth)

Not only has OBG outgrown its existing facilities, the condition of the facilities requires updating and renovation for functionality and energy efficiency. It is due to both of these imminent needs that the project should move ahead as soon as possible.



Throughout the process, this balance of parameters between budget, service, and quality has guided the direction of the project.

0.2 *Goals & Objectives*

Guiding Principles

- **Be an exciting, engaging, and relevant destination** where visitors personally connect to **the beauty and importance of plants** in a sustainable world.
- **Provide exemplary and innovative educational and interpretive opportunities** based on best practices for informal education.
- **Be known as a leader** in Midwest horticulture by the residents of the Madison area, the 7-county region, the State, and nationally.
- **Be a leader and model in sustainability** in horticulture, landscape design, facilities, operations, and programs.
- **Strengthen the relationship between the Gardens and its neighbors** and foster trust in this relationship through both the process of this study and the end result.

Overall Project Goals

- **Enhance the visitor experience** through improved and expanded flexible public building spaces, ancillary functions, street presence, amenities, building & facility capacity, visitor flow, visitor orientation, and programs.
- **Expand and enhance educational and interpretive opportunities.**
- **Improve site** for plant production, facilities maintenance, and storage.
- **Upgrade staff and volunteer work space** to improve efficiencies and traffic flow.
- **Fine tune efficiency of the facility and operations** to strengthen the financial health of the Gardens.
- **Improve sustainable facility operations** to efficiently use energy, lower environmental impacts, and reduce consumption of resources in daily operations.





The Olbrich Botanical Gardens Vision:

Olbrich Botanical Gardens will be a locally treasured and globally renowned source of beauty and education celebrating the importance of plants in a sustainable world.

The Olbrich Botanical Gardens Mission:

Olbrich Botanical Gardens enriches life by nourishing and sharing the beauty of gardens, the joy of gardening, the knowledge of plants, and the diversity of our world. Olbrich Botanical Gardens is dedicated to the creation, conservation and interpretation of gardens and plant collections hardy to the American Midwest or native to the world's tropical forests for study, enjoyment and public benefit.

Values:

Olbrich Botanical Gardens is a place where:

- Gardens, facilities and programs serve people of all ages, abilities and incomes.
- Relationships with staff, volunteers and friends are conducted with the highest integrity, respect and consideration.
- Excellence is the standard and service is exemplary.
- Public and private partnerships are essential.
- The community is served and the region is celebrated.
- Contributions are made to global solutions.
- The joy, diversity, wonder and beauty of plants can be shared by everyone.

0.3 Site & Existing Buildings Description

The site is located on the East Side of Madison, WI, north of Lake Monona. Sugar Avenue divides the site and is un-discernable from the OBG parking lot. The lot serves 220 spots. The main facility consists of structures built in 1978 and 1991 and range in height from one to two stories. The buildings are generally in fair condition, due to deferred maintenance.

Currently, a project is under construction to re-roof the existing complex in a copper roof and add an ADA-compliant restroom. This project was treated as an existing condition for the purpose of the study.



Existing site aerial map



Existing site bird's-eye view

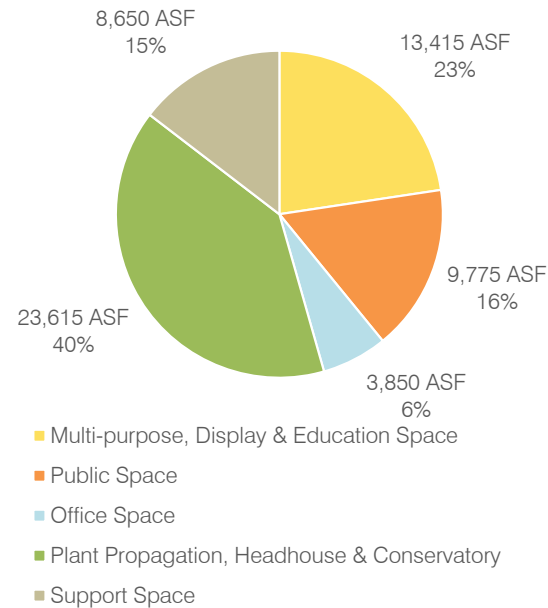
0.4 Program & Design Summary

General Project Scope:

OBG will occupy approximately 65,935 gross square feet of space south of the railroad tracks. It will be divided among the original two-story Atrium building, the existing 1991 addition, the new greenhouses, and the new addition of a Lobby/Orangerie, a Plant Show Hall, and an Education Wing. The space will be comprised of 53,605 assignable square feet which can be separated into five categories: Multi-purpose, Display & Education Space, Public Space, Office Space, Plant Propagation, Headhouse & Conservatory, and Support Space. The estimated net-to-gross area ratio is 57%. An additional Maintenance Shop/Storage building and the Quonsets are not a part of the program proper, but will be located north of the railroad tracks. In addition to the interior space, the program calls for 7,395 square feet of outdoor space. This space includes Outdoor Patio Seating, the renovated Atrium Deck, an Outdoor Gift Shop Sales Area, and the Office Courtyard.

Design Summary:

During the planning process for the Olbrich Botanical Gardens, it was determined that the addition would be located on the north and east sides of the existing building as a “wrapper” or a new face to the garden. The scheme allows for the reuse of all of the existing main building. The existing facility will be renovated to allow for growth of existing spaces and up-to-



date and efficient systems and finishes.

The following is a summary of the proposed resolutions to the existing space needs:

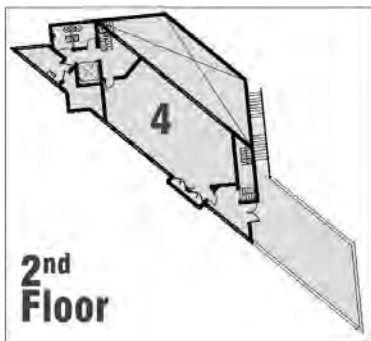
- *Proposed Gift Shop* areas increase square footage by 820 sf and gains 117 lf of shelving/display. Gift shop improves productivity with layout of adjacent and efficient support spaces.
- *Proposed Greeter Desk* has high visibility in new Lobby/Orangerie. Signage creates presence for Membership. Single location for Gift Shop/Greeter Desk increases staff efficiency.
- *Proposed Library* areas increase

square footage by 570 sf and gain 76 lf of shelving. Library improves productivity with support spaces. Ample multi-purpose reading/storytelling space has views to garden.

- *Proposed Office Space* increases square footage by 1,855 sf and gains 9 desks for staff and volunteers. Larger group work areas and storage increase productivity. Lounge allows for personal storage space.
- *Proposed Maintenance Facilities* and support increase square footage by 3,710 sf. New support facility north of the railroad increases back-of-house productivity.
- *Proposed Greenhouse* increases square footage of plant benches 24%. Modern systems improve plant production capability and energy efficiency. Cooler is added for bulb storage.
- *Proposed Headhouse* space increases efficiency by the removal of unrelated functions. Potting area is expanded with adjacent storage and support functions.
- *Proposed Facility Circulation* introduces clearer circulation routes for user groups by bringing like functions together to reduce the distance traveled, separating office functions from horticulture functions, improving the routes traveled for special events/plant shows, and adding an extra corridor to reduce the load on the administration hallway.

Floor Plan

1. Plant Show Space
2. Event Space
3. Education Wing
4. Meeting/Bride's Room
5. Library
6. Orientation Hall
7. Lobby/Orangerie
8. Gift Shop
9. Office
10. Conservatory
11. Headhouse
12. Greenhouse





Rendering (a): View of new courtyard, Plant Show Hall, Education Wing, and Lobby with green roofs and existing buildings



Rendering (b): View of new courtyard, Lobby, and Plant Show Hall



Rendering (c): View of new Lobby overlooking courtyard, Gardens, and Conservatory entry



Rendering (d): View of new Education Wing overlooking Children's Kitchen Garden

0.5 Budget Summary

Executive Summary

A capital cost budget has been assembled for this project. This budget reflects total project cost including construction costs, contingency, and fees. This cost summary is based upon the OBG program.

Fee Contingency Bond encompasses the contractor fees including an estimating contingency and performance & payment bonds.

Project soft costs include A/E basic services, moveable equipment, and owner contingency.

Total Project gSF : 66,776

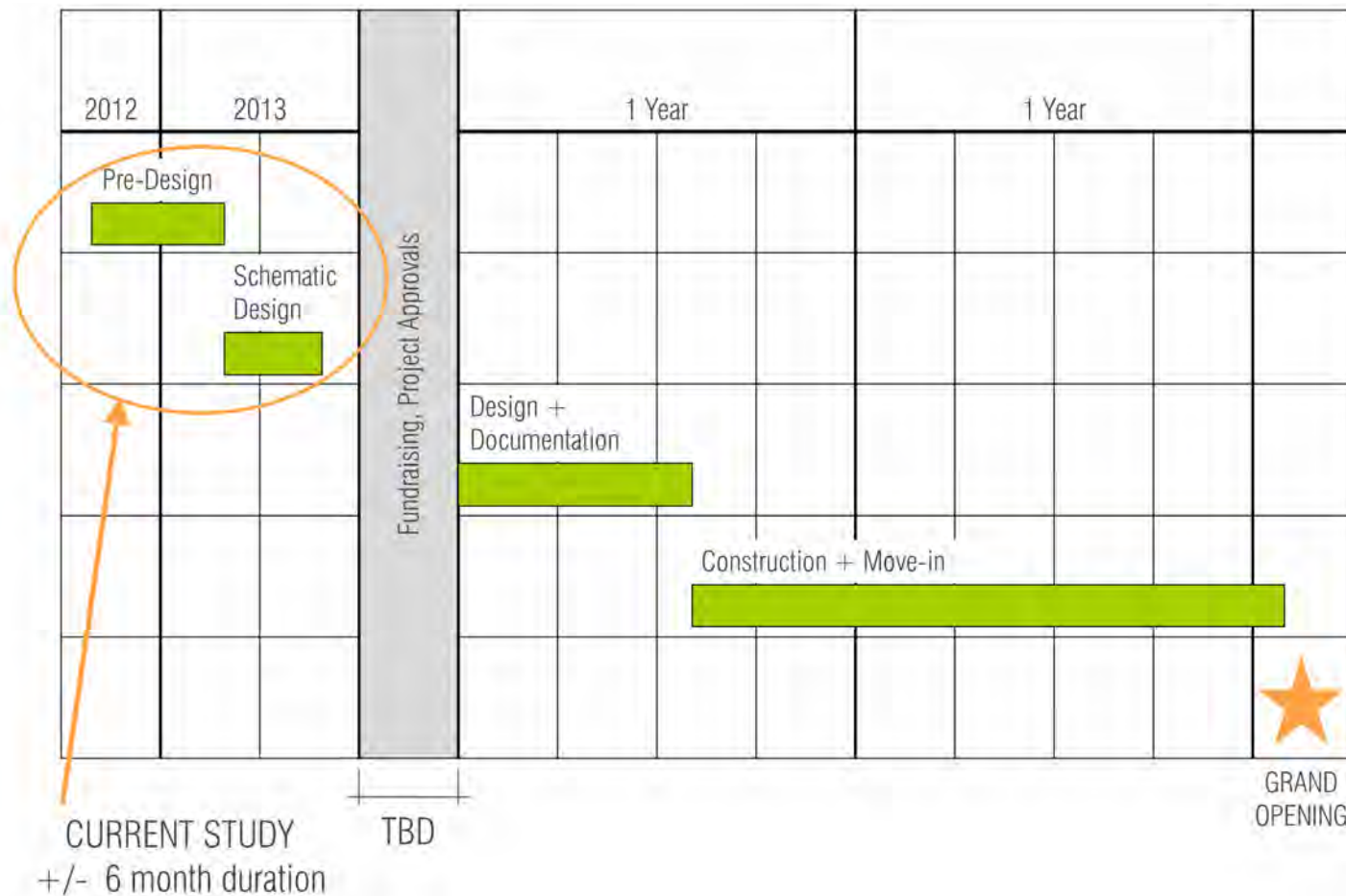
Description	SF	COST	Fee Contingency Bond	Project Soft Costs	TOTAL	Cost/SF	Cost /gSF
New Construction							
Education	9,735	2,030,034	137,941	650,392	2,818,367	289.51	42.21
Visitor Facilities (Lobby, Plant Show)	12,605	4,287,102	291,309	1,373,523	5,951,934	472.19	89.13
New Construction Cost	22,340	\$ 6,317,136	\$ 429,249	\$ 2,023,916	\$ 8,770,302	\$ 392.58	\$ 131.34
Reprogrammed Existing Space							
Library / Orientation / Meeting / Brides	3,269	301,189	20,466	96,497	418,152	127.91	6.26
Event Hall	3,000	94,573	6,426	30,300	131,299	43.77	1.97
Gift Shop	2,032	335,219	22,778	107,399	465,397	229.03	6.97
Service/Circulation	7,662	515,263	35,012	165,083	715,358	93.36	10.71
Offices	3,911	269,461	18,310	86,331	374,101	95.65	5.60
Reprogrammed Construction Cost	19,874	\$ 1,515,706	\$ 102,992	\$ 485,609	\$ 2,104,307	\$ 105.88	\$ 31.51
Existing Infrastructure							
Add Sprinkler system to existing	22,867	91,634	6,227	29,358	127,219	5.56	1.91
Upgrade existing locker room Finishes / ADA	478	54,571	3,708	17,484	75,763	158.50	1.13
Upgrade finishes and AV for Event Space	3,000	127,000	8,630	40,689	176,319	58.77	2.64
Upgrade finishes to 2nd floor Classroom / Brides	1,160	62,698	4,260	20,087	87,046	75.04	1.30
Repair wood out door deck	1,025	61,138	4,154	19,588	84,879	82.81	1.27
Utilities	3,683	396,880	26,968	127,154	551,002	149.61	8.25
Deferred Maintenance - Conservatory	10,000	778,328	52,887	249,365	1,080,580	108.06	16.18
Existing Infrastructure Construction Cost	32,867	\$ 1,572,249	\$ 106,834	\$ 503,725	\$ 2,182,808	\$ 66.41	\$ 32.69
Greenhouses							
New Greenhouse	11,258	1,882,133	127,891	603,007	2,613,031	232.10	39.13
Headhouse	3,304	184,120	12,511	58,989	255,621	77.37	3.83
Quonset Greenhouses	3,456	221,366	15,042	70,922	307,331	88.93	4.60
Greenhouse Construction Cost	14,562	\$ 2,287,619	\$ 155,444	\$ 732,919	\$ 3,175,982	\$ 218.10	\$ 47.56
Sustainable Features / Sitework							
Sitework	215,093	157,328	10,690	50,405	218,424	1.02	3.27
Paving	76,858	446,040	30,308	142,905	619,253	8.06	9.27
Site Improvements	215,093	401,857	27,306	128,749	557,912	2.59	8.35
Green Roofs	12,431	264,782	17,992	84,832	367,606	29.57	5.51
Sugar Bike Path / Pedestrian Connection / Street	27,579	156,848	10,658	50,252	217,758	7.90	3.26
Parking Lot -Bio Retention	21,746	108,730	7,388	34,835	150,954	6.94	2.26
Rainwater capture/Treatment/holding /reuse	1	130,000	8,834	41,650	180,484		2.70
Sustainable Construction Cost	1	\$ 1,665,585	\$ 113,176	\$ 533,628	\$ 2,312,390		\$ 34.63
"Across the Tracks" Elements							
Heated Storage	2,611	127,939	8,693	40,990	177,622	68.03	2.66
Cold Storage	3,730	220,070	14,954	70,507	305,531	81.91	4.58
Site Improvements	1	155,786	10,586	49,911	216,283		3.24
"Across the Track" Construction Cost	6,341	\$ 503,795	\$ 34,233	\$ 161,408	\$ 699,436	\$ 110.30	\$ 10.47
TOTAL PROJECT	95,984	\$ 13,862,090	\$ 941,929	\$ 4,441,206	\$ 19,245,225	\$ 200.50	\$ 288.21

This budget is in 2013 dollars. An escalation of 4% compounding would apply for each year after 2013:

2014 \$	20,015,034
2015 \$	20,815,635
2016 \$	21,648,261

0.6 *Schedule Summary*

The following summary indicates a proposed milestone schedule for this project. This schedule is meant to identify key phases and durations for each. The final start date and completion date will be dependent upon the duration of the fundraising and project approvals period.



1.0 Preface / Acknowledgements

1.1 *Introduction*

1.2 *Process & Schedule / Work Plan*

1.3 *Participants*

1.1 Introduction



Madison's Outdoor Relief Committee crews improving the site



Post-filled in site

Olbrich Botanical Gardens was established in 1916 by visionary civic leader Michael Olbrich. It began with a small area of shoreline bordering Starkweather Creek. He offered the land to the city, and noted Chicago landscape architect O.C. Simonds drew up a development plan for the new park. In 1922 Olbrich formed the Madison Parks Foundation to raise the money necessary to complete the new park and to acquire additional land. By 1928 both goals had been achieved. When Olbrich died unexpectedly in 1929, the city council responded by naming the new park Olbrich Park in recognition of the remarkable legacy he had left to Madison.

The new park had required a visionary to see its potential when Olbrich first began to assemble it in 1916. The character, size, and shape of the site were very different from what it is today. In that day most of the land within the park boundaries was unusable and unappreciated marsh that was extremely polluted by the effluents discharged by the adjacent United States Sugar Company's beet processing plant.

In 1931, the city of Madison took over the parks system and began work to implement O.C. Simonds' 1920 development plan. However, by 1935 the 11.5 acre site was still largely a peat bog and marshland, and its development lay far in the future. The ensuing years saw the gradual filling in of all the marshy areas within the park's

boundaries. By 1950, the process of turning marshland into parkland was largely complete and most of Olbrich's dream of providing the east side with recreation space and lake access was a reality.

The first work towards establishing the gardens began in 1952 with the erection of the twin shelter buildings. By the early 1960s, however, it was realized that a real garden center building was necessary in order to fully realize the garden's potential. This led to the formation in 1962 of the Garden Center Club, a volunteer group who in 1971 was able to commission Madison architect Stuart Gallaher to design a new garden center building. This elegant building was dedicated in 1978 at a cost of \$380,000. In 1979, the Olbrich Botanical Society was established and began expanding the Gardens themselves.

In 1986, over 60,000 people visited the Gardens, which also hosted 345 meetings, classes, and events. The success created a demand that the existing Garden Center was unable to fill. As a result, in 1986 Stuart Gallaher was again commissioned to design an enlarged Botanical Center which would cost \$4.6 million. The Botanical Society was able to raise three-fourths of the money from private sources and the City of Madison Parks Division partnered with the Society to provide one-fourth of the total project cost. The complex was completed in 1991 and included the Bolz

Conservatory which turned the Gardens into a year-round attraction.

Since then, the outdoor gardens were greatly developed and expanded through numerous projects. In 1996 and 1997, respectively, the Madison Parks Division purchased 17 acres of land adjacent to the Gardens and the Botanical Society purchased an additional 5 acres, both owned by the Garver Feed Company. However, the crossing of the railroad tracks proved too much of a challenge for garden expansion. Instead, the land was returned to the city in exchange for a parcel to the east of Starkweather Creek for future Garden expansion with the agreement that the Garver Property would still be used for Olbrich's back-of-house needs. The Thai Pavilion, completed in 2002, is the first garden to be developed in the new parcel of land.

Today Olbrich Botanical Gardens is operated as a public-private partnership between the City of Madison Parks Division and the Olbrich Botanical Society. Olbrich Botanical Gardens has completed many long-range plans since 2000, and it was due to these plans that the Olbrich Botanical Society and the City of Madison Parks Division agreed to hire a firm to facilitate the development of a long-range master plan and schematic design to guide decision making and develop fundraising support tools for the capital campaign.



Thai Pavilion and Garden

1.2 Process & Schedule / Work Plan



11.27.12 Core Team kick-off meeting



12.11.12 User group meetings



03.25.13 Public stakeholder meeting break-out session

HGA Architects, Engineers, & Planners was hired by the Olbrich Botanical Society and the City of Madison Parks Division as the planning and design consultant for this project. A Core Team was formed by staff from the Olbrich Botanical Gardens and the City of Madison. Together with HGA, the team embarked upon an extensive and comprehensive process in developing the master plan. The team met with many focus groups including the City of Madison (Traffic Engineering, Parks, and Facilities & Sustainability), the Goodman Community Center, the SASY Neighborhood Association, the Madison Fire Marshal, and HEIN Engineering Group.

Due to the public nature of the Gardens, it was essential to solicit and incorporate feedback about the project from all interested public stakeholders. To do this, the process involved a series of five community meetings where information and conceptual design options were presented and comments were encouraged through large group feedback sessions, small group workshops, and individual feedback cards.

The meetings were recorded and broadcast through Madison City Channel in order to reach a broader audience and allow anyone interested to take part in the process of informing the development of the design. These videos as well as all meeting presentations and attendee feedback

are available online. Stakeholders who were not able to attend the meetings had the opportunity to email any comments or suggestions to an Olbrich design feedback email account. Meeting notes and feedback are located in the Appendix.

At the final community meeting, the attendees were asked to rate their perception of how the public design process contributes to the quality and experience of the proposed design and 87% of attendees responded with an “Outstanding” or “Very Good” rating. They were also asked to rate their level of satisfaction with the public stakeholder process and 91% of attendees responded with an “Outstanding” or “Very Good” rating. When asked these questions, three attendees commented:

“I’ve lived in Madison a long time and public projects like this are always a fascinating give and take and I can’t recall one where there has been so much input actually solicited and actively encouraged and I thank you all for that because that’s made this process a lot more interesting and welcoming.”

“Not only has it been encouraged, but I think you really are building the feedback into the process and I see lots of the ideas that came out at the last meeting built into this plan. So thank you for listening to people and incorporating it into the process. I think it’s worked very well.”

Preface / Acknowledgements

The key elements in this process undertaken by the Core Team and consultant are briefly described below:

Visioning: linking strategic plan to vision & mission

- Strategic plan
- Definition of goals
- Community impact

Understanding: opportunities & constraints

- Program verification
- Site analysis
- Existing building analysis
- Adjacencies / Organizing principles

Exploring: creating options that support vision

- Benchmarking
- Site options / Master planning
- Concept budgets

Consensus Building: celebrate the big idea

- Develop optimum concepts
- Evaluate and critique
- Building consensus with the group

Implementing: growing into the master plan

- Define Phase 1 concepts
- Review budget
- Develop tools to convey vision

P r e - D e s i g n S c h e m a t i c D e s i g n

You're invited!

... to a series of community meetings to help inform the development of a schematic plan for the Olbrich Botanical Gardens Public Facilities

For the most up-to-date information, meeting notes, upcoming meeting announcements, and to give feedback, visit:
<http://www.olbrich.org/about/expansionproject.cfm>

Olbrich Botanical Gardens is operated as a public-private partnership between the City of Madison Parks Division and the Olbrich Botanical Society.

All meetings will be held at
Olbrich Botanical Gardens
 3330 Atwood Avenue
 608.246.4550
www.olbrich.org

Public Stakeholder Meeting 1
 Tuesday, January 15 | 6:30 - 8:30 pm
 Pre-Design: Evaluate & Refine Planning Concept

Public Stakeholder Meeting 2
 Thursday, February 21 | 6:30 - 8:30 pm
 Programming and Planning Presentation

Public Stakeholder Meeting 3
 Monday, March 25 | 5:00 - 7:00 pm
 Schematic Design: Initial Concepts
**Meeting will end by sunset in observation of Passover*

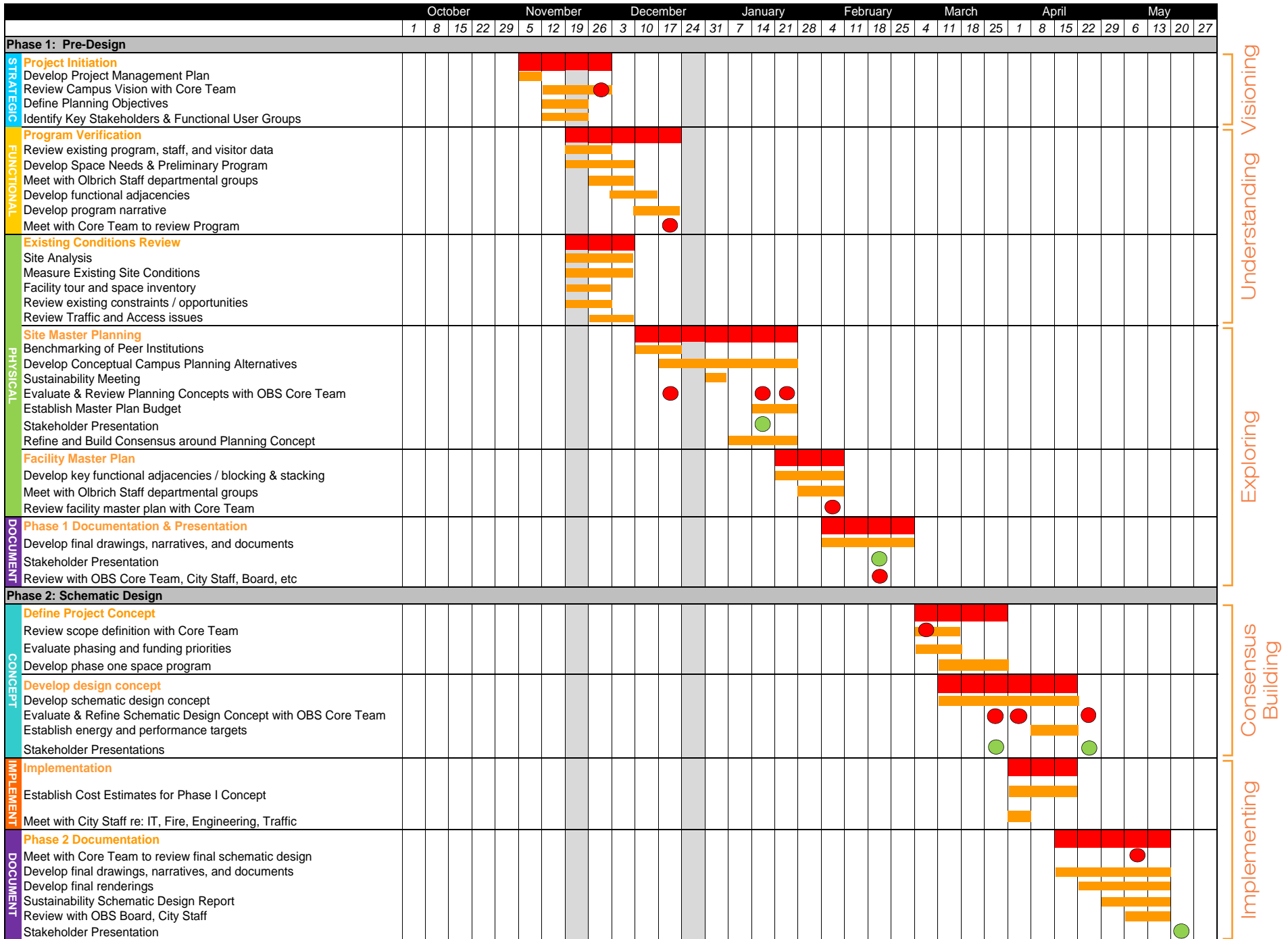
Public Stakeholder Meeting 4
 Monday, April 22 | 6:30 - 8:30 pm
 Schematic Design: Evaluate & Refine Concept

Public Stakeholder Meeting 5
 Monday, May 20 | 6:30 - 8:30 pm
 Final Schematic Design Presentation

Logos: OLBRICH BOTANICAL GARDENS, Madison, play MADISON PARKS, HG, SASy

Public Stakeholder Meeting flyer

"I know you've been mostly focused on the building but I want to thank you for the context of neighborhood and watershed. I think that's really important and I encourage the Gardens to continue to have that outward look as well as that inward look. I think that's really critical for the neighborliness that is sought."



Visioning
 Understanding
 Exploring
 Consensus Building
 Implementing

1.3 Participants

Leadership Team:

- *Primary decisions*
- *Linkage to City & OBG leadership*
- *Organize and manage*
 - Roberta Sladky, Olbrich Botanical Gardens Director
 - Jeanne Hoffman, Manager of Facilities & Sustainability, City of Madison
 - Jim Whitney, City Architect, City of Madison

Core Team:

- *Primary input and supporting decisions*
- *Represent constituencies and overall OBG needs*
 - Jeff Epping, Director of Horticulture
 - Ann Heiden, Director of Development & Marketing
 - Jane Nicholson, Director of Education
 - Jennifer Recoy, Assistant Conservatory Curator
 - Jennifer Sterling, Youth & Family Programs Coordinator
 - Mike Sturm, Parks Landscape Architect, City of Madison
 - Cindy Sullivan, Gift Shop Manager
 - Aaron Wilkie, Garden Facilitator

Stakeholders:

- *Input and feedback*
 - OBS Board
 - OBG staff groups
 - OBG volunteers
 - City of Madison staff
 - Public/OBG visitors
 - Neighbors
 - Neighborhood Association Representatives
 - Alders (City Council)

Consultant Team:

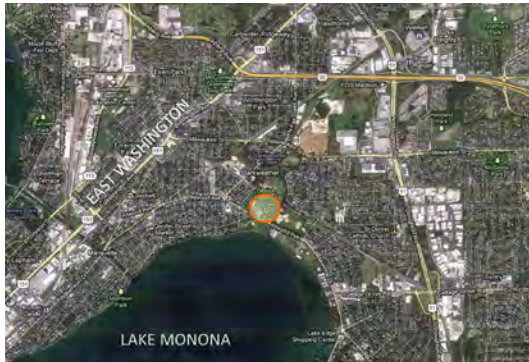
- HGA
- GRAEF
- KBS



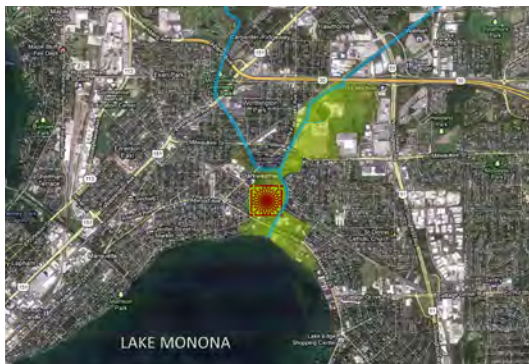
2.0 Site & Existing Facilities

- 2.1 Existing Site Context
 - 2.1.1 Site Utilities & Zoning
- 2.2 Existing Building Photos & Drawings
- 2.3 Problem Definition & Needs Analysis

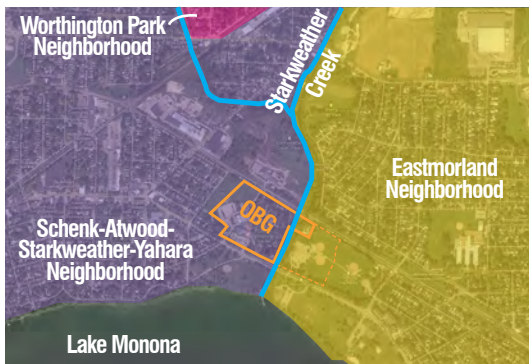
2.1 Existing Site Context



OBG location



Starkweather Creek watershed & green corridor



Surrounding neighborhoods

A key component of the master planning process included a thorough site investigation and recommendations. The existing Olbrich Botanical Gardens buildings are set on beautiful grounds, however, the site presents several challenges to facility expansion. In summary, these site conditions include:

- There is no existing open land south of the railroad, because it is taken up by the current facilities, Garden, parking, and park. Growth to the existing facilities should be sensitive to the Garden, allowing for the least lost Garden area possible.
- There is a neighborhood park on the west portion of the site that is highly used by the neighbors. Therefore, development on that portion of the property is restricted.
- Starkweather Creek limits development on the east side of the site.
- The railroad tracks divide the back-of-house functions (Garver Cottage, leaf mulch, compost, nursery, and storage) from the rest of the site. This is a private crossing.
- Sugar Avenue is a public street which runs through the site and is currently indiscernible from the OBG parking lot.
- Visitors' first experience of OBG is from the parking lot. This is not an ideal initial view of OBG, though the proximity of parking to buildings is important.
- There is a likely access and utility easement along Atwood Avenue and the railroad tracks. The exact location should be identified in the next phase of design.
- The Children's Garden is located outside of the Garden fence and is across Sugar Avenue and the parking lot from the building.

Despite these challenges, the site also offers several key amenities:

- The outdoor and indoor gardens.
- The stakeholders have an emotional attachment to the existing facade of the 1978 Atrium building.
- An uninterrupted "Green Corridor" was identified that runs from Hwy 30 south to Lake Monona, and OBG is located in a key position within the corridor. However, connection through the site is not clear and should be improved.
- OBG is located in the Starkweather Creek watershed and should improve stormwater runoff to better the condition of water resources in the area.

Existing Project Site Conditions:

The site, in general, has level to slightly rolling terrain. It contains the formal gardens and facilities, two paved parking areas, a turf overflow parking area, and a park space along the western side that contains a basketball court, ice hockey rink and a skating rink/grass play area. These facilities and spaces are bound by Atwood Avenue and residential property on the south, Garrison Street on the west, Capitol City Trail and Union Pacific railroad to the north and Starkweather Creek on the east. Sugar Avenue bisects the parcel and winds its way north from Atwood Avenue to the Capitol City Trail and Union Pa-

cific Railroad tracks and serves as access to the Garver Feed Mill and the three parking lots. There is additional park space to the east of Starkweather Creek and south

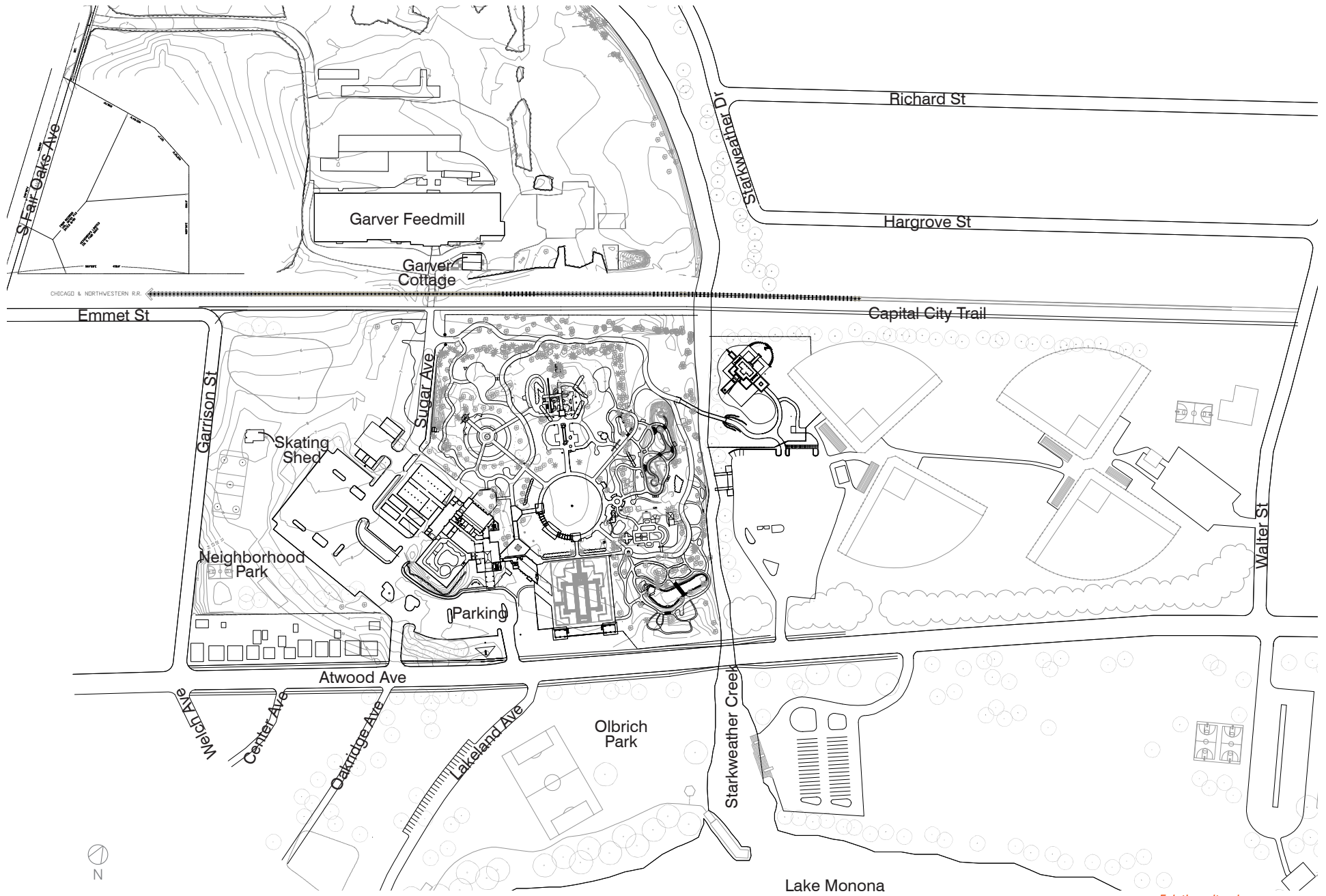
of Atwood Avenue that provides overflow parking, along with baseball/softball facilities as well as access to Monona Lake for boating and swimming.



Enlarged green corridor detail



Site analysis



Existing site plan



Aerial view of site & surrounding context

2.1.1 Site Utilities & Zoning

Existing Project Site Utilities:

The Olbrich Garden Facilities are served by City of Madison public sanitary sewer, storm sewer and water main that is located in Atwood Avenue, Sugar Avenue or within an easement along the Union Pacific Railroad and Capitol City Trail. The site also contains private storm sewer that drains the existing parking lots, building roofs and the gardens directly into Starkweather Creek.

Sanitary Sewer – the existing buildings are served by two six-inch diameter laterals with one exiting the main entrance area and accessing the City’s system on Atwood Avenue and one exiting near the west side of the Conservatory and accessing the system on Sugar Avenue. There is an unused six-inch lateral located northwest of the green house area off of Sugar Avenue.

Water – the facility is served by a single four-inch water service that enters the mechanical room adjacent to the Conservatory and is then distributed internally from there. There is an unused six-inch water stub located northwest of the green house area off of Sugar Avenue. The owner has identified an additional water line that serves the irrigation system in summer and the ice rink in winter. Its pump house is located north of the building and east of Sugar Avenue, the exact location of which should be identified in the future phase of

design.

Storm Sewer – the site contains a system of varying sized (4”-12”) storm drains that are connected to a private 18” storm sewer that drains east to Starkweather Creek. This system collects all storm water from the existing buildings and nearby adjacent surface areas and is located within, around and under the existing buildings. The main parking lot south of the existing buildings all drain to a double inlet in the southern most curb line and enters a private 14”x23” storm sewer that drains to the City’s system in Atwood Avenue and then east to Starkweather Creek. The western (and larger) parking lot drains into a double inlet in the northwest corner of the parking lot and then enters a private 12” storm sewer that includes drains from the skating rink area (adjacent to the west) before running north and discharging into the City’s system that drains east to Starkweather Creek.

Zoning:

The current zoning for the subject property is “PR WP-08” – Parks & Recreation District (28.095) with Wellhead Protection District No. 8 Overlay (28.102(7)). Subject property falls within Zone B of the Wellhead Protection District. Building setbacks are 30’ from all property lines. Maximum building height is 2 stories & 35’ (max. height may be exceeded with conditional approval). Maximum lot coverage is 10%.

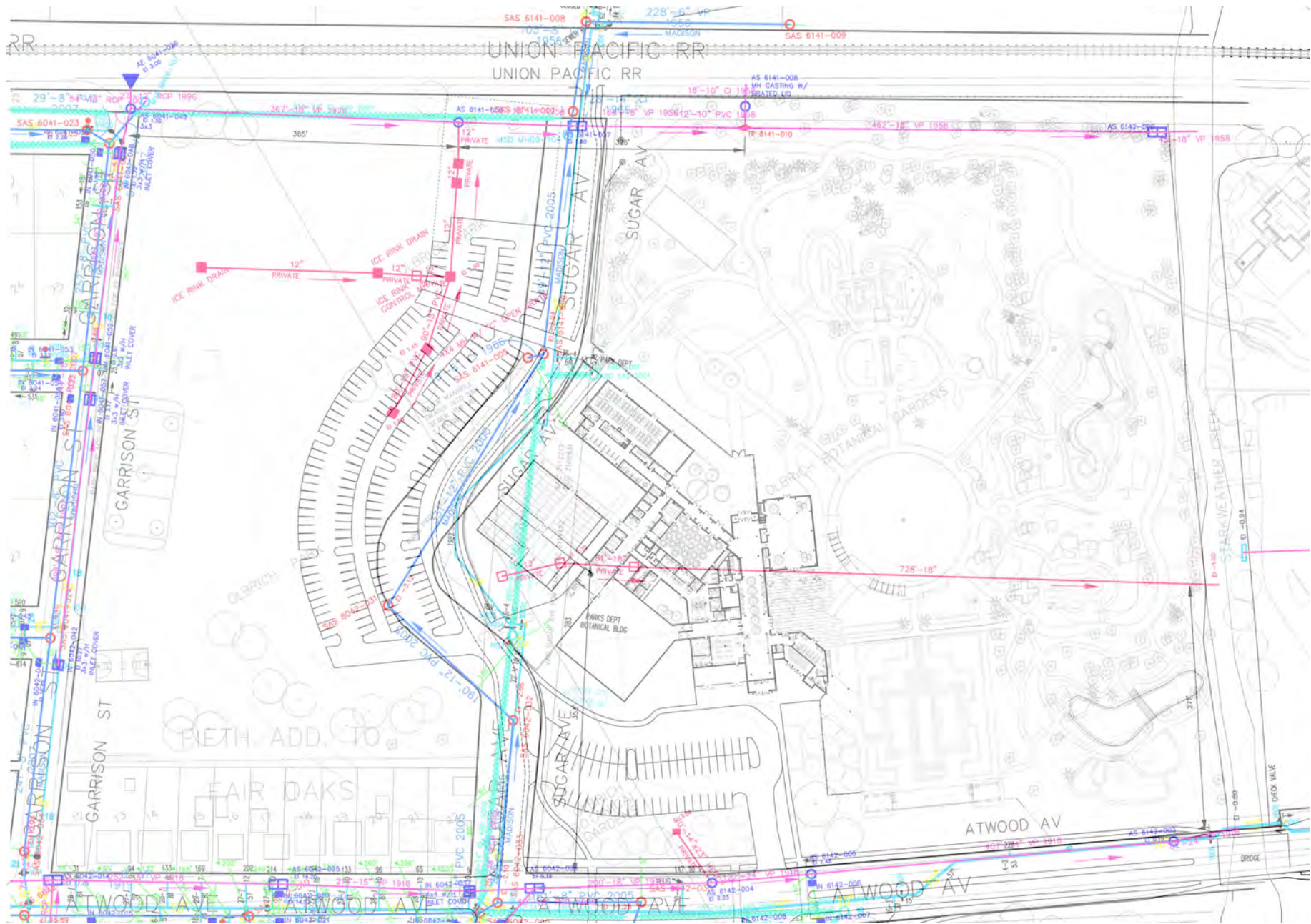
HGA has submitted full plans and an occupancy narrative to the City of Madison Zoning Administrator for review of the proposed parking layout and quantities. Due to the unique assortment of activities which occur on site, the parking requirements are subject to the Zoning Administrator’s review and assessment. As of the publishing of this report, no response has been received regarding this.

Utility Easements:

A full analysis of utility easements will be conducted in conjunction with a site survey performed at the next stage of the project. Easements most likely exist for City and MMSD storm and sanitary along the south side of the adjacent railroad right-of-way. An easement for the existing water main near the existing greenhouse could also exist. No information is currently known regarding easements for private utilities like gas, phone or electric.

DOT Right-of-way:

Right-of-way associated with the proposed reconfigured Sugar Avenue is included in the Master Plan section of this report.



Existing site utilities



2.2 Existing Building Photos & Drawings



Main entrance and Conservatory



Greenhouses



Garver Cottage (Horticulture staff office)



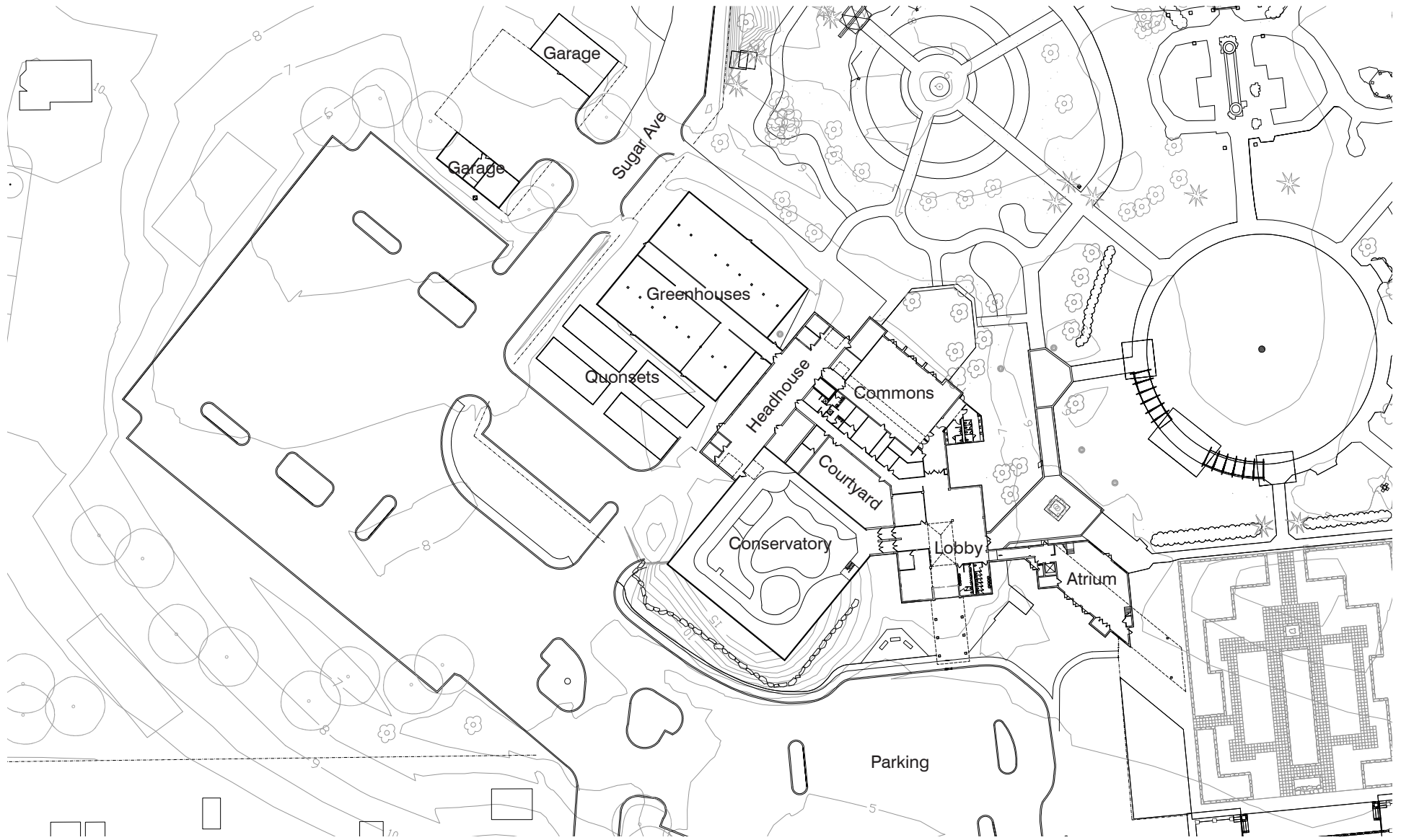
Original 1978 Atrium building



Quonsets



Garver Feedmill



Existing building plan

2.3 Problem Definition & Needs Analysis

UNMET SPACE NEEDS



Atrium is not well suited for Education uses; need more space like the size of the Commons



Indoor interpretive space – need exhibits and an orientation space



Lobby and Entry area lacks places to sit, places to eat; need space to accommodate visitors and visitor services (coats, strollers, wheelchairs, restrooms)



Plant Show Hall lacks enough floor area for people to move through or to have events; not suited for maintaining plants



Facility rentals support spaces are too small and poorly located



Commons and Atrium both have drawbacks as Facility Rental spaces and for Education (not a functional nor engaging, interactive Education space)

UNMET SPACE NEEDS



Gift Shop retail area, storage, and office space are all too small. Only drinks and ice cream are sold; visitors would stay longer if more food options were available



Greeter Desk is poorly located – not close enough to entry to guide visitors; also, it should be multifunctional to create a presence for Membership in the Lobby



Library, storytelling, study space, work space, and storage are all too small or non-existent



Volunteer work space, material storage, or personal storage space are too small or non-existent



Staff work space and support space are inadequate; also, need proper adjacencies of staff to facilitate efficient work



Maintenance facility needs separate area to support garden collections, plant shows, and exhibits

UNMET SPACE NEEDS



Plant production needs additional space, particularly for overwintering tropicals and bulbs and to support the expanded plant needs



Headhouse is a jumble of uses; function suffers



Facility circulation is incoherent and inefficient. There are multiple areas where every user group utilizes a narrow corridor. The headhouse has too much cross-traffic for unrelated functions, so it does not support plant propagation to its fullest capacity. The Children's Garden is located outside of the garden fence and across Sugar Avenue and the parking lot. The future facility needs to disentangle and make the circulation paths efficient.

FACILITY CONDITION ISSUES



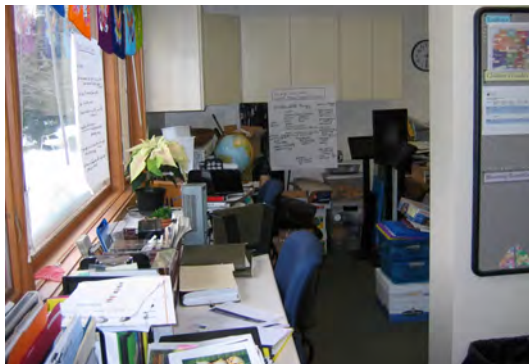
Building envelope – roof will be replaced this spring, but other areas are a concern. In particular, the wood windows have leak problems and some thermopane units have failed seals



HVAC – systems have been expanded over time and are poorly organized and controlled leading to significant human comfort problems



Natural light – plants in show space and in gift shop are challenged by scarce daylight; some offices do not have access to natural daylight



Acoustics are a challenge in work areas (little acoustic privacy, easy distractions) and in event/multipurpose spaces (little sound absorption)



A/V systems and lighting controls for projecting and speaking are inadequate in event/multipurpose spaces



Accessibility for the handicapped and strollers is poor – vestibules, restrooms, etc.

FACILITY CONDITION ISSUES



Network distribution lacks fiber runs to some locations – necessary for point-of-sale software and other functions



Greenhouse condition – roof leaks, inflexible benches, energy inefficient



Energy inefficient - facility and systems are outdated and in poor condition, making the building an energy hog

3.0 Space Program

- 3.1 Existing & Proposed Space Program*
- 3.2 Functional & Departmental Adjacencies*

3.1 Existing & Proposed Space Program

		EXISTING	PHASE 1	PHASE 2	DEFERRED
ID	AREA DESCRIPTION	ASF TOTAL	ASF TOTAL	ASF TOTAL	ASF TOTAL
Multi-Purpose, Display & Education Space					
1.0	Plant Show Space		4,100		
1.1	Plant Show Space Storage		275		
1.2	Plant Show Space Coat Room		100		
1.3	Event Space	2,995	2,995		
1.4	Event Space Storage	210	210		
1.5	Event Space Coat Room		155		
1.6	Pre-K - 12 Classroom		3,195		
1.7	Pre-K - 12 Classroom Storage/Workroom		380		
1.8	Pre-K - 12 Classroom Coats/Cubbies		260		80
1.9	Meeting Room/Bride's Room	1,050	1,050		
1.10	Meeting Room/Bride's Room Storage	25	25		
1.11	Upstairs Kitchen	105	105		
1.12	Catering Support Kitchen	290	440		
1.13	Catering Storage - Linens, Liquor, Misc	in headhouse	125		
1.14	Classroom/Lecture Hall			1,500	
1.15	Classroom/Lecture Hall Storage			in stor./wkrm.	
1.16	Large Auditorium				6,000
1.17	Large Auditorium Storage				300
1.18	Large Auditorium Coat Room				80
	ASF SUBTOTAL	4,675	13,415	1,500	6,460
Public Space					
2.0	Lobby Vestibule 1	110	365		
2.1	Lobby Vestibule 2		220		
2.2	Lobby/Orangerie/Café Seating	2,385	5,230		
2.3	Lobby Ticketing/Information Desk (shared with Gift Shop)	incl	230		
2.4	Lobby Coat Room		220		
2.5	Gift Shop (existing: includes 106 sf of kiosks in lobby)	615	1,070	1,150	
2.6	Gift Shop Office/Workroom	115	260		
2.7	Gift Shop Storage	175	395		
2.8	Gift Shop Shipping Workroom				
2.9	Gift Shop Receiving		shared w bldg		
2.10	Atrium	1,930			
2.11	Orientation Hall		555		
2.12	Library	425	995		
2.13	Library Storage	60	80		140
2.14	Library Office/Workroom		155		
	ASF SUBTOTAL	5,815	9,775	1,150	140

Comments

225 sf stage+ Seating for 292 (lecture) OR 212 seats+200 kids flr

Repurposed Commons, Seating 176 (banquet)

Seating for 112 (classroom)

Repurposed Meeting Room, Seating for 46 (conference)

Seating for 22

Includes stroller/WC parking

163 lf shelving (46 ex'g)

3

Repurposed for Orientation Hall and Library

Repurposed Atrium, Seating for 65 (lecture)

Repurposed Atrium, 148 lf shelving (72 ex'g)

1

Space Program

		EXISTING	PHASE 1	PHASE 2	DEFERRED
ID	AREA DESCRIPTION	ASF TOTAL	ASF TOTAL	ASF TOTAL	ASF TOTAL
Office Space					
3.0	Director's Office	180	180		
3.1	Private Office	270	720		
3.2	Shared Office	845	885		
3.3	Staff Workstations		455	65	
3.4	Intern/Volunteer Workstations	70	450	135	
3.5	Workroom/Copy Area	115	275		
3.6	Administration Hallway (Storage)	515			
3.7	Breakout Space/Workroom		150		
3.8	Staff & Volunteer Lounge	in headhouse	340		
3.9	Wellness / Mother's Room			60	
3.10	Archival Storage	in mezzanine	395		
	ASF SUBTOTAL	1,995	3,850	260	0
Plant Propagation, Headhouse & Conservatory					
4.0	Conservatory	9,950	9,950		
4.1	Production Greenhouse	4,150	4,800		
4.2	Tropical Greenhouse	2,905	3,120		
4.3	Orchid Greenhouse	1,235	1,080		
4.4	Greenhouse Corridor	1,250	1,265		
4.5	Greenhouse Filter Houses		720		
4.6	Head House	2,935	2,590		
4.7	Greenhouse (quonset plants + annuals in-house)			7,100	
4.8	Walk-in Cooler Storage		90		
4.9	Quonsets (4) (north of RR)	3,390	3,390		
	ASF SUBTOTAL	22,425	23,615	7,100	0
Support Space					
5.0	Storage		335		
5.1	Mezzanine Storage	620	620		
5.2	Conservatory Basement/Storage	1,600	1,600		
5.3	Head House Shop	80	125		
5.4	Chemical Room	80	100		
5.5	Building Shipping/Receiving		170		
5.6	Heated Storage (north of RR)	450	1,340		
5.7	Cold Storage (north of RR)	2,110	3,730	4,250	
5.8	Maintenance Shop (north of RR)		400		
5.9	Painting Room (north of RR)		150		
5.10	Chemical Storage (north of RR)		80		
	ASF SUBTOTAL	4,940	8,650	0	0

Comments

1
6
10 (2 future included in Phase 1)
7 (1 future needed in Phase 2)
10 (3 future needed in Phase 2)

OBG has changed file storage duration practice

3315 sf benches (2397 ex'g)
935 sf benches (783 ex'g), 1680 sf floor (1453 ex'g)
625 sf benches (636 ex'g)

Existing sf included unrelated function area
SF can be reduced (efficiency gained with rolling bench)

Lift installed for easier access

Total ASF, Enclosed Spaces	39,850	59,305	10,010	6,600
GSF Avg. Multiplier (Restrooms, Mech/Elec, Corridors, etc.)	1.16	1.23	1.57	1.57
Total GSF	46,417	72,680	15,716	10,362

**Maintenance staff workstations are accounted for in Head House. Due to noise and air pollution of this area, these spaces should be enclosed.*

		EXISTING	PHASE 1	PHASE 2	DEFERRED
ID	AREA DESCRIPTION	ASF TOTAL	ASF TOTAL	ASF TOTAL	ASF TOTAL
Cottage Office Space					
6.0	Hort Staff Manager (Cottage)	255	255		
6.1	Staff Workstations	630	630		150
6.2	Intern/Volunteer Workstations				315
6.3	Cottage Meeting Room/Break Area	255	255		150
6.4	Cottage Basement Storage	1,210	1,210		
6.5	"The Safe" Storage (Cottage)	125	125		
	ASF SUBTOTAL	2,475	2,475	0	615
Outdoor Space					
7.0	Garden Pavilion			1,300	
7.1	Outdoor Patio Seating		4,300		
7.2	Atrium Deck		800		
7.3	Outdoor Gift Shop Sales Area		800		
7.4	Office Courtyard		1,495		
	ASF SUBTOTAL	0	7,395	1,300	0
Outdoor Plant Production and Workspace					
8.0	Nursery (by Cottage)	7,500	7,500		
8.1	Compost Area (by Cottage)	2,500	2,500		
8.2	Out Door Hard Materials	6,000	6,000		
8.3	Greenhouse Service Courtyard	13,500	21,480		
	ASF SUBTOTAL	16,000	37,480	0	0
Outdoor Support Space					
9.0	Loading Dock		380		
9.1	Trash/Recycling Holding		180		
	ASF SUBTOTAL	0	560	0	0
Skating Shed					
10.0	Skating Center	760	760		
10.1	Skating Rink Basement Storage	350	350		
	ASF SUBTOTAL	1,110	1,110	0	0
Garver Feed Mill					
11.0	Goodman Facility Warehouse	190	190		
11.1	Garver Storage	15,960	15,960		
	ASF SUBTOTAL	16,150	16,150	0	0

Comments

Hort Staff remains at Garver Cottage

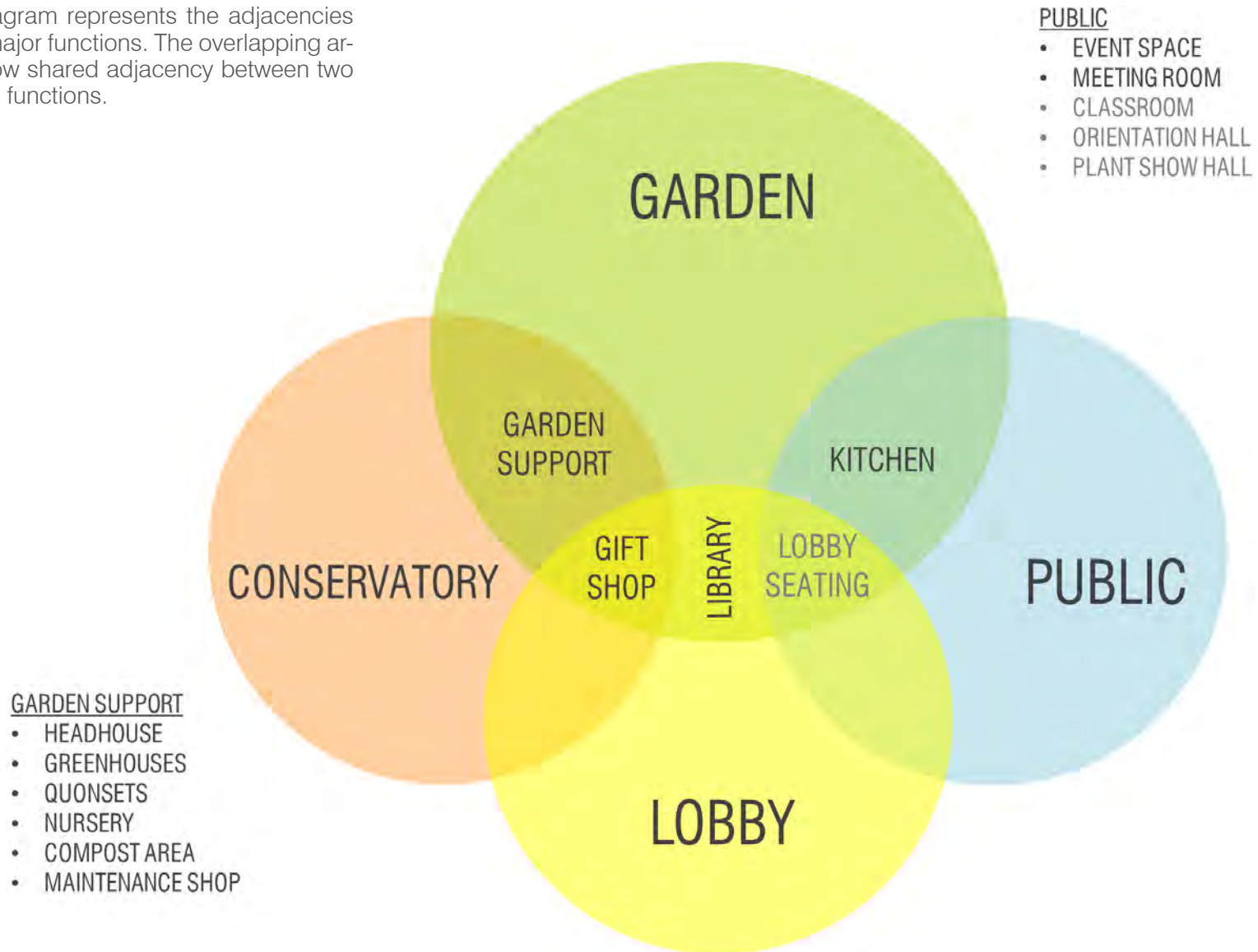
Seating for 80 (banquet)
Seating for 18
Structure reinforced

Used in summer as Kitchen Garden classroom
Kitchen Garden storage

Inefficient storage (no shelving)

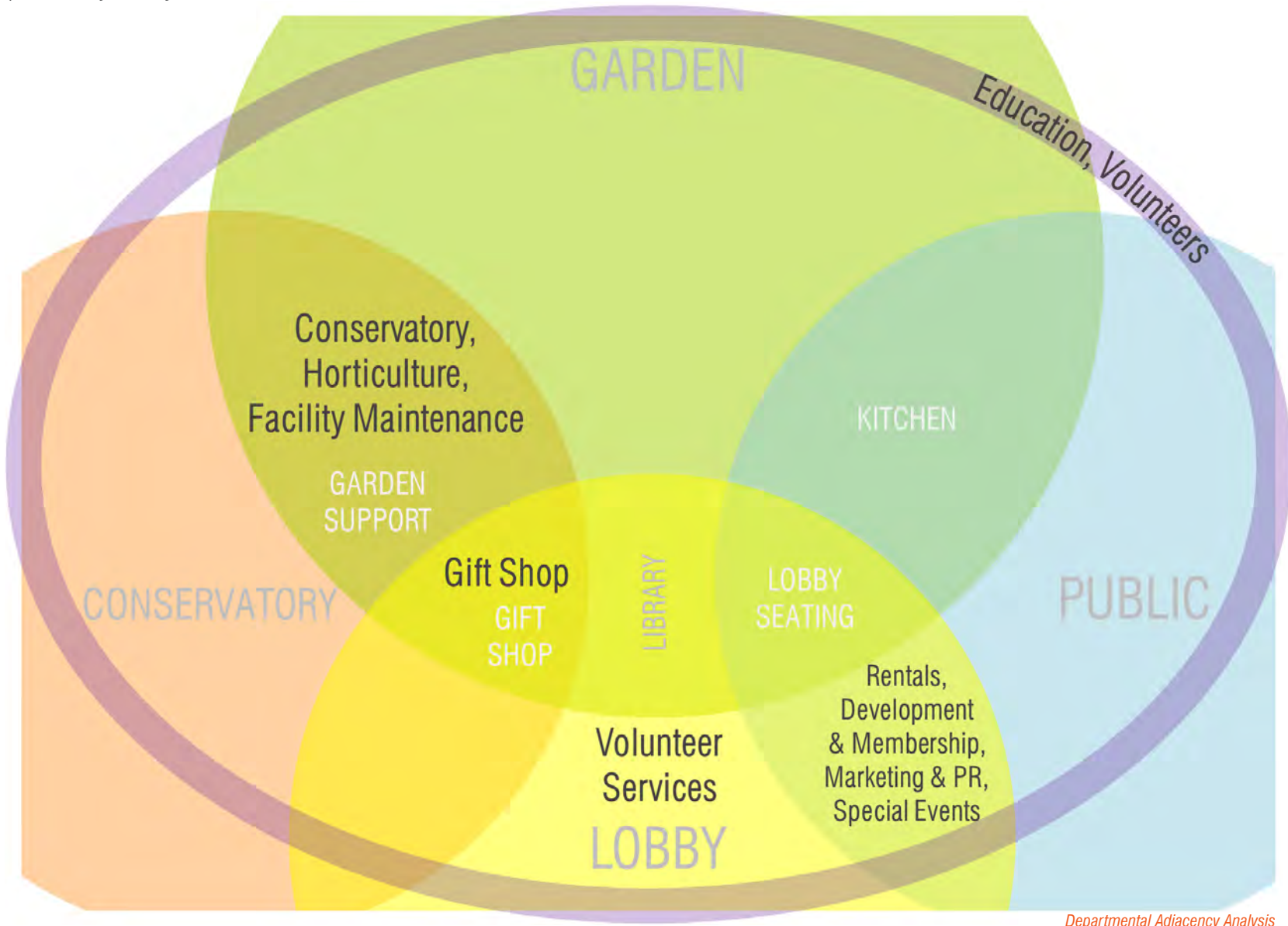
3.2 Functional & Departmental Adjacencies

This diagram represents the adjacencies of the major functions. The overlapping areas show shared adjacency between two or more functions.



Functional Adjacency Analysis

This diagram represents the adjacencies of the OBG departments. The location of the departments' name represents their required adjacency.



Departmental Adjacency Analysis

ADJACENCY MATRIX

	Conservatory Staff	Horticulture Staff	Education Staff	Gift Shop Staff	Development & Membership Staff	Marketing & PR Staff	Special Events Staff	Rentals Staff	Facility Maintenance Staff	Volunteer Services Staff	Volunteers	Outdoor Gardens	Children's Garden	Conservatory	Commons	Atrium	Meeting Room	Lobby	Gift Shop	Library	Kitchen	Headhouse	Greenhouses	Quonsets	Maintenance Shop	Nursery	Compost Area								
Conservatory Staff	1	2	1	2	2	2	2	1	2	work within all departments	2	1	2	2	2	2	2	2	2	2	1	1	2												
Horticulture Staff		2	2	2	2	2	2	1	2		1	1	2	2	2	2	2	2	2	2	2		1	1	1	1	2	1							
Education Staff			2	2	2	2	2	1	2		1	1	1	1	1	1	1			1	1	1*	2		2										
Gift Shop Staff				2	2	2	2	2	2		1		1							1			2	1											
Development & Membership Staff					1	1	2	2	2		2	2	2	1	2	1	1						1*	2											
Marketing & PR Staff						1	2	2	2		2	2	2	2	2		2	2	2	2	2		2	2											
Special Events Staff							2	2	2		1		1	1	1	2	1						2	2	2	2	2								
Rentals Staff								2	2		2	2	2	2	2	2	2	2	2	2	2	2	2												
Facility Maintenance Staff									2		1	2	1	2	2	2	2	2	2	2	2	2	1	1	2	1	2								
Volunteer Services Staff											1	2	2					1	2	2	2	1*													
Volunteers											work in all major spaces																								
Outdoor Gardens												1	2	2	2	2	1	1	2	2	1	1	1	1	1	1	1								
Children's Garden													2	1	1		1		2	2	1	1	1	1	1	1	1								
Conservatory																	1	1			1	1	2	2	2	1									
Commons																	1	2		1	2	2													
Atrium																2	1	2		1	2	2													
Meeting Room																																			
Lobby																				1	1														
Gift Shop																							2												
Library																																			
Kitchen																																			
Headhouse																							1	2	1	2									
Greenhouses																								1	2										
Quonsets																									2	2	2								
Maintenance Shop																									2										
Nursery																										2									
Compost Area																																			

* = adjacency relationship in existing building (will likely change with new building plan)