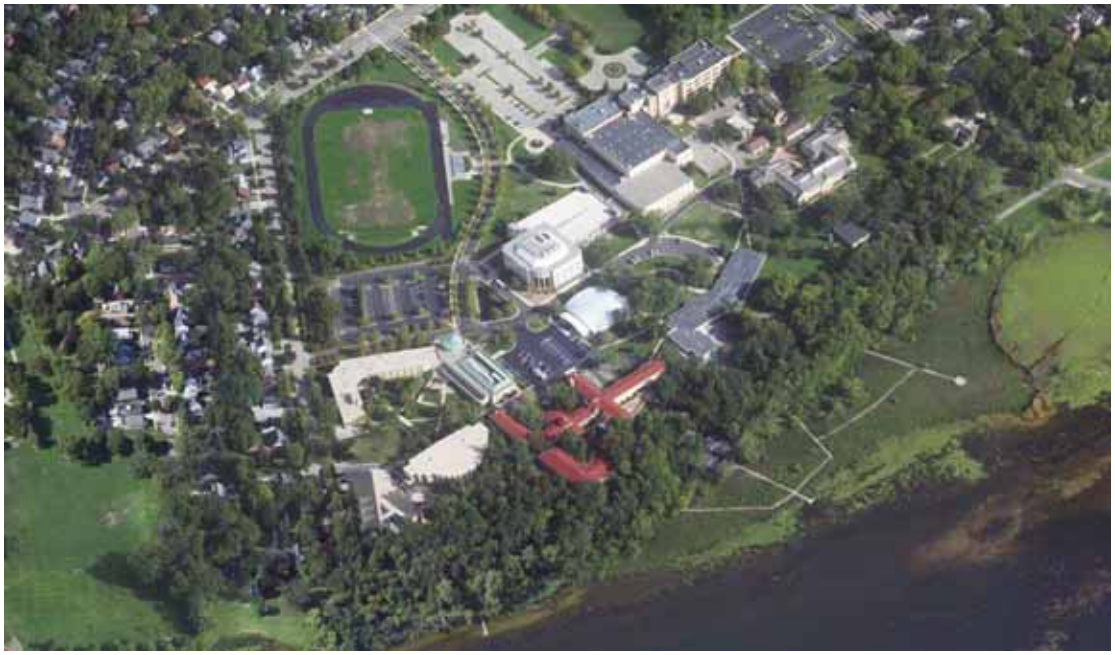

Edgewood Campus Master Plan

Madison, Wisconsin

January 8, 2014

Edgewood Campus School	829 Edgewood College Drive
Edgewood High School	2219 Monroe Street
Edgewood College	1000 Edgewood College Drive

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TABLE OF CONTENTS

1

BACKGROUND

1.1 MASTER PLAN PURPOSE

The Campus Master Plan was undertaken to study how growth can be accommodated and managed so as to strengthen the special character of the Edgewood campus, and be sensitive to the impact that growth can have on the surrounding neighborhoods. The Edgewood Campus has been zoned "Campus Institutional", which requires that the campus have an approved master plan to meet the zoning requirements. This plan includes the requirements of a master plan as outlined by the City of Madison zoning ordinance.

Each campus institution, the surrounding neighborhoods and the Planning Department have reviewed the Campus Master Plan. It is an instrument of communication so that all stakeholders are aware of potential future developments on campus.

The Campus Master Plan establishes a direction for the future, while maintaining the flexibility needed to respond to changing needs, conditions, and resources. The plan is not intended to be a detailed blueprint for construction. Footprints for buildings, internal roadways, parking lots, and landscape elements shown on the Campus Plan are place holders for future development and refinement of each element.

The plan demonstrates how the many factors which influence the campus environment can be managed to create an attractive, understandable, and efficiently functioning whole.

The Campus Master Plan will provide a basis for implementing development decisions so as to benefit all three institutions and the neighborhood by:

- Creating a model academic environment for all three institutions
- Providing for the future growth of the Campus School, High School, and College in program and faculty enhancement
- Improving the quality of campus life
- Ensuring stewardship of land and financial resources
- Preserving the appropriate green space
- Ensuring compatibility of building height and use with neighboring buildings
- Providing for recreational needs
- Providing solutions for increased parking and traffic
- Setting forth an approval process for future development
- Providing solutions for mitigating neighborhood impacts of future development and growth

Campus Massing Model Illustrating future facility development in tan and existing buildings in white

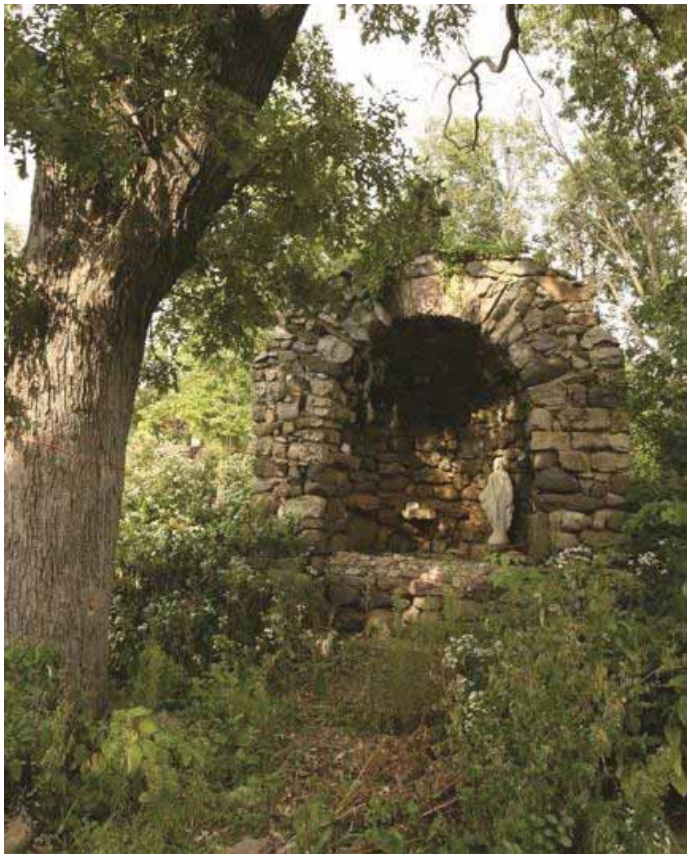
1.2 HISTORICAL PERSPECTIVE

In 1881, Governor Cadwallader C. Washburn gave his Edgewood Villa and 55-acre wooded estate on the shore of Lake Wingra to the Dominican Sisters of Sinsinawa. They moved St. Regina Academy, which had been located in downtown Madison, to the Edgewood site. After a tragic fire in 1893, the Sisters rebuilt the school as Sacred Heart Academy, which was later separated into Edgewood High School and Edgewood Campus School.

In 1927, Edgewood College was founded as a junior college for women with a two-year liberal arts curriculum, housed in the same building as the high school. The senior college developed in 1940, focusing on the preparation of teachers, and the first Bachelor of Science degrees in education were awarded in 1942. Marshall Hall, originally built in 1864, was converted for use as a college residence hall in 1941–42, becoming the first distinctively collegiate building separate from the high school facilities.

In September of 2011, the presidents of Edgewood Campus School, Edgewood High School, and Edgewood College completed the process that established each as a separate legal entity. Historically, all three schools were, from a legal standpoint, under one 'umbrella.' Today, all three institutions remain under the sponsorship of the Dominican Sisters of Sinsinawa.

Grotto in 1921



Existing Grotto

Edgewood and Community

The Edgewood Campus School is committed to providing service to our campus and other communities. During the course of the school year, students in all grades participate in projects that benefit others. Starting in 6th grade students participate in two projects involving service work during the school year.

Edgewood High School has a strong history of high academic achievement among its graduates, many of whom have become business and civic leaders in the Greater Madison area. EHS students, faculty and staff contribute significantly to Madison and the surrounding areas through community service. All students are required to perform at least 100 hours of community service in order to graduate. 'Edgewood High School in the Community' is a day set aside each academic year. On these special days, the entire student body, faculty and staff put down the books to volunteer 3,500 hours serving community needs. This full day of service is a manifestation of the school's mission to educate its students in service and personal responsibility.

Today, Edgewood College educates more than 3,000 students annually, at a combination of our Monroe Street and Deming Way campuses, and online. Our graduates can be found serving, leading, and transforming our communities in every capacity. More than 73% of our 12,700 alumni remain in the greater Madison area, where they continue to draw on their experiences to help shape and enhance the quality of life in our communities.

Civic engagement is a vital part of how we prepare students for meaningful personal and professional lives, and we are nationally recognized for our community engagement. For the past five years, we have been named to the **President's Higher Education Community Service Honor Roll**, the highest federal recognition a school can achieve for commitment to service learning and civic engagement. Each year, Edgewood College students contribute more than 230,000 hours of service to the greater Madison community.

Edgewood College creates a 'brain gain' for the greater Madison area, by recruiting and educating talented students who continue to live and work here after they complete their studies. Currently, more than 55 businesses and organizations in the greater Madison area are owned by Edgewood College alumni.

1.3 MASTER PLANNING PROCESS

Process Overview

The master plan process was a collaborative effort with active involvement from five constituent groups: Edgewood Campus School, Edgewood High School, Edgewood College, Dudgeon Monroe Neighborhood Association, and Vilas Neighborhood Association. The 1997 Master Plan included a foundation document for the Edgewood Neighborhood Liaison Committee comprised of representatives from each of the five groups. This group has met regularly since 1997 and has guided the approval of updates to the 1997 Master Plan that accompanied each major building project since 1997.

The master plan process included internal planning and coordination among the three Edgewood schools, and a dynamic process of sharing information and discussion of issues with members of the two neighborhood associations as well as with the District 13 Alder, Sue Ellingson. The final master plan is the product of extensive engagement, collaboration and effort from all five entities. The following is a historical summary of the planning process.

Master Plan Updates 1998 - 2011

Updates to the 1997 master plan were included in the conditional use applications for all major building projects proposed from 1998 through 2010. These updates were accepted by the City of Madison Plan Commission through the approval of Dominican Hall in 2006. In 2011, in preparation for the conditional use application for The Stream, Neighborhood Liaison Committee members worked together to update the graphic map and building descriptions for the master plan. When presented to the Plan Commission the master plan update was rejected with the directive to develop a full master plan. The 2010 updated master plan graphic and accompanying narrative was presented to both Dudgeon Monroe and Vilas Neighborhood Associations in preparation for the development of the future master plan.

Agreement on Master Plan Process

A process for developing a new master plan was proposed to the Neighborhood Liaison Committee on April 18, 2011. Members approved the following process:

A. Develop an internal approval process that ensures strong communication among the three Edgewood schools and outlines responsibility and authority to speak on behalf of all schools as appropriate.
B. Choose a professional partner to assist with the Master Planning process and with developing maps and documents.
C. Meet with City of Madison staff to review requirements for an updated Master Plan.
D. Host a meeting to include: Liaison Committee members, Alders from Districts 10 and 13; neighborhood zoning committee members and other partners to develop a shared understanding and agreement on a Master Planning process. Clarify any expected changes that will come with a designated zoning of Edgewood Campus as Campus Institutional District.
E. Develop a proposed Master Plan that is supported by all three Edgewood Schools.
F. Work with members of the Liaison Committee to review updates to the Campus Master Plan, clarify issues and propose possible solutions to neighborhood concerns.
G. Sponsor an open meeting to introduce a final draft of the Campus Master Plan to which all neighbors and interested community members would be invited.
H. Meet with Dudgeon Monroe Neighborhood Association and the Vilas Neighborhood Association to request support for the Campus Master Plan.
I. Submit Master Plan to the City of Madison for final approval.

Master Plan Meetings

In December 2012, Shawn Schey, Dudgeon Monroe Neighborhood Association representative and Maggie Balistreri-Clarke, Edgewood College representative, met to begin updating the 1997 Memo of Understanding to include current resolutions of past unresolved issues. That process continued until December, 2013. Please see Chapter 4.

In 2013, the Neighborhood Liaison Committee met as a whole committee 11 times. Two major sub-committees were formed to address the issues involving Site #1, the residence halls, and the buildings proposed for the east end of campus. These sub-committees met extensively from June through December 2013. Please see Chapter 3 for the resulting agreements that emerged from those meetings.

Two open public meetings were held to present plans and identify issues and concerns. The May 22nd meeting was attended by over 60 interested neighbors. The December 10th meeting was attended by 18 neighbors. Both meetings were jointly planned. Alder Sue Ellingson served as facilitator and host for both meetings. Keith van Lith from the City Planning staff provided additional expertise for the facilitation of the December 10th open meeting. The meeting included information stations on various aspects of the master plan.

Separate meetings to review plans and discuss issues were held with both neighborhood associations.

Several meetings with the City Planning staff were critical in providing guidance and advice for the master plan process. Of particular note is the meeting held on October 30, 2013, during which a new project approval process and a new architectural design review committee were created. Please see Chapter 4.

Development of the Agreements Chapter

Of special note is the creation of an 'Agreements Chapter' created to bring together three types of agreements: the updated memo of understanding, which addresses the unresolved issues from 1997; the reaffirmation and updating of agreements created since 1997, and the development of agreements that emerged from the 2013 master plan process. These agreements reflect countless hours of discussion, hard work and dedication on the part of engaged neighbors, the three Edgewood schools, the District 13 alder, and numerous professional consultants. Please see Chapters 3 and 4.

Open Meeting, December 10, 2013

1.4 MASTER PLAN CONTACTS

Edgewood Neighborhood Liaison Committee Membership and Resource People

2013 Edgewood Neighborhood Liaison Committee

Dudgeon Monroe Neighborhood Association
Shawn Schey, Daryl Sherman, Tom Huber

Vilas Neighborhood Association
Doug Poland, Jon Standridge, Tom Turnquist

Edgewood Campus School
S. Kathleen Malone, O.P.

Edgewood High School
Mike Elliott

Edgewood College
Maggie Balistreri-Clarke

Additional Master Plan Participants and Resources

District 13 Alder
Sue Ellingson

Dir. of Security, Parking and Transportation, Edgewood College
Mike Metcalf

Assistant Dir. of Parking and Transportation, Edgewood College
Erin Bykowski

Chief Financial Officer, Edgewood College
Michael Guns

Director of Facilities Operation, Edgewood College
Susan Serrault

Potter Lawson, Inc.
Doug Hursh

SAA Traffic and Storm Water Consultants
John Lichtenheld

Dudgeon Monroe Neighborhood Association President
Sherwood Malamud

Vilas Neighborhood Association President
Julia Kerr

1.5 MISSION AND GUIDING PRINCIPLES

The Edgewood Campus School states its mission, "In the Sinsinawa Dominican tradition, the Edgewood Campus School community guides a diverse student body toward becoming faith-filled global citizens who seek knowledge and truth."

Edgewood High School states as its mission, "Edgewood High School of the Sacred Heart, a Catholic high school, educates the whole student for a life of learning, service and personal responsibility through a rigorous academic curriculum that embraces the Sinsinawa Dominican values of Truth, Compassion, Justice, Partnership and Community."

The Edgewood College mission states, "Edgewood College, rooted in the Dominican tradition, engages students within a community of learners committed to building a just and compassionate world. The College educates students for meaningful personal and professional lives of ethical leadership, service, and a lifelong search for truth."

The Campus School


The High School Entrance

Edgewood College Expressing Values on Campus

1.6 LONG TERM STRATEGIC GOALS

Edgewood Campus School identifies three long term strategic goals: maintain the enrollment cap at no more than 325 students; monitor traffic and parking in the Edgewood Campus School parking lot to keep that environment safe; and care for the Campus School buildings and land.

In **Edgewood High School**'s current strategic plan, four goals are identified, each with specific measures and indicators. The goals are educate, nurture and challenge students in an inclusive school community rooted in the Dominican tradition; establish long-term financial security; update Edgewood High School facilities with an emphasis on safety, increased accessibility and learning needs; strengthen internal and external relationships through effective communication.

Edgewood College identifies five strategic goals in its current strategic plan: Provide a distinctive learning environment based on the four essential characteristics of an Edgewood College education; retain and graduate students well-prepared for their next meaningful personal and professional steps upon completion; maintain moderate enrollment growth by both improving the quality of current programs and experiences and applying areas of strength to meet emerging community needs; achieve diversity commensurate with the diversity of Dane County and South Central Wisconsin, the primary communities we serve; and employ academic, financial, facilities, and operational models that meet current needs in ways that provide for the future.

2

EXISTING CONDITIONS

2.1 EXISTING BUILDINGS AND LAND USE

Edgewood Campus School, Edgewood High School, and Edgewood College share the 55-acre Edgewood campus. Each school is separately incorporated with its own administration and board of trustees. The schools of Edgewood work collaboratively in areas of curriculum planning, facilities, community relations, development, work-study student placement, community service, and teacher continuing education.

Two site plans show the existing conditions of the Edgewood Campus. The **Campus Plan – Existing Buildings** shows the existing buildings, drives, parking lots, Native American Mounds, and green space. The **Existing Conditions – Boundaries** site plan illustrates the site boundaries of each institution on campus. The institutions share access to the site and share facilities like the Edgedome, Sondregger Science Center, and the Marshall parking lot at the east end of campus.

Campus Plan - Existing Buildings

Edgewood Campus Plan

January 08, 2014

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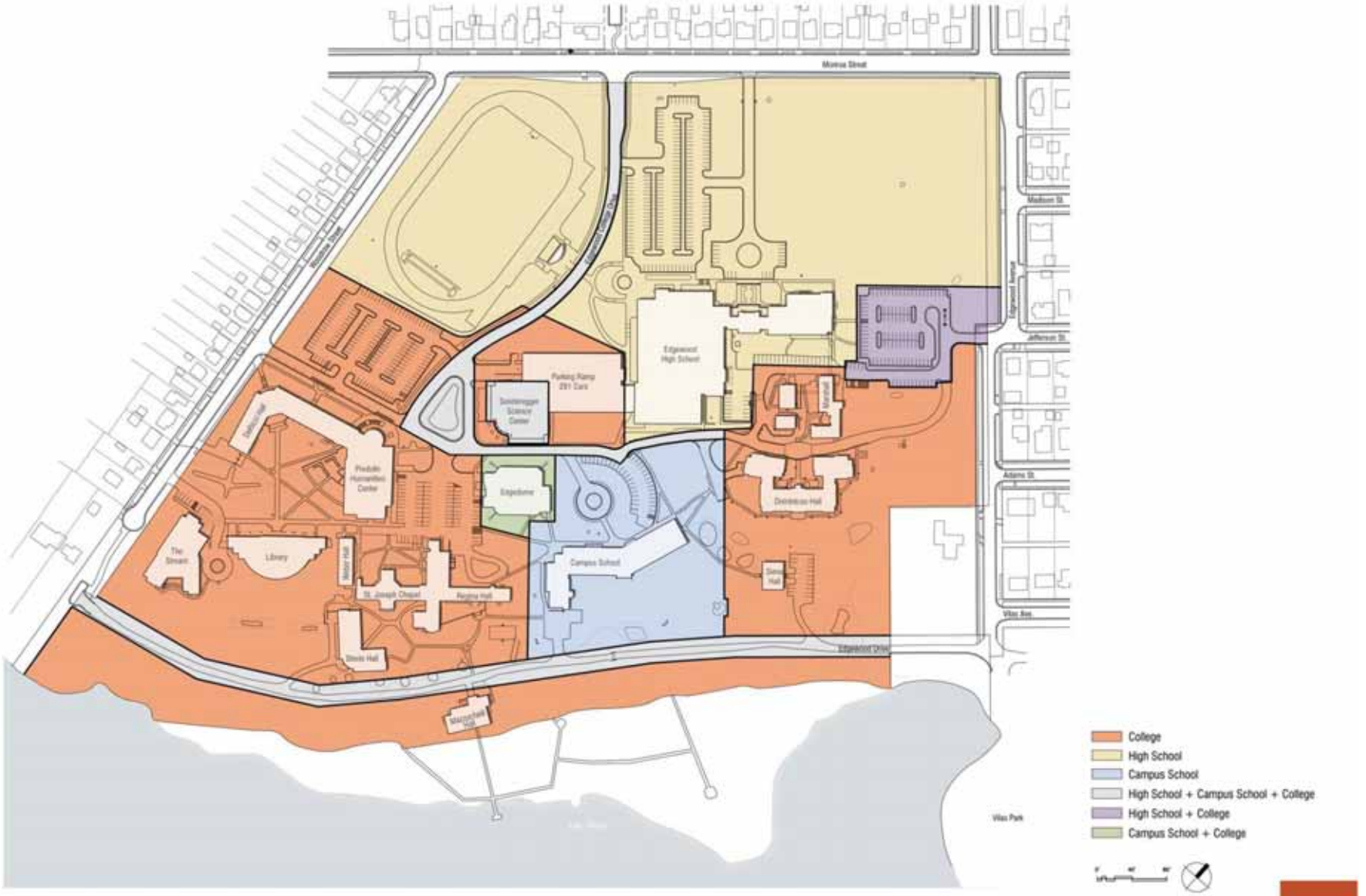

Existing Conditions - Boundaries

Edgewood Campus Plan

January 08, 2014

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HISTORIC SITES AND LANDMARKS

The 55-acre campus shared by the three institutions is home to **Native American Mounds**, evidence that this has been a very special and beautiful place for centuries. Situated toward the shore of Lake Wingra, these mounds were the subject of an extensive survey conducted by the Great Lakes Archaeological Research Center. There are two 'markers' on campus, placed in 1915 and in 1919 that identify two of the sacred areas.

The **Edgewood High School Building** is a structure that dates to 1927, when it opened to serve as both the high school and as Edgewood Junior College. It was designed by Albert Kelsey, grandson of former Wisconsin Governor Cadwallader Washburn.

Edgewood High School

Marshall Hall is the oldest building on the 55 acres. Its construction dates to 1864. Originally built as a carriage house, it underwent significant renovations in the early 1940s and in 1942 became the first uniquely collegiate building on the Edgewood campus. Today it serves as an Edgewood College residence hall.

Marshall Hall

Park & Pleasure Drive is a beautiful stretch of road that winds along the north shore of Lake Wingra, where the campus meets the lake. The Drive dates to the early 1900s. Today, it is a haven for cyclists, runners, and walkers. Autos may only enter and exit through the east. While emergency vehicles have full access from either Woodrow Street or Edgewood Avenue only, the Drive was closed to through traffic in 2006, concurrent with the construction of Dominican Hall, the newest Edgewood College residence hall.

The Park and Pleasure Drive

The Edgewood Oaks grace what is now the green space between the High School and Monroe Street. It is widely held that the trees date to when Native American peoples accessed the land for hunting and fishing. Samuel Marshall, for whom Marshall Hall is named, was the owner of the property before selling it to Governor Washburn. Marshall, an amateur arborist when he wasn't building the Marshall & Isley Bank, planted many more trees on what is today a beautiful home to three institutions.

3

PROPOSED CONDITIONS

3.1 FUTURE NEEDS OF CAMPUS INSTUTITIONS

Edgewood Campus School identifies maintaining an enrollment cap at no more than 325 students as one of its strategic goals. The School has also identified future projects to address space needs. They include enlargement of the existing library and computer lab; and expanding the Campus School building on the east side to include a larger music room, art room, small Chapel and a large multi-purpose room, kitchen and gymnasium.

Edgewood High School has, as a measure of the goal of 'establishing long-term financial security,' established its long term optimal enrollment at 725 students. Edgewood High School has identified six areas of focus in its current Strategic Plan related to space needs. They include updating facilities with an emphasis on safety, increased accessibility and learning needs; by 2013-2014, complete the original commitment of $750K for deferred maintenance priorities; ensure classrooms are continually renovated throughout the facility; ensure the effective use of technology is present in all facets of the high school; ensure the Facilities Master Plan is used as the basis for creating components of the next capital campaign; and ensure Edgewood High School understands its challenges and opportunities with regard to using external athletic facilities.

Edgewood College has identified five priorities related to space needs, to be addressed within the next ten years. As indicated in the chart below, Edgewood College is planning on a head-count of the Monroe Street campus of 2,660 students. The College is planning on a bed-count on the Monroe Street campus of 800.

Campus Population Summary

Population	Year 1994[1]	Year 2005	Year 2012	Projected 10 Year	Optimal Capacity
Edgewood Campus School					
Students	265	304	275	300	325
Faculty & Staff	--[2]	30	30	33	33
Edgewood High School					
Students	535	594	593	650	725
Faculty & Staff	--[2]	88	106	125	125
Edgewood College					
Total Students	1,787	2,381	2,252	2,660	2,660
Total Beds	280	350	553	800	800
Faculty & Staff	--[2]	450	468	504	504

[1] Data obtained from Mead & Hunt Study (1995)
[2] Data not sited in study

Residence Halls

For the past three years, demand for residence hall space has exceeded capacity. Evidence indicates that retention increases when students live on campus for the first two years by improving the sense of community students experience. Further, when integrated with a well-conceived and executed transportation management plan as done for Dominican Hall, increases in residence hall capacity can reduce traffic counts on Monroe Street and other local streets.

Dominican Hall

College Resident Summary

Hall	Existing Beds	New Beds	Lost Beds	Net Additional Beds	Total Beds
Weber	33	0	0	0	33
Stevie	121	0	0	0	121
Regina	115	123	12	111	226
Regina/Fox	0	48	6	42	42
Dominican	205	0	0	0	205
Marshall	53	70-100	26	44-74	97-127
Siena	29	70-85	29	70-85	70-85
Totals	**556**	**317**	**73**	**244**	
Total Planned Maximum Residents					**800**

Regina Hall Remodel and Eastern Expansion

The Regina Hall HVAC systems are at the end of useful life and a cooling system does not exist. Problems with heating and cooling are serious concerns for Regina residents, based upon consistent student feedback. Combining HVAC systems for existing space with an addition to Regina for expanded residence hall space, currently the highest priority facilities project, would result in installation cost savings, reduced disruption (in comparison to completing the projects separately), and operational efficiencies going forward.

Rendering of Regina Hall Expansion

Athletics

Athletics and fitness space is lacking in a number of respects. First, the availability of the Edgedome is severely limited by the Shared Use Agreement with the Campus School, most days during the school year, college students have access only before 8:00 a.m. and after 4:00 p.m. This pushes practice times into the early morning and evening, leaving little time for use by non-athlete students or for individual use by student-athletes. While many students utilize the fitness center in the lower level of the Sonderegger Science Center, many others choose to pursue memberships at local health clubs at additional cost due to limited space and equipment; this increases both their living expenses and traffic to and from campus. Finally, securing appropriate sites for off-campus sports is exceptionally difficult. Track, tennis, and soccer programs all struggle to find appropriate sites for off-season training, in-season practice, and/or competition. Indoor practice facilities during the winter months do not exist for these sports or baseball. Multiple solutions, both on- and off-campus, will be necessary to meet these needs.

School of Business

The School of Business lacks adequate space to accommodate necessary curriculum changes and faculty growth. An updated undergraduate business curriculum calls for easily configurable, technologically advanced classroom settings that do not currently exist on campus. In addition, dedicated classroom space for state-of-the-art teaching experiences (such as telepresence and labs) for investment courses does not exist. Further space constraints limit opportunities for interdisciplinary teaching and research.

Music

The Music Department needs rehearsal and performance space on campus. Currently the department has two rooms in Mazzuchelli Hall that are safe in terms of their decibel levels, with good lighting, heating, cooling, ventilation, and humidity control. These rooms, however, are only 600 and 900 square feet, meaning that jazz ensembles barely fit into them, while other classes, such as drumming and concert band must be bused to MATC, requiring the rental of space, the transportation of students, and the transportation of equipment, which cannot be stored on site at rented locations.

St. Joseph Chapel is currently the only musical performance venue on campus. This is a problem for several reasons: (1) it must be converted from a worship space to a concert space and back again over 175 times a year, making scheduling problems prevalent and risking damage to equipment; (2) it is not acoustically designed for music, meaning that safe decibel levels are sometimes exceeded and performance quality compromised; (3) lighting is dim and external sounds bleed into the space; (4) the limited size of the space affects the ability to draw a substantial audience; (5) the absence of air conditioning and humidity controls adversely affects the equipment maintained on site; (6) the current ventilation system impairs the performers' ability to hear as well as affecting the quality of sound for the audience.

3.2 CAMPUS PLAN

The Edgewood Campus Plan Graphic has been a part of the Edgewood Campus Master Plan since 1996. It has evolved over time to respond to the needs of the three institutions as well as changes that have occurred to the natural environment, and input from the surrounding residential neighborhoods. It is not intended to be a detailed blueprint for construction. Footprints for buildings, roadways, parking lots, and landscape elements shown on the graphic are placeholders to communicate areas that are planned for future development. Each element is intended to be refined during the detailed design phase and will be vetted through the architectural review process.

Proposed buildings on the perimeter of campus have been more defined in the master plan in order for the surrounding neighborhoods to understand the potential impacts of these buildings. These proposed buildings are noted with floor levels and floor area sizes. Proposed buildings that are more internal to the campus are less defined because the massing and bulk of these building sites have little impact on the neighborhood. Proposed buildings on the perimeter of campus include sites: 1, 7, 13, 14 and 16, and have additional graphic information including massing models and street sections to illustrate massing and bulk. Additional narratives are included for these sites that describe agreements that have been discussed during the master planning process between the Edgewood Campus and the neighborhood stakeholders. These documents follow the Campus Plan and are located in 3.3 Setbacks Diagram for Perimeter buildings, 3.4 Site One, 3.5 Residence Halls and Buildings 14 and 16.

The numbers below correspond to those on the following **Campus Plan – Future Buildings** site plan

1. 80,000 sf facility with two levels of parking below
   Building Uses:
   - Two parking levels with approximately 234 parking stalls with building program space above
   - Athletic and Wellness Facility
   - Performing Arts Facility
   - Classrooms and offices
   - Non-residential college uses
   - Refer to Site One building drawings for additional information on massing and height

2. Addition to DeRicci Hall
   Building Uses:
   - Non-residential college uses such as classrooms, offices, and other college functions.

3. Library Addition, Two Levels
   Building Uses:
   - Expansion of Library, and/or offices and classrooms
   - Outdoor patio spaces to the south

4. Chapel Addition
   Building Uses:
   - Expansion of the existing chapel for use as a chapel, musical performance, music rehearsal space, gathering space and/or lecture hall

5. Regina Western Addition
   Building Uses:
   - Music rehearsal space, classrooms, and offices and/or additional residence rooms

6. Regina Hall Dining Hall Expansion
   Building Uses:
   - Dining hall, kitchen, serving area, meeting spaces, gathering and social spaces, classrooms, and outdoor terrace

7. Regina Hall Eastern Addition
   Three floors above grade, as well as one partially exposed basement level
   Approximate Area: 45,000 SF
   Building Uses:
   - Residence Hall expansion
   - Approximately 115 new beds
   - Classrooms, offices and other college uses

8. Edgedome Renovation or New Facility
   Building Uses:
   - Performing Arts Facility, classrooms, offices, and other college uses

9. Sonderegger Hall Addition
   Building Uses:
   - Classrooms, offices, and other college uses

9a. Sonderegger Parking Structure
Building Use:
- Addition of one floor to existing parking structure

10. Campus School Addition
Building Uses:
- Classrooms, gym, cafeteria, chapel, offices

11. High School Addition
Building Uses:
- Offices, storage and maintenance

11a. High School Addition
Two level expansion over existing one story commons area
Building Uses:
- Cafeteria, kitchen, serving area, meeting spaces, gathering and social spaces, classrooms, offices and other high school uses

12. High School Addition
Building Uses:
- Fine arts, theatre storage, classrooms, lecture space, and meeting rooms

13. Siena Hall Replacement
Three levels
Building Uses:
- Replace existing Siena Hall Apartments
- Residence Hall expansion and other College uses
- Approximately 70 to 85 beds
- Classrooms and offices
- Non-residential college uses
- Refer to Siena Hall building site 13 drawings for more information

14. New Non-Residential Building
Approximately 18,000 sf per floor
Three floors that total approximately 54,000 sf
Building Uses:
- Non-residential college uses such as classrooms, offices and other college uses.

15. Marshall Residence Hall
- Demolition of Boiler Plant building and Maintenance Storage Facility
- Demolition of a portion of Marshall Hall, the stone historic portion will remain
- Three level addition to stone portion of Marshall Hall
Building Uses:
  - Residence Hall
  - Approximately 97 – 127 total beds
  - Classrooms, offices and other college uses

16. New Non-Residential Building
Approximately 6,000 sf per floor
Approximately 12,000 sf total
Building Uses:
- Classrooms, offices and other college non-residential uses.
- Exterior yard for storage and staging, facing campus

17. Additional Parking
30 stalls

18. Revised Parking Layout for Campus School
- Adds approximately three stalls and provides more stacking room for Campus School pick up and drop off times

19. Revised Parking Layout at Siena Hall
- Existing parking lot will be relocated
- Parking count remains the same – 19 stalls

Potential New Buildings or Additions

1. Future Facility & Structured Parking
2. DeRecci Hall Addition
3. Library Addition
4. Chapel Addition
5. Regina Western Addition
6. Dining Hall Addition
7. Regina Hall Eastern Addition
8. Edgedome Renovation or New Facility
9. Sonderegger Addition

9a. Addition to Parking Structure

10. Campus School Addition
11. High School Southern Addition

11a. High School Expansion over Existing Common Space

12. High School Eastern Addition
13. New Residential or Mixed Use to Replace Siena Hall
14. New Non-Residential Building
15. Marshall Hall Addition
16. New Non-Residential Building
17. Additional Parking
18. Revised Parking Layout
19. Revised Parking Layout
20. Existing Curb Cut

Existing Buildings
2010 Campus Plan Proposed Additions/Expansions
Native American Mound

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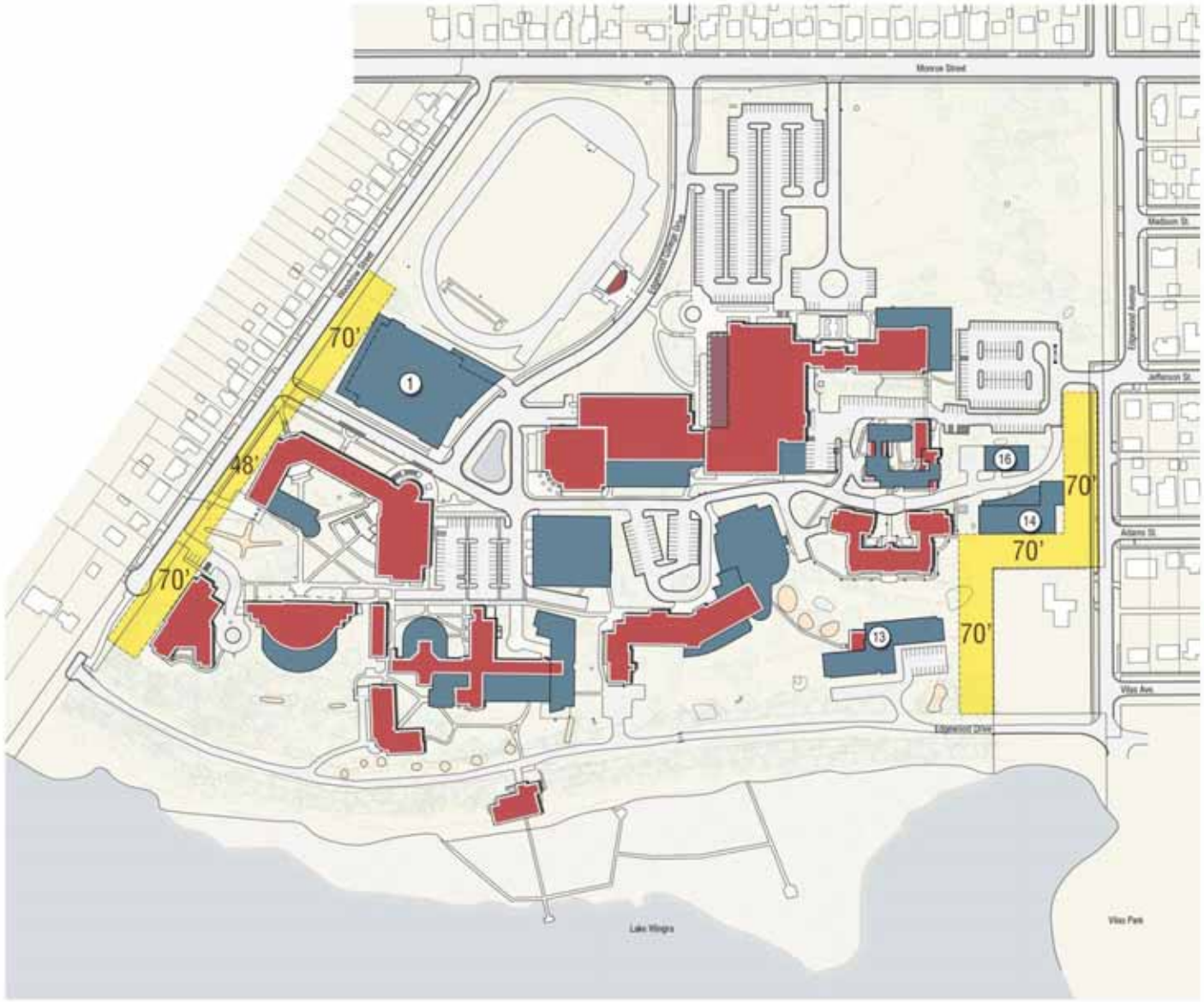
Campus Plan - Future Buildings

Edgewood Campus Plan
January 08, 2014

3.3 SETBACKS DIAGRAM FOR PERIMETER BUILDINGS

The Perimeter Building Setback Diagram illustrates the existing and future buildings along Woodrow Street and Edgewood Avenue and the building setbacks from the street curb lines and from the Kubly property lines. Additional information about setbacks for Site One are included in section 3.4 Site One that include additional setback space as the building is set at an angle to the public street. A description of the perimeter buffer zones in located in section 3.8 Open Space Plan. The 70‘ set back allows for landscape screening of the future buildings along the public streets. An example of the 70 foot setback for new buildings can be seen at the recently completed “The Stream”, the Visual and Theater Arts Center at the western edge of campus along Woodrow Street.



Perimeter Buildings

1. **Future Facility & Structured Parking**
   80,000 sf program space
   241 parking stalls on two levels

13. **Sienna Hall Replacement Residence Hall**
    Approx: 36,000 sf
    3 levels, facing south
    2 levels, facing north
    Potential for 70-85 beds

14. **New Non-Residential Building**
    Approx: 54,000 sf
    3 levels

16. **New Non-Residential Building**
    Approx: 12,000 sf
    2 levels

Existing Buildings
2010 Campus Plan Proposed Additions/Expansions
Setback Area

Note: Building set back dimensions are shown from the building edge to the face of curb at streets and to the property line at Kubly's property.

Perimeter Building Setback Diagram

Edgewood Campus Plan

January 08, 2014

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3.4 SITE ONE DIAGRAMS AND AGREEMENTS

Introduction

The Master Plan calls for new construction at Site One, which is currently a surface parking structure that is adjacent to Woodrow Street at the western edge of campus. The facility to be constructed in the future is proposed to have two levels of structured parking along with approximately 80,000 square feet of program space above the parking. The proposed uses could include an athletic and wellness facility. The following diagrams were used during the master planning process to communicate the massing, size, bulk, and setbacks of the potential future development. This section also includes a list of agreements created by the Liaison Committee to address issues raised by the neighborhoods.

Site One Building Bulk, Massing and Setbacks

This summary accompanies the following diagrams, please refer to the diagrams for additional information:

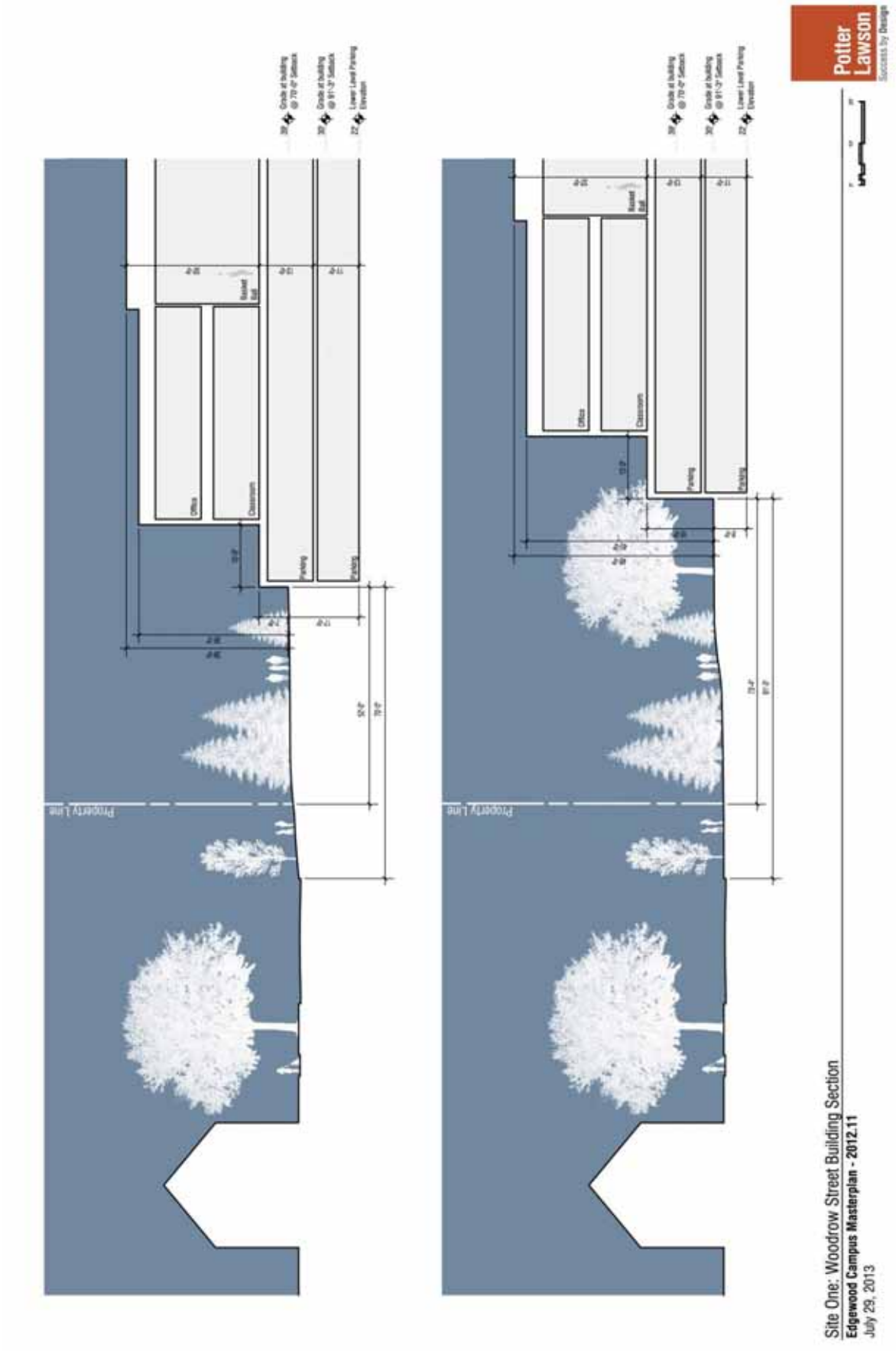
Site One - Site Plan at Woodrow Street
Site One - Woodrow Street Building Section

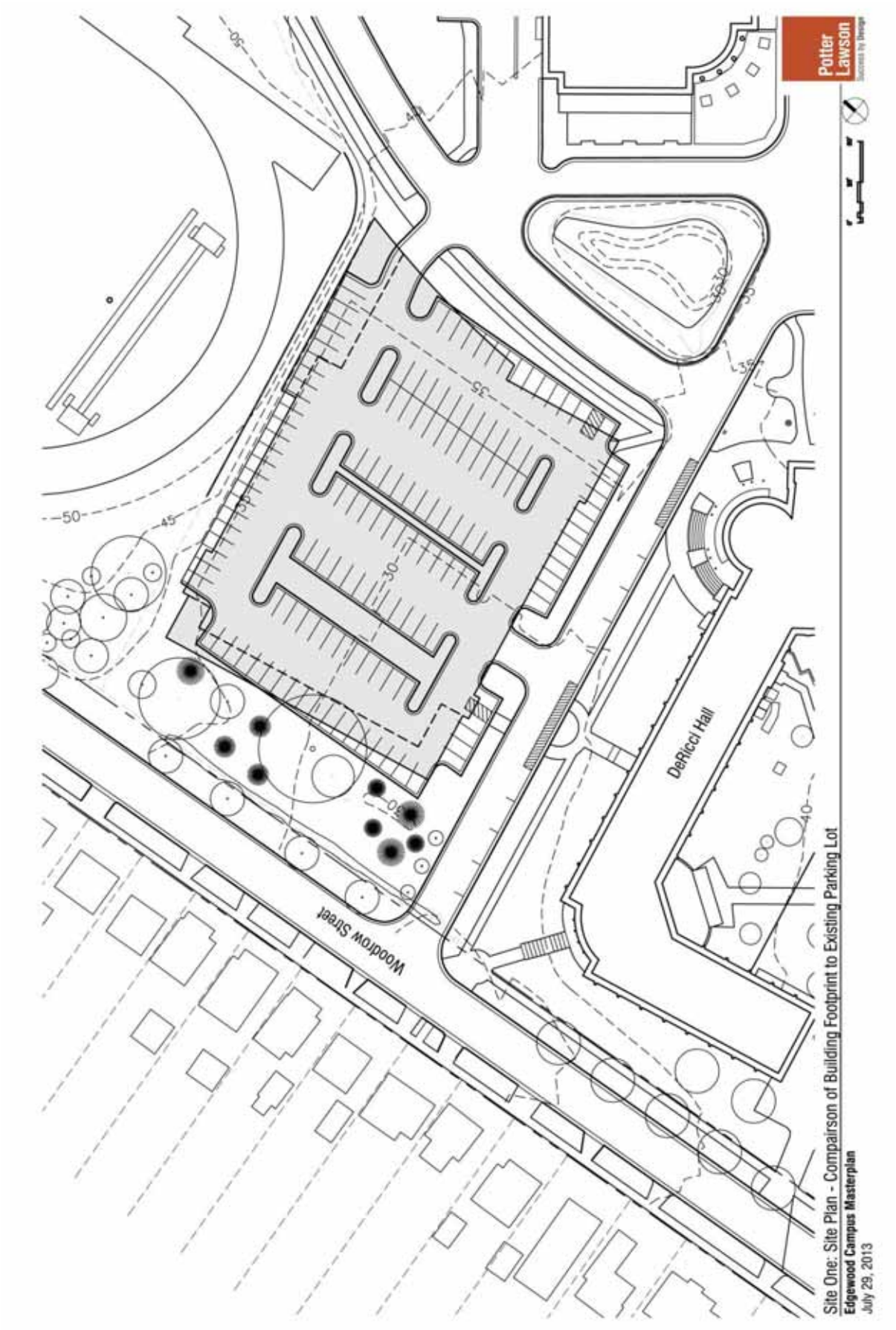
1. Building setbacks from the curb at Woodrow Street
    a. From the South corner the building is set back 91 feet from the curb
    b. From the North corner along Woodrow Street the building is set back 70 feet from the curb
    c. The property line is approximately 18 feet from the curb line.
2. Building step backs from Woodrow Street
    a. The building will have two levels of structured parking with two levels of building program space above.
    The two levels of building program space above the parking levels are set back from Woodrow Street an additional 15 feet.
    b. From the south corner the upper two floors are set back 104 feet from the Woodrow Street curb.
    c. From the north corner of the building the two upper floors are set back 86 feet from the curb.
    d. It is anticipated that a mechanical penthouse will be required. It is planned to be located toward the campus side of the facility away from Woodrow Street. The rooftop penthouse is anticipated to be set back an additional 261 to 283 feet from the curb at Woodrow Street.
3. Building Height
    a. The site along Woodrow Street slopes. So the building height varies along this edge. The parking levels are built into the slope.
    b. The parking levels are approximately 7 feet tall at the north end, and 16 feet tall at the south ends. These heights may be able to be reduced with additional berming.
    c. The building program levels not including the penthouse or gymnasium are approximately 36 feet from the grade to the roof at the north end of the building and 45 feet from the grade to the roof at the south end along the Woodrow Street façade.

Bird's-Eye View of Existing Aerial

Bird's-Eye View of Proposed Site


Potter Lawson
Building Elevation Along Woodrow Street
45'
50'
25'
Street Elevation
DeRicci Hall
64'
138' - 3"
172' - 4"
48'
25'
Street Elevation
91'
153' - 6"
183' - 6"
15'
70'
Site One
Woodrow Stret
P:\2012\2012.11.00\Images\2013.07.30_Building elevation - plan
Site One: Site Plan at Woodrow Street
Edgewood Campus Masterplan - 2012.11
July 29, 2013


Potter Lawson
Success by Design
Property Line
Property Line
Site One: Woodrow Street Building Section
Edgewood Campus Masterplan - 2012.11
July 29, 2013


Potter Lawson
DeRicci Hall
Woodrow Street
Site One: Site Plan - Compairson of Building Footprint to Existing Parking Lot
Edgewood Campus Masterplan
July 29, 2013

Site One Agreements

The following agreements created by the Neighborhood Liaison committee addresses issues raised in conjunction with the Site One plans.

- Angle the building (make it rectangular on the west facade).
- Step-back the building to soften impact on Woodrow
- Classrooms and offices on Woodrow side.
- Exterior façade of the parking structure shall be architecturally consistent with and indistinguishable from the rest of the building, i.e. it will not look like a building sitting on top of a parking structure.
- Enclose the section of the parking lot facing Woodrow Street.
- The interior and the lighting of the parking structure shall not be visible from Woodrow Street during both the daytime and the nighttime.
- Place parking ramp entrances and exits to both levels at the northeast corner of building.
- Locate the elevation of the lower level of the parking structure at or below the lowest grade at south side of the existing parking lot.
- Seating capacity for large events will not exceed 1,000 in bleachers; with capability for 600 chairs on floor.
- The dumpsters for Site One will be located within the underground parking structure.
- Create a parking plan for all three Edgewood schools to coordinate high attendance events and campus activities. Edgewood College events and parking staff will connect with a 3-school coordination group with strong communication to neighbors through liaison committee. Please see Chapter 3 for the Parking and Transportation addendum and High School Transportation Plan.
- Indicate “nonresidential” use for Site One
- Edgewood College will attempt to retain existing trees (with the possible exception of the largest deciduous tree) and will consider additional plantings in the expected buffer zone area between Woodrow Street and the building in spring, 2014. Edgewood College shall seek input from the neighbors regarding plantings to mitigate the building mass and visual impact; however the type and quantity of plantings shall be at the discretion of Edgewood College. The final landscape plan will be determined when the building is proposed.
- The storm water management plan depicts a bio swale in the northwest corner of Site One. With the understanding that this is a vegetated infiltration area and not a deep retention basin, the intent of the storm water management plan is to take reasonable steps to minimize the impact on existing trees.
- Develop and implement a rental policy statement for large spaces. See large space policy below.
- Currently, the athletic department requires all sports camp participants to be signed in and signed out of each practice or session by a parent or guardian. If an athletic facility is built at Site One, the athletic department is committed to maintaining this policy.
- Commit Edgewood schools to a master calendar and a single point person for coordinating large scale events to minimize parking in the surrounding neighborhood. See Chapter 3 for the Transportation Addendum plan and newly created high school parking and transportation plan.
- Develop approval process which incorporates neighborhood input for specific use of proposed building at Site One. The newly created Architectural Design Review Committee will use this Site One Plans and Processes Agreement for the development of Site One.
- Create and implement plan to direct large buses coming to campus to use the main entrance off of Monroe Street. This has been included in the Transportation Addendum.

To be addressed in future when specific use of building at Site One is proposed

- The Dudgeon-Monroe neighborhood representatives of the Liaison Committee will consult residents that live on Woodrow Street, the 2200-2300 block of Monroe Street and/or the 2200-2300 block of West Lawn, as well as Edgewood College, to review the effectiveness of the strategies outlined by the 2013 Transportation and Parking Plan and Parking Addendum, and to determine whether additional specifics on dissuading traffic are needed. For example, the Woodrow gate schedule will be reviewed to address the 2013 request for more hours of closure.
- Consider neighbor request to create a green roof at step backs.
- Consider neighbor request for possibility of doors on south side of building to be exit only.
- Consider placing a sign at the corner of Woodrow Street and Monroe Street facing eastbound vehicles directing traffic to the Central Drive if this proves necessary.
- Put in garbage contract the times of 7:00 am -7:00 pm, and central entrance to be used for pickup.
- Campus buildings require mechanical and electrical equipment; that equipment, as well as air inlets and outlets, make noise. Edgewood will take steps to reduce mechanical equipment noise that can be perceived by the neighborhood, by locating equipment away from the neighborhood. Reasonable steps will be taken to ensure that sound impact on the west side of Woodrow Street will not exceed existing night time ambient noise level in the neighborhood for comparable times.
- Ensure that parking ramp interior and lighting is not visible from Woodrow Street at any time.
- Finalize landscaping and storm water management plans for Site One.

LARGE SPACE RENTAL PLAN ADDENDUM

Any event that exceeds 100 people will be communicated to the Campus School, High School, and College to ensure that there is no overlap in events between the schools. These spaces include:

- The Edgedome
- Anderson Auditorium
- Sonderegger 108
- Washburn Heritage Room
- The Stream Atrium & Black Box Theatre
- Edgewood High School
- Edgewood Campus School
- Any outdoor space

Our current parking infrastructure allows space for 1,600 vehicles. Therefore, the “Three School- Event/Transportation Committee” will meet to determine if any school or the neighborhood will be impacted by an event.

Should a large event take place that could potentially affect the schools or neighborhood, the Committee will determine if it is feasible to host the event based on the following criteria:

- Overall parking availability
- Volume of campus events (all schools)
- Staffing
- Impact on other schools and neighborhood

If approved, communication will be sent through the Neighborhood Liaison Committee as a courtesy reminder

3.5 RESIDENCE HALLS AND BUILDING 14 & 16 DIAGRAMS AND AGREEMENTS

The Master Plan calls for up to 800 total residents on campus and for the construction of future buildings along Edgewood Avenue and one site that is along the Park and Pleasure Drive. The following diagrams were used during the master planning process to describe the size, bulk and setbacks of the potential future development. This section also includes a list of agreements created by the Liaison Committee to address issues raised in conjunction with these plans.

Aerial view of east campus looking toward Lake Wingra

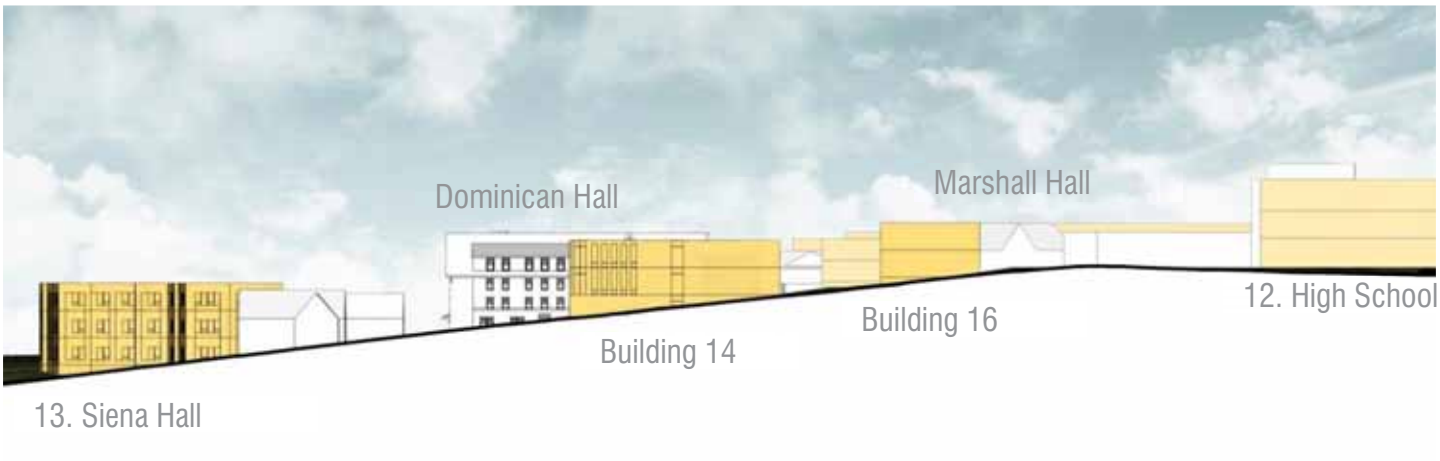
Aerial view of Edgewood Avenue and eastern portion of campus

Aerial view of proposed buildings toward the eastern end of campus

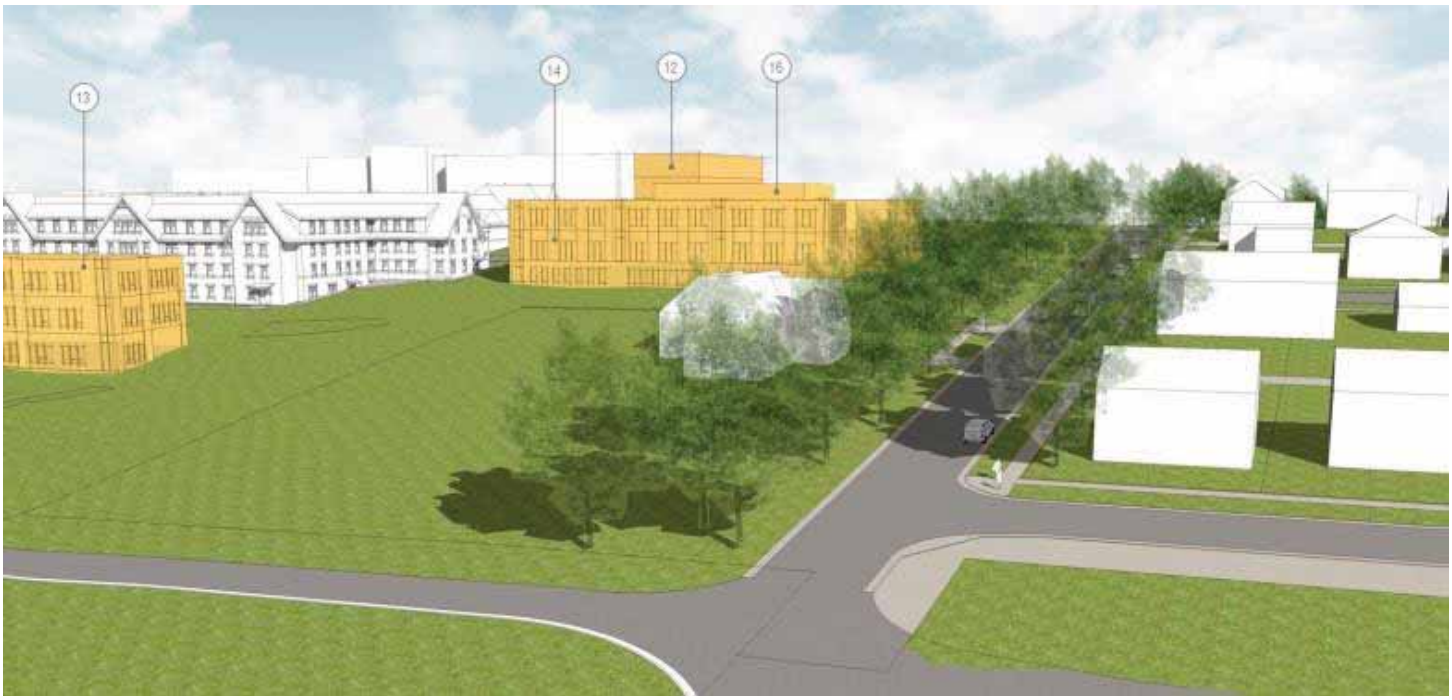
View of proposed new facilities

Aerial View from Edgewood Avenue

Street Level View north along Edgewood Avenue



Site Section

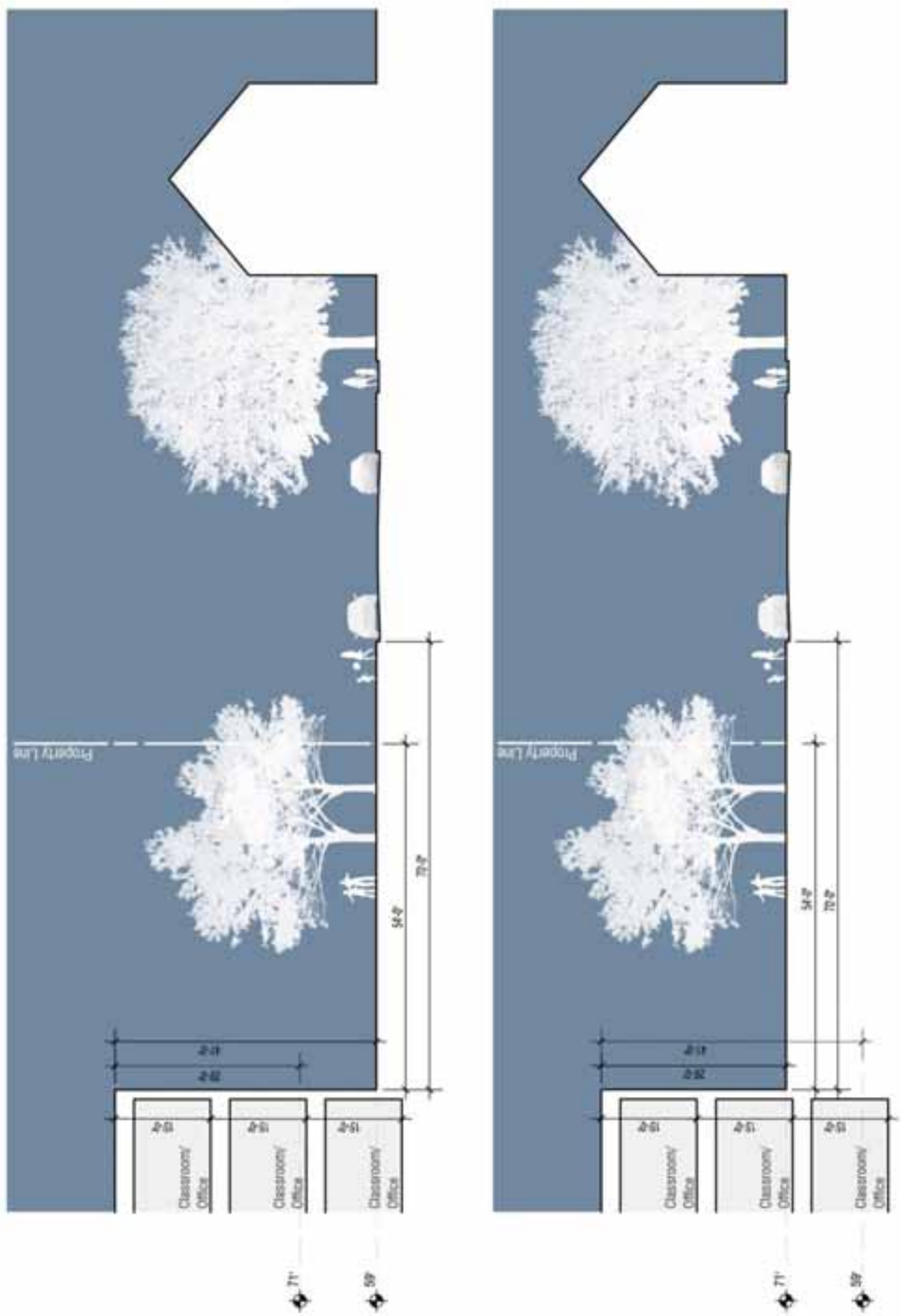


Aerial view looking north along Edgewood Avenue

Existing Photos Along Edgewood Avenue

View down Adams Street toward Edgewood Campus

View Looking South on Edgewood Avenue, Edgewood property is on the right



Building 14: Edgewood Avenue Building Section
Edgewood Campus Masterplan - 2012.11
January 08, 2014

RESIDENCE HALLS AND BUILDINGS 14 & 16

Agreement Documents

These agreements are based on the following documents included in this section.

- Campus Plan
- Future Building Summary
- Parking Plan
- Architectural Guidelines
- Setbacks
- Residence Hall Counts and Perimeter Sites

Document dates referenced are the most current version and are subject to final approval of the Campus Master Plan.

Residence Halls

Residence halls will only be built on sites indicated in the Master Plan approved by the City of Madison and used only for the purposes identified in the New Building Summary. See documents Campus Plan and Future Building Summary.

Edgewood will continue to work with the neighborhood alder and Liaison Committee to manage noise and traffic. For example, the effectiveness of current strategies designed to mitigate noise and traffic will be reviewed and augmented as needed.

Specifics of the new design of the east extension of Regina Hall have not yet been provided to the Vilas Neighborhood Association (VNA). Edgewood will update and consult the VNA as they become available.

Design and massing of the new buildings will be consistent with the architecture of current campus buildings, and be reflective of the natural setting of Park and Pleasure Drive and the residential character of nearby residences as outlined in the document Architectural Guidelines.

Building Entrances

To the extent supportive of strategies to mitigate noise and manage traffic patterns, Edgewood will make reasonable efforts to orient building entrances and public outdoor spaces and paths, toward the internal campus and away from Park and Pleasure Drive, the Kubly residence, and Edgewood Avenue Garage entrances and buildings housing vehicles will face away from the campus perimeter.

Neighbors would like to emphasize their request that building entrances face away from the campus perimeter.

Setbacks

Building setbacks from the Kubly residence lot line and the western curb line of Edgewood Ave are as shown on the document **Perimeter Building Setback Diagram**.

Siena Parking Lot

Should the Siena location be expanded for student residences, a gate controlling vehicular traffic will be installed at the parking lot entrance to the new Siena hall. Access to the gated Siena parking lot will be restricted to users of the reserved parking spaces and other College access needs including, but not limited to, move-in and move-out days and for fire access and maintenance. The gate will remain closed and will be opened only to permit use as identified above.

The VNA requests that Edgewood consider connecting the Siena parking lot to the central drive rather than the Park and Pleasure Drive.

Dumpsters and Service

Location of dumpsters and hours of dumpster servicing shall be established to minimize negative impact on the neighborhood and will be restricted to between the hours of 7:00 am and 7:00 pm. Edgewood will make reasonable efforts to place dumpsters toward the interior, campus side of the buildings.

If outdoor storage, service, or loading areas are visible from adjacent residential uses or an abutting public street or walkway, the area shall be screened.

Green Strip Buffer Zone – East End of Campus

The east end of campus neighborhood buffer zone is a “green strip” intended to mitigate the visual, light and sound impact of new building development. This neighborhood buffer zone is depicted along Edgewood Avenue and adjacent to the Kubly residence property boundary in the slide on Open Green Space in the document Residence Hall Counts and Perimeter Sites. Please see Chapter 3, Open Spaces Diagram.

The neighborhood buffer zones as shown on the open spaces plan marked with a number 4 are located around the perimeter of the campus facing the neighboring public streets. The intention of the buffer zones is to provide space between future and existing campus buildings and the neighboring houses. The emphasis of the buffer zone landscaping is to provide visual screening of the college buildings from the neighboring houses.

Plantings are expected to include a variety of species such as evergreens and deciduous plantings with upper story and lower story screening. While the buffer zones are roughly the width of the building setbacks, opportunities for planting can only occur in a portion of the zone based on proximity to buildings and roads. It may be advantageous to provide storm water retention and filtration areas in the buffer zones. This can be accomplished as long as there is adequate space for both storm water and landscape screening to coexist.

Edgewood College will attempt to retain existing trees and will consider placing additional plantings in the expected buffer zone. Edgewood College shall seek input from the neighbors regarding plantings of sufficient size to mitigate the building mass and visual impact. However the type and quantity of plantings shall be at the discretion of Edgewood College. The final landscape plan for the buffer zone adjacent to each building will be determined when the building is proposed in accordance with the Architectural Design Review Committee process. The College will consider installing such landscaping prior to construction.

Landscaping materials, construction materials, black dirt, firewood, logs, debris, trailers, equipment and mulch will not be stored permanently in the green space buffers between Siena and the Kubly property or along Edgewood Ave.

See #4 Buffer Zone on the Open Spaces graphic and Chapter 3, Open Spaces Diagram.

Paved Pathways and Walkways

Neighbors have requested that no paved pathways or walkways be placed within the buffer zone. Edgewood will take reasonable steps to accommodate this request and will consult with the Liaison Committee members before adding a paved walkway or pathway.

Lighting

Outdoor lights, security box lights and other lights shall be carefully designed in conjunction with the 'green strip buffer zone' and placed to minimize glare and spillage onto Edgewood Avenue, the Park and Pleasure Drive, the woods and the boardwalk on Lake Wingra. Lighting shall comply with City of Madison ordinances and the following architectural guidelines:

a. Utilize dark sky compliant light fixtures.
b. Provide lighting that is required for pedestrian safety and building code required exit lighting.
c. Reduce glare and light spill towards the neighborhood, use lower height site lighting with non-glare and cut off shielding.

Neighbors have requested that the pole lights on both the east and west end of campus be turned off at 11:00 pm. Edgewood will take reasonable steps to accommodate this request. However, because lighting plays a critical role in securing the safety of campus, Edgewood will not agree to limit its ability to use lighting as a safety measure, but will agree to discuss the timing of lighting with the Liaison Committee.

Buildings 14 and 16

Please see the document **Perimeter Building Setbacks Diagram** for building setbacks from the Kubly residence lot line and the curb line of the Edgewood Ave.

Buildings 14 and 16 will be non-residential buildings. The permitted uses will be those listed in the document Future Building Summary.

Interior building lighting will be controlled to minimize spillage to Edgewood Avenue and the Kubly residence.

Hours of operation: classroom buildings are expected to be unlocked from 6:00 am until 10:00 pm Monday through Friday. On weekends, classroom buildings would be expected to be unlocked from 9:00 am until 5:00 pm unless an event is scheduled. Students would not typically have afterhours access without prior approval. Buildings housing Facilities Operations may be expected to be open around-the-clock throughout the week to accommodate the need for supervision of night staff and response to facility issues that occur in the evening hours.

Potter Lawson renderings of Buildings 14 and 16, particularly from the perspective of Adams Street and coming north on Edgewood Avenue are depicted in the document Residence Hall Counts and Perimeter Sites.

Driveways and curb cuts are depicted in the document Campus Master Plan.

Mechanical and Electrical Equipment Noise

For campus buildings requiring mechanical and electrical equipment, it is important to note that this equipment as well as air inlets and outlets will make noise. Edgewood will take steps to reduce mechanical equipment noise that can be perceived by the neighborhood by locating equipment away from the neighborhood. Reasonable steps will be taken to ensure that sound impact on the Park and Pleasure Drive, the Kubly residence, and Edgewood Avenue will not exceed existing night time ambient noise level in the neighborhood for comparable times.

3.6 ARCHITECTURAL GUIDELINES FOR PERIMETER BUILDINGS

Goals

Provide quality facilities that meet the needs of the campus institutions while taking into consideration the concerns of the surrounding single-family residential neighbors along the perimeter of the campus.

Strategies and Guidelines

1. Massing
   a. The buildings on the campus are inherently larger than the single-family homes across the street. The buildings can take advantage of topography changes by building functions into the hill and below grade to reduce the height of the buildings.

2. Modulation
   a. Break up long facades to reduce large areas of one material

3. Materials
   a. Strengthen the sense of place and continue to define the campus by utilizing materials that have already been used on the campus
   b. New types of materials can be used to complement the existing materials on campus
   c. Brick Masonry: Use similar light colored brick to blend with other campus brick
   d. Rough Stone: similar to Marshall Hall and the Campus School
   e. Limestone or cast stone window sills and trim: Similar to Predolin Hall and the High School
   f. Residential Cement Board Siding: Used at Mazzuchelli and The Stream
   g. Flat roofs, sloped roofs – residential shingles and metal roofs

Predolin Hall

4. Entrances
   a. Consider orienting entrances toward the campus and towards Monroe Street versus toward the neighborhood streets of Woodrow Street and Edgewood Avenue in order to encourage student pedestrian activity within the campus versus toward the edges of campus and toward the neighborhoods.
   b. Entrances will be necessary facing the Park and Pleasure Drive.

The Stream at Edgewood College

5. Windows
   a. Reduce glazing toward the neighborhood for buildings that will stay open late at night, similar to the Stream, in order to reduce light spillage from the buildings toward the neighborhood at night.
   b. For buildings that do not have late operating hours, windows that face the neighborhood are preferred to help break up the exterior facades.

6. Landscape buffers
   a. Provide landscaping in the setbacks to help to screen the new buildings along the perimeter of campus.
   b. Include a variety of species that include evergreens and deciduous plantings with upper story and lower story screening. The emphasis of the perimeter landscaping is to provide visual screening of the college buildings from the neighboring houses.

7. Site and Building Lighting
   a. Utilize dark sky compliant light fixtures
   b. Provide lighting that is required for pedestrian safety and building code required exit lighting Reduce glare and light spill towards the neighborhood, use lower height site lighting with non-glare and cut off shielding.

8. Mechanical and Electrical Equipment Noise
   a. Campus buildings requiring mechanical and electrical equipment; that equipment as well as air inlets and outlets will make noise. Edgewood will take steps to reduce mechanical equipment noise that can be perceived by the neighborhood, by locating equipment away from the neighborhood. Reasonable steps will be taken to ensure that sound impact on the west side of Woodrow Street will not exceed existing night time ambient noise level in the neighborhood for comparable times.

9. Trash Dumpster and Loading Areas
   a. Locate dumpsters, outdoor storage and loading areas to minimize impacts on the neighborhood.
   b. If trash, outdoor storage, and loading areas are visible by adjacent residential uses or public streets, provide visual screening.

10. For parking structures that are below buildings on the perimeter of campus, the parking structure façade will be integrated into the design of the building above by utilizing the same materials on both the building and parking facades.

Mazzuchelli Hall


Edgewood High School


Campus School

3.7 PHASING PLAN

Edgewood College is in the process of submitting a Conditional Use application for the Regina Hall Remodel and Eastern Expansion. Construction for the Regina Hall expansion is proposed to begin in May of 2014 with completion scheduled for August of 2015. No other building projects, for any of the three institutions, are being pursued as of the submission of this Master Plan.

Massing model illustrates the Regina Hall eastern addition

3.8 OPEN SPACE PLAN

The natural environment of the campus is one of Edgewood's greatest assets. Situated on the shores of Lake Wingra, with extensive wetlands, heritage trees, natural woodlands and Native American mounds, the 55-acre campus abounds with natural areas for students and the public to enjoy. Edgewood has been committed to the stewardship of this special land since 1881. While the campus requires modest future growth of its built environment, this growth is balanced with a commitment to dedicating green and open space for recreation, storm water management and providing a perimeter buffer zone for landscape screening.

The following list accompanies the **Open Spaces Diagram** and describes current open spaces shown on that site plan:

Open Spaces

1. Athletic field owned by Edgewood High School. Used for team practices, physical education classes.

2. Site of 'Edgewood Oaks,' owned by Edgewood High School. This area is a large green space with heritage trees planted by Governor Washburn in the late 1800's. The space is used as recreational space, physical education and athletic team practices.

3. Open space for snow removal management, storm water management and recreational uses.

Wetland Boardwalk at Mazzuchelli Hall

4. The neighborhood buffer zones as shown on the **Open Spaces Diagram** marked with a number 4 are located around the perimeter of the campus facing the neighboring public streets. The intention of the buffer zone is to provide space between future and existing campus buildings and the neighboring houses. The emphasis of the buffer zone landscaping is to provide visual screening of the college buildings from the neighboring houses. Plantings are expected to include a variety of species such as evergreens and deciduous plantings with upper story and lower story screening. While the buffer zones are roughly the width of the building setbacks, opportunities for planting can only occur in a portion of the zone based on proximity to buildings and roads. It may be advantageous to provide storm water retention and filtration areas in the buffer zones. This can be accomplished as long as there is adequate space for both storm water and landscape screening to coexist.

Park and Pleasure Drive

5. Edgewood Drive (Park & Pleasure Drive) green space buffer between Edgewood Campus School and Edgewood College, and the Park & Pleasure Drive. Several Native American Mounds are located within this buffer zone.

6. Lake Wingra shore lands; this natural area is accessed with pathways for campus and public use.

7. Native wetlands; Edgewood installs and maintains boardwalks that are used by the campus and the public for educational and recreational purposes.

8. Playground area for the Edgewood Campus School.

9. Native effigy mound: the Eagle Mound. Marked by plaque that dates to early 1900s, a significant landmark on the Edgewood College campus.

10. Courtyard on Edgewood College campus, outdoor seating is offered for college students, with a connection to the café in the Predolin Humanities Center.

11. Preserved woodlands on the Edgewood College campus. Home to contemplative spaces.

12. An open area of native effigy mounds, mapped during the work done by the Great Lakes Archaeological Research Center.

13. Storm water retention pond, with fountain. This storm water feature creates a focal point along the main entry to the campus.

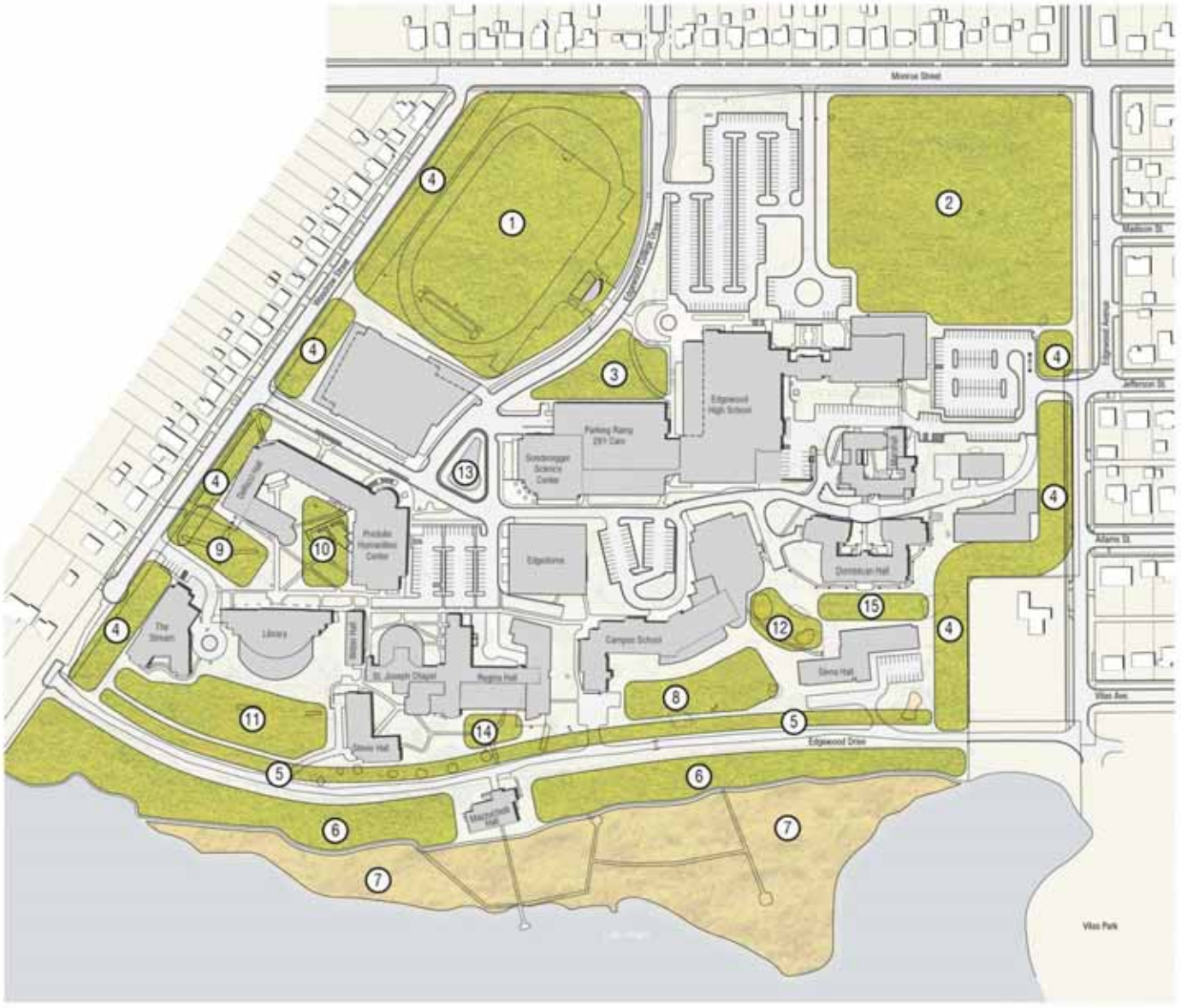
14. Outdoor recreation area for Edgewood College students adjacent to the main dining space in Regina Hall, this area has outdoor tables and chairs along with a sand volleyball court.

15. Green space between the existing Dominican Residence Hall and the future Sienna Hall expansion. This green space has two storm water retention and filtration areas.

Playground Area at Edgewood Campus School

Courtyard at Edgewood College

Playground Area at Edgewood Campus School



Open Spaces

1. Athletic Fields and Recreation Space
2. Athletic and Recreation Space
3. Recreation Space and Stormwater/ Snow Management for Parking Ramp
4. Neighborhood Buffer Zone
5. Park and Pleasure Drive Landscape Buffer Zone
6. Shoreland Zone
7. Wetlands
8. Playground
9. Eagle Mound
10. Courtyard Activity Space
11. Woodlands - Contemplative Space
12. Mound Grouping
13. Stormwater Retention Water Feature
14. Recreation Space
15. Green Space

Open Green Space

Open Spaces Diagram

Edgewood Campus Plan

January 08, 2014

Potter Lawson

Success by Design

3.9 SUSTAINABILITY

Edgewood is committed to fostering campus sustainability that creates ecological, social, spiritual, and economic resiliency and abundance at our home on the shores of Lake Wingra. In 2006, Edgewood College became the first college or university in Wisconsin to be Green Tier Certified by the Wisconsin Department of Natural Resources for its exemplary environmental performance. From an operations standpoint, we are working to reduce energy consumption and increase efficiency in all facilities. In 2011 the college became a founding member of the Billion Dollar Green Challenge. We've committed a portion of the College's endowment to a revolving green loan fund to help finance energy efficiency upgrades. Recent accomplishments include two sustainably designed and constructed facilities. The LEED Silver Certified Dominican Hall was the first residence hall in the state to be LEED certified. Also, The Stream, the new visual and theater arts facility is pursuing LEED Gold level certification. The building includes a geothermal heating and cooling system that provides over 50% in energy costs savings. The site was very carefully chosen to preserve campus natural habitats, a beautiful 150 year-old oak tree, and an Native American bird effigy mound. The building features extensive natural lighting, a geothermal heating/cooling system, high-efficiency lighting fixtures, and rain gardens. Both buildings recycled more than 75% of construction waste, and go above and beyond required storm water measures to protect the Lake Wingra water quality. The College also purchases renewable energy and uses green cleaning products. Both the Campus School and the High School have made energy efficient upgrades including new mechanical systems, low water consuming fixtures, and energy efficient lighting.

Edgewood strives to improve sustainability in the natural environment by managing our woodlands and wetlands, preserving native species and improving storm water management. The campus institutions have worked together to create, install and maintain rain gardens. The rain garden projects serve as education for students and the community as well as effective and attractive storm water measures.

Rain Gardens at Campus School

Edgewood has a robust recycling program as well as the one of the most effective Transportation Demand Management Programs in the city. A full time transportation coordinator, oversees a program that provides van pooling, free Metro bus passes to encourage mass transit use, preferred parking for car pools, and shuttle buses to discourage students from bringing a car to campus. Participants in the Alternative Transportation Program earn gym discounts, personal time off, and free meals on campus. The plan has helped to reduce the need for cars on campus and reduced the impact of traffic and parking in the surrounding neighborhoods.

The College campus dining halls are Green Restaurant Certified and use an organic campus garden to supply a portion of their food. Edgewood College also maintains a revolving loan fund to encourage faculty, staff and students to submit proposals for financially self-sustaining sustainability projects.

The Campus provides education programs to encourage sustainability for future generations. An Environmental Studies minor is offered as well as a Sustainability Leadership Graduate program. The College holds events where the community can learn more about sustainability and conducts research on sustainable topics.

Sustainable attributes of the master plan include; increasing density on an existing urban site to reduce suburban sprawl, building over existing parking lots, and building structured parking in order to preserve green space and reduce the amount of space used for surface parking. Increasing the number of residential housing opportunities for students to live on campus has been shown to reduce the number of students who commute to campus, reducing our carbon footprint and reducing the number of car trips to campus each day. Storm water management plans include increasing the amount of water filtration and retention from current surface parking lots.

The Stream: Pursuing LEED Gold certification

4

Neighborhood and City Process

4.1 INTRODUCTION

As part of its continued orderly expansion and improvement of the Edgewood Campus, Edgewood College is proposing a formal update to its Campus Master Plan from 1997.

The Edgewood Neighborhood Liaison Committee, with the support and approval of the Councils of the Dudgeon-Monroe and Vilas Neighborhood Associations and Edgewood, Incorporated, submit this memorandum. It is intended to provide a record of issues identified and consensus reached throughout consultations regarding the updated Campus Master Plan. It is our hope that this will be helpful to the three Edgewood Schools and to the City of Madison during the approval process, and beyond.

The work of this committee was supplemented by two open public meetings, presentations to both neighborhood associations, plus numerous sub-committee meetings sponsored by the Liaison Committee. Edgewood's Vice President for Student Development/Dean of Students, Maggie Balistreri-Clarke, managed leadership of the committee and the process of interaction among the Edgewood Schools, Potter Lawson, Inc. and other planners including expert consultants, Edgewood faculty and staff, and the neighborhoods.

The residents of the city of Madison place high value on the established residential character of Dudgeon-Monroe and Vilas neighborhoods, and additionally place a very high value on the woods and other undeveloped areas that help characterize this unique area of the city. Edgewood shares these values. With our mutual vision of protection for our shared neighborhood and its natural resources, and in a spirit of collaboration, we proceeded to voice concerns, address issues and seek agreement.

The following document is the product of our work as the Edgewood Neighborhood Liaison Committee. Section two of this document is an annotated version of the original "Memorandum of Understanding of Unresolved Issues" from April 1997 with 2013 updates. This section outlines issues and concerns raised during the 1997 Master Planning process along with the subsequent agreements reached through the collaborative efforts of the Edgewood Neighborhood Liaison Committee. Section Three identifies past agreements to be reaffirmed and updated as a part of the 2013 Master Plan. Section Four includes new agreements that were created in response to the issues and concerns raised as part of the 2013 Campus Master Plan approval process. Agreements specifically for Site One, the residence halls and for the east end of campus can be found in Section 3.4 and 3.5 respectively. A document submitted by the two neighborhoods Associations can be found in Appendix A.4.

4.2 MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING OF UNRESOLVED ISSUES BETWEEN EDGEWOOD INC., EDGEWOOD COLLEGE, EDGEWOOD HIGH SCHOOL, THE EDGEWOOD CAMPUS SCHOOL AND THE DUDGEON-MONROE AND VILAS NEIGHBORHOOD ASSOCIATIONS

Whereas the three institutional entities comprising Edgewood Inc. (Edgewood College, Edgewood High school and Edgewood Campus School) and the two neighborhood associations whose boundaries border the Edgewood campus (Vilas Neighborhood Association and Dudgeon-Monroe Neighborhood Association, Inc.) agreed to send representatives to convene as the Edgewood Neighborhood Working Group during the Summer of 1996, following the Madison Plan Commission's denial on March 18, 1996 of Edgewood's Conditional Use Permit application, and

Whereas the goal of this Working Group was to explore whether consensus existed among the Edgewood entities and the neighborhoods on the specific contents of a Conditional Use Permit application which could be submitted by Edgewood prior to March 18, 1997 (the prescribed waiting period after denial of a Conditional Use Permit application), and

Whereas discussions which occurred during Working Group meetings were pursued in good faith by all participants and were very detailed, and Whereas important issues and essential understandings which were discussed are documented in Working Group minutes, but cannot easily be retrieved, and

Whereas these issues and understandings are critical to future good relations between the Edgewood institutions and surrounding neighborhoods,

Now therefore all persons signing this Memorandum of Understanding acknowledge familiarity with the issues and concerns detailed below and agree to fairly and openly communicate these issues and concerns to the constituencies these signing parties represent and when presenting information at public gatherings and to governmental bodies. The three Edgewood educational institutions and the two neighborhood associations whose boundaries border the Edgewood Campus shall acknowledge at all times those issues on which consensus does not exist and shall continue to seek solutions to unresolved controversies in a forthright and open manner.

1. Internal Campus Traffic Corridor

Meetings of the Working Group did not produce consensus on the desirability of an internal roadway which would completely connect all three Edgewood entities to the central, Monroe Street entrance. Many neighborhood residents believe that such a roadway, circling throughout the campus, is the best long-term solution to campus access and traffic circulation challenges. These challenges include the current problem of excessive automobile traffic on the Park and Pleasure Drive and the possibility that the Campus School drop-off at the Edgedome may not result in a desired decrease in use of the Park and Pleasure Drive.

As a result of the Working Group's discussions, the Edgewood entities have agreed to construct a roadway serving a new 38-car parking lot and drop-off/pickup circle located north of the campus school. This roadway will be built south of the Science Facility and north of the Edgedome. While Edgewood has agreed to build this roadway and relocate the Campus School parking lot, there is strong opposition to extending the roadway past the western edge of the high school gymnasium. To preserve the safety of the children moving between the Campus School, the High School and the new Science Facility, Edgewood believes that a walking route free of roadway crossings is needed.

The drop off plan developed in 1996 has resulted in greatly decreased traffic on the Park and Pleasure Drive.

2. Park and Pleasure Drive Use

The Park and Pleasure Drive is a unique treasure, having been designated specifically for Park and Pleasure Drive purposes in a 1904 agreement between St. Clara College (Edgewood) and the Madison Park and Pleasure Drive Association. While strongly supportive of the purposes of the 1904 easement to provide for a Park and Pleasure drive, Edgewood reaffirms that, as the 1904 agreement also provided that the owners of the property would have several forms of access to ensure the continuing use of their adjacent land, that right remains critical to support their educational mission – the purpose of the original grant of land to the Sinsinawa Dominicans.

There exists strong opposition by many neighbors and others throughout the city to the number of motorized vehicles currently traveling on the Drive for purposes other than those intended in the original agreement. Continuing efforts will be made by individuals, elected officials and other groups to reduce traffic permissible on and attracted to the Park and Pleasure Drive.

These efforts may be in direct opposition to continuing use of the Drive as an access point to the Campus School and other Edgewood facilities. The redesign of the Campus School parking lot to the south of the school as basketball courts and a 20-car overflow parking lot with a gated entrance on the Park and Pleasure Drive is included in the initial application for a Conditional Use Permit. As stated in the approved Master Plan, Edgewood is strongly supportive of efforts to reduce traffic volume on the Drive and is interested in participating in discussions with the neighborhood associations and City Traffic Engineering on alternative traffic patterns on Edgewood Drive, while maintaining their right to access to their property.

The Edgewood Neighborhood Liaison Committee worked together to advocate for the closing of the Park and Pleasure Drive to through traffic. The City of Madison developed a plan to eliminate through traffic on the Drive. The plan was implemented in 2006.

3. Parking Supply and Science Facility Ramp Expansion

Meetings of the Working Group did not produce consensus on ultimate location of all of the proposed 975 parking spaces. Neighbors recognize Edgewood's need to project where the spaces might be. However, consensus to proceed with a Phase 1 Conditional Use Permit application shall not be construed to indicate concurrence with all proposed sites for future parking.

Meetings of the Working Group did not produce consensus on the desirability of designing and building the Science Facility parking ramp so that vertical expansion, if needed in the future, is possible. Neighborhood representatives believe vertical expansion may be needed if parking spaces proposed by Edgewood in its Master Plan are not authorized in future Conditional Use Permits, and if Edgewood's projections about future parking needs are ultimately found to have underestimated actual needs. In response, Edgewood representatives support the intent of the Master Plan to place as much of the Science Facility parking as possible underground.

Any further vertical expansion of the parking ramp would have negative visual impact on the nearby high school building and the proposed entry drive, as well as the views of the campus from Monroe Street and the Campus School. In addition, the Science Facility would lose east facing windows and the slopes of the parking ramps would exceed recommended maximum grades. As a consequence, Edgewood concludes that an additional Phase 1 expenditure on structural capacity to support vertical expansion would not be a wise investment. All parties acknowledge that retrofitting for vertical expansion at some time in the future will be more expensive than initially building for possible vertical expansion.

Since 1996, each conditional use permit application has included an updated parking plan. A Parking and Transportation Management Plan will be included in the 2013 Master Plan. The SAA Parking and Transportation Study references an additional 68 stalls to the capability of existing parking deck.

4. Future Fine Arts Facility

Meetings of the Working Group did not produce consensus on the building setback of the future Fine Arts Building. Many neighborhood residents believe that a setback of 100 feet for the entire Woodrow Street face of the building is needed for the proposed building. All parties to the discussion acknowledge that with a 100 foot setback the building may accommodate fewer parking spaces, but there is not consensus on the number of parking spaces which may have to be sacrificed to obtain a 100 foot setback. Edgewood believes that a setback of 50 feet, similar to DeRicci Hall, would be appropriate along Woodrow Street, if the future Fine Arts Facility is designed to provide a transition in building scale from institutional to residential. During the Edgewood/ Neighborhood Working Group meetings, a plan was prepared showing a minimum setback of 75 feet at the northwest corner and 95 feet at the southwest corner of the future Fine Arts facility. The 203 parking spaces proposed in the Fine Arts Facility in this plan represent approximately two thirds of the total number of spaces permitted in this location in the approved Master Plan.

Neighborhood representatives would like to ensure that the entrance to the future Fine Arts parking ramp is located no less than 175 feet from the Woodrow curb line. Edgewood believes that the difference in elevation between the lower level of the parking ramp and the drive in front of DeRicci needs to be considered in determining the location of the ramp entrance. This entrance will be no closer than 120 feet from the Woodrow curb line.

Edgewood representatives state that funding for this future building is not available and that it has not been designed. Edgewood will communicate fully and openly with neighborhood residents at all phases as design of the Fine Arts building is undertaken by Edgewood.

The setback for the Visual and Theatre Arts Center is 70 feet from the curb of Woodrow St. This setback was determined after full discussions with neighborhood residents. In this Master Plan update, Edgewood is depicting future setbacks a minimum of 70 feet from the curbs of both Woodrow Street and Edgewood Avenue. Setbacks for the 2013 Master Plan will be addressed in Chapter 3 of the Master Plan.

Please note that in 1997 this space was seen as a possible site for a fine arts facility. In the 2013 Master Plan other uses will be listed as under consideration.

5. Campus Periphery

Neighborhood representatives have stated their intent to seek building setbacks for all future classroom buildings of 100 feet from the edge of streets adjacent to the campus and at least 200 feet from the edge of adjacent streets for all future residence halls. More than 200 feet will be requested in the case of a proposed dormitory in the southeast corner of the Edgewood property. Neighborhood representatives will request a setback of at least 50 feet from the street edge for all surface parking lots. In addition, Edgewood is requested to develop a set of architectural guidelines which it will follow as it proposes future development, including building height, angle of height increase, and construction material to be used.

While Edgewood representatives believe that transitions in building height and scale from neighborhood edges are important, a minimum building setback of 100 to 200 feet is not believed to be the best approach for addressing neighborhood concerns and meeting Edgewood's needs. A combination of moderate at-grade setbacks (e.g., 50 feet), landscaping, and a building height limitation at the setback line with an agreed angle of height increase beyond the at-grade setback are preferred.

Setbacks

A minimum setback of 70 feet is planned for any future facilities built along Woodrow Street and Edgewood Avenue. The architectural guidelines for the 2013 Master Plan will include height, massing, setbacks and materials to be used for building on the perimeter of campus. The SW corner of the building at Site #1 will have a setback of 91'.

6. Continuing Relations Between Edgewood and Surrounding Neighborhoods

Of continuing concern to Neighborhood residents is Edgewood's failure to clarify its intentions regarding the acquisition of property beyond the campus boundaries as those boundaries are shown in the Master Plan. In the discussions on property acquisitions outside the boundaries shown in the Master Plan the Edgewood representatives stated clearly that there are no plans at present to acquire additional property in the immediate neighborhood, but considered that Edgewood's and neighborhood property owner's right to buy or sell property should not be restricted. Neighborhood residents intend to pursue this issue in future discussions with Edgewood representatives.

The Edgewood entities and the Neighborhood Associations represented in the Working Group agree to continue to build upon the communications and understandings which have resulted from the Working Group meetings. One vehicle for communication shall be the proposed Edgewood/Neighborhood Liaison Committee. However, the task of fostering goodwill and understanding cannot be left to designated representatives. It is a task to be shared by all persons associated with Edgewood and all residents of the surrounding neighborhoods. Early, meaningful involvement of neighbors in Edgewood's development plans and Edgewood's involvement in ongoing programming and planning in the neighborhoods will be essential if trust and cooperation are to flourish between the Edgewood entities and their neighbors.

The 'Working Group' that drafted this memo proposed that an Edgewood Neighborhood Liaison Committee be created to serve as a coordination and communication vehicle for the 3 Edgewood Schools and the 2 Neighborhood Associations. Since its creation in 1997, this group has met regularly to discuss and address concerns. Early involvement in development plans and ongoing programming and planning as described in this document has occurred throughout the past 15 years. An updated document affirming the roles and responsibilities of the Edgewood Neighborhood Liaison Committee is included in the following section of this chapter.

The issue of property acquisition in the neighborhood remains a concern for neighbors.

In conclusion, despite the fact that consensus on all issues has not been reached during the period of time the Edgewood/Neighborhood Working Group has met, the Dudgeon-Monroe and the Vilas Neighborhood Associations agree to support the April 1997 Conditional Use Application provided that all aspects of the application are consistent with the understandings and agreements reached in the 1996-1997 discussions of Edgewood/Neighborhood Working Group as documented in the Conditional Use Plan Notes and Operational Agreements which are contained in the Transportation and Parking Management Plan dated April 16, 1997, provided Edgewood complies with all other conditions of approval of the Master Plan which relate to submission of the first conditional use application, and provide further discussion of issues enumerated in this Memorandum of Understanding is not precluded.

4.3 AFFIRMING PAST AGREEMENTS

This section identifies agreements made between 1997 - 2013 to be reaffirmed and updated as a part of the 2013 Master Plan.

1. Edgewood Neighborhood Liaison Committee – 1997 Campus Master Plan agreement

The three Edgewood Schools reaffirm their commitment to the Edgewood Neighborhood Liaison Committee as a primary vehicle for ensuring strong partnership and communication. The Committee representatives of the three Edgewood schools worked with the neighborhood representatives to update the 1997 Neighborhood Liaison Committee formation document. The following updated agreement was approved by the Edgewood Neighborhood Liaison
Committee on November 19, 2013.

EDGEWOOD / NEIGHBORHOOD LIAISON COMMITTEE
Approved November 19, 2013

Goal: The goal of the Edgewood/Neighborhood Liaison Committee is to facilitate cooperative working relationships between the Edgewood Schools and their surrounding neighborhoods.

Membership: The Committee will include a representative from each of the three Edgewood Schools and representatives from the Vilas and Dudgeon/Monroe Neighborhood Associations. Each Neighborhood Association may appoint up to three members. The three Edgewood Schools and the Neighborhood Associations are responsible for appointing members who will work in a cooperative manner in a spirit of community.

Meetings: The Committee should be scheduled to meet at least quarterly. The scheduled meetings will be called by the Edgewood representatives. During times when a building project is being developed or an issue of mutual concern has arisen, the Committee should meet more frequently. Unscheduled meetings may be called by either the representatives of the Neighborhood Associations or the Edgewood Schools.

Responsibilities:

1. Receive communication from neighbors and provide a forum to receive Neighborhood Association concerns.
2. Inform neighborhoods of scheduled events, specifically those which may require the use of access and exits during restricted periods.
3. Act as a clearinghouse for concerns which may be referred to appropriate decision making bodies.
4. Inform their respective constituencies of on-going programs and planning on the Edgewood campus and in the neighborhoods of mutual interest.

The Edgewood/Neighborhood Liaison Committee is not a policy or decision making body.

2. Housing in the neighborhood – Affirm 2006 Dominican Hall Agreement

- The College will not use houses in the neighborhood to house traditional undergraduate students.
- Edgewood is willing to agree not to turn currently-owned properties into student housing.
- Edgewood will implement a policy that makes it clear that they do not endorse students illegally occupying houses. Edgewood will work actively to inform parents and students of this policy.
- Edgewood shall maintain the two properties presently owned on Woodrow Street in a manner consistent with requirements imposed by the City of Madison.

3. Gate Closures and Campus Entryways

Edgewood Avenue Gate –Dominican Hall – Updated 2007 agreement

- When the Marshall parking lot was expanded, Edgewood constructed a gate and a fence to prohibit pedestrian and vehicular entry to the Edgewood campus from all access points from Edgewood Avenue between the hours of 11:00 pm and 5:00 am, 7 days a week. This concession by Edgewood was designed to directly address concerns raised by the neighborhood representatives concerning late night traffic entering the campus via Edgewood Avenue. The exiting mechanism will continue to be configured to allow only designated users to exit.

Center Drive/ Edgewood College Drive– Updated 1997 Campus Master Plan agreement Edgewood affirms its agreement that the Center Drive, now called Edgewood College Drive, will serve as the principal access roadway to the Edgewood Campus, whenever possible, for all vehicular traffic, including school buses, service and delivery vehicles, trucks and construction related traffic. Edgewood, Inc. will maintain a signage plan to promote the use of this access.

Edgewood College Drive and the secondary access road on Woodrow Street will continue to be named as private streets. The address assignment to each building on the campus and the signage plan will continue to be coordinated to promote, to the maximum extent possible, vehicular use of the Edgewood College Drive. In addition, the Edgewood Schools will continue to enhance and promote the access from Edgewood College Drive to the surface parking lot near Woodrow Street, Site #1 on the Campus Master Plan

Woodrow Street Entry – Updated 1997 Campus Master Plan Agreement

The Woodrow Street entry will continue to be closed (by posting) for the entire day during vacations, summers, holidays and weekends, and between 6 pm and 6 am on regular school days except in emergencies and for concurrent activities when large numbers of vehicles exit all at once. If needed, the Woodrow Street entrance will be open for larger activities or concurrent activities that will be attended by non-campus resident audiences including graduations, concerts, tournaments, open houses, fundraising events, conferences, workshops and religious services. The duration for use of the Woodrow access during special events is intended to be the minimum necessary to deal with short periods of congestion when many vehicles are leaving at the same time at the conclusion of a special event.

The Edgewood members of the Liaison Committee will continue to inform the neighbors of the times when an event will require an opening of the Woodrow Street entrance and the Liaison Committee will have the responsibility of overseeing the operation of the agreement.

Edgewood Campus will continue to provide signage at the secondary Woodrow Street entry and notify all students, faculty and staff of use restrictions. Notifications to students, faculty and staff will include a reminder of the posted speed on residential streets and urge drivers to respect the need for safety in residential areas.

4. The Stream - Updated Agreements 2010 and 2012

Lighting of the West Side of the Building

Motorized perforated fabric shades will be maintained on the west side of the building within the studio spaces to cut down on nighttime spillage of internal light. The shade fabric will have 1% transparency. The blinds will continue to be on a timer to automatically lower in the evenings.

Interior Lighting

Occupancy sensors are used in classrooms and offices. There is no direct glare from fixtures on the south side of building facing the Park & Pleasure Drive

Access via Edgewood College Drive to The Stream

Edgewood will actively work to minimize the impact of any Woodrow Street traffic associated with public performances. Voicemails and email responses to ticket requests for productions at the Black Box Theatre will continue to direct people to park on campus via the central drive. If outside groups want to book the facility, they need to publicize access as coming off of the central drive. Security will continue to arrange a golf cart shuttle from the central parking lot for anyone needing assistance to get to the Black Box Theatre on performance nights.

Parking lot at The Stream

Parking is for handicapped and faculty/staff who are carpooling. This is enforced 24/7.

Parking lot lighting at The Stream

No acorn-type lighting is used. Lights on poles have cut-off housings, and bollards have shields on the west sides to prevent glare into neighborhood.

Alcohol at The Stream

Alcohol, if served, will be in conjunction with events so that the building is not a destination for drinking alcohol.

Amplified Music on the Outdoor Patio at The Stream

There will be no amplified music on the outdoor patio at The Stream.

5. Outdoor Events on Campus

The Liaison Committee is notified in advance of dates, times, and locations of outdoor music events along with name of contact person during event. This is also true when outside groups rent space.

4.4 NEW AGREEMENTS – MASTER PLAN 2013

This section identifies new issues and agreements reached through a collaborative process led by the Edgewood Neighborhood Liaison Committee. Please see Section 3.0 for specific agreements on site one and for the residence halls and east end of campus.

1. Enrollment

The Edgewood Neighborhood Liaison Committee accepts the new proposed maximum enrollments for the three Edgewood schools: 325 for Edgewood Campus School; 725 for Edgewood High School and 2,660 for Edgewood College.

2. Traffic and Access

The Edgewood Neighborhood Liaison Committee accepted the 2013 Parking and Transportation Study as presented by SAA at the May 22 Open Meeting with updates to include a plan for campus-wide coordination of traffic and parking and the High School Parking and Transportation Plan. These updates have now been created; please see Chapter 3 for Transportation Plan, Transportation Addendum and the Edgewood High School Transportation Plan.

There is no parking permitted or anticipated increase in vehicular traffic on the Park & Pleasure Drive.

Traffic and parking update will be done when there is a planned population change or program change that is going to affect facility usage.

Edgewood College will work with the City and the Liaison Committee to do all that they can to disallow resident students from obtaining permits for on-street parking.

As a part of the Site One planning and approval process, Edgewood will revisit and reconsider with the liaison committee the potential for increasing the hours of closure for the Woodrow Street entry. In 1997, when these hours of closure were determined, it was feared that Monroe Street would be so backed up that motorists would choose to divert to West Lawn via Leonard Street to avoid the congestion. However, the Monroe Street traffic count has since dropped significantly by 5-6,000 cars per day, and there is now a cul-de-sac at Leonard. Therefore, the potential for more weekday hours of closure for the Woodrow Street entry will be explored.

3. Phasing Plan

At the time of the development of this Master Plan, Edgewood College is in the process of preparing for a proposed eastern expansion of Regina Hall at Site #7. The phasing for all other projects for any of the 3 Edgewood Schools cannot be determined as no other building priorities are under consideration at this time.

Mitigation efforts for any construction that affects the Park and Pleasure Drive should be addressed through the Architectural Design Review process.

4. Pole lights at east and west end of campus

Neighbors have requested that the pole lights on both the east and west end of campus be turned off at 11:00 pm. Edgewood will take reasonable steps to accommodate this request. However, because lighting plays a critical role in securing the safety of campus, Edgewood will not agree to limit its ability to use lighting as a safety measure but will agree to discuss the timing of lighting with the Liaison Committee.

4.5 PROCESS FOR APPROVALS

Architectural Design Review Committee (ADRC)
Approved by: Edgewood Neighborhood Liaison Committee November 19, 2013

Purpose of the Architectural Design Review Committee
The ADRC is established to review the architectural and site design of each proposed new building on the Edgewood Campus as shown in the Campus Master Plan. The Committee will review the proposed projects to determine if the architectural design and site design follows the intent and guidelines of the approved campus master plan. The Committee will review the projects with emphasis on:

- The quality of the architectural form, exterior appearance, external common space and landscape design.
- The relationship of the building design with the campus as a whole, including pedestrian and vehicular circulation patterns, connections to open spaces and natural areas.

ADRC Membership
Edgewood Schools ADRC membership will require approval by the City of Madison Plan Commission. The ideal ADRC member will have a background in campus design and/or planning.

1 Campus School rep – chief executive or designee
1 High School rep – chief executive or designee
1 College rep – chief executive or designee
1 Dudgeon Monroe Neighborhood Association rep
1 Vilas Neighborhood Association rep

The positions of Neighborhood Representatives will be nominated by their respective associations and will be vetted by a panel consisting of the District #13 Alder, a Plan Commission rep, a representative of the Edgewood Schools and the two Neighborhood Association Presidents. Up to three candidates will be vetted for each of the two positions. Ideal candidates will have design and/or planning experience.

1 City Planning and Zoning rep appointed by the City of Madison Director of Planning
1 Outside Architect – Identified by Edgewood Schools
1 Outside Landscape or Planning Resource – Identified by Edgewood Schools

The Committee will be chaired by the school rep whose building is being proposed. The ADRC will focus on consensus-style decision-making

Project Review Process

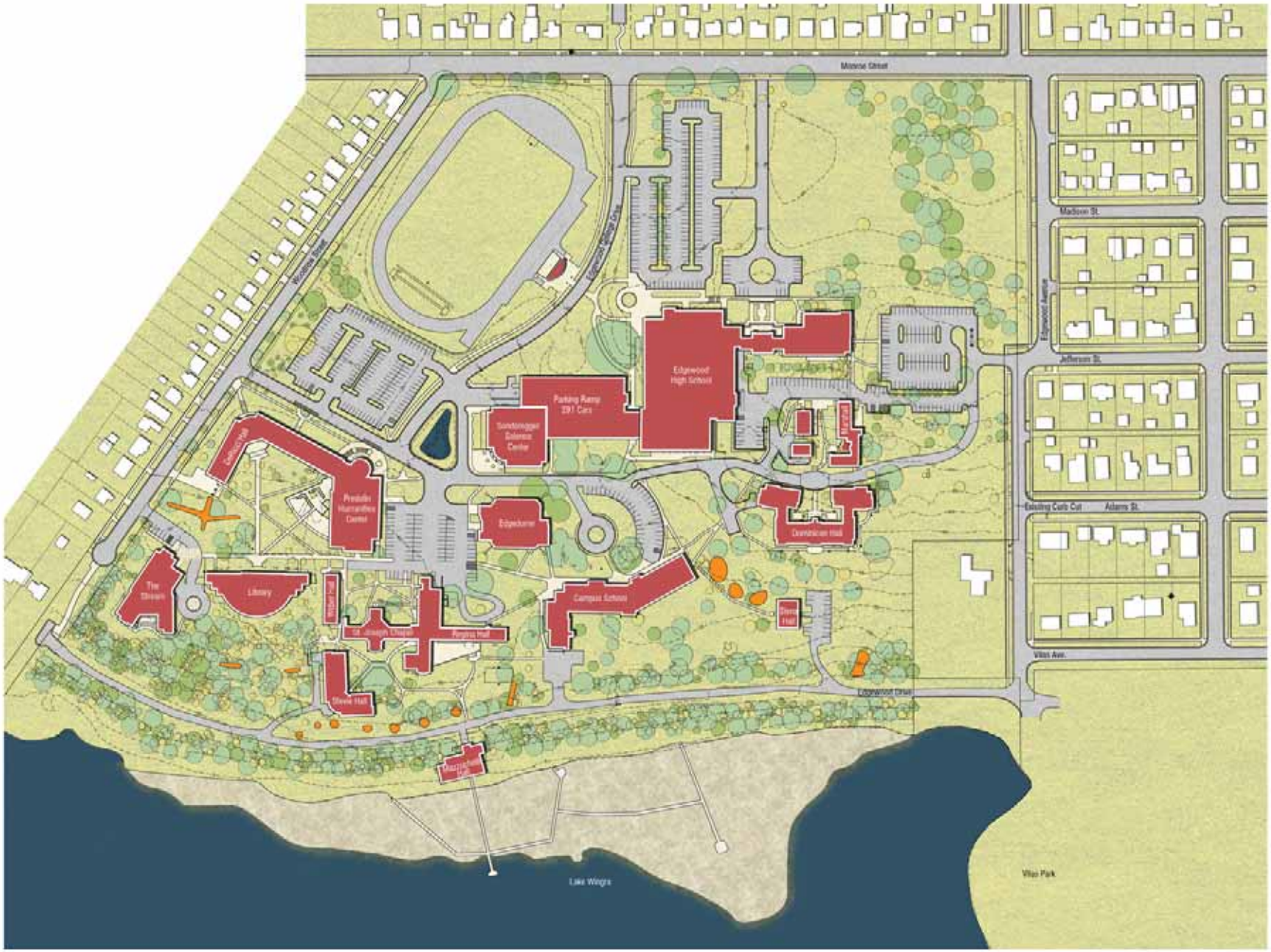
1. Review design with the three Edgewood Schools.
2. Review the design with the City of Madison Development Assistance Team (DAT).
3. Review the design with the Edgewood Neighborhood Liaison Committee.
4. Submit the design to the Edgewood Campus Architectural Design Review Committee (ADRC) for preliminary review.
5. ADRC will host an informational meeting with notice sent to the District #13 Alder, neighborhood associations and property owners and occupants living within 300 feet of the centerline of the campus perimeter streets.
6. ADRC conducts final reviews and submits the project to the City of Madison Planning and zoning for final approval and building permit.

A

APPENDIX

A.1

Campus Site Plans



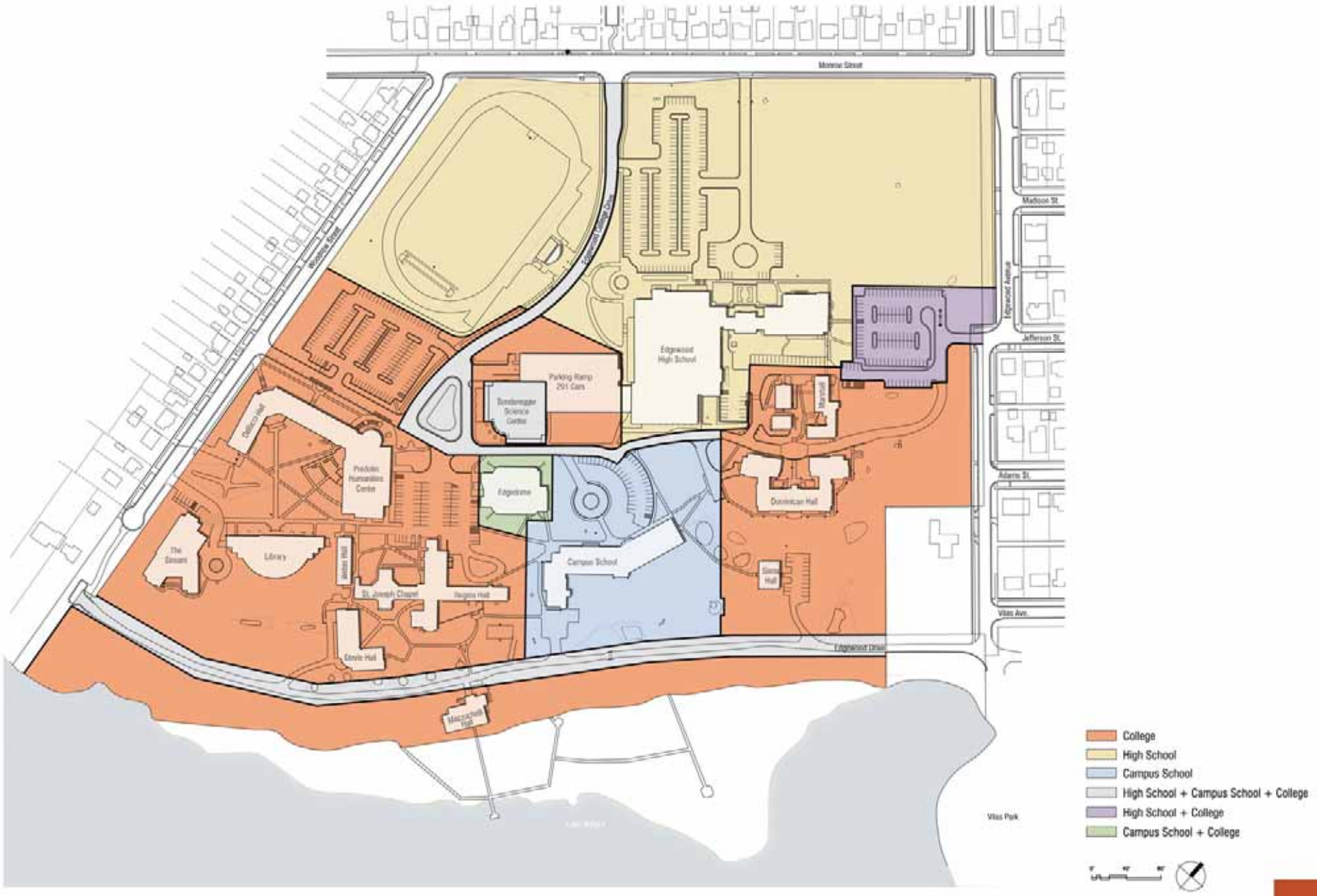
Campus Plan - Existing Buildings

Edgewood Campus Plan

January 08, 2014

Potter Lawson

Success by Design



Existing Conditions - Boundaries

Edgewood Campus Plan

January 08, 2014

Potter Lawson

Success by Design

Potential New Buildings or Additions

1. Future Facility & Structured Parking
2. DeRecci Hall Addition
3. Library Addition
4. Chapel Addition
5. Regina Western Addition
6. Dining Hall Addition
7. Regina Hall Eastern Addition
8. Edgedome Renovation or New Facility
9. Sonderegger Addition

9a. Addition to Parking Structure

10. Campus School Addition
11. High School Southern Addition

11a. High School Expansion over Existing Common Space

12. High School Eastern Addition
13. New Residential or Mixed Use to Replace Siena Hall
14. New Non-Residential Building
15. Marshall Hall Addition
16. New Non-Residential Building
17. Additional Parking
18. Revised Parking Layout
19. Revised Parking Layout
20. Existing Curb Cut

Existing Buildings
2010 Campus Plan Proposed Additions/Expansions
Native American Mound

Campus Plan - Future Buildings

Edgewood Campus Plan

January 08, 2014

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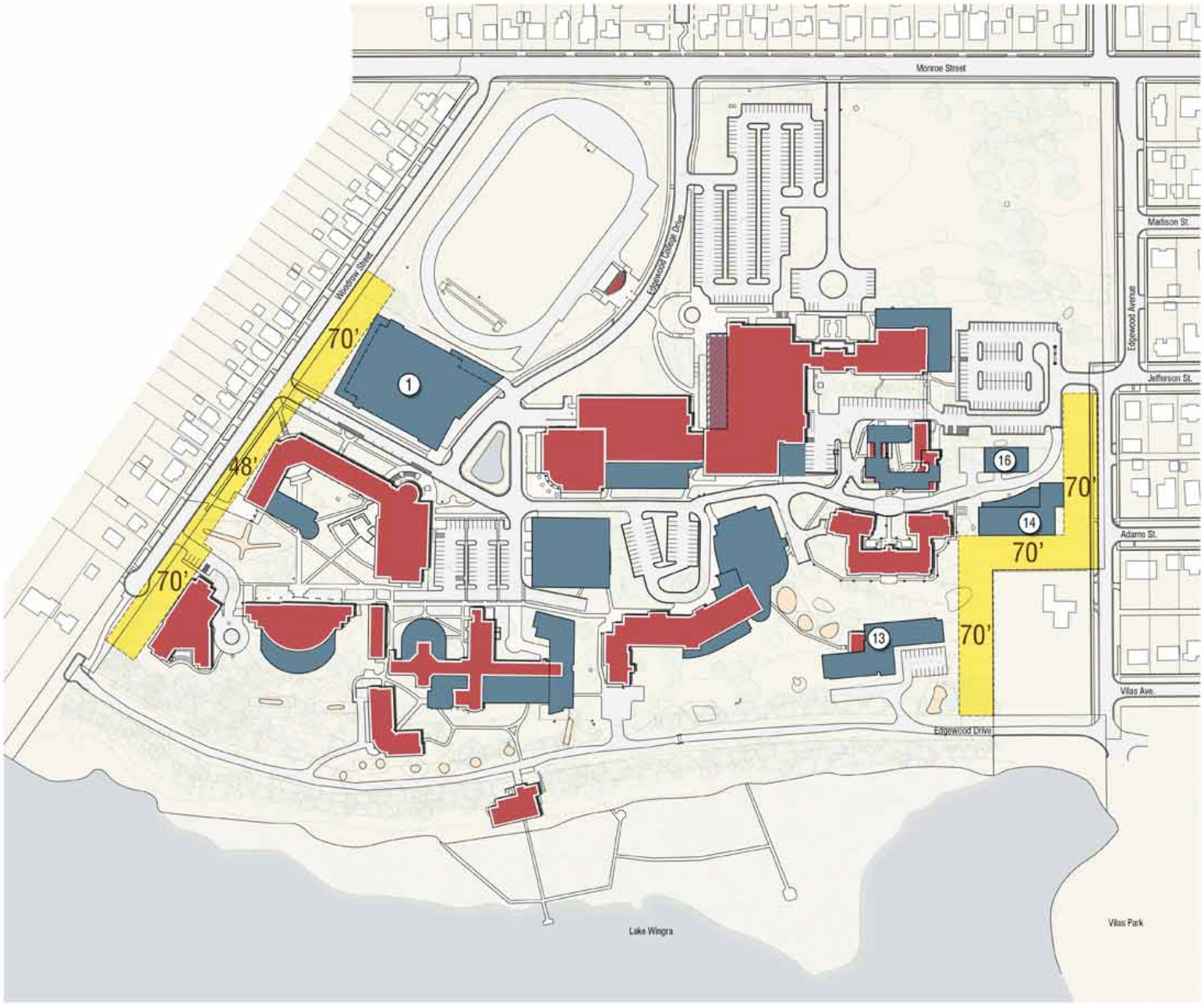

Perimeter Buildings

1. **Future Facility & Structured Parking**
   80,000 sf program space
   241 parking stalls on two levels

13. **Sienna Hall Replacement Residence Hall**
    Approx: 36,000 sf
    3 levels, facing south
    2 levels, facing north
    Potential for 70-85 beds

14. **New Non-Residential Building**
    Approx: 54,000 sf
    3 levels

16. **New Non-Residential Building**
    Approx: 12,000 sf
    2 levels

Existing Buildings
2010 Campus Plan Proposed Additions/Expansions
Setback Area

Note: Building set back dimensions are shown from the building edge to the face of curb at streets and to the property line at Kubly's property.

0' 80' 160'

Perimeter Building Setback Diagram

Edgewood Campus Plan

January 08, 2014

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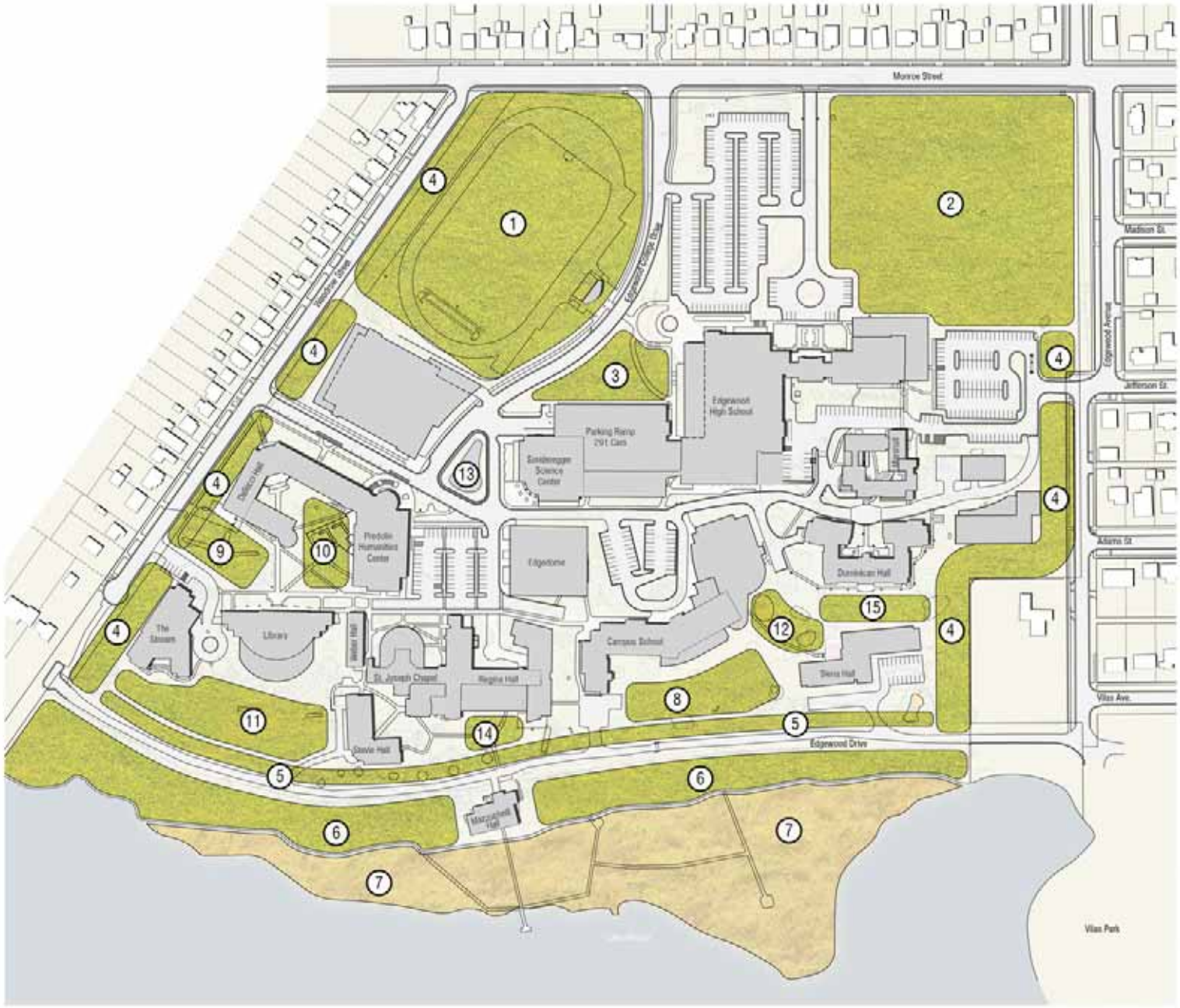


Open Spaces

1. Athletic Fields and Recreation Space
2. Athletic and Recreation Space
3. Recreation Space and Stormwater/ Snow Management for Parking Ramp
4. Neighborhood Buffer Zone
5. Park and Pleasure Drive Landscape Buffer Zone
6. Shoreland Zone
7. Wetlands
8. Playground
9. Eagle Mound
10. Courtyard Activity Space
11. Woodlands - Contemplative Space
12. Mound Grouping
13. Stormwater Retention Water Feature
14. Recreation Space
15. Green Space

Open Green Space

Open Spaces Diagram

Edgewood Campus Plan

January 08, 2014

Potter Lawson
Success by Design

A.2

Transportation Plan

Edgewood Campus Transportation Master Plan
Madison, Wisconsin

Prepared for
Edgewood Campus

Edgewood Campus Transportation Master Plan

Madison, Wisconsin

June 2013

Completed by:
SAA Design Group
101 East Badger Road
Madison, WI 53713
www.saa-madison.com

Table of Contents

List of Tables and Figures

Appendix

1. Introduction

Edgewood Campus is a 55-acre site located in Madison, Wisconsin that is comprised of three educational institutions: Edgewood College; Edgewood High School; and the Edgewood Campus School, an elementary and middle school. The three entities comprising the Edgewood Campus have completed a Campus Master Plan articulating future building and programming. As a part of this effort, the transportation impact of the master plan was in need of updating and analyzing. The component includes three segments; the traffic impact, parking impact, and the development of a Transportation Demand Management (TDM) program.

This study of Edgewood Campus serves four purposes: (1) assess the impact and extent of improvements the campus has implemented since the last transportation study in 2006; (2) evaluate the traffic impacts that the proposed future master plan improvement will have on the street network and recommend any improvements needed to accommodate site traffic; (3) assess the impact that the proposed master plan will have on parking conditions onsite and on the adjacent streets and recommend any measures that will alleviate the parking demand experienced presently and in the future; and (4) evaluate the campus's existing TDM program and make any recommendations for additional measures to reduce vehicular demand.

2. Executive Summary

The Master Plan Traffic Impact Analysis completed in 2005 demonstrated that as compared to a 1992 study, traffic volumes at the campus site have significantly shifted to the signalized Edgewood College Drive while removing traffic along Woodrow Street and Edgewood Avenue. The updated 2012 Master Plan Transportation Study shows that an aggressive Transportation Demand Management (TDM) has resulted in a reduction in both parking and peak hour trip demand. In addition, the participation in the TDM elements, such as transit ridership, remote parking, and van pooling has almost doubled since 2006/2007.

The projected enrollment increases for the campus can be accommodated with modest increases in parking, minor improvements to the existing infrastructure, and additional TDM measures. No additional street and/or intersection improvements are required as a direct result of traffic generated by Edgewood Campus. The campus will continue to make a conscious effort to increase transit ridership and promote remote parking facilities, which should continue to be encouraged in the future. Recommended traffic demand management (TDM) measures such as remote parking, long-term parking lots, and offsite classes could further reduce the traffic and parking loads experienced by the campus during peak conditions and should be considered for implementation.

3. Overview of Edgewood Campus

Campus Population

Discussions with staff from the three institutions were conducted to determine the existing student, faculty, and staff populations during the 2012 / 2013 school year. For comparison purposes, campus population data was also included from the 1993 / 1994 and 2004 / 2005 school years (as cited in previous studies of the campus, which will be discussed in greater detail below). **Table 1** illustrates a comparative analysis for the campus between the three time periods as well as future projected enrollments and staffing for each of the three campus institutions.

Table 1
EDGEWOOD CAMPUS POPULATION COMPARISON

Population	Year 1994[1]	Year 2005	Year 2012	Projected 10 year
Edgewood College				
Total Students	1,787	2381	2,252	2,660
Total Beds	*280*	*350*	*553*	*800*
Faculty & Staff	--- [2]	450	468	504
Edgewood High School				
Students	535	594	593	650
Faculty & Staff	--- [2]	88	106	125
Edgewood Campus School				
Students	265	304	275	300
Faculty & Staff	--- [2]	30	30	33

1 Data obtained from Mead & Hunt study (1995)

2 Data not cited in study

As can be seen in **Table 1**, since the last study in 2005, the enrollment at the high school has remained the same while there has been a modest increase in faculty and staff. The enrollment at the college and campus school has decreased. The overall campus population has decreased about 4% between 2005 and 2012. The projected enrollments for the total campus are expected to increase by 15% over the next 10 years. Likewise the number of student on-campus residents will increase from 553 to 800.

Previous Studies of Edgewood Campus

Three previous studies have been conducted for Edgewood Campus that evaluated traffic and parking conditions onsite and in its vicinity. In 1995, Mead & Hunt performed a traffic impact study to project full build out of the Campus (based on the Master Plan) and to recommend any improvements needed to accommodate this growth. One recommendation implemented was the construction and signalization of a primary access drive to serve the campus (which became Edgewood College Drive) from Monroe Street. In 2006, SAA performed a traffic and parking study of the Campus to evaluate parking conditions at and around the site as well as recommend any parking management procedures that would reduce the parking demand experienced in the area. Several recommendations from this study that were implemented include a restriction of freshmen obtaining parking permits, increased enforcement of parking violators, and event coordination between the three institutions. This 2006 study also documented the impact of access improvements and it found that the traffic volumes on Woodrow at Monroe Street had decreased by 50% while the traffic volumes at the main signalized intersection at Edgewood Drive had increased by 115%.

This study also determined that off street parking on campus was at capacity (over 90%) at peak times and on street parking in the neighborhood ranged between 53-60% of capacity. The study also projected that construction of additional housing on campus would reduce the overall trip demand in the campus area due to the reduction in commuting traffic volumes.

4. Existing Conditions

To evaluate and compare the existing traffic and parking conditions at Edgewood Campus with previous studies, a field review was conducted to ascertain existing traffic and parking characteristics at and around the campus site. These included land uses surrounding the campus; streets and intersections that will be impacted by the expansion; the supply of parking areas onsite and offsite (on-street); existing traffic volumes that are experienced in the vicinity of the site; and existing parking demands generated by Edgewood Campus.

Study Area

As previously stated, Edgewood Campus is a 55-acre, institutional site located in Madison, Wisconsin. Specifically, the site is located on the southeast side of Monroe Street between Woodrow Street and Edgewood Avenue. Land uses in the immediate vicinity of the site comprise of residential homes to the north, east, and west, Henry Vilas Park to the east, Lake Wingra to the south, and Wingra Park to the west. **Figure 1** shows the location of Edgewood Campus with respect to the surrounding streets.

Traffic Operations – External Streets

The following lists the principle streets that currently serve the Edgewood Campus site:

Monroe Street is a southwest-to-northeast, two-lane, undivided street that serves as the primary travel path to and from Edgewood Campus. No exclusive turning lanes are provided on Monroe Street at intersections in the vicinity of Edgewood Campus. Monroe Street permits on-street parking on both sides of the street; however, parking is restricted on the southeast side from 7:00 to 8:30 A.M. (providing two northeast bound lanes on Monroe Street during the weekday morning peak traffic period) and on the northwest side from 4:00 to 5:30 P.M. (providing two southwest bound lanes on Monroe Street during the weekday evening peak traffic period). Monroe Street has a posted speed limit of 25 miles per hour and is under the jurisdiction of the city of Madison.

Woodrow Street is a north-south, two-lane street that runs from Edgewood Drive north to its terminus at Monroe Street. No exclusive turning lanes are provided along Woodrow Street with all movements from Woodrow Street at Monroe Street under stop-sign control. On-street parking is permitted on the west side of Woodrow Street from an Edgewood Campus access drive to Monroe Street while on-street parking is permitted on the east side from Edgewood Drive to the Edgewood Campus access drive. Woodrow Street is under the jurisdiction of the City of Madison.

Figure 1: Site Location and Existing Street Network

Edgewood Avenue is a northwest-to-southeast, two-lane street that runs from Henry Vilas Park north to its terminus at Fox Avenue. North of Fox Avenue, the street is known as Allen Street. At its unsignalized intersections with Edgewood Drive, Vilas Avenue, and Jefferson Street, no exclusive turning lanes are provided. At its unsignalized intersection with Monroe Street, Edgewood Avenue is offset with its north approach located southwest of its south approach. The north approach does not provide any exclusive turning lanes while the south approach consists of an exclusive left-turn lane and an exclusive right-turn lane. All movements from Edgewood Avenue at the Monroe Street intersection are under stop-sign control. On-street parking is permitted on the east side of Edgewood Avenue from Jefferson Street to Keyes Avenue.

Edgewood Drive is a southwest-to-northeast, unimproved street that runs from Woodrow Street to its terminus at Vilas Park Drive. At its unsignalized intersection with Edgewood Avenue, no exclusive turning lanes are provided the street with all movements from Edgewood Drive under stop-sign control. Parking is prohibited on both sides of Edgewood Drive, which has a posted speed limit of fifteen miles per hour.

Jefferson Street is a southwest-to-northeast local street that runs from Edgewood Avenue to its terminus at Regent Street. At its unsignalized intersection with Edgewood Avenue, no exclusive turning lanes are provided with all movements from Vilas Avenue under stop-sign control. On-street parking is permitted on both sides of Jefferson Street.

Traffic Operations – Edgewood Campus

Primary access to Edgewood Campus is served by Edgewood College Drive, a north-south, two-lane street that connects Monroe Street to various buildings and parking areas on-site. At its signalized intersection with Monroe Street, Edgewood College Drive provides an exclusive left-turn lane and exclusive right-turn lane. Parking is prohibited on Edgewood College Drive, which has a posted speed limit of fifteen miles per hour.

In the center of the campus site, Edgewood College Drive intersects an east-west circulation drive that connects Woodrow Street to the west with various buildings and parking areas onsite. At its unsignalized intersection with Woodrow Street, this circulation drive permits westbound-to-northbound, right turn movements only. This condition reduces the traffic load along Woodrow Street south of the circulation drive as well as along Edgewood Drive.

Secondary access drives to Edgewood Campus site connect Monroe Street, Edgewood Avenue, and Edgewood Drive to ancillary parking lots located onsite. These access drives provide one inbound lane and one outbound lane with outbound movements under stop-sign control.

Figure 2 identifies and illustrates the existing traffic operations within Edgewood Campus as well as in the vicinity of the site.

Parking Operations

The Edgewood Campus site provides numerous parking areas onsite for students, faculty, and staff of the three institutions. The parking areas for these institutions is described below and also illustrated in **Figure 3.**

The Edgewood Campus provides 894 common use parking lots for students (residents and commuters), faculty, and staff to utilize. This is an increase of 40 spaces over the 854 parking spaces provided in 2005.

Edgewood College

Edgewood College provides 596 common use parking lots for students (residents and commuters), faculty, and staff to utilize. Two primary surface parking lots for the college are provided along the campus's western frontage while a parking structure for use by the college is located in the center of the campus site. Ancillary parking lots are also located along the eastern and southern frontage of the campus. The parking lot on the east side of the high school is restricted for faculty parking only.

Edgewood High School

Parking for students of Edgewood High School is accommodated via two surface parking lots located on the east side of Edgewood College Drive, south of Monroe Street. Parking for faculty and staff of the high school is provided via two ancillary parking lots that connect to Edgewood Avenue. The total surface parking lots comprise 261 spaces.

Edgewood Campus School

37 parking spaces for the campus school is provided by a surface parking lot located in the center of the site and are accessed by the east-west circulation drive.

In addition, numerous streets surrounding Edgewood Campus provide on-street parking on both sides of the street, which are shown in **Figure 3**.

Existing Public Transportation and Multi-Modal Routes

Currently, Monroe Street is utilized by the Madison Metro Transit System (Metro) for several bus routes that serve the Edgewood Campus site. Bus routes 3 and 58 travel along Monroe Street with bus stops at Edgewood Avenue and Edgewood College Drive. Based on 2012 data from the College, annual ridership to and from the campus are approximately 103,000 rides, significantly reducing the traffic and parking load to the campus. In addition, the Wingra Park bicycle route is identified along Monroe Street, Woodrow Street, and Edgewood Drive. The aforementioned bus and bicycle routes are shown in **Figure 4.**

Figure 2


MADISON ST
JEFFERSON ST
ADAMS ST
MONROE ST
EDGEWOOD AVE
EDGEWOOD COLLEGE DR
WOODROW ST
EDGEWOOD DR
EDGEWOOD HIGH SCHOOL
EDGEWOOD CAMPUS
EDGEWOOD CAMPUS SCHOOL
EDGEWOOD COLLEGE
Legend
Existing Traffic Signal
Existing Stop Sign
SAA
Schreiber / Anderson Associates, Inc
Edgewood Campus Traffic Impact Analysis
Existing Traffic Operations -- Weekday Morning Peak Hour
FIGURE 2
Project #2062 May 2005

Figure 3 On and Off Site Parking

Figure 4


MADISON ST
JEFFERSON ST
ADAMS ST
MONROE ST
EDGEWOOD AVE
EDGEWOOD COLLEGE DR
EDGEWOOD HIGH SCHOOL
EDGEWOOD CAMPUS
EDGEWOOD CAMPUS SCHOOL
EDGEWOOD DR
WOODROW ST
EDGEWOOD COLLEGE
BUS
Legend
Existing Bus Routes
Existing Bus Stop
Existing Bicycle Routes
SAA
Schreiber / Anderson Associates, Inc
Edgewood Campus Traffic Impact Analysis
Existing Multi-Modal Transportation Routes
FIGURE 4
Project #2062 May 2005

Existing Traffic Volumes

To determine the existing traffic volumes that are generated on the adjacent street network, peak hour traffic counts were conducted at several intersections surrounding the Edgewood Campus site. The location and dates of the counts is summarized below in **Table 2**. It should be noted that classes at all institutions were in session at the time of the counts. Counts were conducted from 7:00 A.M. to 8:30 A.M. to capture both peak weekday morning commuter traffic as well as inbound trips to Edgewood Campus. Counts were not conducted during the weekday evening peak period for the peak outbound period of the campus occurs before the weekday evening commuter peak hour (4:30 to 5:30 P.M.), resulting in traffic conditions that may not reflect peak traffic periods. The results of the counts indicate that the weekday morning peak hour of traffic occurred from 7:30 to 8:30 A.M. These volumes represent baseline conditions for analysis of existing and future traffic conditions and are illustrated in **Figure 5**.

Table 2
INTERSECTION COUNT LOCATION

Location	Date of Counts
Monroe Street & Edgewood Campus Drive	November, 2012
Monroe Street & Edgewood Avenue	November, 2012

In addition to peak-hour turning movement counts, 24-hour daily counts were acquired to assess the daily traffic load of roadways surrounding Edgewood Campus. Daily counts along Monroe Street and Edgewood Avenue for various years from 1989 to 2011 were obtained from the City of Madison traffic maps. The results of this count, as well as historical counts, are illustrated in **Table 3** (Monroe Street) and **Table 4** (Edgewood Avenue).

As can be seen from these daily counts, traffic along Monroe Street peaked in the mid 1990's and have been on a slow decline ever since resulting in a decline today of about 20% of their peak. Traffic on Edgewood Avenue (south end) peaked in 1989 and are now at about 50% of that volume. In particular in **Table 4**, the timeframe for a number of the proactive measures implemented by the campus are also shown. This includes the introduction of student shuttle services in 2005, the closing of the Park and Pleasure Drive to through traffic in 2006, and the addition of additional on-campus student housing in 2007.

Table 3

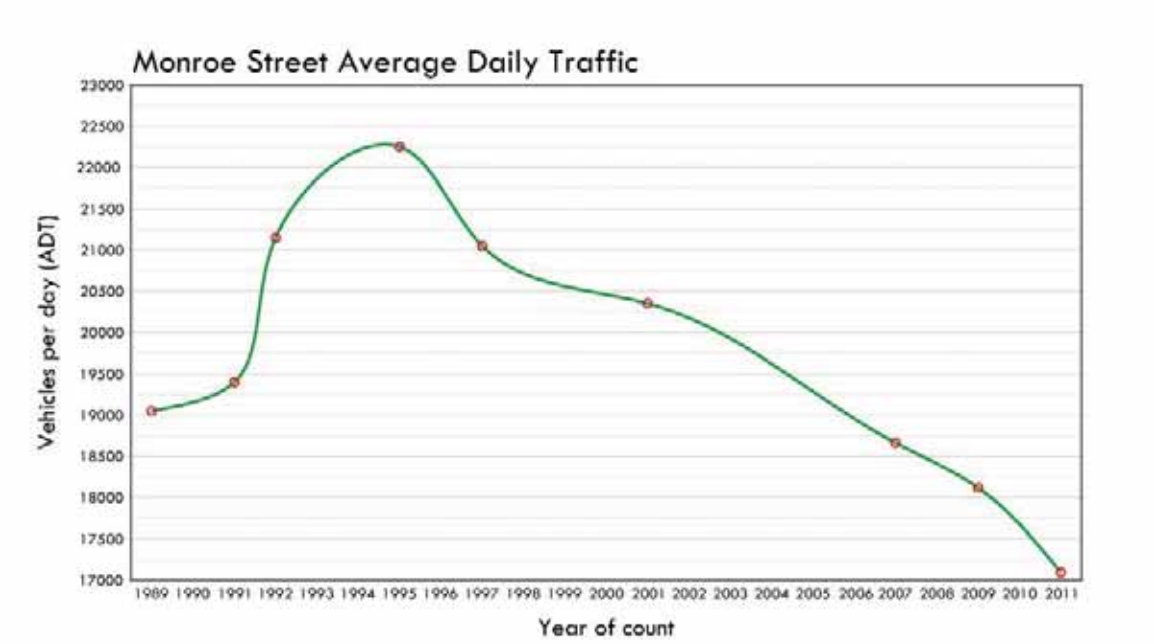
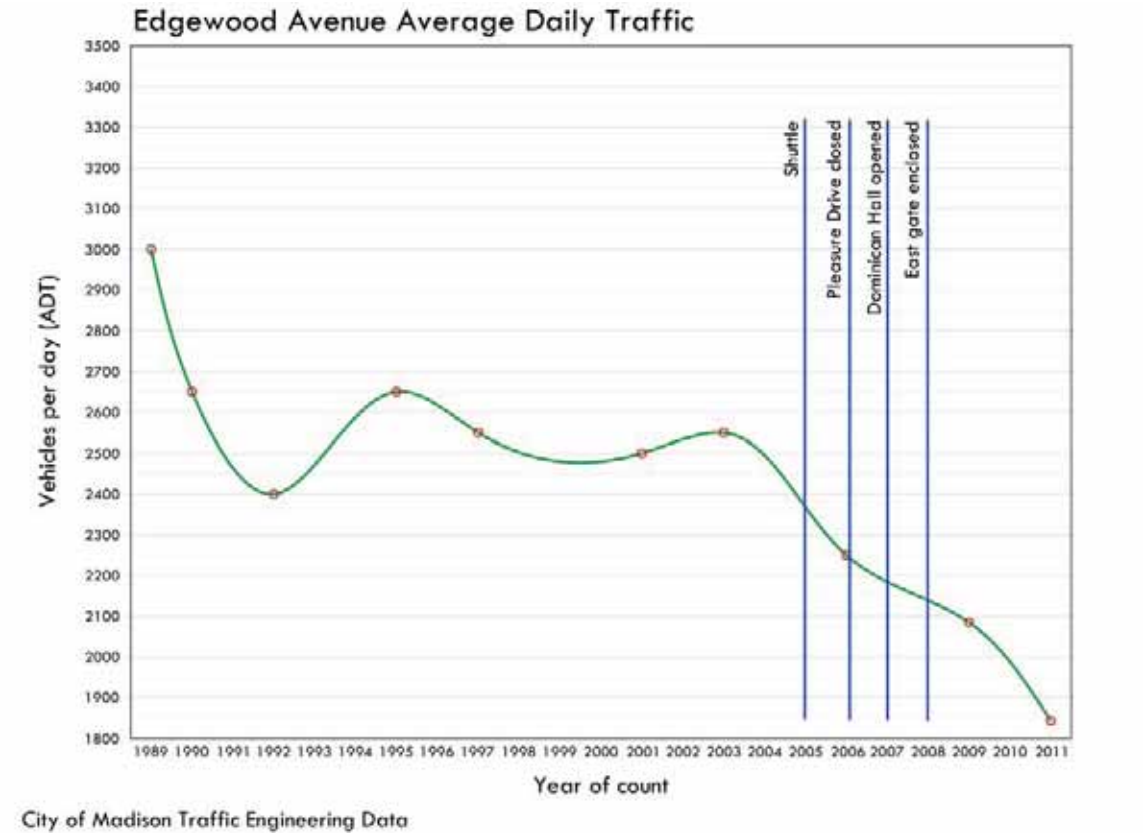


Table 4



City of Madison Traffic Engineering Data

As previously mentioned, a traffic impact study for Edgewood Campus was conducted in 2005. As part of that study, traffic counts at intersections surrounding the campus during the weekday morning peak hour were taken as shown in **Figure 5**. Traffic counts were again taken on several of the major intersections in 2012. When Year 2005 and 2012 intersection counts are compared the following is a summary of the results which are also shown in **Table 5**:

- The intersection traffic counts verify the peak hour counts on Monroe Street in the vicinity of the Edgewood Campus have decreased between 2005 and 2012.

- The morning peak hour flows on Monroe Street have increased southbound and decreased northbound between 2005 and 2012.

- Traffic counts onto Edgewood Avenue and Edgewood College Drive have both decreased between 2005 and 2012.

- While overall enrollment at the campus has decreased between 2005 and 2012, traffic volumes on the local streets and entering the campus have decreased even more.

Figure 5

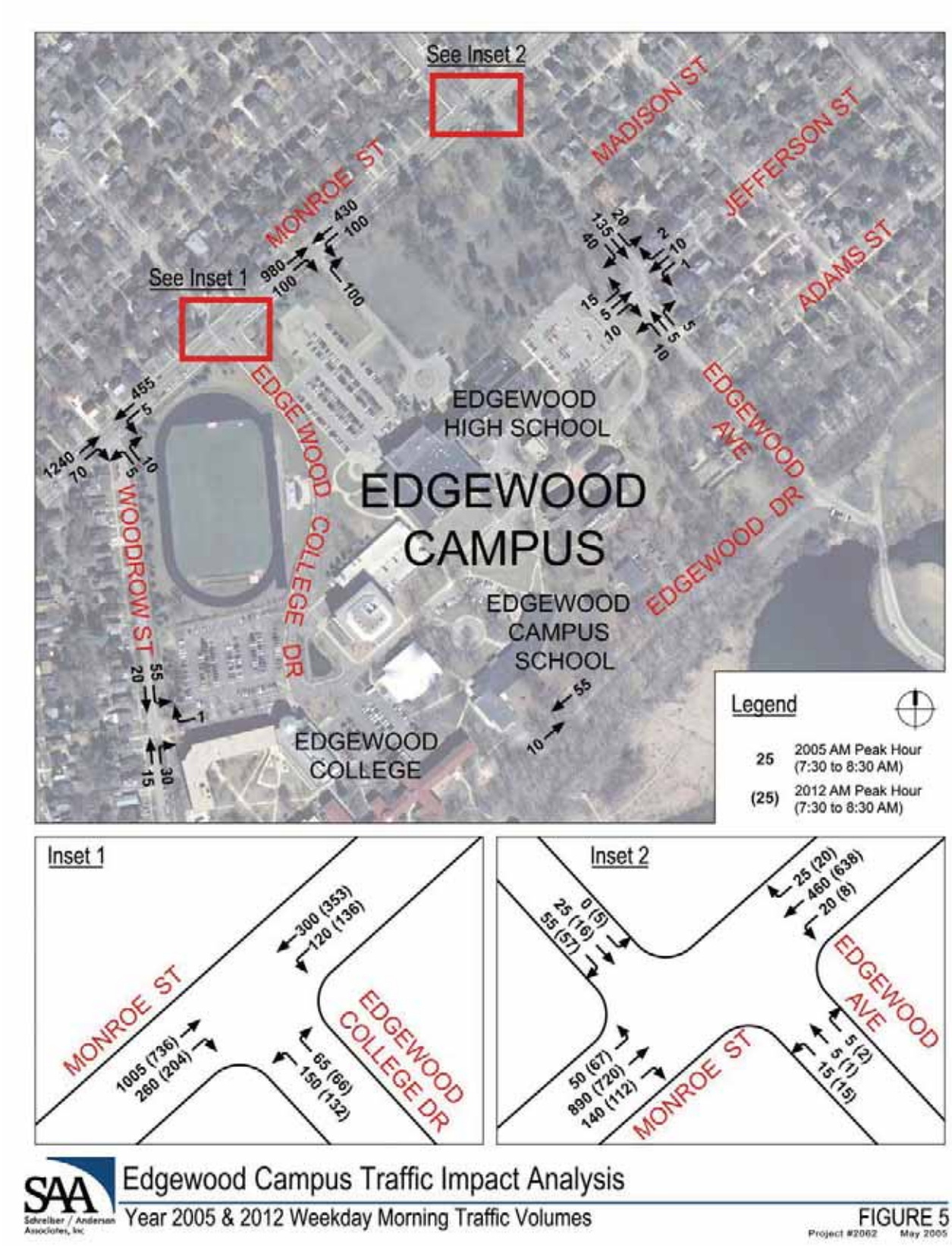
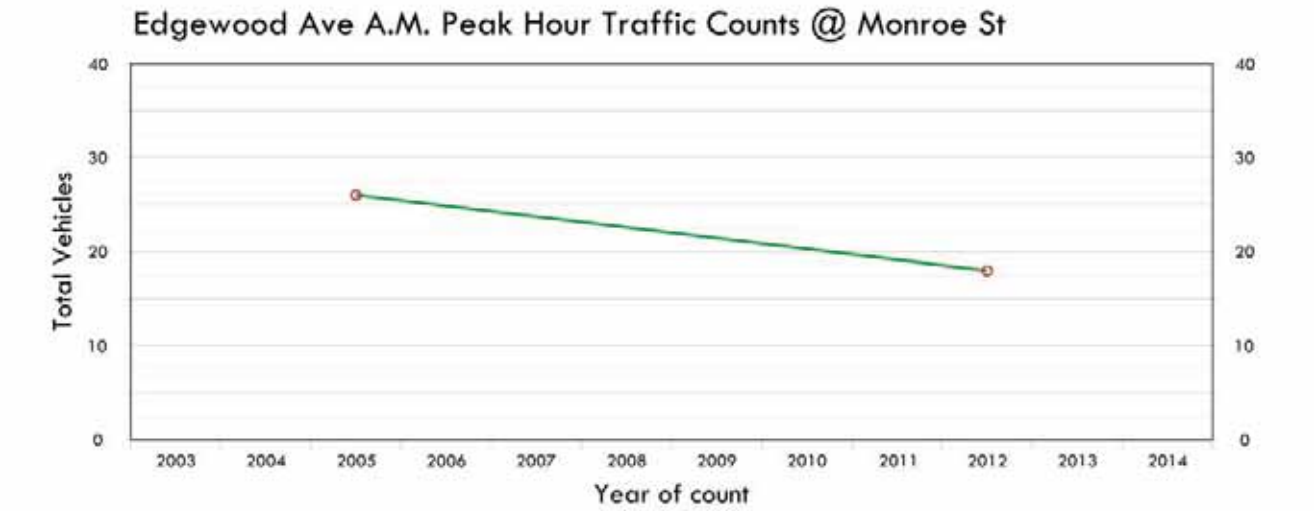
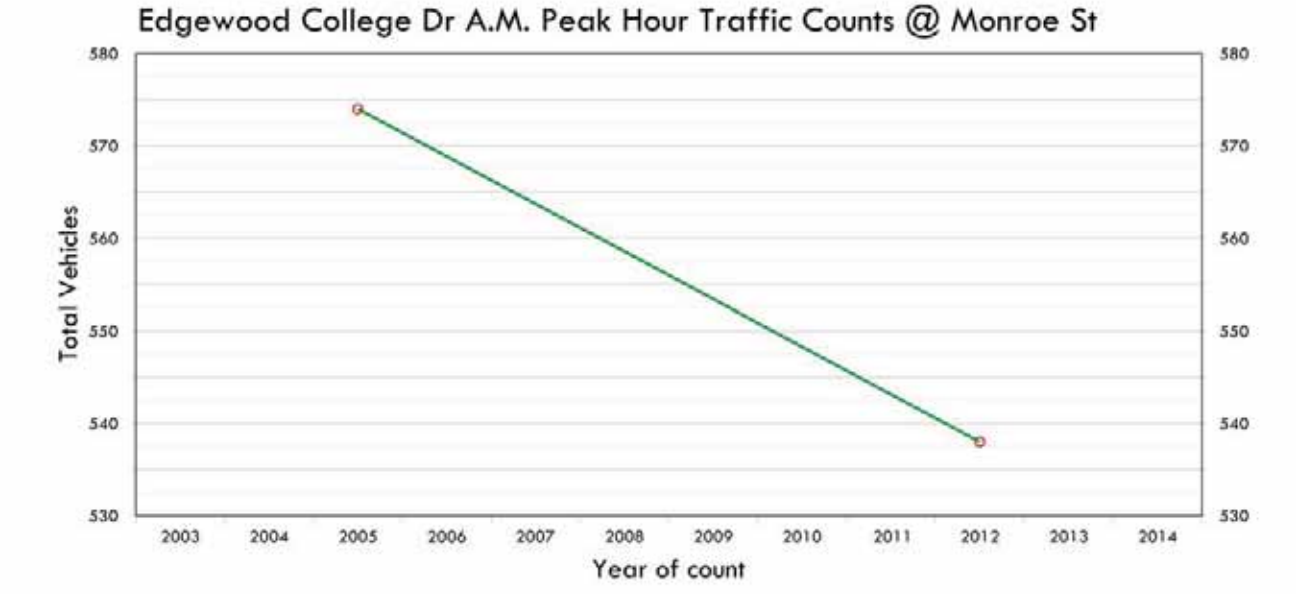

See Inset 2
See Inset 1
MONROE ST
MADISON ST
JEFFERSON ST
ADAMS ST
EDGEWOOD AVE
EDGEWOOD DR
EDGEWOOD COLLEGE DR
WOODROW ST
EDGEWOOD HIGH SCHOOL
EDGEWOOD CAMPUS
EDGEWOOD CAMPUS SCHOOL
EDGEWOOD COLLEGE
Legend
25 2005 AM Peak Hour (7:30 to 8:30 AM)
(25) 2012 AM Peak Hour (7:30 to 8:30 AM)
Inset 1
Inset 2
Edgewood Campus Traffic Impact Analysis
Year 2005 & 2012 Weekday Morning Traffic Volumes
FIGURE 5
Project #2062 May 2005

Table 5
SITE TRAFFIC VOLUMES – Edgewood Ave and Edgewood College Drive





Existing Parking Occupancy Demand

As previously stated, parking studies for Edgewood Campus were performed in 2002, 2005, and 2012. These studies involved a parking occupancy count of all on-campus and off campus (on-street) parking areas. Counts were conducted during the weekday midday (11:00 A.M. to 2:00 P.M.) time period as this time period experiences the highest parking demand for institutional land uses. To provide a comparative analysis of parking conditions the parking occupancy count was conducted midweek during the aforementioned peak parking period. The count locations consisted of the same on-campus and off-campus parking locations as counted in the previous parking study. The results of these counts, which can be found in the appendix of this study, indicate that over both the on-campus and off-campus parking demand had been reduced from 2005 to 2012 as shown in **Table 6**. The 2005 off-campus parking peaked at 59 percent occupancy while this dropped to 55% in 2012 for the areas within a 2-block radius of the campus during peak periods. The on-campus parking demand had also dropped to below 90% in 2012 as compared to 2005.

After the parking study was conducted, Edgewood College implemented a parking policy in which freshmen students could not obtain a parking permit for use of on-site parking spaces. Because of this, it was assumed that freshmen students that drove to campus would be forced to utilize parking on the surrounding streets within a two-block radius of the campus. This may have resulted in a six percent increase in on-street parking from Year 2002 to Year 2005. It should be noted, though, the student population of Edgewood College increased by approximately eight percent during this same time period. Given that parking conditions within Edgewood Campus operates at capacity during both time periods, this increase could be expected given that the increase in the student population will generate more commuters traveling to the campus site. As such, the restriction of freshmen parking within Edgewood Campus had a marginal impact to on-street parking characteristics. It is more likely that the increase in parking occurred due to the increase of the Edgewood College student population.

Following the 2005 study, the Edgewood Campus worked with the neighborhood in restricting on street parking areas within the two block campus area that was surveyed. These restrictions included limited time periods (e.g. 2 hr), restricted days (e.g. no parking on Tuesday, and full parking restrictions). The college also further implemented some of its TDM measures such as providing remote parking for its employees, off campus parking for residence halls, and hiring a TDM coordinator to implement a more aggressive TDM program.

For a comparison of the impact of the parking restrictions on the off campus streets, **Table 6** shows the occupancy demand if the streets with parking restrictions were removed from the parking supply which would increase the parking demand on the remaining streets to close to 70%. The implication being that the parking restrictions have pushed more of the parking onto the streets that do not have parking restrictions.

The overall maximum peak demand for off-campus parking has actually decreased by about 14% between 2005 and 2012.

To address concerns that overnight parking was occurring on the streets closest to the campus, an overnight parking survey was done on the first block of Jefferson Street. The results of that survey are shown on **Table 7.** This survey indicates that parking peaks mid morning and drops off during the day, picks up again in the early evening, and then falls off overnight.

Table 6 - Off and On-Street Parking Demand

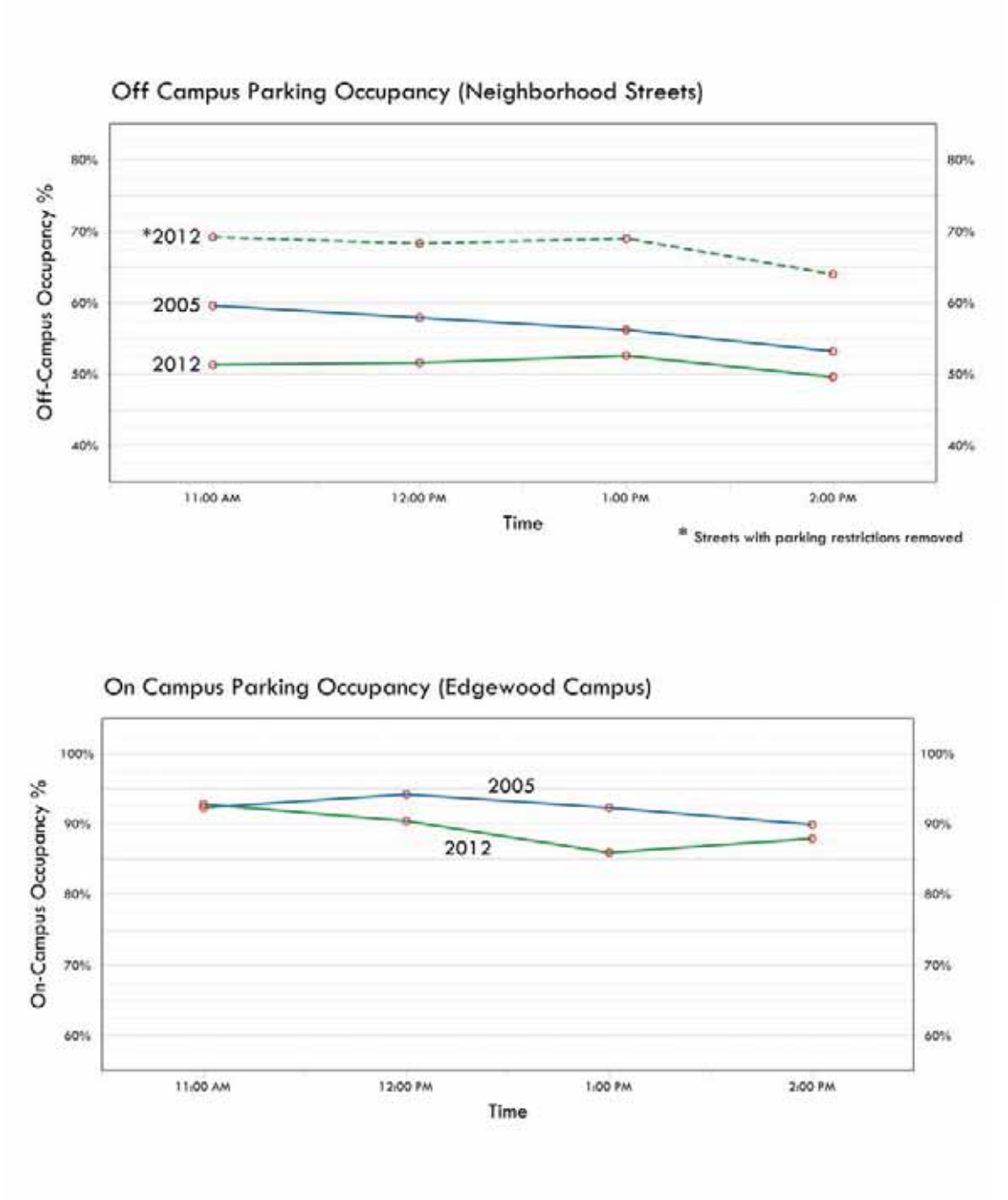
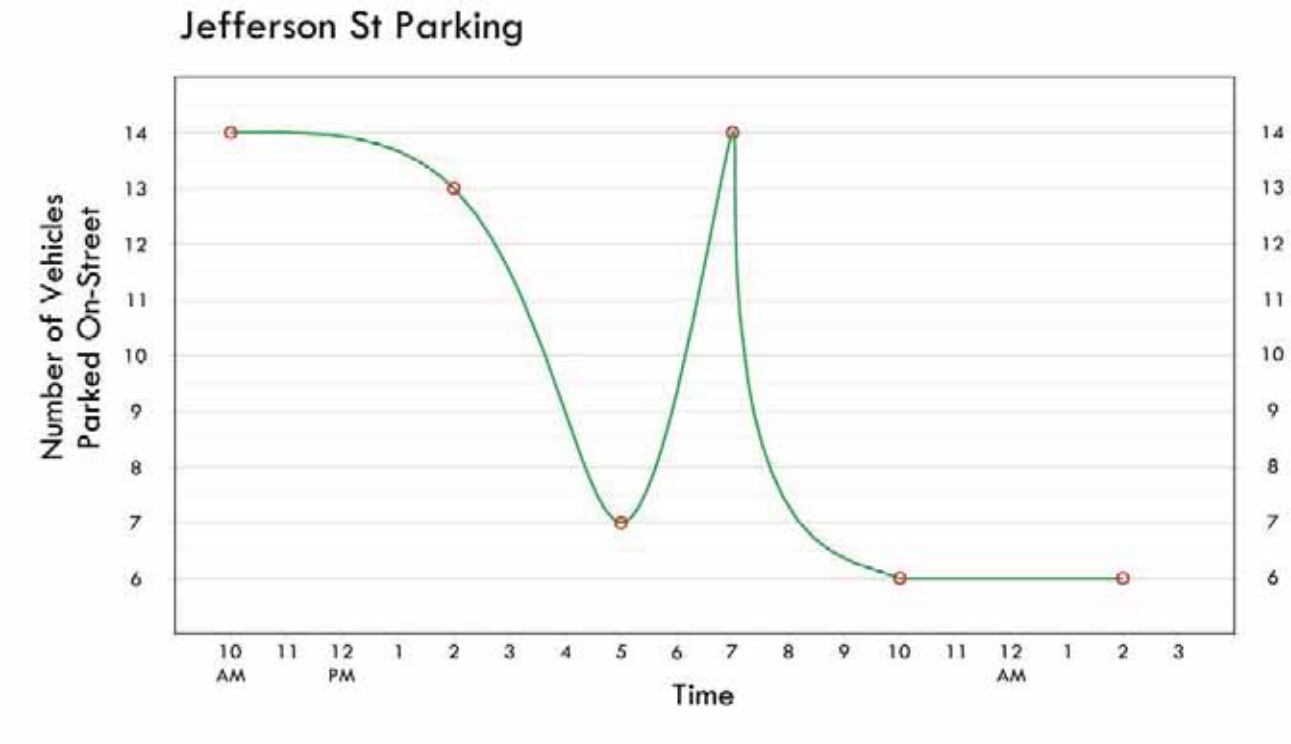


Table 7


Jefferson St Parking
Number of Vehicles Parked On-Street
14
13
12
11
10
9
8
7
6
10 AM
11
12 PM
1
2
3
4
5
6
7
8
9
10
11
12 AM
1
2
3
Time

5. Existing Transportation Demand Management (TDM) Methods

Overview of Ongoing Efforts

Transportation Demand Management (TDM) strategies represent a relatively new, but ever evolving, approach to transportation planning. TDM seeks to address transportation challenges, such as the need for adequate parking, with projects and programs that manage travel demand rather than respond with the supply of additional infrastructure. Research increasingly shows that TDM and parking management have had demonstrable and cost-effective success in influencing people's core travel choices and behaviors, thereby reducing vehicle trips, congestion, and vehicle emissions All the while, TDM plays a critical role in improving mobility, accessibility, and the efficiency of local and regional transportation networks.

Beginning with Edgewood's 2005 master planning process, Edgewood College has made a substantial effort to implement TDM practices on its campus and is committed to continuing these and similar efforts as a matter of practice. Edgewood College's "Alternative Transportation Program" is a relatively comprehensive, institutionalized TDM approach that has grown since 2005 to be an increasingly effective contributor to reduced traffic and parking demand on and around the Edgewood Campus. On the next page, **Table 8** summarizes existing TDM/Alternative Transportation programs in place at Edgewood as of May 2013.

Table 8
TDM METHOD SUMMARY

Program/Policy/Practice	Description
First-year resident parking restriction	Resident students are not eligible for an on-campus parking pass their first year on campus; must participate in Alternative Transportation Program
New-hire parking restriction	Newly hired employees are not immediately eligible for an on-campus parking permit; are expected to participate in Alternative Transportation Program
Parking & Transportation Coordinator	In 2008, the college added full-time administrative staff to oversee and grow the college's Alternative Transportation Program
Commuter Shuttle/Off-site Parking	Since 2006, the college has offered a free shuttle to remote parking lots for students, faculty and staff
Safe Ride Shuttle	Since 2007, the college has provided a free shuttle on weekend evenings (Thurs – Sat) between campus and nearby commercial, dining, and entertainment areas
Shopping Shuttle	The college provides a free shuttle to shopping destinations (West Towne Mall, Hilldale, Target) on designated days
Increased enforcement of parking violators	The college continues working with the Madison Police Department to bolster enforcement of on-street parking regulations around the campus
Provide Metro transit passes to all students, faculty, and staff of Campus	All valid Edgewood ID's can be used as a Metro transit pass and is paid for by the college
Carpool Program	The college offers reduced-cost parking permits and preferential parking location for registered carpool participants
Incentive Program	All users of shuttle, carpool, and registered walkers/bikers eligible for a "punch card" which can be redeemed for gift cards, movie passes, and other benefits
Continued bike/pedestrian encouragement	The college continues to expand bike and moped parking on-site, and has a registered walker and biker program that ties to the incentive program above

TDM Impacts (2005 – 2012)

Edgewood College's efforts at accommodating and encouraging alternatives to the single-occupant vehicle for travel to and from its campus have had measurable success, as evidenced in the previous section of this report. The following data further illustrate the success of the college's program, and offer rationale for continued support and enhancement of the Alternative Transportation Program:

- Peak hour trips to campus decreased by 10% between 2005 and 2012
- The number of commuter student parking passes issued by the college decreased from **860** passes in 2007 to **736** passes in 2012 ; resident parking passes remained stable at **123** total
- The number of free Madison Metro bus passes issued almost doubled from **1,442** in 2005 - 2006 to **2,173** in 2011 - 2012
- Metro trips utilizing the Edgewood pass program more than doubled from **40,000** in 2005 to **103,000** in 2012
- In five years, Commuter Shuttle registration increased by more than 75%, from **84** registered riders in 2007 to **150** registered riders in 2012
- Safe Ride Shuttle usage has more than doubled, from a total of **7,047** rides in 2008 to **14,096** rides in 2012; the program now averages over 500 riders per weekend

While the college has utilized TDM to realize success in reducing demand for parking and peak hour traffic, Edgewood High School and Campus School have so far been less involved in TDM implementation. The primary concern at the high school and campus school level is indicated as being the broad geographic distribution of both institutions' populations throughout southern Wisconsin. Still, both schools were engaged in this process and expressed an interest in exploring TDM measures in the near future.

6. Characteristics of the Campus Master Plan

Projected Trip Generation

The amount of site traffic to be generated by a particular site is based upon the land use and size of the site. Projected trip generation rates were estimated based on the ITE Trip Generation Manual in **Appendix A** for each of the three institutions on campus. It is estimated that the additional enrollment (**Table 1**) over the next 10 years based on the Master Plan will increase by 78 trips or 7% over current estimated campus peak hour trip generation. This projection is less than the projected increase in enrollment due to the additional residence halls that will be added as well as the continued success of the TDM program.

Projected Parking Generation

In addition to the traffic impacts that the proposed Master Plan will have on Edgewood Campus, consideration was given to analyze the parking impact that the additional student enrollment will demand. Several sources were utilized to project the amount of parking needed to accommodate the residence halls, which are described below:

- Parking rates published in the ITE *Parking Generation Manual, 3rd Edition* and shown in **Appendix B** for each of the three institutions. This would result in the need for 161 additional parking spaces. This would include 133 additional spaces for the college and 28 additional spaces for the high school and campus school.

- Parking supply ratios developed in the 2002 parking study of the campus which state that a ratio of 0.22 parking spaces per student/faculty/staff exists onsite; with the addition of 548 additional students and faculty, this would result in 120 additional parking spaces over the current supply. This ratio reflects the parking supply ratio upon full build-out of the Campus, as cited in the Master Plan.

From the aforementioned sources, a range of projected parking demand from 120 to 161 parking spaces was derived. For purposes of this study, it was assumed that the parking demand generated by the increase in student population will be similar to existing demand ratios already experienced onsite. Therefore, the provision demand for an additional 161 parking spaces will result in the need to increase the existing parking supply by 18%.

7. Future Conditions

In order to evaluate the traffic and parking impacts of the proposed residence halls, the adjacent intersections and streets were analyzed based on the estimated volumes of existing background traffic and ambient growth on the street network. In addition, the parking supplies were analyzed based on existing parking demands of the campus as well as the projected parking demand of the residence halls. From these analyses, recommendations were developed for street improvements and onsite parking facilities.

Future Roadway Improvements

Based on discussions with MDOT staff, there are no improvements to streets and intersections in the vicinity of Edgewood Campus that are currently under consideration.

Edgewood Drive

Edgewood Drive is a two-lane, unimproved street that runs along the southern frontage of Edgewood Campus. Currently, Edgewood Drive has trees and vegetation that grow just outside the traveled way, creating narrow travel lanes and restricting traffic flow. In addition, bicyclists and pedestrians frequently use the travel lanes due to the lack of sidewalks or other adequate paths along Edgewood Drive. Historical traffic counts indicate that traffic volumes on Edgewood Drive East have decreased and at their current volumes do not warrant any further improvements.

Monroe Street & Edgewood Avenue Intersection

Based on MDOT's Year 2012 Traffic Signal Priority List, the intersection of Monroe Street with Edgewood Avenue is currently ranked twelfth among similar intersections for consideration of installing traffic signals for traffic control. However, all intersections must meet minimum traffic requirements (warrants) to be considered for traffic signalization. Currently, volumes at this location do not meet any of the required warrants necessary to be considered for signalization. There were also no recorded accidents at this intersection that would have been preventable if a traffic signal were in place. In addition, the existing geometric design of this intersection would need to be modified to accommodate traffic signals as well as the dedication of land by the campus to align the approaches of Edgewood Avenue. Future studies of this intersection can continue to be conducted to determine whether volumes at this location will require traffic signals.

Because it is unknown if these improvements will be constructed, if even at all, these improvements **will not** be assumed under analysis of future conditions for this study.

Monroe Street & Edgewood Drive Intersection

This intersection is currently signalized. MDOT has reviewed traffic operations, particularly the southbound left hand turn movement and the possible removal of additional parking during the afternoon peak hour to better accommodate turning movements. To date these analysis have not shown that there is a turning movement problem at this intersection nor that the removal of additional parking would result in any operational improvement of the intersection.

Traffic Impact Analysis

To determine the impacts that the proposed Edgewood College Master Plan will have on the adjacent street network, as well as any subsequent street and/or intersection improvements needed to accommodate site traffic, intersection capacity analyses were conducted at impacted intersections under existing and future conditions. **Table 9** illustrates the intersection level of service (LOS) and projected intersection delay under 2005, 2012 and future (2022) traffic conditions at intersections in the immediate vicinity of the Edgewood Campus. Intersection LOS is a letter designation that describes traffic operations at a given intersection. These designations range from LOS 'A' (unimpeded traffic flow) to LOS 'F' (extreme delays). Intersection delay is the projected amount of time that a vehicle would need to travel through the intersection. Intersection delay is measure in seconds of time. To analyze the impacted intersections, the software package Synchro was utilized.

It should be noted, though, that the intersection level of service and delay considers all movements conducted at a particular intersection. While an intersection may have an overall satisfactory level of service, an approach or movement may still operate poorly. Likewise, an intersection may have a poor level of service because only one or two movements operate unsatisfactorily. For further explanation of intersection level of service and delay, as well as the capacity analysis worksheets, please refer to **Appendix.**

Table 9
INTERSECTION LOS AND DELAY SUMMARY – WEEKDAY MORNING PEAK HOUR

Intersection	LOS	Delay	NEastbound			SWestbound			NWestbound			SEastbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Previous Conditions (Year 2005)														
Monroe Street & Edgewood College Drive[1]	B	19.8	-	B	B	C	C	-	D	-	B	-	-	-
			-	13	13	32	32	-	48	-	11	-	-	-
Monroe Street & Woodrow Street[2]	A	0.3	-	A	A	B	A	-	D	-	D	-	-	-
			-	0	0	13	0	-	32	-	32	-	-	-
Monroe Street & Edgewood Avenue[2]	A	4.6	A	A	A	B	B	A	F	F	F	E	E	E
			8.6	8.6	0.6	11	11	0	167	81	81	47	47	47
Edgewood Avenue & Jefferson Street[2]	A	2.5	B	B	B	B	B	B	A	A	A	A	A	A
			10	10	10	11	11	11	3.8	3.8	3.8	0.7	0.7	0.7
Monroe Street & Site Access Drive[2]	A	1.6	-	A	A	B	A	-	-	-	C	-	-	-
			-	0	0	13	0	-	-	-	15	-	-	-
Woodrow Street & Site Access Drive[2]	A	7.2	-	-	-	-	-	A	-	A	A	A	A	-
			-	-	-	-	-	6.6	-	6.8	6.8	7.5	7.5	-
Existing Conditions (Year 2012)														
Monroe Street & Edgewood College Drive[1]	B	11.7	-	B	B	B	B	-	A	-	A	-	-	-
			-	12	12	12	12	-	9.5	-	8.3	-	-	-
Monroe Street & Woodrow Street[2]	A	0.3	-	A	A	B	A	-	D	-	D	-	-	-
			-	0	0	13	0.1	-	27	-	27	-	-	-
Monroe Street & Edgewood Avenue[2]	A	3.1	A	A	A	A	A	A	F	F	B	D	D	D
			9.4	9.4	0.7	9.9	9.9	0	74	74	12	34	34	34
Monroe Street & Site Access Drive[2]	A	1.8	-	A	A	B	A	-	-	-	B	-	-	-
			-	0	0	11	1	-	-	-	13	-	-	-
Future Conditions (Year 2022)														
Monroe Street & Edgewood College Drive[1]	B	11.9	-	B	B	B	B	-	A	-	A	-	-	-
			-	12	12	12	12	-	9.7	-	8.4	-	-	-
Monroe Street & Woodrow Street[2]	A	0.3	-	A	A	B	A	-	D	-	D	-	-	-
			-	0	0	13	0.1	-	27	-	27	-	-	-
Monroe Street & Edgewood Avenue[2]	A	3.4	A	A	A	A	A	A	F	F	B	E	E	E
			9.4	9.4	0.7	9.9	9.9	0.1	80	80	12	36	36	36
Monroe Street & Site Access Drive[2]	A	1.8	-	A	A	B	A	-	-	-	B	-	-	-
			-	0	0	11	1	-	-	-	14	-	-	-

1 Signalized Intersection
2 Unsignalized Intersection

LOS – Level of Service
Delay – Measured in Seconds

The results of the intersection capacity analyses indicate that all impacted intersections currently, and will continue to, operate adequately during the weekday morning peak hour with the exception of the intersections of Monroe Street with Woodrow Street and Edgewood Avenue. At these locations, outbound movements from the minor streets (Woodrow Street and Edgewood Avenue) experience longer than desired delays due to the high volume of traffic on Monroe Street not providing adequate gaps for turning movements to occur. This is not an uncommon situation, though, especially when minor streets intersect high-volume arterials, such as Monroe Street, under stop-sign control. In addition, a field review of these locations indicate that during the weekday morning peak period, vehicles from the minor streets did not experience significant delays to perform their turning movements; this observation, coupled with the low volumes of traffic projected at these minor streets during the weekday morning peak hour, indicate that no external roadway improvements are needed to accommodate future traffic conditions.

Parking Impact Analysis

Based on the aforementioned parking generation analyses, the full build of the Master Plan is projected to increase the off campus parking demand by 161 parking spaces. The Master Plan shows the potential to add an additional 198 spaces as a part of future constructing. These new spaces include a 30 space addition to the high school parking lot near Monroe Street, a vertical expansion of the existing parking deck to accommodate another 68 spaces, the construction of a two story parking ramp over the existing De Ricci surface lot with 95 additional spaces, and the reconfiguration of the Campus lot to accommodate another 5 parking spaces.

Internal Circulation

To accommodate pedestrian traffic and facilitate loading and emergency vehicles for the proposed residence halls, an internal circulation drive was constructed to connect the Edgewood Avenue surface parking lot with the existing circulation drive that serves Edgewood Campus School. To discourage the use of non-authorized vehicles, gates were installed at entry points of the drive. The gates can be opened to allow for loading purposes, emergency use, and the moving in and out of students from the residence halls. Refuse collection for the esidence halls was centralized at a location that **does not** require the use of the circulation drive. These locations include the refuse collection area for the high school and by Siena Apartments.

Based on a field review of the campus, coupled with the results of the traffic counts, a significant number of student drop-offs occur at the high school and campus school during the weekday morning peak hour. Parents dropping off children at the campus school utilize Edgewood College Drive for direct access between the school and Monroe Street; however, parents dropping off children at the high school have a more convoluted route to access Monroe Street. While an access drive is provided to the high school from Monroe Street, this access drive prohibits left-turns onto Monroe Street from 7:00 to 9:00 A.M. Therefore, motorists at the high school drop-off area wishing to travel southwest on Monroe Street have to travel through the high school parking lot to access Edgewood College Drive for access to southwest Monroe Street. These motorists interact with vehicles using the parking lot as well as pedestrians walking from the parking lot to the high school, creating many conflict points between parked vehicles and cut-through traffic as well as between cut-through traffic and pedestrians. Therefore, consideration should be given to provide a more direct route to Edgewood College Drive from the high school drop-off area that will reduce or eliminate interaction between cut-through traffic and vehicles and pedestrians using the parking lot.

8. Traffic Demand Management (TDM) Plan

Anticipated Benefits

Edgewood College has committed to reducing parking demand and parking – both on campus and in their neighborhood - as a central theme in its future growth and development strategy. Furthermore, TDM aligns to the college's sustainability principles perfectly, and advances the college's goals and objectives in several ways, as highlighted below:

- Congestion and Trip Reduction: The data in this report indicate that TDM has been demonstrated to effectively reduce vehicle trips and associated impacts on campus and in the neighborhood. Reduced congestion and trip reduction equals reduced vehicle emissions, reduced commute times, improved quality of life, and end-user cost savings among other things.

- Cost-effective – TDM programs and parking reform have relatively low up-front capital costs and ongoing operating costs, when measured against capital costs such as roads and parking lots and structures. Additionally, the TDM proposed for Edgewood College largely seeks to leverage existing infrastructure, such as transit service, bicycle facilities, and shuttle buses. Effective parking management can serve as a component of funding for TDM, providing additional cost-effectiveness.

- **Quick results, long-term impacts** – capital projects – in addition to being costly – often take years to design, acquire permits, and construct. TDM can be implemented on a comparably fast timeline, and the impacts from TDM initiatives are often immediate and lasting. A comprehensive and well-integrated TDM positively influences travel behavior and mode choice by providing travelers with a reliable, affordable, and comfortable alternative to driving alone to and from their daily destinations.

- **Market and Political Viability** – large numbers of people within the region and at Edgewood College in particular already "participate" in TDM by choosing to ride a bike, taking a shuttle or bus, or carpooling. Increasingly, many private and public institutions and employers celebrate their TDM and other sustainability efforts and benefits as a means to attract quality employees and students. Couple the increasing acceptance (or even expectation) of alternative transportation choices with the benefits outlined above and it's reasonable to say that TDM is a politically viable and market-savvy initiative for Edgewood College.

- **Regional Leadership** – Edgewood College has emerged as an innovative and responsive leader with respect to its contribution to regional sustainability, air quality, traffic congestion, livability, and quality-of-life.

Proposed TDM Program

The proposed TDM program is introduced with the dual purpose of bringing up-to-date previously completed plans for Edgewood College as well as to expand upon recommendations found in past plans and studies - specifically focusing on recommendations that are most viable for the entire Edgewood community and can leverage existing assets and investments.

Parking Measures

- *Increase remote parking for residents* – explore opportunities to expand off-campus parking to accommodate the projected growth in on-campus residents. Align shuttle service to accommodate needed resident access to their vehicle for work commitments and weekend trips.
- *Preferential car-free housing* – incentivize resident commitment to not having a car on campus by offering first choice of residential units on campus.

Transit/Shuttle Measures

- *Expand Metro pass program* – engage the Campus School and High School to participate in the free Metro pass program for its faculty, staff, and students. Explore

cost implications and the feasibility of financing through parking or other existing fees.

- *Expand commuter shuttle* –shuttle ridership has increased since its introduction, and indications are that an east or south shuttle/parking location is needed. Additionally, the three schools should explore the possibility of accommodating faculty and staff at the high school and campus school on the shuttle, and/or offering the shuttle on Fridays.

Carpooling Measures

- *Free carpool permit* – consider offering a free parking permit to any car that agrees to carry 3 or more riders to park in designated carpool lots. Continue the reduced cost carpool permit for 2 riders.
- *Preferred carpool parking* – the high school has expressed an interest in offering "preferred parking" for students who choose to carpool.
- *Shared Car service* – explore the potential to host an on-campus shared car service, whether operated through a commercial provider such as ZipCar or as an institutionally owned and operated service. A shared car could be used by those who don't bring a car to campus for incidental trips such as off-site meetings, personal appointments, etc.

Bicycling and Walking Measures

- *Bike Parking* – increase the availability and convenience of bike parking as the Master Plan is implemented. Consider providing covered bike parking to provide formalize and prioritize biker comfort and offer protection of bikes from the elements.
- *Lockers/Showers* – provide dedicated lockers and showers accessible only to bicycle and other "human-powered" commuters.
- *BikeShare* – consider an on-campus shared bicycle service. This would work similarly to a shared car service (i.e., could be used for incidental trips). On some campuses, this type of program is run as a "recycle-a-bicycle" service, where individuals can donate a used bike to the institution which is then repaired as needed and offered for "check-out" by the campus population.
- *Bicycle Assistance Program* – provide conveniently located, free (or at least, inexpensive) bicycle maintenance, repairs, and parts on campus for bike commuters.
- *B-Cycle* – work with Madison B-Cycle to explore establishment of a B-Cycle station on campus. B-Cycle is a bike sharing service that allows users to check out bicycles for a certain period of time for a fee. Currently, B-Cycle has stations at Knickerbocker and Monroe and at Harrison and Monroe.

Other Measures

- *Incentive programs* – follow the college's lead and establish an incentive program for the high school and campus school populations.

- *Mopeds* – mopeds are becoming increasingly popular commute options, and take up much less "real estate" to park than do automobiles. Proactively provide convenient, safe, dedicated moped and motorcycle parking throughout the campus.
- *Hours/scheduling* – where feasible, offer flexible work schedules for staff and faculty throughout the campus to minimize peak traffic and parking demand, and consider balancing the college's class schedules (such as increasing the number of Friday classes). Coordination among schools with respect to special events, programming, and class scheduling must continue to be a priority in order to minimize spikes in parking and traffic demand to the extent possible.
- *Online learning/teaching* – **especially at the college, on-line classes will only continue to increase in number and popularity. While there is no substitute for an in-person learning experience, some courses may lend themselves well to remote learning.**

9. Recommendations

Edgewood College has committed to an aggressive TDM program to reduce vehicle trips and parking on campus. The addition of housing on campus will reduce the amount of site traffic that will be generated particularly during the peak hour. Given the adequate traffic operations currently experienced surrounding the site, these conditions will likely continue with the addition of the residence halls and the student population as shown in the Master Plan. The reduction in overall traffic both on Monroe Street and Edgewood Avenue also provide additional capacity for campus growth. Finally, the Master Plan also shows the potential for adding more parking supply to the campus than will be created by the additional school enrollments further reducing the demand of off street parking.

10. Conclusion

This study examined the traffic and parking impacts of the proposed master plan which is projected to add 490 students to the campus and 247 student beds to Edgewood College Campus. The study analyzed the existing and future traffic and parking conditions upon buildout of the Master Plan. Modifications and improvements were developed to mitigate existing conditions and the impact that the proposed projected will have on traffic and parking conditions in the area.

Based on the data collected and the analyses performed, the following conclusions were reached regarding the impact that proposed project would have on the adjacent street system:

1. The street and access recommendations cited in the previous Edgewood Campus Master Plan successfully reduced site traffic on the surrounding neighborhood streets and shifted this traffic to the main signalized Monroe Street access drive.

2. The addition of residence halls to Edgewood Campus will not adversely impact traffic operations on the adjacent street network. Conversely, the amount of site traffic projected to enter and exit the campus during the weekday morning peak hour will likely decrease as the future residents will no longer commute to campus.

3. Although construction of the residence halls and an increase in the on campus parking supply will likely reduce the parking demand on surrounding streets, other measures must be implemented to further reduce the traffic and parking demand within Edgewood Campus.

4. The implementation of a remote parking area for faculty and staff should continue to be encouraged as this may be more convenient for those who commute long distances.

5. The provision of a long-term parking area for students will allow residents to have vehicles onsite, but moves them away from high-turnover parking areas that are more accommodating for commuters and visitors.

6. The restriction of on-street parking areas has removed vehicles parked over long periods of time from on-street parking supplies.

Appendix

- Appendix A - Traffic Projections
- Appendix B - Parking Projections
- Appendix C - Parking Demand
    - 2005 On-street and Off-street Parking Counts
    - 2013 On-street and Off-street Parking Counts Projections
- Appendix D – Explanation of Level of Service and Delay

Appendix A: Traffic Projections

Based on ITE Trip Generation Model 8th Addition
College
2660-2252 =408 additional students
Subtract 247 additional on campus for 408 additional students for trips (161 students X .21 trips) is 34 additional trips during the morning peak hour
High School
650 – 593 =57 additional students at .42 trips per student during the morning peak
24 additional peak hour trips
Campus School
300- 275 =25 additional students at .81 trips per student during the morning peak
20 additional peak hour trips
Total additional am peak hour trips 78 trips
As a check assume .308 trips per student (all schools)
With 243 students that would mean 75 additional trips

Estimated existing peak hour trips generation
College
2252 x .21 trips= 473 trips during the morning peak hour
High School
593 x .42= 249 trips
Campus School
275 x .81 =223 trips
Total current trips
945 trips
Which corresponds with our existing trip count of 960 am peak hour trips

Appendix B: Parking Projections

Based on ITE Parking Manual, 3rd Addition

College

National average parking demand is .3 spaces per school population
Target parking space demand-2720 x .3=816 spaces
Existing spaces= 596
Existing parking ratio- 596 spaces/2720 population=.22 spaces per population
Deficit= 220 stalls
Students
2252
Faculty and Staff
468

High School

Ave national parking demand is .26 spaces per student
593 x .26 =154 spaces
Existing spaces= 261 stalls
Existing parking ratio-261 spaces/593 students=.44 spaces per student
Surplus of = 79 spaces
Students
593
Faculty and Staff
106

Grade School

Parking Demand is .11 spaces per student
275 x .11 spaces=30 spaces
Existing stalls= 37 spaces
Existing Parking ratio-37/275=.13 spaces per student
Surplus of 7 spaces
Students
275
Faculty and Staff
30

Overall Parking Demand
1114 spaces
Overall Campus Supply
894
Current overall campus deficit = 220 parking stalls

Appendix B continued

Edgewood Campus Projected Parking Demand

Based on projected enrollment, the following is the projected parking demand based on the master plan:

Edgewood College
444 additional students, faculty and staff
444 x .3 spaces= 133 additional parking spaces

High School
62 additional students
57 x .44 spaces per student= 25 spaces

Grade School
25 additional students
25 x .11 spaces= 3 additional spaces

Total projected additional spaces 161 parking spaces

APPENDIX C: ONSTREET & OFFSTREET PARKING COUNTS

EDGEWOOD CAMPUS
MADISON, WISCONSIN
WEDNESDAY, APRIL 27, 2005

ONSTREET PARKING LOCATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total
Time	8	24	23	17	8	11	31	6	13	20	20	18	29	7	11	7	7	7	7	8	9	7	7	7	7	7	7	7	7	347
11:00 AM	5	7	16	1	8	7	29	0	9	16	12	15	29	6	11	5	8	4	5	7	9	4	1	0	1	0	6	2	4	227
12:00 PM	5	7	15	1	7	7	29	0	7	16	10	16	29	6	9	5	9	4	4	8	8	4	2	0	1	0	7	1	4	221
1:00 PM	3	7	13	0	7	6	30	1	12	16	10	16	28	7	9	6	8	4	4	7	7	3	2	0	1	0	7	1	3	218
2:00 PM	3	5	11	0	6	6	29	0	12	15	10	16	28	7	9	7	8	4	3	6	7	3	2	0	1	1	6	1	3	209

	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	Total	Grand	% Occ
Time	7	7	13	8	14	8	14	8	14	14	13	10	11	12	14	14	14	25	26	12	25	24	12	7	5	7	5	7	8	358	705	
11:00 AM	0	2	6	2	3	5	13	2	12	8	3	3	7	3	3	5	2	17	20	5	22	18	5	6	0	5	4	5	7	193	420	59.6%
12:00 PM	0	3	7	1	3	6	13	4	12	5	3	2	5	2	3	1	0	17	20	4	23	20	7	6	0	7	3	5	5	187	408	57.9%
1:00 PM	0	1	7	1	2	5	12	4	9	4	3	4	5	2	2	0	0	14	22	7	22	20	7	6	0	7	3	4	5	178	396	56.2%
2:00 PM	0	1	5	2	3	4	11	5	10	3	3	2	6	2	2	0	0	17	17	7	22	17	5	5	0	5	2	4	6	166	375	53.2%

OFFSTREET PARKING LOCATIONS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total	% Occ
Time	146	74	291	9	1	9	16	27	183	20	27	20	18	37	587	
11:00 AM	140	65	---	9	1	7	11	27	171	16	26	18	14	37	542	92.3%
12:00 PM	140	68	---	9	1	6	14	26	178	17	26	17	17	34	553	94.2%
1:00 PM	146	68	---	9	1	7	14	25	174	12	26	16	17	27	542	92.3%
2:00 PM	141	73	---	9	1	7	14	22	144	17	26	19	18	37	528	89.9%

COUNT LOCATIONS

1	NW Monroe (Terry - Woodrow)
2	NW Monroe (Woodrow - Edgewood College)
3	NW Monroe (Edgewood-College - Edgewood)
4	NW Monroe (Edgewood - Van Buren)
5	SE Monroe (Terry - Woodrow)
6	SE Monroe (Woodrow - Edgewood College)
7	SE Monroe (Edgewood College - Edgewood)
8	SE Monroe (Edgewood - Lincoln)
9	SE Monroe (Lincoln - Van Buren)
10	W Terry
11	E Terry
12	W Woodrow (Access - Monroe)
13	E Woodrow (Edgewood - Access)
14	NE Edgewood (Monroe - Madison)
15	NE Edgewood (Madison - Jefferson)
16	NE Lincoln (Monroe - Madison)
17	NE Lincoln (Madison - Jefferson)
18	NE Lincoln (Jefferson - Adams)
19	NE Lincoln (Adams - Vilas)
20	SW Lincoln (Monroe - Madison)
21	SW Lincoln (Madison - Jefferson)
22	SW Lincoln (Jefferson - Adams)
23	SW Lincoln (Adams - Vilas)
24	NE Van Buren (Madison - Jefferson)
25	NE Van Buren (Jefferson - Adams)
26	NE Van Buren (Adams - Vilas)
27	SW Van Buren (Monroe - Madison)
28	SW Van Buren (Madison - Jefferson)
29	SW Van Buren (Jefferson - Adams)
30	SW Van Buren (Adams - Vilas)
31	NW Madison (Edgewood - Lincoln)
32	NW Madison (Lincoln - Van Buren)
33	SE Madison (Edgewood - Lincoln)
34	SE Madison (Lincoln - Van Buren)
35	NW Jefferson (Edgewood - Lincoln)
36	NW Jefferson (Lincoln - Van Buren)
37	SE Jefferson (Edgewood - Lincoln)
38	SE Jefferson (Lincoln - Van Buren)
39	NW Adams (Edgewood - Lincoln)
40	NW Adams (Lincoln - Van Buren)
41	SE Adams (Edgewood - Lincoln)
42	SE Adams (Lincoln - Van Buren)
43	NW Vilas (Edgewood - Lincoln)
44	NW Vilas (Lincoln - Van Buren)
45	SE Vilas (Edgewood - Lincoln)
46	SE Vilas (Lincoln - Van Buren)
47	NW West Lawn (Monroe - Leonard)
48	NW West Lawn (Leonard - Edgewood)
49	NW West Lawn (Edgewood - Prospect)
50	SE West Lawn (Monroe - Leonard)
51	SE West Lawn (Leonard - Edgewood)
52	SE West Lawn (Edgewood - Prospect)
53	NE Leonard (Keyes - West Lawn)
54	NE Leonard (West Lawn - Monroe)
55	SW Leonard (Keyes - West Lawn)
56	SW Leonard (West Lawn - Monroe)
57	NE Edgewood (Keyes - West Lawn)
58	NE Edgewood (West Lawn - Monroe)

A	College Lot along Woodrow
B	College Lot in center of Campus
C	College Parking Garage
D	College Lot along Woodrow
E	College Lot along Woodrow
F	College Lot along Woodrow
G	Siena Apartments
H	College Lot along Jefferson
I	High School Student Parking Lot
J	High School Drop-Off/Pick-Up Area
K	High School Staff Parking Lot
L	High School Staff Parking Lot
M	High School Staff Parking Lot
N	Campus School Parking Lot

APPENDIX C: ONSTREET & OFFSTREET PARKING COUNTS

EDGEWOOD CAMPUS
MADISON, WISCONSIN
WEDNESDAY, NOVEMBER 28, 2012

ONSTREET PARKING LOCATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total	Total
Time	9	7	23	17	8	11	31	6	13	20	20	18	29	7	4	7	7	7	7	8	9	7	7	7	7	7	7	7	7	324	310
11:00 AM	9	7	16	3	8	11	31	3	9	18	15	19	15	2	4	6	6	4	4	3	6	3	2	0	1	2	6	2	4	219	217
12:00 PM	7	7	14	4	5	8	29	2	12	19	15	21	16	3	4	7	6	2	4	5	7	2	2	1	1	3	7	1	6	220	218
1:00 PM	5	6	16	3	7	11	28	2	11	17	15	21	16	3	4	6	6	5	2	6	7	2	3	0	2	3	7	1	6	221	220
2:00 PM	4	4	10	2	5	9	25	2	11	16	15	19	16	3	4	5	5	6	3	6	7	3	4	0	2	3	7	1	6	203	202
10:00 AM														2	4																
2:00 PM														4	4																
5:00 PM														3	1																
7:00 PM														2	2																
10:00 PM														2	2																
2:00 AM														2	2																

	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	Total	Grand	% Occ	Grand	% Occ
Time	7	7	13	8	14	8	14	8	14	14	13	10	11	12	14	14	14	25	26	12	25	24	12	7	5	7	5	7	8	358	682		461	
11:00 AM	5	2	2	3	0	5	2	6	1	1	1	1	2	2	10	0	6	18	16	0	21	18	0	0	0	3	0	2	4	131	350	51.3%	319	69.2%
12:00 PM	5	1	4	3	2	6	2	4	2	2	0	1	2	1	8	0	6	17	15	0	22	18	1	0	0	4	0	1	5	132	352	51.6%	315	68.3%
1:00 PM	5	1	5	4	2	4	3	5	1	1	1	2	2	0	10	0	4	19	16	2	23	17	2	0	0	3	0	1	5	138	359	52.6%	340	73.8%
2:00 PM	4	0	3	2	2	5	4	3	1	1	1	2	4	2	8	0	4	18	19	4	20	15	2	0	0	3	2	1	5	135	338	49.6%	304	65.9%
10:00 AM						7		7																										
2:00 PM						6		7																										
5:00 PM						4		3																										
7:00 PM						9		5																										
10:00 PM						3		3																										
2:00 AM						3		3																										

OFFSTREET PARKING LOCATIONS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total	% Occ
Time	146	71	267	9	3	6	19	17	183	18	83	17	18	37	627	
11:00 AM	143	66	-	9	2	4	16	5	180	9	72	16	18	37	577	92.0%
12:00 PM	136	64	-	8	2	4	16	7	183	8	73	12	17	32	562	89.6%
1:00 PM	143	61	-	7	2	4	16	7	175	5	75	12	0	27	534	85.2%
2:00 PM	137	64	-	5	2	4	16	4	163	12	73	13	17	37	547	87.2%

College total	596	
High School total	261	
Grade School total	37	
Total	894	894

COUNT LOCATIONS

1	NW Monroe (Terry - Woodrow)
2	NW Monroe (Woodrow - Edgewood College)
3	NW Monroe (Edgewood-College - Edgewood)
4	NW Monroe (Edgewood - Van Buren)
5	SE Monroe (Terry - Woodrow)
6	SE Monroe (Woodrow - Edgewood College)
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26	NE Van Buren (Adams - Vilas)
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28	SW Van Buren (Madison - Jefferson)
29	SW Van Buren (Jefferson - Adams)
30	SW Van Buren (Adams - Vilas)
31	NW Madison (Edgewood - Lincoln)
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35	NW Jefferson (Edgewood - Lincoln)
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51	SE West Lawn (Leonard - Edgewood)
52	SE West Lawn (Edgewood - Prospect)
53	NE Leonard (Keyes - West Lawn)
54	NE Leonard (West Lawn - Monroe)
55	SW Leonard (Keyes - West Lawn)
56	SW Leonard (West Lawn - Monroe)
57	NE Edgewood (Keyes - West Lawn)
58	NE Edgewood (West Lawn - Monroe)

Streets with restricted parking (1 or 2 hour)
Counts that were done on 4/3/2013

A	College Lot along Woodrow
B	College Lot in center of Campus
C	College Parking Garage
D	College Lot along Woodrow
E	College Lot along Woodrow
F	College Lot along Woodrow
G	Siena Apartments
H	College Lot along Jefferson
I	High School Student Parking Lot
J	High School Drop-Off/Pick-Up Area
K	College and High School Staff Parking Lot
L	High School Staff Parking Lot
M	High School Staff Parking Lot
N	Campus School Parking Lot

Appendix D: Explanation of Level of Service and Delay

Level of Service Conditions for Signalized Intersections

Level of Service	Definition	Delay per Vehicles (seconds)
A	Very short delay, with extremely favorable progression. Most vehicles arrive during the green phase and do not stop at all.	≤10.0
B	Good progression, with more vehicles stopping than for Level of Service A, causing higher levels of average delay.	>10 and ≤20.0
C	Light congestion, with individual cycle failures beginning to appear. Number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	>20.0 and ≤35.0
D	Congestion is more noticeable, with longer delays resulting from a combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines.	>35.0 and ≤55.0
E	Limit of acceptable delay, high delays result from poor progression, high cycle lengths, and high v/c ratios.	>55.0 and ≤80.0
F	Unacceptable delay occurring, with oversaturation.	>80.0

Source: *Highway Capacity Manual,* 2000.

Level of Service Conditions for Unsignalized Intersections

Level of Service	Average Total Delay (seconds/vehicle)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0

F	>50.0

Source: *Highway Capacity Manual,* 2000.

Intersection	
Intersection Delay, s/veh	1.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	0	100	750	100	100	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	109	815	109	109	663
Number of Lanes	1	0	2	0	0	2

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1419	462	0	0	924	0
Stage 1	870	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Follow-up Headway	3.52	3.32	-	-	2.22	-
Pot Capacity-1 Maneuver	128	547	-	-	735	-
Stage 1	370	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	98	547	-	-	735	-
Mov Capacity-2 Maneuver	98	-	-	-	-	-
Stage 1	370	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	13.2	0	2.4
HCM LOS	B	-	-

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Cap, veh/h	-	-	547	735	-
HCM Control Delay, s	-	-	13.2	10.746	1
HCM Lane V/C Ratio	-	-	0.20	0.15	-
HCM Lane LOS	-	-	B	B	A
HCM 95th-tile Q, veh	-	-	0.7	0.5	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	5	16	57	15	1	2	67	720	112	8	638	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		100	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	17	62	16	1	2	73	783	122	9	693	22
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	1260	1772	358	1362	1722	452	715	0	0	904	0	0
Stage 1	722	722	-	989	989	-	-	-	-	-	-	-
Stage 2	538	1050	-	373	733	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	127	82	638	107	88	555	881	-	-	748	-	-
Stage 1	384	429	-	265	323	-	-	-	-	-	-	-
Stage 2	495	302	-	620	424	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	107	67	638	67	71	555	881	-	-	748	-	-
Mov Capacity-2 Maneuver	107	67	-	67	71	-	-	-	-	-	-	-
Stage 1	318	420	-	220	268	-	-	-	-	-	-	-
Stage 2	407	250	-	526	416	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	33.7	68.9	1.3	0.2
HCM LOS	D	F	-	-

Minor Lane / Major Mvmt	NEL	NET	NER	NWLn1	NWLn2	SELn1	SWL	SWT	SWR
Cap, veh/h	881	-	-	70	555	208	748	-	-
HCM Control Delay, s	9.454	0.7	-	73.5	11.5	33.7	9.869	0.1	-
HCM Lane V/C Ratio	0.08	-	-	0.26	0.00	0.41	0.01	-	-
HCM Lane LOS	A	A	-	F	B	D	A	A	-
HCM 95th-tile Q, veh	0.3	-	-	0.9	0.0	1.8	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	132	66	736	204	136	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5			4.5
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1770	1583	3424			3491
Flt Permitted	0.95	1.00	1.00			0.57
Satd. Flow (perm)	1770	1583	3424			2016
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	72	800	222	148	384
RTOR Reduction (vph)	0	45	46	0	0	0
Lane Group Flow (vph)	143	27	976	0	0	532
Turn Type	NA	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	16.0	16.0	17.0			17.0
Effective Green, g (s)	16.0	16.0	17.0			17.0
Actuated g/C Ratio	0.38	0.38	0.40			0.40
Clearance Time (s)	4.5	4.5	4.5			4.5
Vehicle Extension (s)	3.5	3.5	4.0			3.0
Lane Grp Cap (vph)	674	603	1385			816
v/s Ratio Prot	c0.08		c0.29			
v/s Ratio Perm		0.02				0.26
v/c Ratio	0.21	0.05	0.70			0.65
Uniform Delay, d1	8.8	8.2	10.4			10.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.7	0.1	1.8			1.9
Delay (s)	9.5	8.3	12.2			12.0
Level of Service	A	A	B			B
Approach Delay (s)	9.1		12.2			12.0
Approach LOS	A		B			B

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	0.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	5	10	1240	70	5	455
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	1348	76	5	495
Number of Lanes	1	0	2	0	0	2

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1644	712	0	0	1424	0
Stage 1	1386	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Follow-up Headway	3.52	3.32	-	-	2.22	-
Pot Capacity-1 Maneuver	90	375	-	-	474	-
Stage 1	197	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	89	375	-	-	474	-
Mov Capacity-2 Maneuver	89	-	-	-	-	-
Stage 1	197	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	26.8	0	0.2
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Cap, veh/h	-	-	181	474	-
HCM Control Delay, s	-	-	26.8	12.683	0.1
HCM Lane V/C Ratio	-	-	0.09	0.01	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.3	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	0	110	750	111	110	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	120	815	121	120	663
Number of Lanes	1	0	2	0	0	2

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1447	468	0	0	936	0
Stage 1	876	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Follow-up Headway	3.52	3.32	-	-	2.22	-
Pot Capacity-1 Maneuver	122	542	-	-	727	-
Stage 1	368	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	90	542	-	-	727	-
Mov Capacity-2 Maneuver	90	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	391	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	13.5	0	2.5
HCM LOS	B	-	-

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Cap, veh/h	-	-	542	727	-
HCM Control Delay, s	-	-	13.5	10.924	1
HCM Lane V/C Ratio	-	-	0.22	0.16	-
HCM Lane LOS	-	-	B	B	A
HCM 95th-tile Q, veh	-	-	0.8	0.6	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	5	17	57	16	2	3	67	720	118	9	638	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		100	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	18	62	17	2	3	73	783	128	10	693	22
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	1262	1781	358	1368	1727	455	715	0	0	911	0	0
Stage 1	724	724	-	992	992	-	-	-	-	-	-	-
Stage 2	538	1057	-	376	735	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	127	81	638	106	88	552	881	-	-	743	-	-
Stage 1	383	429	-	264	322	-	-	-	-	-	-	-
Stage 2	495	300	-	617	424	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	105	66	638	64	71	552	881	-	-	743	-	-
Mov Capacity-2 Maneuver	105	66	-	64	71	-	-	-	-	-	-	-
Stage 1	317	420	-	218	266	-	-	-	-	-	-	-
Stage 2	404	248	-	521	415	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	35.9	73	1.3	0.2
HCM LOS	E	F	-	-

Minor Lane / Major Mvmt	NEL	NET	NER	NWLn1	NWLn2	SELn1	SWL	SWT	SWR
Cap, veh/h	881	-	-	68	552	200	743	-	-
HCM Control Delay, s	9.454	0.7	-	79.5	11.5	35.9	9.91	0.1	-
HCM Lane V/C Ratio	0.08	-	-	0.30	0.00	0.43	0.01	-	-
HCM Lane LOS	A	A	-	F	B	E	A	A	-
HCM 95th-tile Q, veh	0.3	-	-	1.1	0.0	2.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	145	73	736	225	150	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5			4.5
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1770	1583	3415			3487
Flt Permitted	0.95	1.00	1.00			0.58
Satd. Flow (perm)	1770	1583	3415			2036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	79	800	245	163	384
RTOR Reduction (vph)	0	49	52	0	0	0
Lane Group Flow (vph)	158	30	993	0	0	547
Turn Type	NA	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	16.0	16.0	17.0			17.0
Effective Green, g (s)	16.0	16.0	17.0			17.0
Actuated g/C Ratio	0.38	0.38	0.40			0.40
Clearance Time (s)	4.5	4.5	4.5			4.5
Vehicle Extension (s)	3.5	3.5	4.0			3.0
Lane Grp Cap (vph)	674	603	1382			824
v/s Ratio Prot	c0.09		c0.29			
v/s Ratio Perm		0.02				0.27
v/c Ratio	0.23	0.05	0.72			0.92dl
Uniform Delay, d1	8.8	8.2	10.5			10.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.8	0.2	1.9			2.0
Delay (s)	9.7	8.4	12.4			12.2
Level of Service	A	A	B			B
Approach Delay (s)	9.2		12.4			12.2
Approach LOS	A		B			B

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	0.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	5	11	1240	76	6	455
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	12	1348	83	7	495
Number of Lanes	1	0	2	0	0	2

Major/Minor			Major 1			Major 2
Conflicting Flow All	1649	715	0	0	1430	0
Stage 1	1389	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Follow-up Headway	3.52	3.32	-	-	2.22	-
Pot Capacity-1 Maneuver	90	373	-	-	471	-
Stage 1	196	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	88	373	-	-	471	-
Mov Capacity-2 Maneuver	88	-	-	-	-	-
Stage 1	196	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	26.5	0	0.3
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Cap, veh/h	-	-	185	471	-
HCM Control Delay, s	-	-	26.5	12.751	0.1
HCM Lane V/C Ratio	-	-	0.09	0.01	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.3	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	145	73	736	225	150	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.0	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3415		1770	3539
Flt Permitted	0.95	1.00	1.00		0.19	1.00
Satd. Flow (perm)	1770	1583	3415		345	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	79	800	245	163	384
RTOR Reduction (vph)	0	53	57	0	0	0
Lane Group Flow (vph)	158	26	988	0	163	384
Turn Type	NA	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	16.1	16.1	17.1		24.7	24.2
Effective Green, g (s)	16.1	16.1	17.1		24.7	24.2
Actuated g/C Ratio	0.33	0.33	0.35		0.50	0.49
Clearance Time (s)	4.5	4.5	4.5		4.0	4.5
Vehicle Extension (s)	3.5	3.5	4.0		3.0	3.0
Lane Grp Cap (vph)	578	516	1184		262	1737
v/s Ratio Prot	c0.09		c0.29		c0.04	0.11
v/s Ratio Perm		0.02			0.27	
v/c Ratio	0.27	0.05	0.83		0.62	0.22
Uniform Delay, d1	12.3	11.4	14.8		16.2	7.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	5.4		4.5	0.1
Delay (s)	13.4	11.5	20.2		20.7	7.2
Level of Service	B	B	C		C	A
Approach Delay (s)	12.8		20.2			11.3
Approach LOS	B		C			B

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	13.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

EDGEWOOD SCHOOLS
CAMPUS TRANSPORTATION PLAN ADDENDUM

Current College Procedures

- During the academic year the college limits events that take place on campus Monday Thursday 7am-3pm. Limiting events ensures guests are not using parking spaces needed for faculty, staff and students.
- Any event taking place during a high volume class time is first approved through Transportation Services. Approval is based on campus parking needs and any other events taking place.
- The Deming Way Campus, located in Middleton, WI, is utilized as an auxiliary site, if we cannot accommodate the group on the main campus.
- Friday-Sunday and after 3pm during the week, we do not see high volumes of traffic, therefore event guests are welcomed to campus and parking is available.
- The need for parking is greatly reduced in the summer due to limited class offerings. Like many colleges and universities, Edgewood College offers event space and services for camps and conferences. These groups are provided with ample parking on campus. Groups who bus their participants to campus are instructed to drop off students in front of Regina Hall.
- All groups, including those using busses, are instructed to enter campus using the main Edgewood College Drive.
- Events staff work directly with Transportation Services to ensure spaces are blocked if necessary and appropriate signage is provided.
- The Woodrow gate will close 24/7 beginning the day after the College's Commencement and will open on the first day of school for whichever of the 3 Edgewood Schools opens earliest.
- Departments hosting large events are directed to provide specific instruction to guests to use the central drive when arriving to campus. Visitor parking is currently free to all guests.
- The three schools will take city events into account, such as Badger Football Saturdays, when planning events on each campus.

Potential Process Improvements

- Steps are being taken to add verbiage to campus maps directing all traffic down the central drive.
- Transportation Services is working with the city of Madison to find strategies to redirect traffic down the central drive on electronic mapping services such as Mapquest and Google Maps.

Current Three School Communication

- If any of the three schools (Edgewood Campus School, Edgewood High School, Edgewood College) is planning a large event that will impact another school, communication is sent from the event host school liaison to the impacted school liaison. Use of facilities is approved by the liaisons at each school. Liaisons for each school are listed below. o
    - Joyce Wodka, Campus School
    - Carol Anzelmo, High School
    - Samantha Tiller, Events Services Coordinator and Erin Bykowski, Assistant Director Transportation Services; Edgewood College.

EDGEWOOD SCHOOLS
CAMPUS TRANSPORTATION PLAN ADDENDUM

- Requests are confirmed or denied based on the facility needs of each school
    - Clients are required to submit a minimum of two weeks' notice
    - Cancellation of events must be submitted no later than 72 hours in advance

- The communication chain prevents the schools from booking multiple large events on the same day and also allows the schools to utilize parking availability over the entire campus to its fullest potential.

Future Procedures with Growth

- The College will continue with the procedures outlined above with the addition of the following procedures to ensure successful management of parking and transportation needs with growth.
- When needed, the Three Schools will form a communications committee to regularly discuss event and transportation management.
    - The Communications Committee will include:
        - Samantha Tiller, Edgewood College, Events and Conferences Services Coordinator
        - Erin Bykowski, Edgewood College, Assistant Director Transportation Services
        - Carol Anzelmo, High School Support Staff
        - Joyce Wodka, Campus School Business Manager
        - Suann Saltzberr, Edgewood College, Assistant Director of Athletics

    - Any events that will directly affect the neighborhood will then be communicated via the neighborhood liaison to the neighborhood.
- Staff will continue to accommodate groups by continually seeking alternative parking and transportation arrangements.
- Events requiring the use of multiple busses will be scheduled around peak class times and/or will be parked at alternative locations such as our Campus Shuttle Program parking lots off campus.
- Groups requesting event space beyond capacity will be asked to use alternative transportation or

A.3

Storm Water Management

Edgewood Campus Master Plan Storm Water Management Concept Report

(Addendum to 1997 SWM Report)
Madison, Wisconsin

Prepared for
Edgewood Campus

Edgewood Campus Master Plan Storm Water Management Concept Report (Addendum to 1997 SWM Report)

Madison, Wisconsin

January 2014

Completed by:
SAA Design Group
101 East Badger Road
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EXHIBITS:

1. 1997 JJR Stormwater Master Plan
2. Existing & Proposed Master Plan with Drainage Basins
3. First half-inch infiltration standard exhibit

APPENDICES:

A. WINSLAMM Summaries and Input Data

INTRODUCTION:

This stormwater management concept report for the proposed 2013 Campus Master Plan is an addendum to the 1997 JJR Stormwater Management Report (Exhibit #1). It incorporates changes to the campus since that time. The campus has a current impervious area surface ratio (ISR) of 38%.

Edgewood Campus is on the shores of Lake Wingra and is a part of the Lake Wingra watershed per the WisDNR's Surface Water Data Viewer. The general drainage pattern of the campus is to the southeast towards Lake Wingra. The campus is separated from the shore of Lake Wingra by the Park & Pleasure Drive. On the inland side of the drive there are a series of Native American burial sites and established trees that provide a buffer between the campus buildings, the drive and the shores of the lake. There is continual effort by the Edgewood Campus and the Dudgeon Monroe Neighborhood Association to improve water quality in the watershed and help clean up Lake Wingra.

Prior to beginning the research and analysis for this report, SAA Design Group walked the entire site with Professor Jim Lorman to determine the effectiveness of the existing stormwater measures. As of the time of this report, approximately 15,550 square feet of the campus is dedicated to stormwater management either through infiltration/bio-filtration systems or as a wet detention pond.

We understand that the existing wet detention basin, on campus has overflowed the basin several times since it was installed. The overflow was safely conveyed down the access drive by Predolin and DeRicci Halls and ultimately to Lake Wingra. It was also noted that during dry periods, the campus has to pump water into the wet basin in order to keep the fountain running. As stated in the 1997 JJR report, the outflow from the campus to the storm sewer in Woodrow Street is 28.1 cubic feet per second (cfs). Considering the basin has overflowed its banks, it can safely be assumed that the basin is operating at its design capacity as outlined in JJR's report.

What was most remarkable was the condition of the infiltration/rain garden areas on the campus. All of them appear to be functioning quite effectively and are a minimum of 3 years old. Most notable was the 5,000 square foot (sf) rain garden area just to the north of the campus school. Professor Lorman stated that when he, some students and area residents installed them, they had to use pick axes to break up the ground and install the plants. No engineered fill or underdrain system was used in the installation. There is a storm sewer pipe that was installed to drain this area that has a barrier put in it to block the direct flow of stormwater into the pipe and promote pooling and infiltrating of water into the rain garden. Professor Lorman stated that he has not seen the barrier overflow, water does not pond for excessively long periods of time and the plants in the rain garden are healthy and thriving.

STANDARDS:

The development as proposed for the campus can effectively be considered as a redevelopment project based on city standards. In almost each redevelopment area, existing impervious areas such as sidewalk, pavement and buildings must be removed in order to construct the new amenities. In addition, each new amenity does not cumulatively add more than 20,000 sf of impervious area at any one time. Over the span of this campus master plan, there will be a cumulative addition of approximately 127,000 sf of additional impervious area with the 17 proposed additions.

Erosion Control

Applicable erosion control requirements will apply to each construction site and will be detailed at the time of the preparation of the construction plans to limit total off-site permissible annual aggregate soil loss for exposed areas to an annual cumulative soil loss rate not to exceed 5.0 tons per acre per year.

Sediment Control

Design stormwater management practices for development to retain soil particles greater than the 20-micron particle (40% reduction) on the site resulting from the 1 year, 24-hour storm event.

Run-off Rate Control

This site will be subject to run-off rate control per redevelopment standards. The stormwater management concept has been developed that will not only decrease peak run-off, but will infiltrate 91% of the stormwater increase from the total additional impervious area.

Outlets

All discharges from the proposed development must have stable outlets capable of carrying the 1, 2, & 10-year 24-hour proposed design flow at a non-erosive velocity.

Infiltration

Infiltration has proven itself to work well on this site and will be utilized to the fullest extent to potentially exceed infiltration practice standards for a redevelopment site.

Oil & Grease Control

Oil & grease control does not apply to this site because they will not be adding more than 40 new open surface parking stalls to the site with the development of the master plan.

Thermal Control

This site is exempt from thermal control requirements because it is not in the Sugar River Watershed.

STORMWATER MANAGEMENT CONCEPT:

Because of the layout of this site and the proposed additions, the majority of the buildings are downslope nearer the shores of Lake Wingra near the existing high quality trees and documented Native American burial sites. There is much more open space on the upland side of the site near the existing surface parking lots to address stormwater practices.

Acceptable, widely used stormwater practices for building additions generally place the stormwater feature (a bio-swale) in close proximity to the new construction that will captures the clean roof run-off and filter/infiltrate it.

Because of the Master Plan process and in order to gain a maximum in stormwater treatment effectiveness, this site lends itself to a more aggressive approach to stormwater management.

Instead of following current practices for placement of stormwater management facilities, the concept will be to take an equivalent area that would be required for the building additions and place it elsewhere on the site to maximize collection, treatment and infiltration. Roof run-off which is considered clean water will be connected to existing storm sewer where feasible and allowed to drain directly to the lake while an equivalent (or greater) amount of dirtier surface run-off will be collected, treated and infiltrated in a non-related area of the site. *(Upland Concept)*

Per the attached Exhibit #2, the Master Plan has been annotated with potential *upland* bio-swale infiltration areas that will compensate for the majority of the building additions in the downslope areas of the site.

Another added benefit to incorporating this type of stormwater management concept into the master planning process is that the Campus has advance knowledge of the locations of the potential bio-swales and can implement them prior to any construction occurring through the use of student and neighborhood projects: *This will allow them to have the areas online and functioning prior to the requirement as it is triggered by construction*.

Determining the equivalent amount of stormwater management areas was performed by utilizing “The First Half-Inch Infiltration Standard” as authored by the Waukesha County Land Conservation Department (Exhibit #3)

WINSLAMM 9.4.0 was used to determine water quality treatment rates and infiltration volumes.

POTENTIAL RESULTS:

The following table summarizes the proposed amount of impervious area that is to be added to the site as well as the amount of existing impervious area that is to be removed as a result of the construction activities:

Campus Master Plan				
Addition	Description	Proposed Impervious Area		Removed Imp. Area
1	Future Facility & Structured Parking	55,000	sf	48,184
2	DeRecci Hall Expansion	5,500	sf	740
3	Library Expansion	6,700	sf	0
4	Chapel Expansion	5,300	sf	740
5	Regina Hall Western Expansion	4,000	sf	980
6	Dining Expansion	6,000	sf	4,120
7	Regina Hall Eastern Expansion	19,727	sf	9,922
8	Edgedome Expansion	22,500	sf	15,444
9	Sonderegger Expansion	9,100	sf	700
10	Campus School Expansion	26,000	sf	6,000
11	High School Southern Expansion	3,400	sf	1,380
12	High School Eastern Expansion	10,300	sf	3,740
13	Siena Hall Replacement	19,400	sf	4,400
14	New Non-residential Building	14,000	sf	0
15	Marshall Hall Expansion	9,600	sf	10,390
16	New Non-Residential Building	9,300	sf	0
17	Additional Parking (30)	7,900	sf	0
-	**Total Proposed Impervious Area =**	**233,727**	**sf**	106,740
	Cumulative Total Additional Impervious Area =	**126,987**	**sf**	
	Maximum build-out ISR =	**43%**		

The following table summarizes the existing and proposed storm water management areas for the campus: (Volumes are calculated using a minimum 1-foot depth of storage)

Proposed Storage req'd by "first 1/2" method" =	9,329	cf	
Existing amount of site dedicated to SWM =	15,550	sf	
Existing stormwater features to be removed =	2,290	sf	
Ultimate Total Site Area dedicated to SWM =	22,589	cf	
*Total Site Area =	2,121,210	sf	
Total area for SWM as a % of site =	1.06%		

*Excludes area between south property line and Park & Pleasure Drive.

The following table summarizes the results of implementing the proposed stormwater management concept in comparison to standard the standard concept:

1981 Rainfall total between 3/12 - 12/2 =	28.81	in
*Yearly rainfall volume on 223,900 sf of new impervious areas =	537,547	cf
*Yearly volume stored & infiltrated with standard practice =	339,638	cf
*Yearly volume stored & infiltrated upland concept=	490,907	cf
Upland Concept Percent greater effectiveness =	**45%**	
**Based upon required storage volume of 9,329 cf*		

The following *table summarizes the comparison of the effectiveness of treatment with the upland concept vs standard practice:

	Standard Practice	Upland Concept
Particulate Solids	82.62 lbs	853.8 lbs
Phosphorous	0.22 mg/L	0.89 mg/L
Ammonium Nitrates	1.53 mg/L	4.21 mg/L
Lead	0.05 lbs	0.18 lbs

*WINSLAMM 9.4.0 (see appendix #1)

As referenced by the table above, using the upland method there is the potential to treat stormwater run-off over standard practice:

10 times more particulate solids
4 times more phosphorous
3 times more ammonium nitrates
3.5 times more lead

CONCLUSION:

Even though the Edgewood campus will be providing the same area/volume required, using the upland concept provided, it is possible to greatly exceed the requirements. The added benefit of having bio-swale areas not being directly connected to each individual construction will give the campus the opportunity to educate students, involve area residents and proactively approach the stormwater plan to achieve the overall goal of using the minimum storm water requirements as a starting point and not a goal and surpass expectations.

Details and calculations will be created for each individual bio-swale construction at the time of actual installation.

EXHIBIT #1

JJR

Stormwater Management Plan

Submitted to
City of Madison
Department of Planning and Development
215 Martin Luther King, Jr. Boulevard
Madison, Wisconsin
53701

Prepared for:
Edgewood, Inc.
Monroe Street
Madison, Wisconsin
53705

Prepared by:
JJR Incorporated
One North Pinckney Street
Madison, Wisconsin
53703

16 April 1997

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1. Executive Summary

The stormwater management system on the Edgewood campus has been designed to safely convey stormwater runoff to Lake Wingra for storms up to the 100-Year storm. The drainage system from the West Campus basin includes three dry detention basins and one wet detention basin, and a concrete pipe conveyance system. The Central Drainage basin includes one dry detention basin and a conveyance system that uses both a grass swale and concrete pipe.

A new 36-inch concrete pipe storm sewer will be located along the east side of the Woodrow Street right-of-way, and extend from DeRicci Hall to the lake. This pipe will divert all stormwater from storms smaller than a 10-Year event away from the existing City storm sewer system and directly into Lake Wingra. It will convey the majority of the runoff from all storms to the lake, greatly reducing the potential for flooding in the adjacent residential neighborhood. Detention storage is in excess of the 10-Year volume requirements per City of Madison ordinance. The City ordinance requires, for this site, 1.5 acre-feet of storage, and there is 2.3 acre-feet of storage on site.

The first phase of construction, which will get underway in the summer of 1997, includes:

- A series of detention ponds, a new storm sewer system, and a storm sewer along Woodrow Street in the West Drainage Basin to prevent the 10-year peak flow from increasing beyond 28 cfs in the City storm sewer system.
- An increase in the conveyance capacity of the grass swale in the Central Drainage Corridor.
- Replacing the existing storm sewer pipe that drains the Campus Grade School playground to decrease the flooding that occurs in this area.
- Implementing the structural and non-structural best management practices described in this report to help improve the water quality of the runoff entering Lake Wingra.

Edgewood, Inc. is committed to implementing the stormwater management plan outlined in this report.

Edgewood Campus Stormwater Management Plan

2. Introduction

2.1. Purpose and Scope of Report

This report presents the overall stormwater management plan for the Edgewood campus. The plan was prepared by JJR, Incorporated for Edgewood, Inc., comprised of Edgewood College, Edgewood High School, and Edgewood Campus Grade School. The Stormwater Management Plan has been developed to be consistent with the City of Madison stormwater ordinance and the current draft of the updated Edgewood Campus Plan. The proposed stormwater management site improvements will be designed to work with the natural topographic and vegetative features of the site. It is the objective of this plan to blend all stormwater elements with the existing and proposed campus features in such a way that it appears as if the new drainage patterns have always been there. Not only will the plan minimize negative environmental and aesthetic impacts; it is designed to enhance the historic beauty of this site as well as provide educational opportunities for the grade school, high school, and college students.

This report and the accompanying drawings provide details of the following:

- Existing site conditions and stormwater runoff routing
- The proposed stormwater conveyance system
- Appropriate stormwater quality best management practices.

The report is organized to provide a level of detail sufficient to allow City personnel to verify compliance with City ordinance requirements. The existing conditions, including an analysis of the stormwater drainage system, are discussed in this section. The second section presents the proposed stormwater management plan for each drainage basin. The final section examines the water quality benefits of the proposed plan and reviews the applicable best management practices for the site. Detailed construction plans and specifications for the implementation of the systems described in this report will be prepared in preparation for construction in the summer of 1997. The tables and detention storage requirements described in this report are in Appendix A and the drawings are in Appendix B. Appendix C contains the complete model input and output for the 10-Year storm and the 100-Year storm for the proposed plan.

2.2. Description of Existing Water Resources

The location of the Edgewood Campus is illustrated on the attached Site Location Map (Drawing 17800-A1). The 55 acre campus is bordered by Lake Wingra on the South, Woodrow Street on the west, Monroe Street on the north and Edgewood Avenue on the East. There are six drainage basins on the Edgewood Campus. They are listed below and illustrated on Drawing 17800-B4. A summary of the areas that includes the amount of impervious area in each drainage basin is listed in Table 1.

1. West Campus Drainage Basin
2. Central Drainage Corridor
3. East Campus Drainage Basin
4. South Campus Drainage Basin
5. North Isolated Basin
6. Lake Wingra Environmental Corridor

The West Campus Drainage Basin includes the area in front of the high school, the track and field areas, the college parking area, DeRicci Hall, and Woodrow Street. Runoff from this area enters the City of Madison storm sewer system through a set of four storm sewer inlets at the low point on Woodrow Street. The majority of this 25.2 acre basin is pervious. The major impervious structures are the high school and college parking lots, and DeRicci Hall. The total impervious area of this basin is 6.4 acres, or 25 percent of the total area.

The 7.1 acre Central Drainage Corridor includes the high school buildings, the grade school playground, much of the Edgedome and the grass area between the Edgedome and Lake Wingra. It is a relatively small area with high peak flows because of the steep slopes and proportionally higher amount of impervious areas. Runoff from this area discharges directly to Lake Wingra through a stone arch culvert beneath Edgewood Drive near the Mazzuchelli Biological Station. During moderate and larger rainfall events, water backs up at the storm sewer inlet at the base of the grade school playground due to both vegetation that regularly obstructs the inlet and to inadequate conveyance capacity. The total impervious area of this basin is 3.4 acres, or 48 percent of the total area.

The 9.6 acre East Campus Drainage Basin discharges stormwater primarily by sheet flow to Lake Wingra. The slopes are relatively steep and flow directly to Lake Wingra. The majority of the site is pervious; the major impervious structures are the Campus Grade School, its parking lot, and the Siena apartment building and its parking lot. The total impervious area of this basin is 2.1 acres, or 22 percent of the total area.

The South Campus Drainage Basin includes the College Library, the Chapel, Regina Hall, and Reges Hall, and the wooded areas that border Edgewood Drive. The 5.6 acre area discharges directly into Lake Wingra through either sheet flow or direct discharge from a storm sewer pipe beneath Edgewood Drive. Detention requirements for the two most recently constructed buildings, the Library and Reges Hall, were obtained by either rooftop storage (Library) or by purchasing a variance fee from the City of Madison to waive the detention requirements. The total impervious area of this basin is 1.1 acres, or 20 percent of the total area.

The North Drainage Basin is a 4.7 acre isolated drainage basin. The surface runoff flows by overland flow, to the centrally located low spot, where it slowly infiltrates or evaporates. Most of the basin is pervious. The only impervious area that contributes runoff to this area is a small section of the parking lot next to the high school, which totals 0.8 acres, or 17 percent of the total area.

The Lake Wingra Environmental Corridor includes the land between Edgewood Drive and Lake Wingra, which drains directly to Lake Wingra via sheet flow. Consequently, this area was not included in this stormwater management master plan as a drainage basin. The installation of detention/treatment cells for

West Campus and Central Drainage Corridor runoff is being proposed for study by Dr. James Lorman of Edgewood College as part of a stormwater management demonstration and research project.

2.3. City of Madison Ordinance Requirements

The City of Madison Engineering Division has indicated that it will require detention storage only for structures built after December 1, 1995, due to previous agreements between the City and the Edgewood Campus. However, the City has put two conditions on stormwater management at Edgewood. They are:

1. Allowable peak flows at the Woodrow Street storm sewer inlet. The City has no records of flooding occurring around the storm sewer manholes at the low point on Woodrow Street. However, the City indicated that the peak flow entering the storm sewer pipe from a 10-year design storm (4.2 inches) may not exceed the capacity of the pipe as determined by Manning's equation under full flow conditions (28.1 cfs). The City will not accept a variance fee in lieu of detention for discharges entering this pipe.
2. Detention requirements. The City indicated that the volume of detention storage on site must be able to retain the difference between the existing and proposed peak flows for the 10-Year storm.

3. Edgewood Campus Stormwater Management Plan

3.1. Introduction

JJR has prepared a drainage plan for the West Campus drainage area, the Central Drainage Corridor, the East Basin, and the South Basin. The West Campus area drainage plan is designed to accommodate the most impervious conditions that will exist as construction in this drainage area proceeds over time. The drainage plans for the East Basin and the South Basin are conceptual plans that locate potential detention storage sites for use as future development occurs.

New storm sewer work was undertaken for the High School in 1995 during the construction of the High School Auxiliary Gymnasium, in the Central Drainage Corridor. However, drainage problems that continue to exist around the Campus Grade School must be addressed. The plan for this area includes the reconstruction of the storm sewer inlet and pipe system that drain the low areas near the Campus Grade School playground area. This work will include regrading the swale around the existing playground area (the proposed parking and drop-off circle) to increase its carrying capacity, and other minor earthwork to improve overall site drainage.

3.2. The Stormwater Model

The site hydrology was developed using the Soil Conservation Service TR-55 methodology, per City of Madison design requirements. The HydroCad stormwater modeling system, developed by Applied Microcomputer Systems, was used to calculate the hydrographs and perform the stormwater routing for the site.

The model requires land use, topography, stormwater feature, soil type, and aerial data to generate and route stormwater runoff. The existing land use data and stormwater conveyance system model was developed from a composite of campus topographic maps prepared primarily by D'Onofrio-Kottke, and from additional survey data that was collected by JJR. Drawing 17800-B3 is a reduced version (1" = 200') of the topographic maps used in this study. Additional site and drainage information was obtained from discussions with Edgewood personnel.

Each drainage basin is divided into sub-basins. The peak flows from each sub-basin are estimated using the TR-55 procedures found in HydroCad. The time of concentration for each sub-basin is generally estimated using a combination of sheet flow and shallow concentrated flow methods. The complete model input and output for the 10-Year and the 100-Year storm for each drainage basin is included in Appendix C. Table 2 lists the peak discharges for all relevant storms for the West Campus and Central Drainage Corridor.

The Stormwater Management Plan base maps were developed from the current draft of the updated Edgewood Campus Master Plan prepared by Potter Lawson Architects and JJR. The upland soils types were evaluated from the Soil Survey of Dane County, Wisconsin, published by the Soil Conservation Service. The five different soil types located on the upland areas of the Edgewood Campus were all classified as "B" type soils. These pervious areas were evaluated in the model as open space, grassed areas in good condition, and assigned a curve number of 61. All impervious areas were assigned a curve number of 98.

3.3. West Campus Drainage Basin

The Edgewood Campus Master Plan describes the following changes to this drainage basin:

- A substantial increase in the size of the high school commons parking lot.
- A new Fine Arts Center with underground parking.
- Doubling the size of the College parking lot.
- A new shared Science Facility, with adjacent underground parking.
- A new entrance road, with a pond in the center of the turn-around.
- A new 400 meter running track with soccer/football field and underdrain system.
- Humanities Center addition on DeRicci Hall.
- The construction of a central College Quadrangle.
- A new classroom building connected to the High School, with additional parking.

Each of these structures, except for the College Quadrangle, will increase the stormwater runoff volume and peak flows that enter the Woodrow Street stormwater drainage system. The drainage plan to convey runoff from these areas models the most conservative construction sequence - it assumes all High School parking has been constructed but does not assume that the Quadrangle, with its increase in pervious area, has been constructed. Based upon these assumptions, the maximum impervious area is 12.4 acres. The likely construction phasing will include more high school parking, if warranted by High School enrollment levels, at the same time the Quadrangle is constructed. Detention storage for the Shared Science Facility and parking garage, as well as other nearby impervious areas, is included in the pond. The replacement of the College parking lot by the Fine Arts Center and parking garage should result in no net impervious area change. Once all construction is complete, 41% (12.1 acres) of the basin will be covered with impervious surfaces (see Table 1).

Flows from storms that exceed the storage capacity of the proposed detention structures will be conveyed either by storm sewer or by street to the Woodrow Street storm sewer. A new storm sewer pipe will be constructed from this storm sewer south along Woodrow Street. It will discharge to the wetland bordering Lake Wingra. This new pipe will convey the majority of the runoff from all storms, including the 100-Year storm, directly to Lake Wingra. It will redirect runoff from all but the largest storms away from the existing City of Madison storm sewer system, and will significantly reduce the potential for flooding due to large storms at the base of Woodrow Street.

The storm sewer plan, which is illustrated in Drawing 17800-B5, employs four detention ponds to decrease the peak runoff flows from this basin. The upland drainage system has two detention ponds. These ponds will retain runoff generated from the northern basin and the lawn areas on the east side of the High School main entrance road. Runoff from these ponds discharges to a storm sewer beneath the High School parking lot, and then to a storm sewer that is parallel to the main access road. This pipe flows into a third pond located northwest of the proposed parking structure. This runoff discharges into the wet detention pond located inside the new turning circle.

This fourth pond is integrated into the turning circle at the terminus of Center Drive (the main campus entry road). This permanent pool will be lined with clay to minimize infiltration, and will have a water supply source to maintain water levels during an extended dry period. Discharge from the pond will be regulated by an orifice and an overflow weir. The permanent pool elevation for the pond will be established at 32.3'. Both outflow devices will discharge into the new storm sewer that discharges south to Lake Wingra. A floating fountain will help to aerate the pond.

Runoff from the isolated northern basin is routed to the existing depression (pond 6) located in the center of the wooded area. However, because of the potential for increase flooding due to the additional impervious surfaces of the new building and parking, this runoff will be discharged into the West Campus Drainage Basin. Runoff from this area will be routed via surface flow to pond 9, a detention basin that will be located in what is now the upgradient, or eastern, side of the entrance road for the high school. The

discharge from this pond, along with runoff from the High School Parking Lot, is directed by a storm sewer (reach 2) that is parallel to the main campus access drive to pond 7. This runoff eventually flows into the Woodrow Street storm sewer system via the wet detention pond 2 in the turning circle. Runoff from Woodrow Street is also included in this model to more accurately determine the peak flow rates that enter to the Woodrow Street storm sewer.

The peak flows for the one-, two-, five-, ten-, and one hundred-year rainfall events for this alternative are listed in Table 2. Although the peak flow for the system has increased, either all or the majority of the runoff will bypass the existing City storm sewer system that begins at the base of Woodrow Street. This will significantly decrease stormwater flows through the existing City storm sewer system for all storms. For example, the existing peak flow through the City system of 28.7 cfs for the 10-Year storm has been decreased to 5.6 cfs through the City system due to the addition of the new 36-inch storm sewer bypass along Woodrow Street. This compares favorably to both the discharge due to existing conditions and to the maximum allowable peak discharge of 28.1 cfs permitted by the City into the Woodrow Street storm sewers. This proposed bypass pipe decreases the discharge from a 100-Year storm into the existing City of Madison system from 53.1 cfs to 28.3 cfs.

JJR is also working, with Dr. James Lorman, a Professor of Biology at Edgewood College, on the design of a demonstration project using stormwater detention/treatment cells located downgradient of the Woodrow Street storm sewer outfall. These cells would test the effectiveness of using plant and aquatic communities to remove stormwater contaminants before they enter Lake Wingra. There is additional discussion of these systems in Section 4.

3.4. Central Drainage Corridor

Two major changes are proposed for the Central Drainage Corridor, which drains the back of the High School and the High School rooftops as well as the Campus Grade School playground. The Campus School parking will be relocated to the area currently occupied by the playground, and the current Grade School parking will be replaced with a smaller paved basketball court area. A small residence hall addition is also planned as the campus develops. The impact of these changes on stormwater management will be a slight increase in the amount of impervious area draining through the existing storm sewer system. There are also two significant existing problems due to stormwater runoff that must be addressed. These problems are:

- Flooding in the existing playground area.
- The potential for runoff to sheet flow into the Campus Grade School building entrances.

The major drainage problem in the Central Drainage Corridor is flooding that occurs regularly in the low lying playground area between the grade school and the high school. This flooding is due to a combination of factors:

- Insufficient conveyance capacity of the 15-inch storm sewer pipe that drains the playground.
- The increased flows due to the recent Auxiliary Gym and parking construction.
- A poorly designed inlet grate that regularly becomes obstructed with leaves, branches, and wood chips.
- The undersized grass swale running around the open play area from the high school roof top runoff discharge manhole to the 15-inch storm sewer pipe.

Edgewood, Inc. will take the following actions to minimize the flooding in the playground area:

1. Increase the conveyance capacity of the storm sewer system by replacing the badly deteriorated 15-inch pipe, with new, more hydraulically efficient, reinforced concrete pipe. The change should also accommodate the proposed parking lot in the Campus School playground area. Redesign the inlet grate to minimize the potential for flow obstruction caused by debris. The steam pipe connecting the grade school to the Edgedome is four feet beneath the existing storm sewer pipe. The construction of the new storm sewer will be designed to accommodate the steam pipe.
2. Remove debris from around the inlet grate on a weekly basis as part of the regular building maintenance.
3. Improve the conveyance capacity of the swale by building up the sides, at a 5:1 (H:V) or milder slope, to about 18 inches above the invert of the swale. Construct a box culvert beneath the new access road that crosses the flow path of the swale.
4. Redirect the balance of the runoff from two small buildings at the upper end of the Central Drainage Corridor to the Eastern Drainage Basin. These two buildings are the pre-school and Marshall Hall. The runoff, which should be directed from these buildings as sheet flow, will have little hydrologic impact on the Eastern Drainage Basin because of the long expanse of grassed surface it must flow across before crossing Edgewood Drive.

Actions one through three will have the effect of increasing the peak flows at the pipe outfall that directs runoff through the arch culvert beneath Edgewood Drive. Therefore, this conveyance channel will need to be protected by pipe, riprap or a geosynthetic channel liner. JJR is also working, with Dr. Lorman, on the design of a proposed demonstration project using stormwater detention/treatment cells located downgradient of the arch culvert. These cells would both detain stormwater for flow control and use plant and aquatic communities to remove stormwater contaminants before they enter Lake Wingra. Hydraulically, these cells would be designed to capture and treat the runoff from small storms; the peak flows from larger storms would bypass the cells and flow directly to the wetland along Lake Wingra, just as storms currently do with the existing conveyance system. The two alternative proposed locations for these cells are illustrated on Drawing 17800-A2. There is additional discussion of these systems in Section 4.

The potential flooding problems related to the grade school playground and sheet flow into the north entrance of the grade school building will be resolved using diversion berms, swales, or culverts to redirect the sheet flow upland of these areas.

Runoff from the high school parking lot and rooftop is routed by storm sewer to an outlet manhole located upgradient of the grade school by storm sewer. The playground outlet pipe is modeled as a culvert from the detention pond (Pond 1) that represents the storage available at the base of the playground. The culvert was modeled as the pond outlet device because the model applies contraction coefficients that more accurately reflect the proposed discharge outlet configuration.

The peak flows for the one-, two-, five-, ten-, and one hundred-year rainfall events for this alternative are listed in Table 2. The peak flow of 15.6 cfs for the 10-Year storm is greater than the existing peak flow due to the increased conveyance capacity of the new storm sewer pipe.

3.5. East Campus Drainage Basin

Stormwater management requirements in the east campus due to the proposed construction in this area, as outlined in the Edgewood Campus Master Plan, will be stored using a surface detention pond in the area designated on Drawing 17800-B5. The additional construction anticipated to take place in the basin includes future residence halls, parking, and an addition to the Campus Grade School. In addition, rooftop

runoff from the pre-school center, and the balance of the runoff from Marshall Hall, both of which are located at the upland edge of the drainage basin, will be diverted from the Central Drainage Corridor as sheet flow into this basin. The existing Campus Grade School parking area will be replaced by a smaller paved basket ball court. This runoff will continue to sheet flow towards Lake Wingra. No analysis of the specific storage requirements for the East Campus Drainage Basin has been developed for this plan because buildings and parking lots have not been designed for these areas. However, the topography is suitable for using both sheet flow and grass swales in the drainage system design.

3.6. South Campus Basin

Stormwater management requirements in the south campus basin have been met by constructing rooftop detention storage for the new Library, and by purchasing a variance from detention requirements for Reges Hall. Stormwater due to the additional construction in this area, as outlined in the Edgewood Campus Plan, will be temporarily stored using a surface detention pond in the area designated on Drawing 17800-B5.

3.7. North Isolated Basin

The North Isolated Basin will receive additional runoff due to the construction of the proposed high school classroom addition as well as additional parking near the high school. This increase in runoff volume will increase the frequency and duration of any ponding that occurs at the low point in this isolated basin.

The solution to this problem is to direct the runoff from the additional impervious areas north into the isolated basin using a level spreader swale. The level spreader will uniformly distribute the runoff to the upslope area of the basin, allowing it to sheet flow over the pervious grass slope. This will increase infiltration and the travel time of the runoff, and so decrease the peak flow from the new structures. A broad, shallow grass swale will be constructed to act as the emergency overflow structure that will limit the allowable water elevation in the basin.

3.8. Detention Storage Requirements

The City of Madison stormwater ordinance requires that the volume of detention storage on site must be able to retain the difference between the existing and the proposed peak flows for the 10-Year storm. The TR-55 analysis for storage volume for detention basins was used to determine the required volume. The curve number used in the analysis is the composite curve number for both the West Campus and the Central Campus drainage basins. Existing and proposed peak flows were calculated from the sum of the peak flow totals for the 10-year event from each of the drainage basins. The analysis indicated that the required detention basin storage volume should be 1.5 acre-feet. The total detention storage volume for the Edgewood Campus is 2.3 acre feet, which exceeds the required detention storage volume by 0.8 acre-feet. The data and model output for this analysis is included in Appendix A.

4. Water Quality Management Plan

4.1. Introduction

Stormwater runoff from an institutional land use area such as the Edgewood Campus primarily contains pollutants such as suspended solids, fertilizers and pesticides, organic debris, and automobile-related pollutants such as oil and grease, lead, and arsenic. Though it is generally physically possible to remove these pollutants from stormwater runoff, retro-fitted treatment solutions for stormwater runoff are generally cost-prohibitive. However, a number of stormwater best management practices (BMP's) can be tailored for the site conditions found on the Edgewood Campus.

These BMP's include both non-structural and structural practices. The non-structural practices include:

- Routing rooftop runoff to pervious surfaces. This practice has the multiple benefit of decreasing runoff volume through infiltration, as well as filtering pollutants from runoff as it flows through the grass and infiltrates into the soil.
- Cleaning and Maintenance. Stormwater BMP's generally must be cleaned on a regular basis for them to function correctly. Cleaning and maintenance would include:
    - Cleaning catchbasins and filter strips on a regular basis.
    - Removing leaves in the fall before they enter the drainage system and Lake Wingra.
    - Sweeping the streets on campus, particularly during early spring, to remove sand and other debris deposited during the winter.
- Minimizing the application of fertilizers and herbicides. Train maintenance workers to apply fertilizers at plant uptake rates, and only at optimum times, to minimize the amount of excess material that enters the drainage system.

The structural practices include:

- Catchbasins, with sumps, located at storm runoff inlets, to trap large particles in runoff.
- Grass swales that will both infiltrate and filter stormwater runoff.
- A detention pond located in the turning circle along Center Drive.
- A large catchbasin located at the base of Woodrow Street to trap large particulates in the runoff prior to discharge to Lake Wingra. It would be the responsibility of the City of Madison to maintain the catchbasins in the public right-of-way along Woodrow Street.
- Using the wetland at the new storm sewer outfall as a final polishing filter for stormwater before it enters Lake Wingra.

The educational resources available through the Edgewood College Natural Sciences Department will be used to assist with the design and will be called upon in the future to monitor of a series of long term nonpoint source demonstration projects. JJR has been working with Dr. James Lorman from the College, Mr. Joe Zaiman from the High School, and Mrs. Linda Janousek from the Campus Grade School to develop the demonstration projects, as well as the other best management practices, which are listed below for each drainage basin on campus. These projects, if selected, would be integrated into the curriculum to provide conceptual design assistance and long term monitoring and maintenance.

Dr. Lorman has identified a number of potential funding sources and is in the process of preparing grant proposals for the demonstration projects. These sources include:

- DNR Lake Management Planning Grant
- DNR Lake Management Protection Grant
- Yahara/Monona Priority Watershed Project
- NSF Academic Research Infrastructure Facilities Grant Program
- Environmental Protection Agency
- USGS (contribution of time and skills for water quality measurement studies)

4.2. Central Drainage Corridor

In addition to employing the same nonstructural best management practices used in the West Campus, a grass swale between the Campus School and the High School will be modified to increase its conveyance capacity. In addition, detention/treatment cells may be constructed along the downgradient side of Edgewood Drive. The existing grass swale, which will be modified during construction between the high school manhole outfall and the grade school playground inlet, will improve water quality by increasing the infiltration and filtering capacity of the conveyance system. It will also help decrease the peak flows from the high school.

Edgewood College is also applying for funding to design, construct, and maintain detention/treatment cells located at the existing Central Drainage Corridor outfalls. These detention/treatment cells will be designed as small detention ponds that will receive runoff from the entire corridor. They would be constructed on the downgradient side of Edgewood Drive, either as a series of long, narrow cells parallel to the drive, or as a cluster near the Mazzuchelli Biological Station. Some runoff from these cells may be diverted to the "living machines" in the biological station. The cells would be planted with selected species of vegetation that are intended to remove pollutants such as salt, nitrogen, phosphorus, oil and grease, and particulates from stormwater. The biological station instructors and students would maintain and monitor the long term pollutant removal rates of the detention cell system. Detention cell alternative locations are illustrated on Drawing 17800-A2. The construction of these cells is contingent upon available funding primarily from sources other than Edgewood, Inc.

4.3. West Campus and North Isolated Drainage Basin

The West Campus Drainage Basin, which also includes the North Isolated Basin, will use both structural and non-structural best management practices to reduce stormwater pollution. The structural controls for this basin include catchbasins with sumps at storm sewer inlets. There will be a wet detention pond located inside the turning circle near the new Shared Science Facility, as well as a large catchbasin located at the base of Woodrow Street to trap particulates from Woodrow Street and downgradient of the wet detention pond.

The non structural practices include fall leaf pickup, limiting fertilizer application to no more than the plant uptake rate, minimizing the use of herbicides and pesticides, and regularly cleaning out the catchbasin sumps. Other potential treatments, if funding becomes available, are to construct bioretention cells at surface detention pond outlets and divert runoff from the Science Facility parking structure into the proposed greenhouse for treatment using "living machines" developed by the Wingra Ecological Design Project Team at Edgewood College. Bioretention cells are small storage cells that are constructed to promote a high infiltration rate and that have a high pollutant trapping efficiency. The Project Team may also develop a treatment cell design for the Woodrow Street outfall that is similar in concept to the one described for the Central Drainage Basin outfall area, if funding becomes available.

4.4. East Campus Drainage Basin and South Campus Basin

Relatively little runoff enters Lake Wingra from the East Campus Drainage Basin or the South Campus Basin because of the relatively large areas of pervious surface that promote infiltration. As construction proceeds in these areas, the campus will use grass swales as much as possible to promote sheet flow and infiltration.

5. Summary

Upon completion of all proposed construction on the Edgewood Campus, the percent of impervious surface on the campus will increase from 26% to 41%. This increase will generate a corresponding increase in the quantity of stormwater runoff, and also affect the quality of the runoff. These changes will require the construction of additional stormwater storage and conveyance facilities as well as a more active approach to improve the quality of the stormwater runoff. The following improvements will be made to the stormwater conveyance system as part of the implementation program of the Edgewood Campus Plan.

During the initial phase of construction Edgewood Inc. will:

- Construct a series of detention ponds, a storm sewer system, and a storm sewer along Woodrow Street in the West Drainage Basin to prevent the 10-year peak flow from increasing beyond 28 cfs in the City storm sewer system. This system is illustrated in Drawing 17800-B5.
- Increase the conveyance capacity of the grass swale in the Central Drainage Corridor.
- Replace the existing storm sewer pipe that drains the Campus Grade School playground to decrease the flooding that occurs in this area.
- Implement the structural and non-structural best management practices described in this report to help improve the water quality of the runoff entering Lake Wingra.

APPENDIX A

Table 1

Edgewood Campus Drainage Areas

Drainage Area		Existing		Proposed		Percent Change
		Area (acres)	Percent of Total	Area (acres)	Percent of Total	
North Isolated Basin						
	Impervious Area	0.8	17%	0.0		-100%
	Pervious Area	3.9	83%	0.0		-100%
	Total Area	4.7		0.0		-100%
West Campus Drainage Basin						
	Impervious Area	6.4	25%	12.4	42%	94%
	Pervious Area	18.8	75%	16.8	58%	-11%
	Total Area	25.2		29.2		16%
Central Drainage Corridor						
	Impervious Area	3.4	48%	4.3	58%	26%
	Pervious Area	3.7	52%	3.1	42%	-16%
	Total Area	7.1		7.4		4%
East Campus Drainage Basin						
	Impervious Area	2.1	22%	3.2	34%	52%
	Pervious Area	7.5	78%	6.3	66%	-16%
	Total Area	9.6		9.5		-1%
South Campus Drainage Basin						
	Impervious Area	1.1	20%	1.3	21%	18%
	Pervious Area	4.5	80%	4.8	79%	7%
	Total Area	5.6		6.1		9%
Total Impervious Area		13.8	26%	21.2	41%	54%
Total Pervious Area		38.4	74%	31.0	59%	-19%
Total Area		52.2		52.2		
Note:	The total area does not include the Lake Wingra Environmental Corridor because this area drains					
	directly to Lake Wingra via sheet flow.					

Table 2

Peak Discharge (cfs) at Basin Outlet

		Central Drainage Corridor		West Campus			
Storm	Rainfall Depth (in)	Existing	Proposed	Existing, at City Outfall (1)	Proposed, at City Outfall (1)	Proposed, at Lake Wingra Outfall (2)	Total Proposed
1 -Year	2.5	4.7	9.7	9.1	0.0	12.9	12.9
2-Year	2.9	5.7	11.5	13.0	0.0	20.4	20.4
5-Year	3.6	7.7	13.7	21.4	0.6	36.1	36.7
10-Year	4.2	8.7	15.6	28.7	5.6	46.0	51.6
100-Year	6.0	10.4	21.2	51.3	28.3	66.8	95.1
Notes:	(1) Existing City oufall located at the base of Woodrow Street.						
	(2) Proposed outfall to Lake Wingra.						

JJR/ **CALCULATION SHEET**

Project: Edgewood Detention Storage Sheet 1 of 2

Subject: Job no.

By/Date: JGV Checked by/Date:

Attachment 1

Composite Curve Number - Proposed

	West Campus	Central	CN	
Imp	12.4	4.3	98	1636.6
Perv	16.8	3.1	61	1213.9
	29.2	7.4		2850.5

Composite CN = 78

(w) Storage -

West Pond	2	26560 cf
	6	46700
	7	5335
	9	4505
Central	1	18217

101317 cf = 2.3 ac-ft

Peak Flow Summary - 10 Yr Storm

	West	Central	E
Exist	28.7	8.7	37.4 cfs
Proposed	51.6	15.6	67.2 cfs

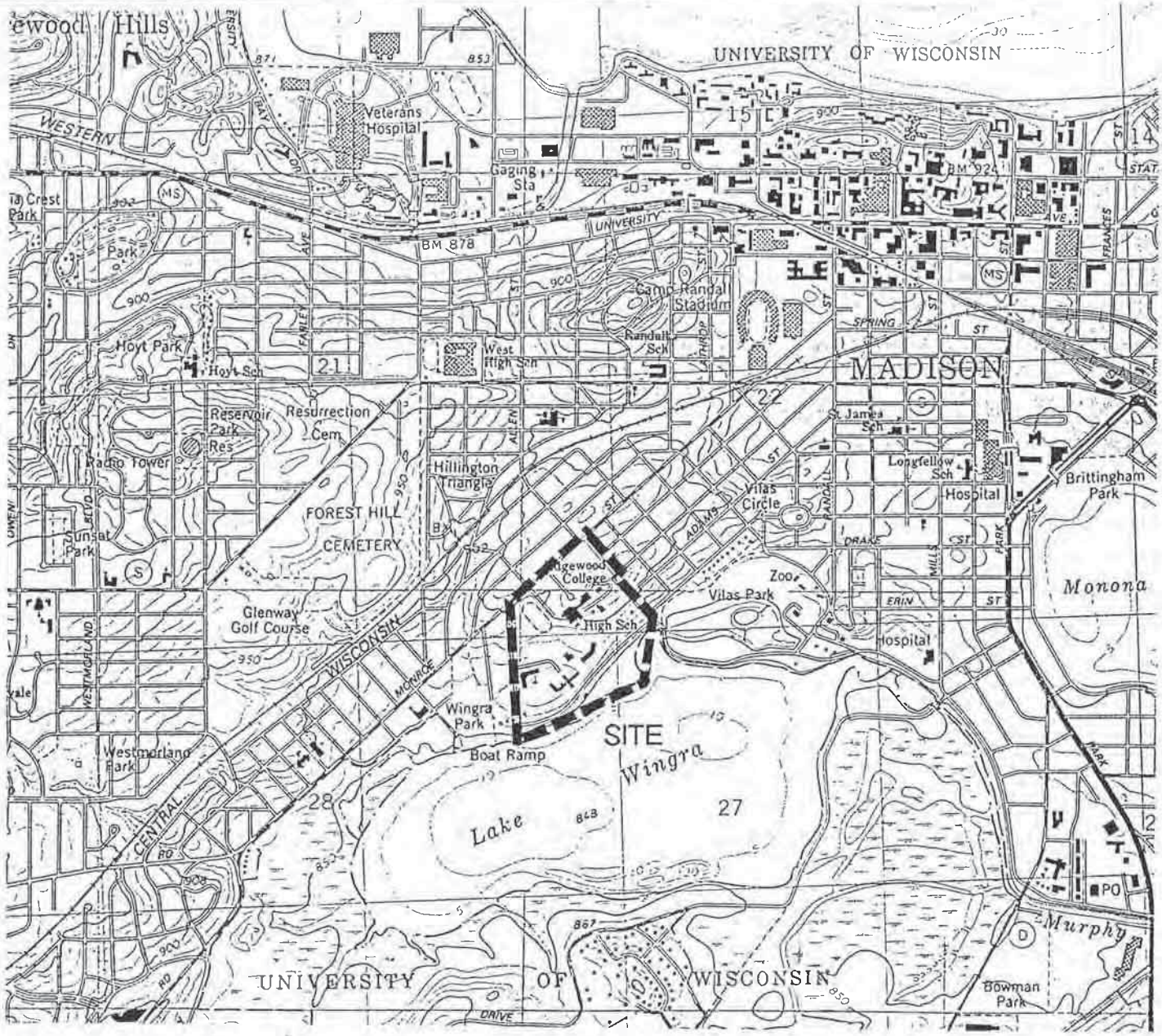
EDGEDETN.PRN

STORAGE VOLUME FOR DETENTION BASINS Version 2.00

Project : EDGEWOOD CAMPUS DETENTION User: JGV Date: 04-07-97
County : DANE State: WI Checked: ____ Date: _____
Subtitle: DETENTION STORAGE CALC

Drainage Area: 36.6 Acres Rainfall Frequency: 10 years
Rainfall-Type: II
24-Hour Rainfall: 4.1 inches Runoff Curve Number: 78
Peak Inflow: 67.2 cfs
Peak Outflow: 37.4 cfs
Runoff Volume: 2.0 inches
Detention Basin Storage Volume: 0.50 inches or 1.5 acre feet

APPENDIX B



SCALE 1:24 000

1 0 1/2 1 MILE

QUADRANGLE LOCATION

NOTE: BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC MAP OF THE MADISON WEST, WISCONSIN QUADRANGLE, DATED 1983.

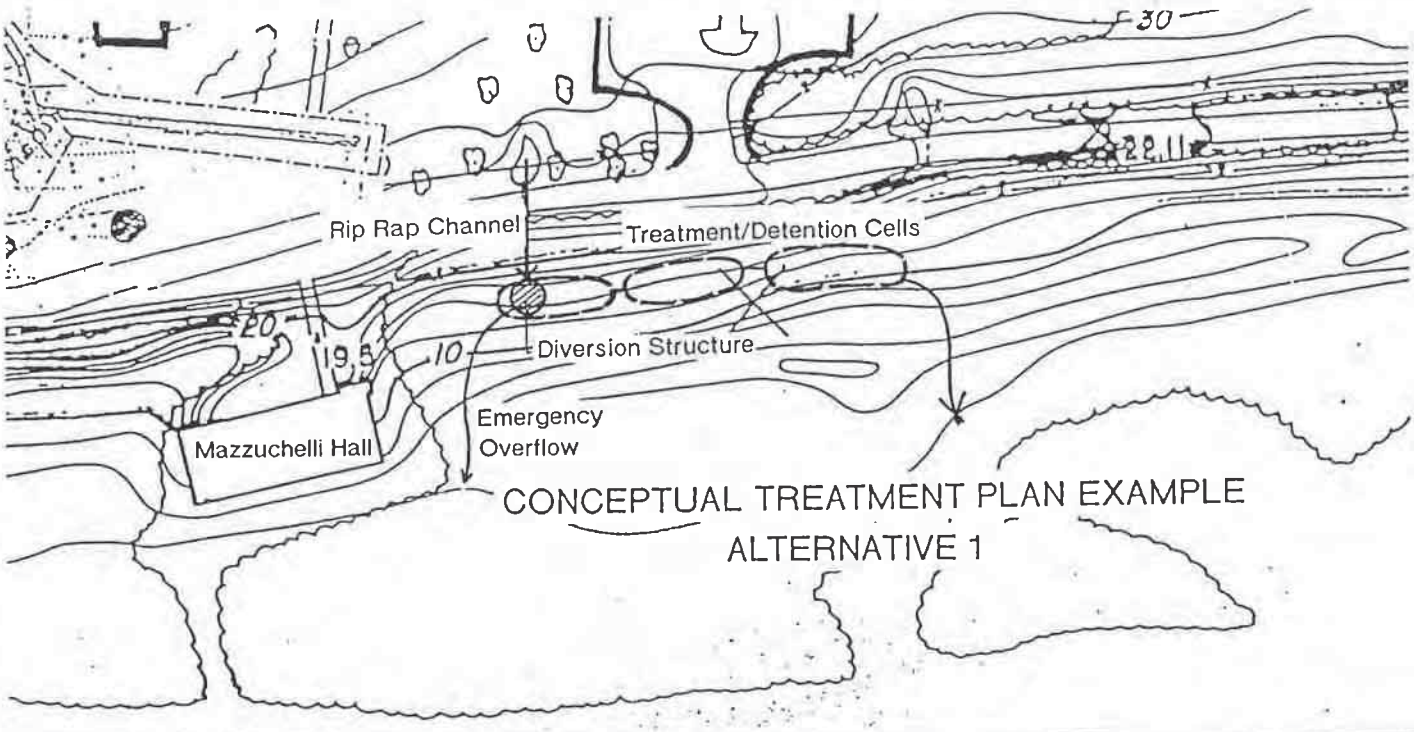
North

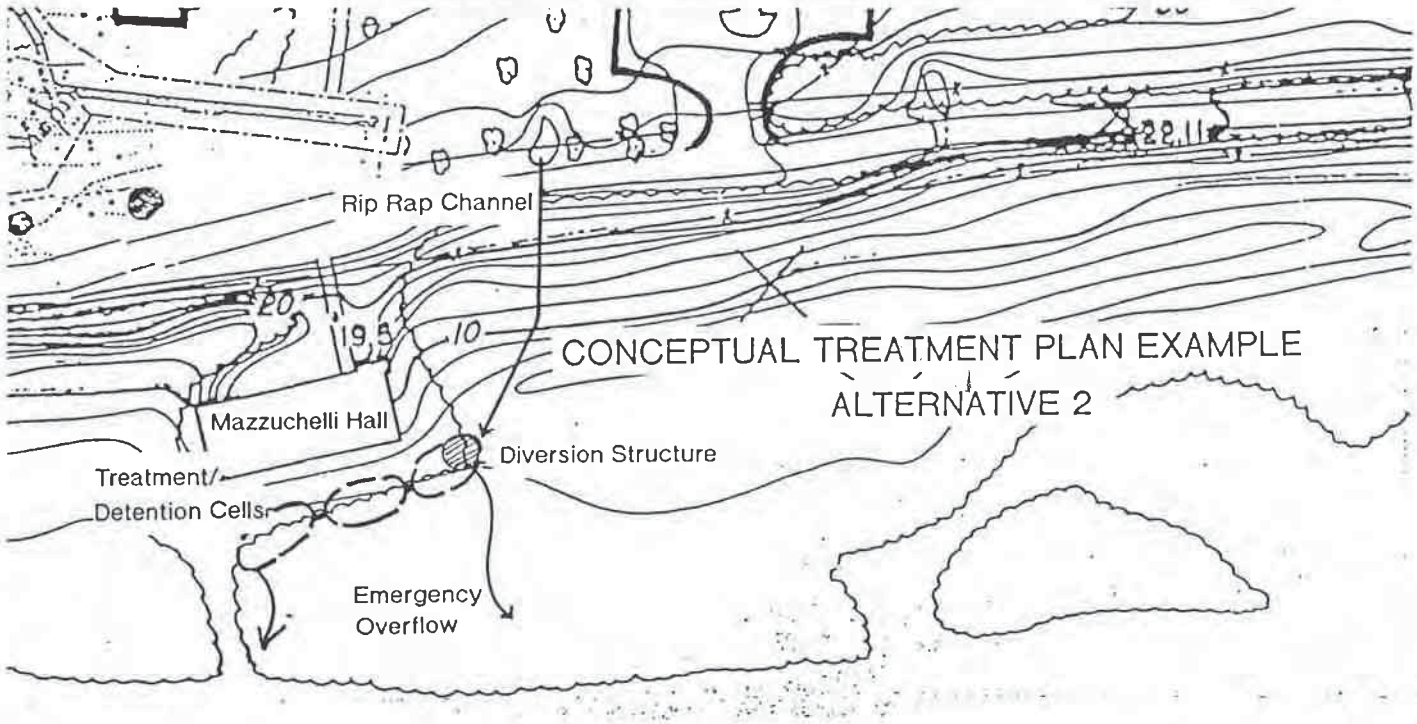
SITE LOCATION

EDGEWOOD CAMPUS
STORMWATER MASTER PLAN
EDGEWOOD, INC.
MADISON, WISCONSIN

Drawn:	Checked:	Approved:	
Date : 1/10/96	Drawing No. 17800-A1	Page. of	REV.

JJR/
Johnson Johnson & Roy/inc
One North Pinckney Street
Madison, Wisconsin 53703
608-251-1177
608-251-6147 FAX





Detention/Treatment Cell Alternative Locations

EDGEWOOD CAMPUS
STORMWATER MASTER PLAN
EDGEWOOD, INC.
MADISON, WISCONSIN

Scale: 1"=100'

Drawn:	Checked:	Approved:	
Date : 1/10/96	Drawing No. 17800– A2	Page. of	REV.

JJR /
Johnson Johnson & Roy/inc
One North Pinckney Street
Madison, Wisconsin 53703
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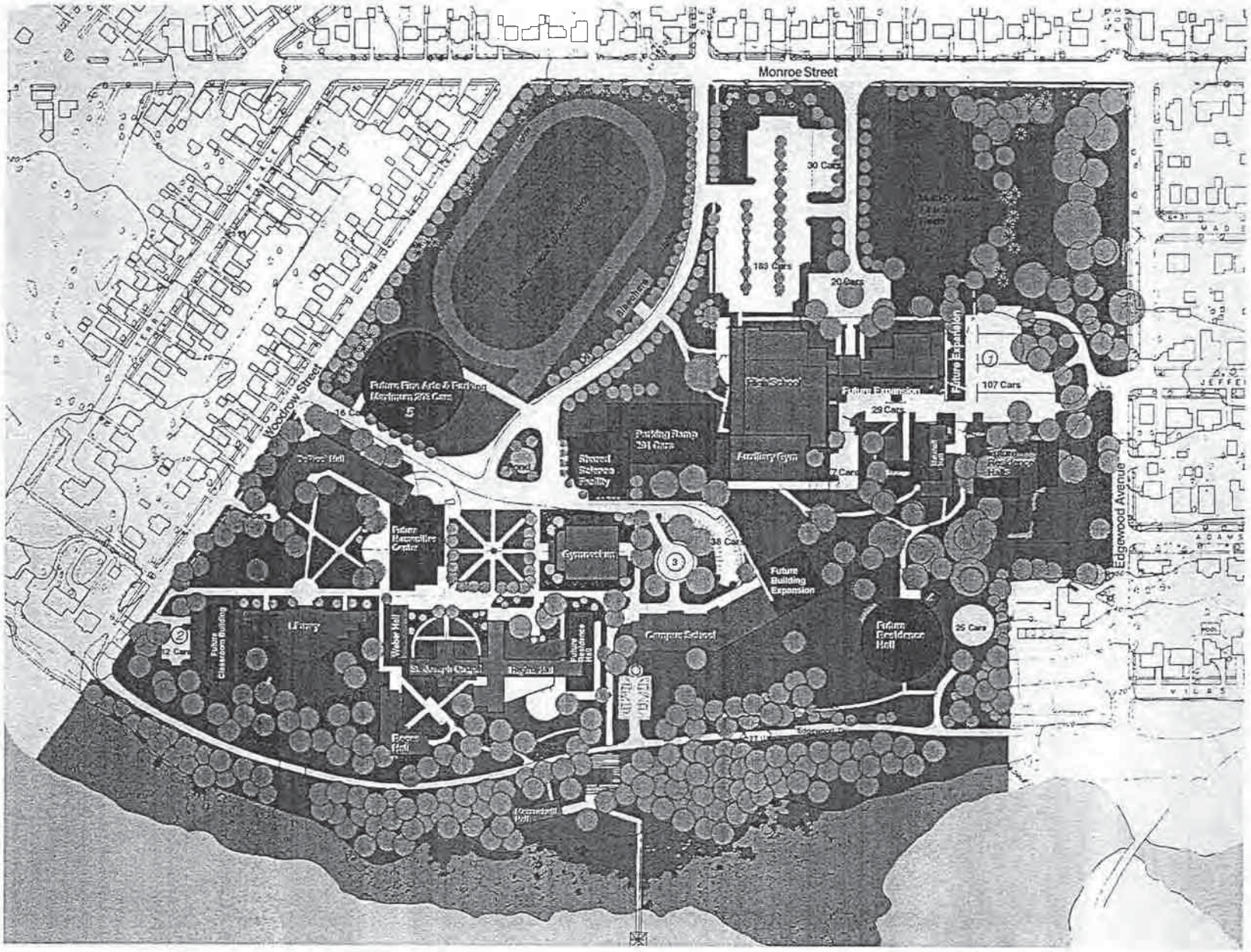
608–251–6147 FAX



Edgewood Campus Plan

Madison, Wisconsin

	College	605
	High School	323
	Campus School	47
Parking Demand at Build Out	Total Stalls	975

April, 1997

Potter Lawson

JJR

DRAINAGE BASINS

1 – NORTH ISOLATED BASIN

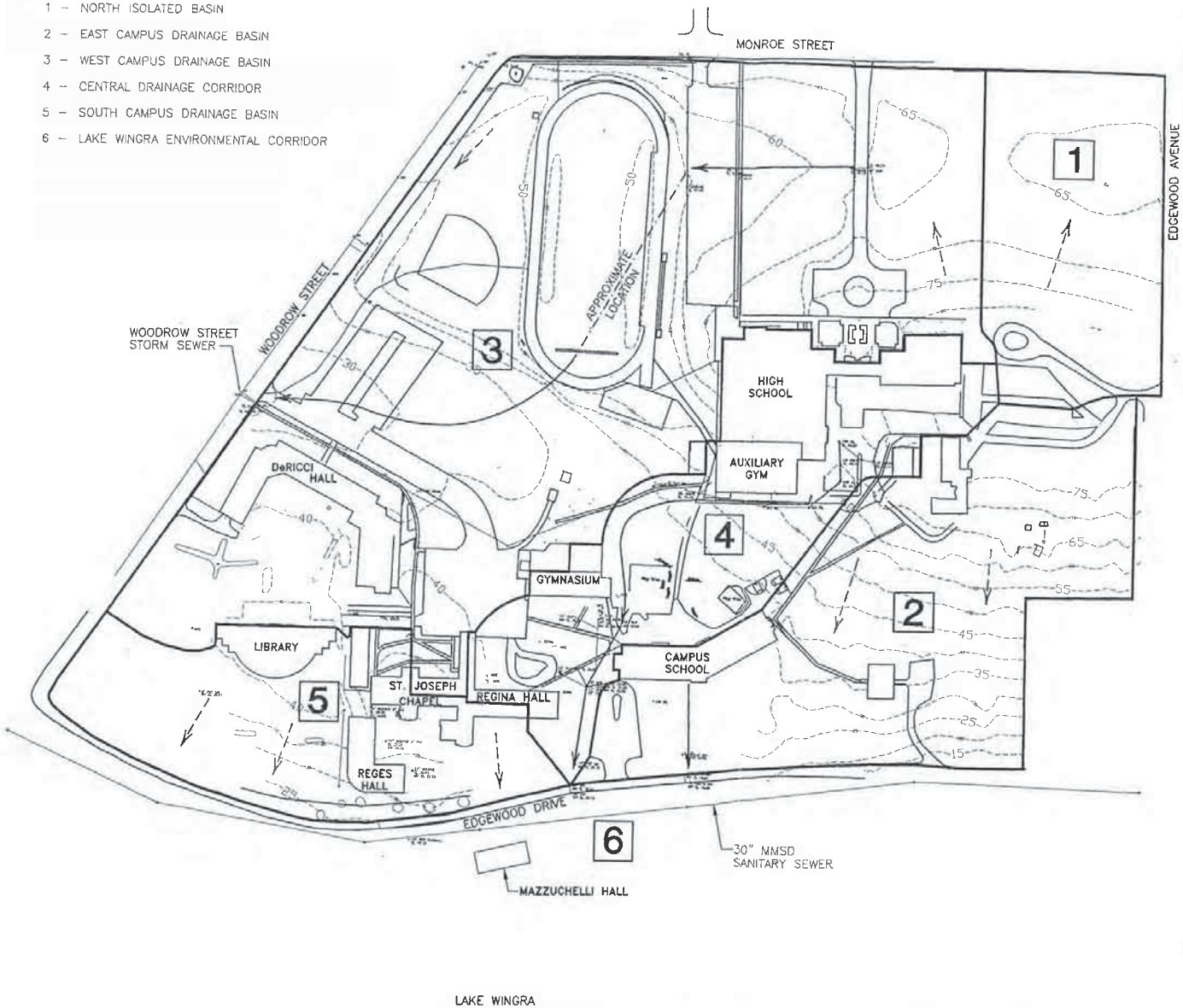
2 – EAST CAMPUS DRAINAGE BASIN

3 – WEST CAMPUS DRAINAGE BASIN

4 – CENTRAL DRAINAGE CORRIDOR

5 – SOUTH CAMPUS DRAINAGE BASIN

6 – LAKE WINGRA ENVIRONMENTAL CORRIDOR



KEY

DRAINAGE BASIN BOUNDARY

4 DRAINAGE BASIN

MAJOR FLOW PATH

SHEET FLOW

North

0 50 100 200

JJR /

Johnson Johnson & Roy/inc

Planning
Landscape Architecture
Urban Design
Civil Engineering
Environmental Services

One North Pinckney Street
Madison, Wisconsin 53703
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JJR Project Number 17800.00

Designed by JGV

Drawn by TPB

Technical Review WMB

Project Manager KML

Principal in Charge FAK

Director, JJR / Madison FAK

Issued For	Date
Draft	12/11/95
Final	1/10/96

Edgewood Campus Stormwater Master Plan Edgewood, Inc. Madison, WI.

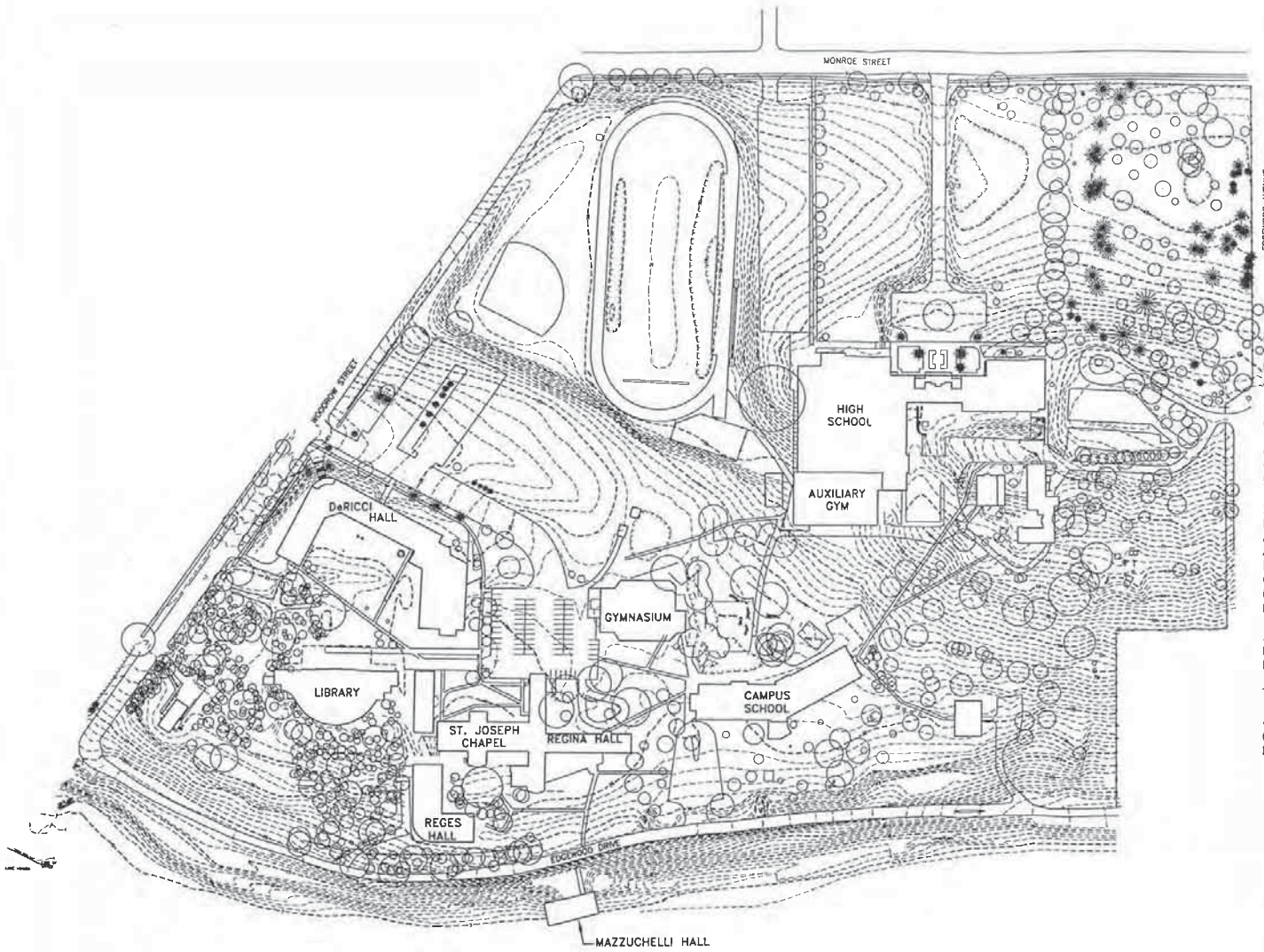
Drawing Title: Existing Drainage Basins

Drawing Number: 17800-B4

Scale: 1" = 200'

Sheet Number

tps\docs\17800\17800-4.dwg



NOTES:

1. BASE MAP GENERATED BY DIGITIZING SURVEY MAPS AT VARIOUS SCALES SUPPLIED BY D'ONOFRIO KOTTKE AND ASSOCIATES INC. IN THE AREA OF PROPOSED 1996 CONSTRUCTION. THE DIGITIZED MAPS WERE CONFIRMED AND/OR CORRECTED BASED ON SURVEY DATA COLLECTED FROM OCTOBER TO DECEMBER 1995, BY JJR, INCORPORATED

2. TOPOGRAPHIC MAPS OF THE NORTH CORNER OF THE CAMPUS, AND BETWEEN THE GRADE SCHOOL AND THE HIGH SCHOOL, WERE PREPARED FROM SURVEY DATA COLLECTED FROM OCTOBER TO DECEMBER 1995, BY JJR INCPRORATED

3. TOPOGRAPHIC INFORMATION BETWEEN EDGEWOOD DRIVE AND LAKE WINGRA IS FROM SUMMER 1966 CITY OF MADISON TOPOGRAPHIC MAP.

4. ALL ELEVATIONS REFER TO CITY OF MADISON DATUM, WHICH IS 845.60' MSL, NGVD 1929.

North

0 50 100 200

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Landscape Architecture
Urban Design
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JJR Project Number 17800.00
JGV
Designed by
TPB
Drawn by
Technical Review
Project Manager
Principal in Charge
Director, JJR / Madison

Draft	12/11/95
Final	1/10/96

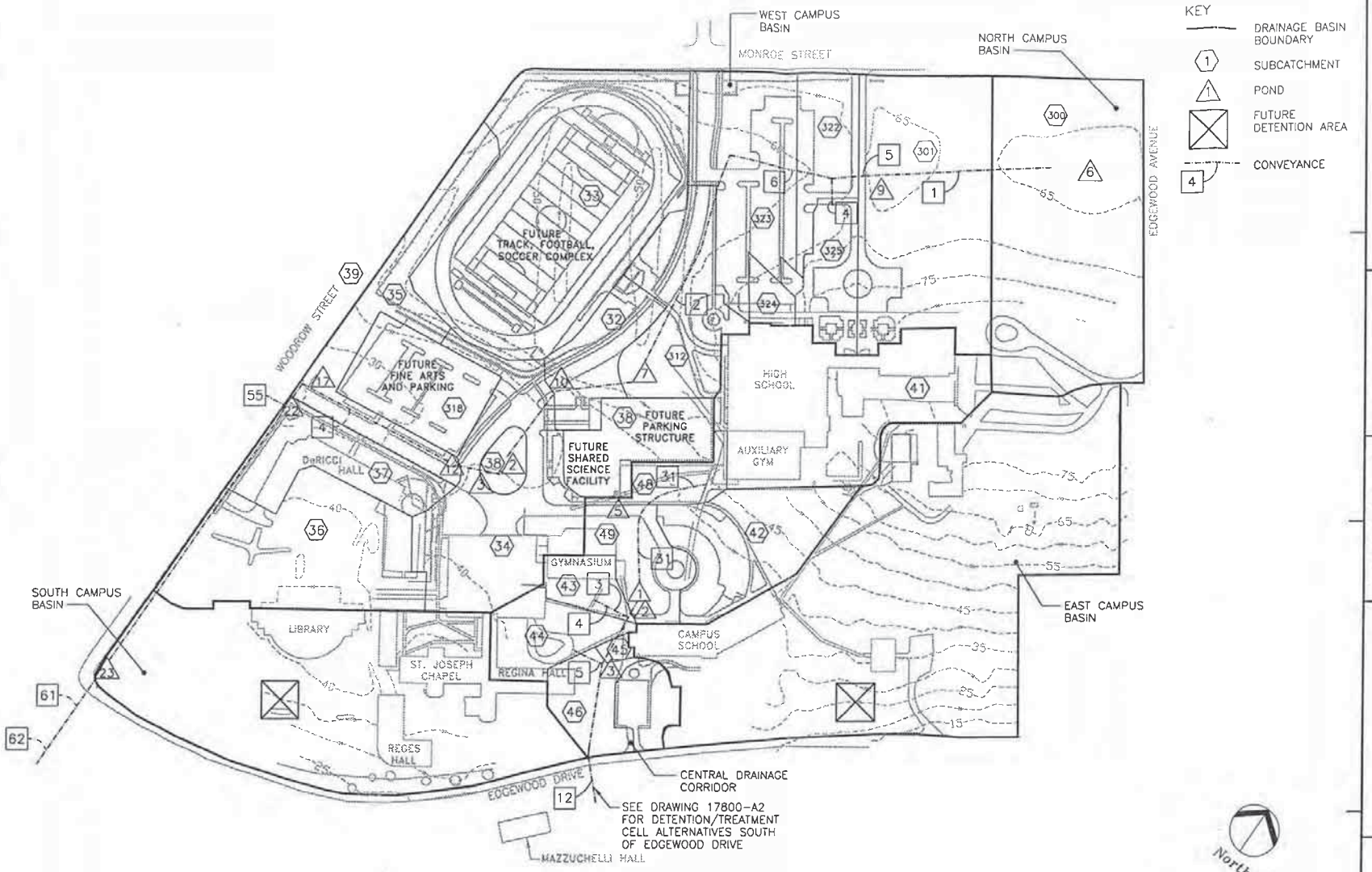
Issued For — Date

Edgewood Campus Stormwater Master Plan Edgewood, Inc. Madison, WI.

Drawing Title
Site Topographic Map

Drawing Number
17800-B3
Scale
1" = 200'
Sheet Number

C:\DATA\17800\17 S.DWG



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JJR Project Number 17800

Designed by

Drawn by

Technical Review

Project Manager

Principal in Charge

Director, JJR / Madison

Issued For	Date
Draft	12/11/95
Final	4/8/97

Edgewood Campus Stormwater Master Plan Edgewood, Inc. Madison, WI.

Drawing Title

Proposed Stormwater Drainage Plan

Drawing Number

17800-B5

Scale

1" = 200'

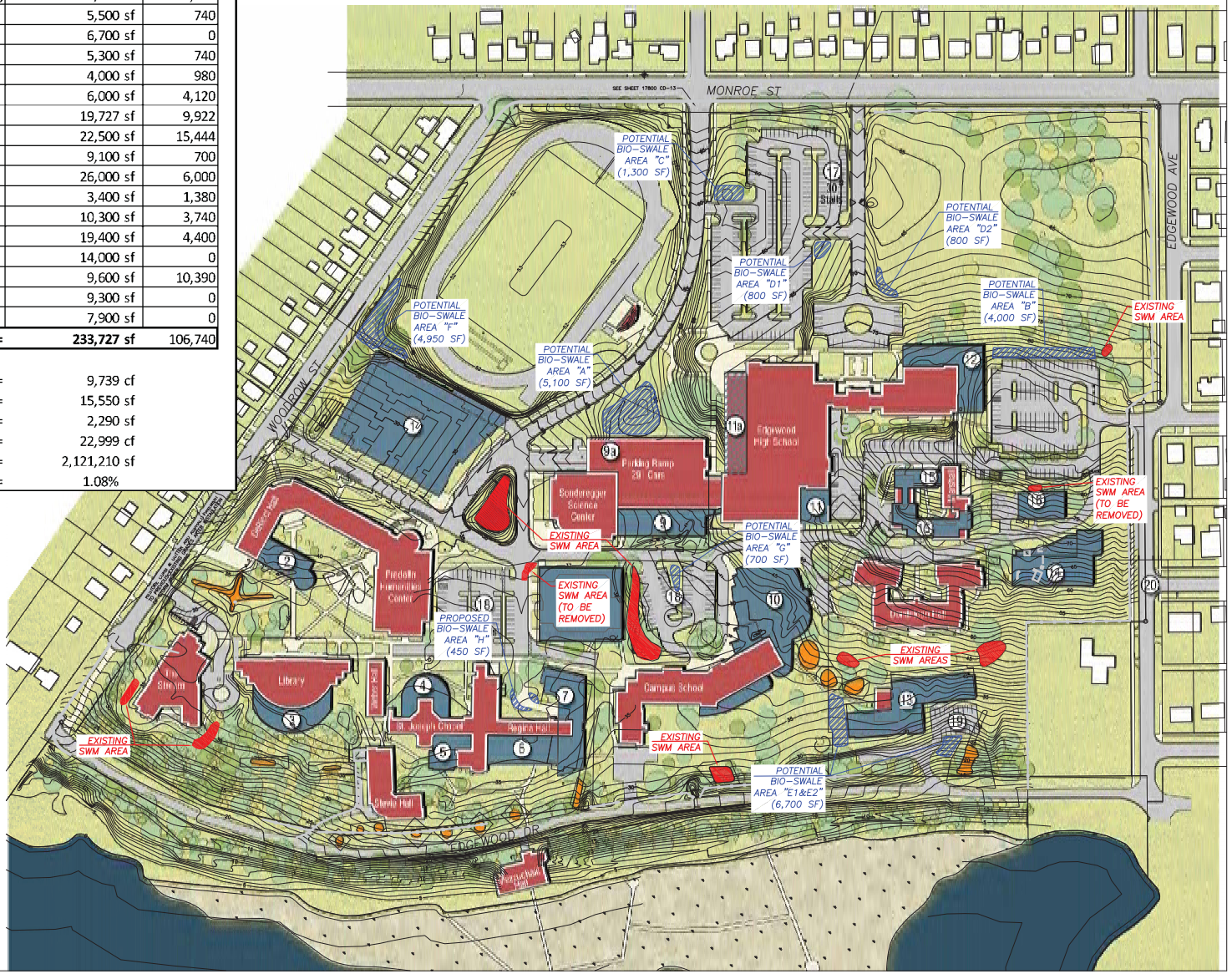
Sheet Number

EXHIBIT #2

1/2/2014

Campus Master Plan			
Addition	Description	Proposed Impervious Area	Removed Imp. Area
1	Future Facility & Structured Parking	55,000 sf	48,184
2	DeRecci Hall Expansion	5,500 sf	740
3	Library Expansion	6,700 sf	0
4	Chapel Expansion	5,300 sf	740
5	Regina Hall Western Expansion	4,000 sf	980
6	Dining Expansion	6,000 sf	4,120
7	Regina Hall Eastern Expansion	19,727 sf	9,922
8	Edgedome Expansion	22,500 sf	15,444
9	Sonderegger Expansion	9,100 sf	700
10	Campus School Expansion	26,000 sf	6,000
11	High School Southern Expansion	3,400 sf	1,380
12	High School Eastern Expansion	10,300 sf	3,740
13	Siena Hall Replacement	19,400 sf	4,400
14	New Non-residential Building	14,000 sf	0
15	Marshall Hall Expansion	9,600 sf	10,390
16	New Non-Residential Building	9,300 sf	0
17	Additional Parking (30)	7,900 sf	0
-	**Total Proposed Impervious Area =**	**233,727 sf**	106,740

Proposed Storage req'd by "first 1/2" method" =	9,739 cf
Existing amount of site dedicated to SWM =	15,550 sf
Existing stormwater features to be removed =	2,290 sf
Ultimate Total Site Area dedicated to SWM =	22,999 cf
Total Site Area =	2,121,210 sf
Total area for SWM as a % of site =	1.08%



SAA DESIGN GROUP
SAA Design Group, Inc.
101 East Badger Road
Madison, WI 53713
Ph. 608.255.0800
Fx. 608.255.7750
www.saa-madison.com

Professional Seal

Revision	Date
AREA F	12/09/2013

Project Name

EDGEWOOD COLLEGE STORM WATER MANAGMENT PLAN

CITY OF MADISON, WISCONSIN

Drawn By: MF
Checked By: JL
File: P-SWM
Issued For: FINAL REPORT
Date: 01/02/2014
Project No. 2495

Sheet Title

STORM WATER TREATMENT LOCATION MAP

0 50 100 200

Sheet Number

C1.0

EXHIBIT #3

Daniel P. Vrakas
County Executive

Dale R. Shaver
Director

Waukesha COUNTY

DEPARTMENT OF
PARKS AND LAND USE

First Half Inch Infiltration Standard

Waukesha County Storm Water Management and Erosion Control Ordinance

Background and Standards:

Infiltration Standards. The 2005 update to the Waukesha County Storm Water Management and Erosion Control Ordinance contains the following standards for storm water infiltration:

Land Use	Minimum Infiltration Volumes (%)		Maximum Required "Effective Infiltration Area"
	Option #1 Percent of Annual Predevelopment Runoff	Option #2 Percent of 2-Year, 24-hr. Storm Runoff	
Residential	90%	25%	1% of Site
Nonresidential	60%	10%	2% of Site

The ordinance requires that modeling involving average annual rainfall or runoff volumes shall use rainfall data from the Milwaukee area between March 28 and December 6, 1969. It also requires that separate runoff curve numbers be used for pervious and impervious surfaces, rather than composite curve numbers, when calculating runoff from the 2-year storm event.

Water Quality Standards. By design, each storm water management plan must meet the following post-development total suspended solids (TSS) reduction targets, based on average annual rainfalls, as compared to no runoff management controls:

A. For new land development, 80% TSS reduction;
B. For redevelopment, 40% TSS reduction;
C. For in-fill development prior to October 1, 2012, 40 % TSS reduction;
D. For in-fill development after October 1, 2012, 80% TSS reduction.

First Half-Inch Alternative. To meet these requirements it is normally necessary to utilize modeling tools such as SLAMM or a TR-55-based program. Modeling is a time-consuming and expensive process. As an alternative to modeling the hydrology, the Land Resources Division will presume that any site complies with both the infiltration and water quality requirements of the ordinance if the first ½ inch of runoff from the site is infiltrated. The purpose of the following discussion is to show that infiltrating the first half-inch of runoff meets or exceeds the ordinance infiltration and water quality requirements.

Infiltration

Volume Calculation for ½ Inch of Runoff. Calculation of the runoff volume is simply the area of the site multiplied by the runoff depth (1/2 inch). For example:

(11 acres)(43,560 sq. ft./acre)(1/2 inch)(1 foot/12 inches) = 19,965 cubic feet

To meet the infiltration requirement, an infiltration basin with 19,965 cubic feet of dead storage (storage below the outlet) must be constructed. This assumes there is no infiltration in dynamic routing (of water passing through basin). A half-acre basin one foot deep would meet this requirement. Construction details, soils, and peak discharge must still be addressed, but the infiltration dead storage sizing has been determined in two minutes, as opposed to eight hours.

Comparison with Ordinance Standards. Infiltration of the first ½ inch of runoff meets and exceeds the ordinance standards for infiltration based on the two-year storm. The attached spreadsheet and graph illustrate that, for the two-year storm:

- For residential development, where the percent impervious surface is typically about 25-38% (and a composite TR-55 runoff curve number (RCN) on a site with type B soils is typically about 70-75), 25% of the runoff is 0.20-0.28 inches. This is 40-56% of the first ½ inch of runoff.
- For commercial development, it is impossible for 10% of the 2-year storm runoff to exceed the first ½ inch of runoff. The 2-year storm is 2.7 inches of rain, per Natural Resources Conservation Service (NRCS) Technical Publication 40. Even if 100% of the storm runs off, 10% of 2.7 inches is only 0.27 inches, which is less than 0.50 inches. At 50-65% impervious surface (typical for commercial, and comparable to a composite RCN of 80-85 in B soils), the runoff depth is 1.4-1.7 inches, of which 10% is 0.14-0.17 inches.

Water Quality

Treatment Through Infiltration. Similarly, it is assumed that the water quality requirement is met if the first ½ inch of runoff is infiltrated. The rationale for this assumption is that the vast majority of rain events are relatively small storms, that these storms remove the bulk of the TSS from the surfaces, and infiltration of the first ½ inch of runoff will result of the deposition of the TSS in the infiltration basins.

Comparison with NRCS Methodology. A review of the 1969 Milwaukee rain file indicates that, of the 116 recorded rain events, none had a depth greater than 2 inches, 3 were between 1.5 and 2 inches, 6 were between 1 and 1.5 inches, 11 were between 0.5 and 1 inches, and the rest were all smaller. The largest event is 1.96 inches of rain, which is smaller than the NRCS 1-year design storm (2.3 inches) for Waukesha County.

Using the NRCS curve number methodology, if a site has a composite curve number of 70, the initial abstraction is 0.86 inches, and the greatest predicted runoff depth is 0.23 inches. If the composite curve number is 80, the initial abstraction is 0.5 inches, and the greatest predicted runoff depth is 0.54 inches. For the 1969 rain year, then, a basin or system of BMPs designed to infiltrate the first ½ inch of runoff would discharge the equivalent of 0.04 inches of runoff depth in a single event, and no more for the remainder of the year. Assuming that TSS is uniformly distributed in the runoff and that there is no re-suspension of particles, 99.8% of the TSS would therefore be removed, exceeding the 80% requirement.

Comparison with SLAMM Methodology. The NRCS methodology is criticized for underpredicting runoff in small storm events. Use of the Source Loading and Management Model (SLAMM) is an alternate method of simulating infiltration and sediment removal performance that is designed to give a more accurate prediction of small storm hydrology.

WinSLAMM does not permit the specification of infiltration basin dead storage. Infiltration basins are described solely as a function of area and infiltration rate. Therefore, it is not possible to directly describe an infiltration basin that has dead storage equal to ½ inch of runoff from the site. However, by post-processing the output files in a spreadsheet, it is possible to determine the volume of runoff that, on an average annual basis, would exceed the dead storage capacity of the basin. The assumptions made in this modeling and processing include:

- No infiltration by dynamic routing (only the water in the dead storage is infiltrated).
- All pervious areas are silty soil.
- All impervious areas are directly connected to the drainage system, and do not drain to previous areas, first.
- All TSS in the infiltrated/stored water is removed and TSS in the excess water is discharged.

The results of this analysis show that, for a basin designed to dead-store the first ½ inch of runoff, for the 1969 Milwaukee rain file:

Percent Impervious Surface	Percent TSS Removal On Average Annual Basis	Equivalent B Soil Composite CN
0	100	61
26	100	71
57	80	82
100	62	98

As some infiltration does occur in dynamic routing, these percent removal numbers are likely conservative.

Conclusions

1. For residential development, infiltration of the first ½ inch of runoff infiltrates about 3 times as much water as is required by the 25% of the 2-year storm runoff criterion.
2. For commercial development, infiltration of the first ½ inch of runoff exceeds the 10% of the 2-year storm runoff criterion for all levels of imperviousness.
3. For the rain file prescribed by the ordinance, infiltration of the first ½ inch of runoff meets the water quality requirement of 80% TSS removal up to 57% impervious surface.

APPENDIX A

New Roofs

Data file name: P:\2400\2495-EdgewoodTrans\Doc\Reports\Stormwater\SLAMM\New Roofs.dat
SLAMM Version 9.4.0
Rain file name: C:\Program Files (x86)\WinSLAMM\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_AVG01.psc
Runoff Coefficient file name: C:\Program Files (x86)\WinSLAMM\WI_SL06 Dec06.rsv
Particulate Residue Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_DLV01.prr
Residential Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_GEO01.ppd
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 06-06-2013 Time: 13:22:46
Fraction of each type of Drainage System serving study area:
1. Grass Swales 0
2. Undeveloped roadside 0
Curb and Gutters, `valleys', or sealed swales in:
3. Poor condition (or very flat) 0
4. Fair condition 0
5. Good condition (or very steep) 1
Site information:
Edgewood College

	|<===== Areas for each Source (acres) =====>|			
Source Area	Resi-dential Areas	Institu-tional Areas	Commercial Areas	Industrial Areas	Other Urban Areas
Roofs 1	0.000	4.420	0.000	0.000	0.000
Roofs 2	0.000	0.000	0.000	0.000	0.000
Roofs 3	0.000	0.000	0.000	0.000	0.000
Roofs 4	0.000	0.000	0.000	0.000	0.000
Roofs 5	0.000	0.000	0.000	0.000	0.000
Paved Parking/Storage 1	0.000	0.200	0.000	0.000	0.000
Paved Parking/Storage 2	0.000	0.000	0.000	0.000	0.000
Paved Parking/Storage 3	0.000	0.000	0.000	0.000	0.000
Unpaved Prkng/Storage 1	0.000	0.000	0.000	0.000	0.000
Unpaved Prkng/Storage 2	0.000	0.000	0.000	0.000	0.000
Playground 1	0.000	0.000	0.000	0.000	0.000
Playground 2	0.000	0.000	0.000	0.000	0.000
Driveways 1	0.000	0.000	0.000	0.000	0.000
Driveways 2	0.000	0.000	0.000	0.000	0.000
Driveways 3	0.000	0.000	0.000	0.000	0.000
Sidewalks/Walks 1	0.000	0.520	0.000	0.000	0.000
Sidewalks/Walks 2	0.000	0.000	0.000	0.000	0.000
Street Area 1	0.000	0.000	0.000	0.000	0.000
Street Area 2	0.000	0.000	0.000	0.000	0.000

		New Roofs			
Street Area 3	0.000	0.000	0.000	0.000	0.000
Large Landscaped Area 1	0.000	0.000	0.000	0.000	0.000
Large Landscaped Area 2	0.000	0.000	0.000	0.000	0.000
Undeveloped Area	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 1	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 2	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 3	0.000	0.000	0.000	0.000	0.000
Isolated/Water Body Area	0.000	0.000	0.000	0.000	0.000
Other Pervious Area	0.000	0.000	0.000	0.000	0.000
Other Dir Cnctd Imp Area	0.000	0.000	0.000	0.000	0.000
Other Part Cnctd Imp Area	0.000	0.000	0.000	0.000	0.000
Total	0.000	5.140	0.000	0.000	0.000

Freeway Source Area	Area (acres)
Pavd Lane & Shldr Area 1	0.000
Pavd Lane & Shldr Area 2	0.000
Pavd Lane & Shldr Area 3	0.000
Pavd Lane & Shldr Area 4	0.000
Pavd Lane & Shldr Area 5	0.000
Large Turf Areas	0.000
Undeveloped Areas	0.000
Other Pervious Areas	0.000
Other Directly Conctd Imp	0.000
Other Partially Conctd Imp	0.000
Total	0.000

Total of All Source Areas	5.140
Total of All Source Areas less All Isolated Areas	5.140

Source Area Control Practice Information

Land Use: Institutional

Roofs 1 Source area number: 31

The roof is flat

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Paved Parking/Storage 1 Source area number: 36

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Sidewalks/Walks 1 Source area number: 46

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Drainage System

Outfall

Pollutants to be Analyzed and Printed:

Pollutant Name	Pollutant Type
Solids	Particulate
Solids	Filterable
Solids	Total
Phosphorus/Phosphate	Particulate

	New Roofs
Phosphorus/Phosphate	Filterable
Phosphorus/Phosphate	Total
Nitrate	Filterable
Total Kjeldahl Nitrogen	Particulate
Total Kjeldahl Nitrogen	Filterable
Total Kjeldahl Nitrogen	Total
Copper	Particulate
Copper	Filterable
Copper	Total
Lead	Particulate
Lead	Filterable
Lead	Total
Zinc	Particulate
Zinc	Filterable
Zinc	Total
Other 1	Particulate
Other 1	Filterable
Other 1	Total
Other 2	Particulate

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New Roofs - Output Summary

SLAMM for Windows Version 9.4.0

Data file name: P:\2400\2495-EdgewoodTrans\Doc\Reports\Stormwater\SLAMM\New Roofs.dat
Data file description: Edgewood College
Rain file name: C:\Program Files (x86)\WinSLAMM\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_AVG01.psc
Runoff Coefficient file name: C:\Program Files (x86)\WinSLAMM\WI_SL06 Dec06.rsv
Particulate Residue Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_DLV01.prr
Residential Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Pollutant Relative Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_GEO01.ppd
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Model Run Start Date: 01/01/81   Model Run End Date: 12/31/81
Date of run: 06-06-2013   Time of run: 13:22:57
Total Area Modeled (acres): 5.14
Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Source Area Total without Controls:	32264	0 %	41.02	82.63	0 %
Total Before Drainage System:	32264	0.00%	41.02	82.62	0.01%
Total After Drainage System:	32264	0.00%	41.02	82.62	0.01%
Total After Outfall Controls:	32264	0.00%	41.02	82.62	0.01%
Annualized Total After Outfall Controls:	32353			82.85	

Data file name:
P:\2400\2495-EdgewoodTrans\Doc\Reports\Stormwater\SLAMM\Existing Parking.dat
SLAMM Version 9.4.0
Rain file name: C:\Program Files (x86)\WinSLAMM\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_AVG01.psc
Runoff Coefficient file name: C:\Program Files (x86)\WinSLAMM\WI_SL06 Dec06.rsv
Particulate Residue Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_DLV01.prr
Residential Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_GEO01.ppd
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 06-06-2013 Time: 13:22:40
Fraction of each type of Drainage System serving study area:
1. Grass Swales 0
2. Undeveloped roadside 0
Curb and Gutters, `valleys', or sealed swales in:
3. Poor condition (or very flat) 0
4. Fair condition 0
5. Good condition (or very steep) 1
Site information:
Edgewood College

	|<===== Areas for each Source (acres) =====>|				
Source Area	Resi-dential Areas	Institu-tional Areas	Commercial Areas	Industrial Areas	Other Urban Areas
Roofs 1	0.000	1.380	0.000	0.000	0.000
Roofs 2	0.000	0.000	0.000	0.000	0.000
Roofs 3	0.000	0.000	0.000	0.000	0.000
Roofs 4	0.000	0.000	0.000	0.000	0.000
Roofs 5	0.000	0.000	0.000	0.000	0.000
Paved Parking/Storage 1	0.000	3.860	0.000	0.000	0.000
Paved Parking/Storage 2	0.000	0.000	0.000	0.000	0.000
Paved Parking/Storage 3	0.000	0.000	0.000	0.000	0.000
Unpaved Prkng/Storage 1	0.000	0.000	0.000	0.000	0.000
Unpaved Prkng/Storage 2	0.000	0.000	0.000	0.000	0.000
Playground 1	0.000	0.000	0.000	0.000	0.000
Playground 2	0.000	0.000	0.000	0.000	0.000
Driveways 1	0.000	0.000	0.000	0.000	0.000
Driveways 2	0.000	0.000	0.000	0.000	0.000
Driveways 3	0.000	0.000	0.000	0.000	0.000
Sidewalks/Walks 1	0.000	2.140	0.000	0.000	0.000
Sidewalks/Walks 2	0.000	0.000	0.000	0.000	0.000
Street Area 1	0.000	0.000	0.000	0.000	0.000
Street Area 2	0.000	0.000	0.000	0.000	0.000
Street Area 3	0.000	0.000	0.000	0.000	0.000

		Existing Parking			
Large Landscaped Area 1	0.000	6.480	0.000	0.000	0.000
Large Landscaped Area 2	0.000	0.000	0.000	0.000	0.000
Undeveloped Area	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 1	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 2	0.000	0.000	0.000	0.000	0.000
Small Landscaped Area 3	0.000	0.000	0.000	0.000	0.000
Isolated/Water Body Area	0.000	0.000	0.000	0.000	0.000
Other Pervious Area	0.000	0.000	0.000	0.000	0.000
Other Dir Cnctd Imp Area	0.000	0.000	0.000	0.000	0.000
Other Part Cnctd Imp Area	0.000	0.000	0.000	0.000	0.000
Total	0.000	13.860	0.000	0.000	0.000

Freeway Source Area	Area (acres)
Pavd Lane & Shldr Area 1	0.000
Pavd Lane & Shldr Area 2	0.000
Pavd Lane & Shldr Area 3	0.000
Pavd Lane & Shldr Area 4	0.000
Pavd Lane & Shldr Area 5	0.000
Large Turf Areas	0.000
Undeveloped Areas	0.000
Other Pervious Areas	0.000
Other Directly Conctd Imp	0.000
Other Partially Conctd Imp	0.000
Total	0.000

Total of All Source Areas	13.860
Total of All Source Areas less All Isolated Areas	13.860

Source Area Control Practice Information

Land Use: Institutional

Roofs 1 Source area number: 31

The roof is flat

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Paved Parking/Storage 1 Source area number: 36

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Sidewalks/Walks 1 Source area number: 46

The Source Area is draining to a pervious area (partially connected impervious area)

The SCS Hydrologic Soil Type is Silty

Large Landscaped Area 1 Source area number: 51

The SCS Hydrologic Soil Type is Silty

Drainage System

Outfall

Pollutants to be Analyzed and Printed:

Pollutant Name	Pollutant Type
Solids	Particulate
Solids	Filterable
Solids	Total
Phosphorus/Phosphate	Particulate
Phosphorus/Phosphate	Filterable
Phosphorus/Phosphate	Total

	Existing Parking	
Nitrate		Filterable
Total Kjeldahl Nitrogen		Particulate
Total Kjeldahl Nitrogen		Filterable
Total Kjeldahl Nitrogen		Total
Copper		Particulate
Copper		Filterable
Copper		Total
Lead		Particulate
Lead		Filterable
Lead		Total
Zinc		Particulate
Zinc		Filterable
Zinc		Total
Other 1		Particulate
Other 1		Filterable
Other 1		Total
Other 2		Particulate

♀

Existing Parking - Output Summary

SLAMM for Windows Version 9.4.0

Data file name: P:\2400\2495-EdgewoodTrans\Doc\Reports\Stormwater\SLAMM\Existing Parking.dat
Data file description: Edgewood College
Rain file name: C:\Program Files (x86)\WinSLAMM\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_AVG01.psc
Runoff Coefficient file name: C:\Program Files (x86)\WinSLAMM\WI_SL06 Dec06.rsv
Particulate Residue Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_DLV01.prr
Residential Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\Program Files (x86)\WinSLAMM\WI_Com Inst Indust Dec06.std
Pollutant Relative Concentration file name: C:\Program Files (x86)\WinSLAMM\WI_GEO01.ppd
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Model Run Start Date: 01/01/81   Model Run End Date: 12/31/81
Date of run: 06-06-2013   Time of run: 13:23:09
Total Area Modeled (acres):   13.86
Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Source Area Total without Controls:	87000	0 %	157.2	853.8	0 %
Total Before Drainage System:	86999	0.00%	157.2	853.8	0.00%
Total After Drainage System:	86999	0.00%	157.2	853.8	0.00%
Total After Outfall Controls:	86999	0.00%	157.2	853.8	0.00%
Annualized Total After Outfall Controls:	87238			856.2	

A.4

Neighborhood Perspective on the Liaison Team Process

NEIGHBORHOOD PERSPECTIVES ON THE LIAISON TEAM PROCESS
January 7, 2014

The following was submitted by the Dudgeon Monroe and Vilas Neighborhood Association members of the Edgewood Neighborhood Liaison Committee for inclusion into the Appendix of the Edgewood Master Plan.

The Edgewood/Neighborhood Liaison Committee, the DMNA and VNA representatives to the Committee, and other concerned neighbors have had numerous meetings throughout 2013 regarding the proposed Master Plan. It is important to note that at the outset there were numerous objections from neighbors regarding almost all aspects of the plan. Both the neighborhoods and Edgewood were determined to try to avoid the stalemates and acrimony that resulted from development disputes in the past, most recently before the construction of Dominican Hall dormitory. Over time, and as a result of the meetings, and in a spirit of neighborliness and compromise borne of the willingness of all parties to negotiate, the neighbors have chosen to accept many things that they didn't want regarding growth of the Edgewood Campus operation. The items neighbors have agreed not to oppose are described below.

Edgewood has proposed to add an additional 247 students to the on campus dorm population. This represents a 44% increase. Many neighbors thought that this was too large a number. The College provided data supporting its need for the increase and, in return for the neighbors' agreement not to oppose the increase in on-campus enrollment, the College recommitted to continuing its efforts to mitigate the impact of these additional students on the neighborhood.

There also was significant opposition to the size, scale and possible uses of the four new buildings proposed for the edges of the campus adjacent to the neighborhoods and the Park and Pleasure Drive. It was feared that the buildings would be incompatible with residential character of the rest of the neighborhood. The neighbors agreed to not oppose these structures once detail was provided in the plan regarding these buildings, with design elements for buildings and landscaping that would respect the residential nature and quality of the adjacent neighborhoods.

With the exception of site 1 which has a 91 foot setback at the southwest corner, buildings planned for the perimeter of the campus are shown with 70 foot setbacks instead of the 100 feet neighbors remembered as the promised setback from previous master plans. After details regarding the 70 foot setback and landscaped buffer zones were agreed on, the neighbors withdrew their opposition. And although the neighbors also had significant opposition to the lack of any setback along the Park and Pleasure Drive, the neighbors dropped their opposition based on the legal status of the Park and Pleasure Drive, including that it must be maintained as having a park-like quality.

There were significant initial concerns about increased traffic from the planned expansion. The Traffic Plan addressed most of these concerns and opposition to the Master Plan based on increased traffic was dropped.

A first look at the building footprint map shows an approximate doubling of the footprint of structures on the campus. Many neighbors expressed a fear that this much expansion would not be sustainable. The neighbors realize that this statement is difficult to quantify and therefore will not oppose the proposed expansion of building footprint.

Lastly, in reference to the newly-created Architectural Design Review Committee, the Dudgeon-Monroe and Vilas Neighborhood Association representatives respectfully request that the City of Madison be receptive to reassessing the success of this new approval process. We recommend that the City of Madison staff meet with the Edgewood Neighborhood Liaison Committee at the end of the first building project to which it is applied to determine the effectiveness of this process.