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*Eric Larson
Undergraduate Thesis Project 2005
Department of Architecture and Landscape Architecture
North Dakota State University*



LAKE BENTON COMMUNITY CENTER

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

By:

Eric Larson

In Partial Fulfillment of the Requirements
for the Degree of
Bachelor of Architecture

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May 2005
Fargo, North Dakota



“Community facilities are
the knots that tie together
the fabric of our towns.”

-Charles Linn



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My thesis project is the design of a community center for the small town of Lake Benton, Minnesota. Located in the southwest corner of the state, Lake Benton is a rural farming community. Combining community safety, education and activities into one building will tie the community together. Charles Linn (1996) stated “Community facilities are the knots that tie together the fabric of our towns” (p.66). He continues to say, “They enrich the quality of life for individuals to an extent that can only be attained through collective organization” (p.66). I want to tie Lake Benton together by designing a building that includes a police and fire station, public library and community hall.

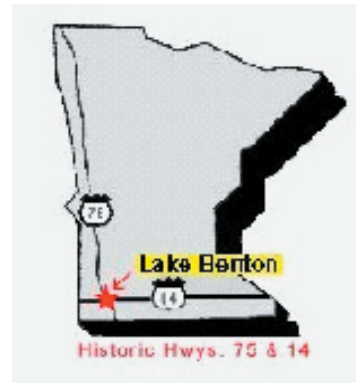


Fig. A-1



The underlying premise of this design is that historical memory is an essential aspect of life and must inform design solutions. I want to use the strong heritage of the citizen's of Lake Benton to drive the design, allowing people to learn about themselves from the built environment.

Being the melting pot of the area Lake Benton's citizens have various backgrounds. A community center will become an icon for the city that will unite the citizens.

Lake Benton is known as the original wind power capitol of the world due to the wind mills on the ridge. Passive energy as another underpinning will add to the education of other passive technology such as solar energy and day lighting.



Lake Benton received its name back in 1838 when General John C. Fremont and Joseph Nicollet were exploring through the Minnesota-Dakota territory. Lonely and homesick from mapping the land west of the Mississippi river, Fremont looked over the lake thinking of his fiancée, Jessie Benton, the daughter of Missouri Senator Thomas H. Benton. Thinking to himself “Why not name this Lake Benton for her.” The city was founded in the late 1870’s and plotted August 29th, 1879.

The same year the railroad was building west from Tracy, reaching Lake Benton by November and creating a railroad town. Today, the True Value/NAPA store is in the location of the first business lot sold. The railroad brought in the people and within a year Lake Benton became an active, bustling village with several businesses.

The county seat moved from Marshfield to Lake Benton in 1881. After several votes and court appeals the seat was moved to Ivanhoe in 1904 and has been there since.

Throughout the history of Lake Benton pride and determination has kept the community successful. With a rich heritage and tradition of excellence, the present citizens are dedicated to its continuance, with the hope that the citizens of the future will pursue and expand the vision of our forefathers. The construction of a community center will be part of the expansion of that vision.



Fig. C-1 Old Downtown



Fig. C-2 Corner Drug Store



Fig. C-3 Yellowstone Trail



Lake Benton Library first opened its doors on April 26th, 1935 at the city hall. Prior to that, starting in 1929, the Excelsior Federated Women's Club collected and donated books and magazines. Founded solely on donations and monetary gifts in the early years and finally receiving funds from the city in 1958 the library collection consists of over 8,000 books, 45 magazines and 700 videos for children and adults. The library joined the Plum Creek Library System on October 2nd, 1989.

Library design is changing from a storage place for books to a place for community activities and this is due in part to the computer age. According to Charles Linn (1997) "Libraries are the cornerstone for learning in their affluent communities" (p. 59). A library in a community center can contribute to community education. Carol Ross Barnery noted (1996), "The library isn't just the place where you keep the books, there is a lot of community and educational programming that goes far beyond reference work and books" (p.67). The library plays an integral part in that knot that holds the community together.



Fig. D-1 Library



Community safety is another important piece of the knot in a community. American small town fire departments are largely voluntary associations, that need up-to-date equipment and housing for it because the mere thought of an uncontrolled fire causes collective community nightmare. (Anderson, p.91). Integrating the large apparatus bay mass with the smaller mass of personnel housing becomes the most difficult task in fire station design. (Shaughnessy, p.49).



Fig. E-1 Fire Station

Organized on January 10th, 1893, the volunteer fire department is the oldest service organization in Lake Benton. Today, providing top-notch service to Lake Benton and surrounding areas, the fire department consists of 21 citizens who volunteer their time and risk their lives for community safety.

The Lake Benton Police department consists of a full time Chief and a part-time officer. The two of them are responsible for investigating all calls or complaints from the 700 citizens. Anderson notes (1986), “Most small towns worry less about heinous crimes than about obstreperous ructions and automotive infractions, but professional police are needed to deal with these offenses” (p.91). He also states that, “To most small towns, it seems logical and cost-effective to combine headquarters for police and fire departments.” (p.91).



The city of Lake Benton had a 125 year celebration in June of 2004. The community needs a civic building that will combine public knowledge and safety along with activities to become an icon for Lake Benton. Linn writes (1997) “The best buildings for communities are those whose design is forceful enough to help people redefine their image of themselves” (p.59). A modern building with historic influences could be the design that redefines Lake Benton.



The community center has three major components: community safety, education, and activities. The police and fire station with apparatus bay make up the safety while the library enhances education. The community hall and kitchen are the spaces for community gatherings.



Community Hall

Goals:

An active space for community gatherings such as weddings, fund-raisers and general activities.

Space Needs:

Flexible, removable seating
Day lighting

Kitchen

Goals:

A support space to the community hall

Space Needs:

Food Storage
Food Prep
Cooking
Dish washing



Library

Goals:

A space to promote community education and interaction.

Space Needs:

Stack Area

Reading Area

Checkout Desk



Police and Fire Department

Goals:

Making the police department and fire equipment viewable to the community to increase the sense of safety.

Space Needs:

Police Chief Office

Deputy Office

Reception Area

Apparatus Bay

Lounge



The clients for the project will be the city of Lake Benton, Lincoln County and the State of Minnesota. The users of the community center would be the citizens of Lake Benton. The citizens of Lake Benton will have access to the public library and community hall to hold activities and meetings.

Staff:

- Police Chief
- Police Officer
- 21 Volunteer Firefighters
- First Responders
- Emergency Operator
- Librarian
- Janitor

2nd Party users:

- Citizens of Lake Benton



Fig. H-1



Fig. H-2



Fig H-3



Knowledge of what will be appropriate for a community center will be gained through case studies. That knowledge will aid in the discovery of other concepts that need to be researched such as: building envelope, sustainable design, mechanical equipment, and so on. Since the community center will be placed in a small town, research into historical aspects will aid in giving the building a sense of place.



- **Historical aspects**

Using historical aspects to educate the future through design.

- **Sustainable Design**

Design using passive systems, energy efficiency and striving for LEED certification. Lake Benton is known as the original wind power capitol of the world and a passive design could strengthen the education on passive energy.

- **Community Center Design**

Designing a mixed-use building that ties community education, safety and activities together.



Lake Benton is a rural, farming town in the southwest corner of Minnesota. Located on the crossroads of International Highway King of Trails #75 and Laura Ingalls Wilder Historic Highway #14. Lake Benton is nestled in the valley of the Hole-in-the-Mountain on Buffalo Ridge, a part of the Coteau des Prairies. The proposed sites for the community center are located on Benton Street (County Hwy #21).

A major landmark for Lake Benton is the Opera House that has just been remodeled. In 1895, a fire destroyed the original wood frame opera house so a group of citizens formed an association to finance the construction of a brick structure. When finished in 1896, it was considered one of the finest of its kind in the area. The new structure included a spacious stage, horseshoe balcony, private boxes and a gas lighting system. The opera house became the locale for school plays and concerts, church and political meetings, and July 4th and Decoration Day observances. Due to the removable seats the space could be used for dances, card parties, dinners, basketball games, and all manner of community events. After the 1950's the building became unoccupied and a devastating hail storm in 1963 opened the building to the elements. In 1970 the building was ready for demolition but again a group of citizens united to save it. Restoration has continued for over thirty years and early 2001 saw the installation of seats and restoration of the balcony. The Opera House is open from March until mid-December.

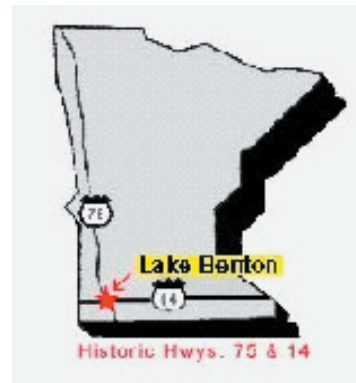


Fig. K-1 Map



Fig. K-2 Street Map



Fig. K-3 Opera House

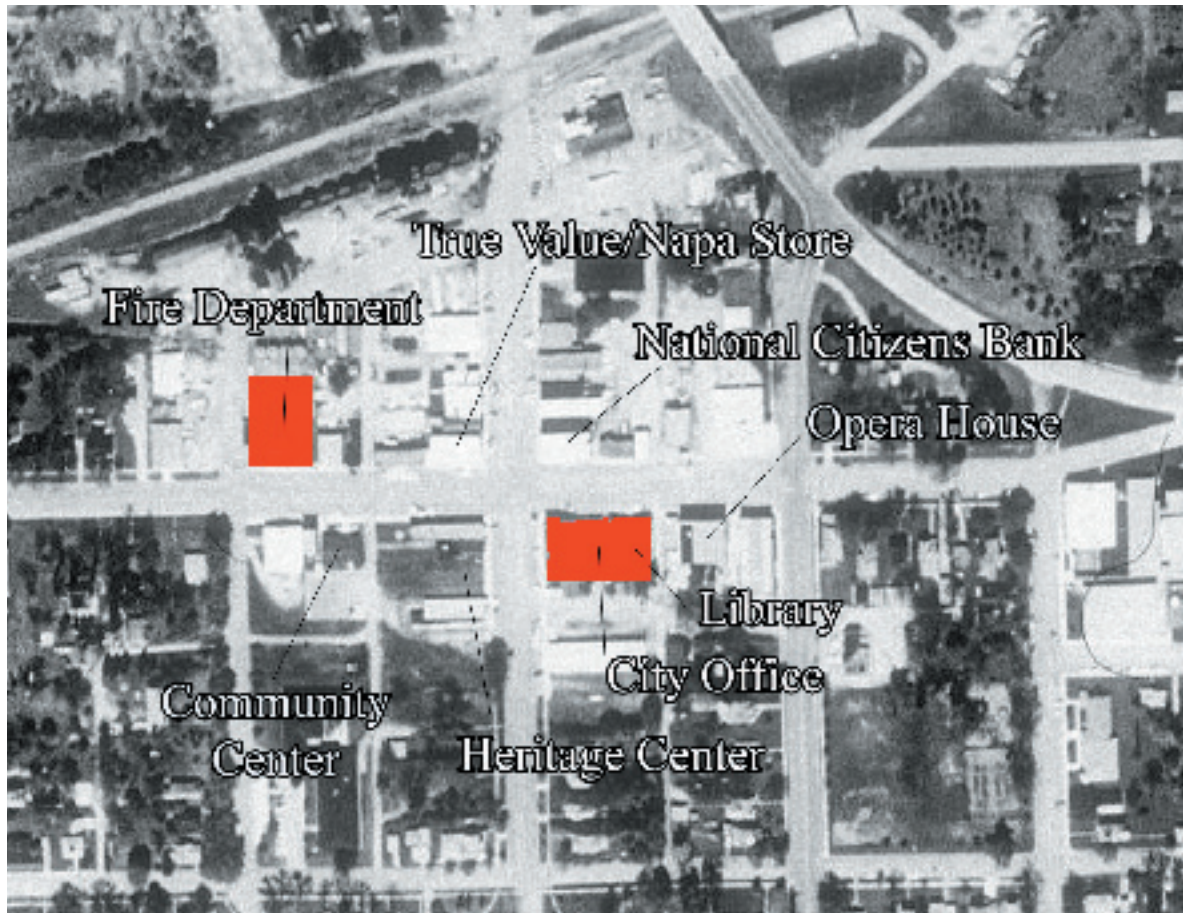


Fig. L-1

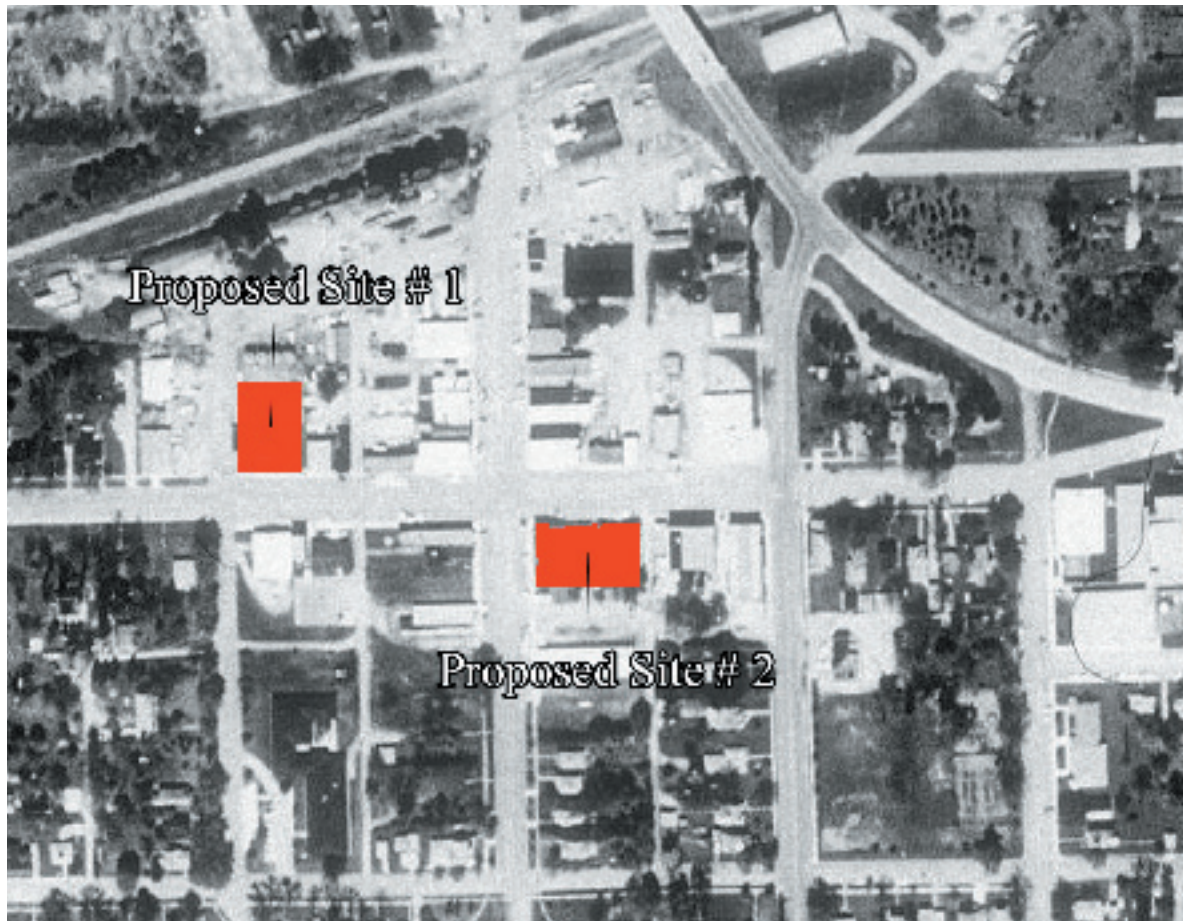


Fig. L-2



Proposed Site #1

Most of the commercial buildings in Lake Benton are either brick or steel and one or two storeys. The tallest building is the grain elevator. Currently on proposed site #1 is the fire department and an empty lot to the north. This site was chosen because it is a corner lot with easy access for the fire trucks.



Fig. M-1 East of site



Fig. M-2 West of site



Fig. M-3 North of site



Proposed Site # 2

Proposed site # 2 is on the same street as site # 1 but closer to the heart of town. The library, city office and grocery store are currently located on site # 2. The possible connection to the Opera House, pictured in fig. M-5, makes this a reasonable site for the community center.



Fig. M-4 Site # 2



Fig. M-5 Opera House



Fig. M-6 Across Street



Climate data reported by over 4,000 weather stations

	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average Temp. (F)	12.8	19.1	30.7	45.0	57.8	67.1	71.4	69.2	59.9	47.7	30.9	17.8
High Temp. (F)	21.7	27.5	39.3	55.6	69.3	78.4	82.7	80.4	71.8	59.0	39.1	26.1
Low Temp. (F)	4.0	10.7	22.1	34.3	46.3	55.7	60.1	57.9	47.9	36.4	22.6	9.5
Precipitation (in.)	0.6	0.5	1.6	2.4	3.3	4.0	3.3	3.1	2.6	2.1	1.5	0.6
	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.
Days with precip.	6	7	9	10	11	11	10	9	8	6	7	6
Wind speed (mph)	11.0	11.1	12.2	13.0	11.9	10.8	9.8	9.9	10.4	10.8	11.4	10.8
Morning humidity (%)	78	80	82	81	81	82	84	86	85	81	83	81
Afternoon humidity (%)	71	71	67	59	58	60	60	62	61	60	68	73
Sunshine (%)	57	58	58	60	64	69	75	73	68	62	49	48
Days clear of clouds	8	7	6	7	7	9	12	12	12	11	7	8
Partly cloudy days	8	7	8	8	10	11	12	11	8	8	7	7
Cloudy days	15	15	17	15	14	11	8	9	10	12	16	16
Snowfall (in)	6.9	8.0	9.2	2.9	0.0	0.0	0.0	0.0	0.0	0.9	6.0	6.9



Wind rose information for Pipestone Municipal which is located 18 miles south of Lake Benton.

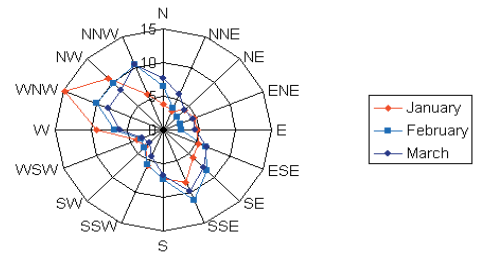


Fig. N-1

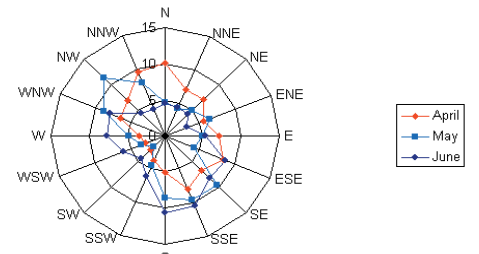


Fig. N-2

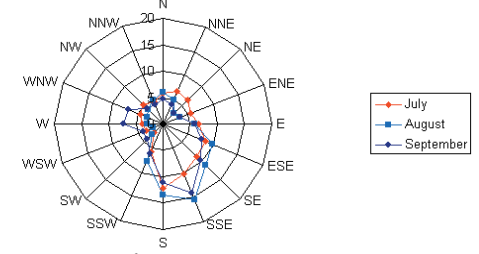


Fig. N-3

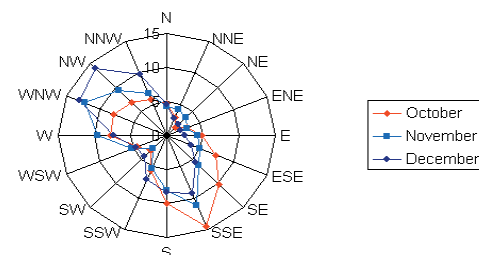


Fig. N-4

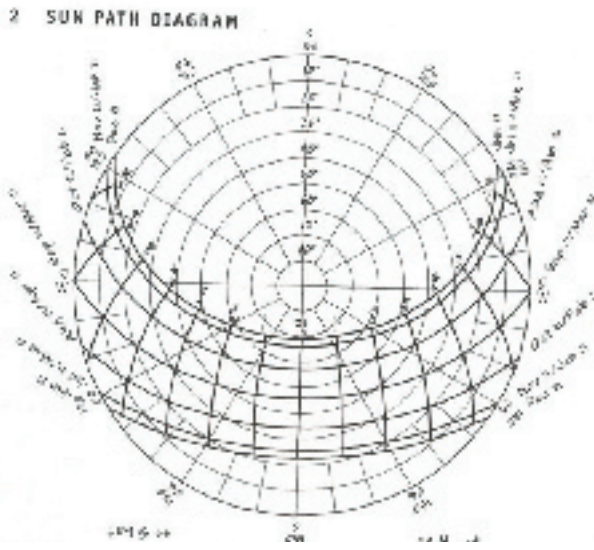


Fig. N-5

Sun path diagram of Minneapolis, Minnesota which is located northeast of Lake Benton.



Subject	Number	Percent
Total Population:	703	100.0 %
Sex & Age		
Male	331	47.1 %
Female	372	52.9 %
Under 25	190	27%
25-54	220	31%
55-84	259	37%
85 and over	37	5.3%
Median age (years)	46.6	
Race		
One race	698	100.0 %
White	687	98.4 %
Other	18	2.6%



Relationship		
Total Population	703	100.0 %
In households	697	99.1 %
In group quarters	6	0.9 %
Households by Type		
Total Households	334	100.0 %
Family households (families)	196	58.7 %
NonFamily households	138	41.3 %
Average Household size		
Average Household size	2.09	N/A
Average family size	2.78	N/A
Housing Occupancy		
Total housing units	365	100.0 %
Occupied housing units	334	91.5 %
Vacant housing units	31	8.5 %
For seasonal, recreational, or occasional use	3	0.8 %
Homeowner vacancy rate (percent)		
Homeowner vacancy rate (percent)	4.7	N/A
Rental vacancy rate (percent)		
Rental vacancy rate (percent)	6.1	N/A



Edward Saunders Unity Center
(Ken-Bailey Community Center)
Buffalo, New York

This community center offers an innovative approach towards fostering strong ties between the community and law enforcement. The same ties that are needed in the community center for Lake Benton. The new facility also serves as an anchor for inner-city community revitalization.



Fig. T-1

Community Center spaces include a dining / activities room, full kitchen, meeting rooms and offices for program administration and services.

Police Station spaces include a secure vestibule / lobby area, interview rooms, offices, training rooms, communications room and full locker facilities. A full gymnasium and exercise areas are shared by both community and police.

The Police Station is larger than what is needed for Lake Benton but the approach of strong ties between community and safety is exactly what is needed to hold a community together.



Fig. T-2



Village Hall and Fire Station
Los Ranchos de Albuquerque,
New Mexico
Westwork Architects



Fig. U-1

The rural village of Los Ranchos de Albuquerque has only 3,000 citizens which is small but still quite larger than Lake Benton. The village decided to go with this design from Westwork Architects instead of the cheapest structure possible because they wanted the only public building to make an impressive regional architectural statement. Instead of regional architecture I want to use heritage to drive my design of the Lake Benton Community Center. Going farther than just a painted facade.

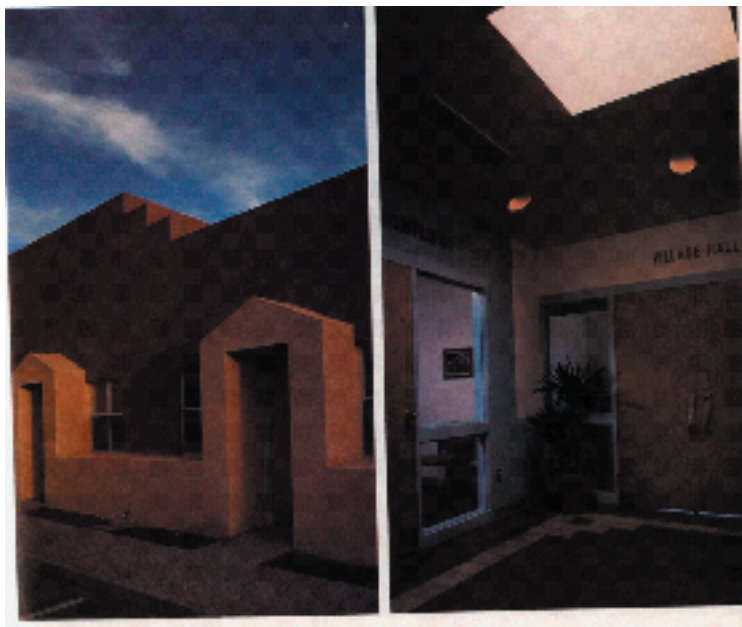


Fig U-2



Carmel Mountain Ranch
Library
San Diego, California
M.W. Steele Group

This 13,000 sq. ft. library is bigger than the one needed for Lake Benton but the aspects of day lighting and passive energy will be of use even at a smaller scale.



Fig. V-1

The butterfly shaped roof makes room for clerestory windows that allow light in and warm air out. The operating lower windows allow cool air in. The steel moment frame carries light shelves and sunshades. It is possible to rely on passive ventilation due to the region's temperate climate. The sunshades bring enough light into the building that the need for electric light is almost none. I would like to employ these passive energy strategies in the design of the community center.

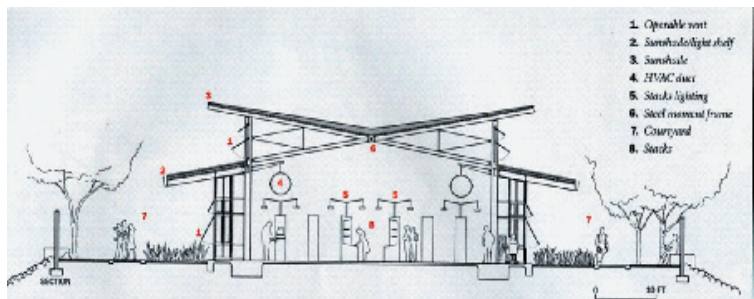


Fig V-2



Lobby		500 sq. ft.
Community Hall		1500 sq. ft.
Public Toilet Rooms	125 sq. ft.	250 sq. ft.
Kitchen		650 sq. ft.
Dishwasher		
Storage		
Library		
Book Area	1600 sq. ft.	
Reading Room	600 sq. ft.	
Office	100 sq. ft.	
Computer Room	200 sq. ft.	
Meeting Room	500 sq. ft.	
Rest Rooms 2 @ 50sq	100 sq. ft.	
Total		3,100 sq. ft.
Police Office		
Police Chief Office	200 sq. ft.	
Deputy Office	175 sq. ft.	
Reception Area	175 sq. ft.	
Storage	200 sq. ft.	
Total		750 sq. ft.
Fire Station		
Office/Lounge	400 sq. ft.	
Storage	150 sq. ft.	
Toilet Room	50 sq. ft.	
Total		600 sq. ft.
Apparatus Bay		2,300 sq. ft.
Circulation 10%		1,000 sq. ft.
Mechanical		700 sq. ft.
	TOTAL	11,350 sq. ft.

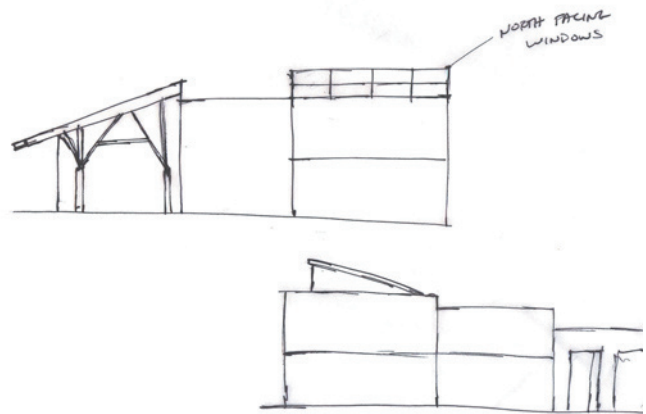
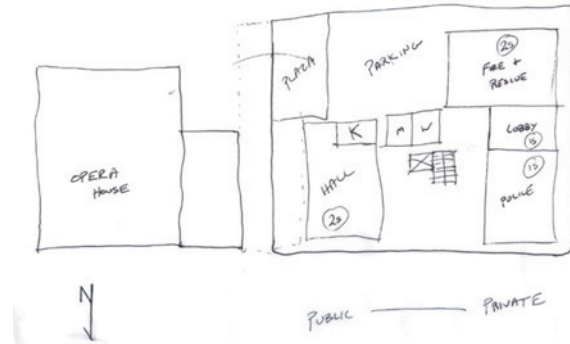


Design of the community center started with the site. The connection with the historic Opera House suggested a plaza that would create a connection and city center.

Space layout was the first step in the design. The corner site next to the Opera House allowed access for the fire trucks but the site constraints forced the library to move to the second floor.

Form was redefined after the spaces were laid out. The principle of day lighting informed the shape and volume of the spaces.

Natural materials were used due to the historical aspects and low impact on the environment. Heavy timber is used in the community hall and library where the structure is exposed while stone from Pipestone, MN is used as an exterior material.



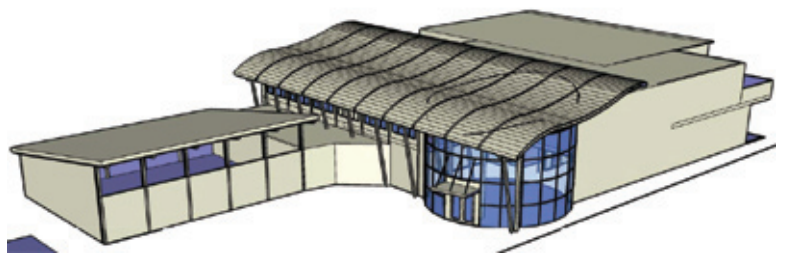
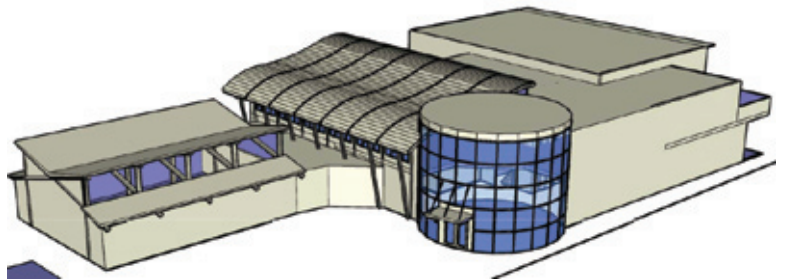
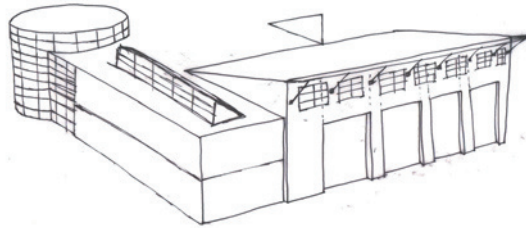


The curved roof and butterfly roof were applied to allow natural light to enter the hall and library spaces.

Together the roof forms conflicted with each other. To solve this problem the butterfly roof over the hall was changed to a slant while the roof over the library was extended to create a spline for the building. Then the curved roof was changed to a butterfly roof to simplify the connection with the curved walls.

The angle of the butterfly roof and lightshelve was lowered on the entrance side to make the entrance more human scaled.

A memorial tree was placed in the plaza. The tree provides a canopy and a community memorial to those who are no longer apart of the community.





Welcome to Lake Benton *Wisconsin Capital*

Lake Benton Community Center

Undergraduate Design Thesis 2005 Eric Larson

Lake Benton is a small, historic town in the southwest corner of Minnesota. Located on the shore of Lake Benton, it is a charming community with a rich history. The town is known for its historic architecture and scenic views of the lake. The project aims to revitalize the town by creating a modern community center that respects the town's heritage while providing contemporary amenities.

Site Information

A major landmark for Lake Benton is the Green House that has just been completed. It is a two-story brick building that serves as the town's primary gathering place. The site for the new community center is located on the corner of the main street and the highway. The site is well-served by public transportation and is easily accessible to all residents.

Process

Quality architecture provides solutions with the right design in the right place. The right solution and design process starts with the client. The client is the community of Lake Benton. The design process is a collaborative effort between the architect and the community. The process involves multiple iterations of design and feedback from the community. The final design is a result of this collaborative process.

Northeast Perspective

The northeast view of the building shows the main entrance and the large glass facade. The building is designed to be a landmark in the town, with a modern yet historic aesthetic.

Northeast Perspective

A closer view of the building's facade shows the intricate details of the brickwork and the large windows. The design is inspired by the town's historic architecture.

Southwest Perspective

The southwest view shows the building from a different angle, highlighting the side entrance and the surrounding landscape. The building is designed to blend with the town's historic character.

Safety

The building is designed with safety in mind. It features a secure entrance, fire exits, and a well-lit interior. The design ensures that the building is a safe and welcoming space for the community.

Floor Plans

Second Floor Plan Scale 3/32" = 1'-0"

First Floor Plan Scale 3/32" = 1'-0"

"Combining community SAFETY, EDUCATION and ACTIVITIES into one building will tie the community together"

Materials

Wall Section Scale 1" = 1'-0"

The building is constructed of brick and wood. The brick is a traditional red brick, and the wood is a light-colored hardwood. The materials are chosen for their durability and aesthetic appeal. The design is a blend of modern and historic materials.

Activities

Community Hall Interior Perspective

The community hall is designed to be a multi-use space. It can be used for meetings, classes, and community events. The hall is a central part of the community center, providing a space for the community to gather and engage.

Community facilities are the knots that tie together the fabric of our towns.

Southwest Perspective

Education

Reading Room

Stack Area

The reading room is a quiet space for study and reading. It features comfortable seating and a large collection of books. The stack area is a well-lit space for storing and accessing books. The design is focused on creating a conducive environment for learning.

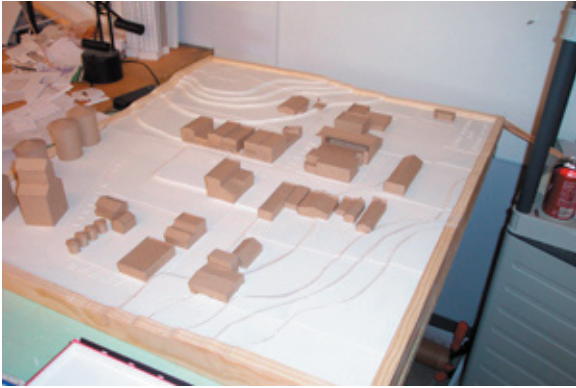
Details

Summer

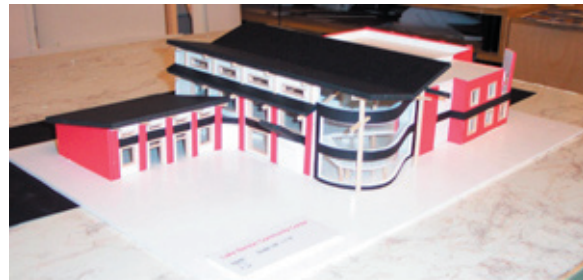
Winter

HVAC

The building is designed to be energy-efficient. It features a high-quality HVAC system that provides year-round comfort. The design also includes energy-saving features like double-pane windows and insulation. The goal is to create a sustainable and comfortable building.



Context Model



Final Model





Books

Allen, E., & Iano, J. (2002). The Architect's Studio Companion. New York: John Wiley & Sons

Brown, G.Z., & DeKay, M. (2001). Sun, Wind & Light. New York: John Wiley & Sons

Soil Survey Lincoln County Minnesota, United States Department of Agriculture Issued January 1970

Tasker, A.E. Early History of Lincoln County

2004 Lake Benton Visitor Guide

Periodicals

Anderson, G. (1986, February). Civil Servants. Architectural Record p.91

Firehouse I. (1986, February) Architectural Record p92-95

Fang, E. (1997, December). Carmel Mountain Ranch Library San Diego, California. Architectural Record p62-67

Linn, C. (1996, June). Community Buildings: Coping with Cultural Change. Architectural Record p66-67

Linn, C. (1997, December). Buildings for communities, Creating the Ripple Effect. Architectural Record p59

Shaughnessy, M. (1991, February). Prairie Fire Architectural Record p.49



Internet

History of Lake Benton, accessed 9/28/2004 from www.itcel.com/lbenton/lbhist.html

Demographics, accessed 9/28/2004 from <http://lakebentonmn.areaguides.net/census.html>



Statement of Intent

Lake Benton, Minnesota is a small town with 700 people, located in the southwest corner of the state. I propose the design of a community center including public services of police and fire and a public library. The community center will be a place where the people of Lake Benton can hold community activities. Community is important, especially in a small town where people have to work together. A well designed community center will be a place where they can come together. The city of Lake Benton, Lincoln County and the State of Minnesota are the clients for this project.

Many of the people of Lake Benton have a Scandinavian heritage that will influence the design of the community center. I will use the direct observations I made on my recent trip through the Scandinavian area along with research into the culture and architecture. I feel it is essential for a community and its people to understand their history. The underlying premise of this design is that historical memory is an essential aspect of life and must inform design solutions.



Undergraduate Design Thesis Proposal

a. Title

Lake Benton Community Center; Uniting through History

b. Building Type

My thesis project is the construction of a community center for the town of Lake Benton. The center will house a public library, space for community activities as well as community safety by incorporating a police and fire station.

c. User/Client Definition

The users of the community center would be the citizens of Lake Benton. The clients for the project will be the city of Lake Benton, Lincoln County and the State of Minnesota. The citizens of Lake Benton will have access to the public library and community hall to hold activities.

The building would employ police officers, volunteer firefighters, office staff and librarian.

d. Major Project Elements

- Community Hall
- Kitchen
- Library
- Police Office
- Fire Station
- Garage

e. Site



General John C. Fremont and Joseph Nicollet were on an exploration trip through the Minnesota-Dakota Territory. They were busy mapping the land between the Mississippi and Missouri Rivers. Fremont, lonely and homesick, looked over the lake and thought of his fiancé, Jessie Benton, daughter of Missouri Senator Thomas H. Benton. “Why not name this Lake Benton, for her,” he thought. The city was founded in the late 1870’s and was platted August 29, 1879. When the railroad was built westward in the mid-1870’s, the prairie town rapidly became the county’s metropolis.

The site I am using for the community center is located on Benton Street and the north border is the railroad. A major landmark for Lake Benton is the Opera House that has just been remodeled. The soil on the site is Svea clay loam, 0 to 2 percent slopes. This soil is nearly level and moderately well drained.

Lake Benton is a rural, farming town in the southwest corner of Minnesota. The population is 703 and almost half male and half female. The median age is 47 and 687 are white, 7 American Indian, 2 Chinese. 334 occupied housing units and 241 are owner-occupied.

f. Project Emphasis

- Historical aspects
Designing from historical memories to educate the future.
- Sustainable Design
Design using passive systems, energy efficiency and striving for LEED certification.
- Community Center Design
Designing a mixed-use building for public safety and community unity.

g. Definition of Research Direction

Research into Scandinavian architecture and the history of Lake Benton will be needed in determining an appropriate design for the community center.



h. Design Methodology

Knowledge of what will be appropriate for a community center will be gained through case studies. That knowledge will aid in the discovery of other concepts that need to be researched such as: building envelope, sustainable design, mechanical equipment, and so on. Since the community center will be placed in a small town, research into historical aspects will aid in giving the building a sense of place.

i. Documentation of the Design Process

Documentation of research will be recorded and organized into a binder by related topic (community center design, materials, sustainable design, and weekly reviews). Documentation of design will be dated and sketches will be kept in a sketchbook.

j. Schedule

Week #1 (Oct. 4-8)	
7 October	Thesis Proposal Due
7 October	Student critic preference slips & faculty preference slips
Research	
Week #2 (Oct. 11-15)	
14 October	Student and Faculty return preference slips to main office
Research	
Week #3 (Oct. 18-22)	
21 October	Primary and Secondary Critics announced
Research	
Week #4 (Oct. 25-29)	
28 October	Last Day of AR/LA 561
Define the Program	



Research

Week #5 (Nov. 1-5)

Research

Further work on Program

Week #6 (Nov. 8-12)

11 November Veteran's Day Holiday

Organize site information

Work on Draft of Program

Week #7 (Nov. 15-19)

15-19 November Last week of Arch 571 Studio/ Presentations

Research

Work on Draft of Program

Week #8 (Nov. 22-26)

24 November Draft Thesis Program due to Primary Critic (1 Copy)

25-26 November Thanksgiving Holiday

Further site analysis and building documentation

Week #9 (Nov.29-Dec. 3)

Organize rest of site information and building documentation

Week #10 (Dec. 6-10)

9 December Final Thesis Program due to Primary Critic (1 Copy)

10 December Last Day of classes

Review of program with thesis critic to determine areas of refinement

Work on final program draft

Week #11 (Dec. 13-17)

13-17 December Final Exams



Week #12 (Dec. 20-24)
Research

Week #13 (Dec. 27-31)
Research

Week #14 (Jan. 3-7)
Research

Week #15 (Jan. 10-14)
11 January Classes Begin
Conceptual and schematic design work

Week #16 (Jan. 17-21)
17 January Martin Luther King Jr. Holiday
Conceptual and schematic design work

Week #17 (Jan. 24-28)
Conceptual and schematic design work

Week #18 (Jan. 31-Feb. 4)
Conceptual and schematic design work

Week #19 (Feb. 7-11)
Conceptual and schematic design work

Week #20 (Feb. 14-18)
Design Development

Week #21 (Feb. 21-25)
21 February President's Day Holiday



Design Development

Week #22 (Feb. 28- March 4)
Design Development

Week #23 (March 7-11)
7-11 March Mid-Semester reviews
Design Development

Week #24 (March 14-18)
14-18 March Spring Break
Presentation Drawings

Week #25 (March 21-25)
Presentation Drawings

Week #26 (March 28-April 1)
Presentation Drawings

Week #27 (April 4-8)
Presentation Drawings

Week #28 (April 11-15)
Presentation Drawings

Week #29 (April 18-22)
Presentation Drawings

Week #30 (April 25- 29)

25 April Thesis projects due at 4:30pm in the Memorial Union
26-27 April Annual Thesis show in the Memorial Union Ballroom
28 April Final Thesis reviews



29 April Draft of Thesis document due to Primary Critics

Week #31 (May 2-6)

6 May Last Day of classes

Week #32 (May 9-13)

9-13 May Final Exams

12 May Final Thesis Document due at 4:30pm in Department office

k. Previous Design Studio Experience

2nd Year	Hatlen Spatial Study Nativity Elementary Library	Yergens Systems Investigation Lofty Intentions Hitterdal Accessibility Church Lachine Bridge
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3rd Year	Elnahas NDSU Arboretum Aging in Place Universal Design	Martens Fluid Motion Center Great Plains Research
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4th Year	Barnhouse, Urness, Walters Urban Design: Downtown Fargo	Faulkner Medium Density Housing San Francisco High Rise
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5th Year	Waronker Olympic Gallery U.S. Supreme Court Building
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I. Bibliography

Soil Survey Lincoln County Minnesota, United States Department of Agriculture Issued January 1970

Tasker, A.E. Early History of Lincoln County

2004 Lake Benton Visitor Guide

History of Lake Benton, accessed 9/28/2004 from www.itcel.com/lbenton/lbhist.html

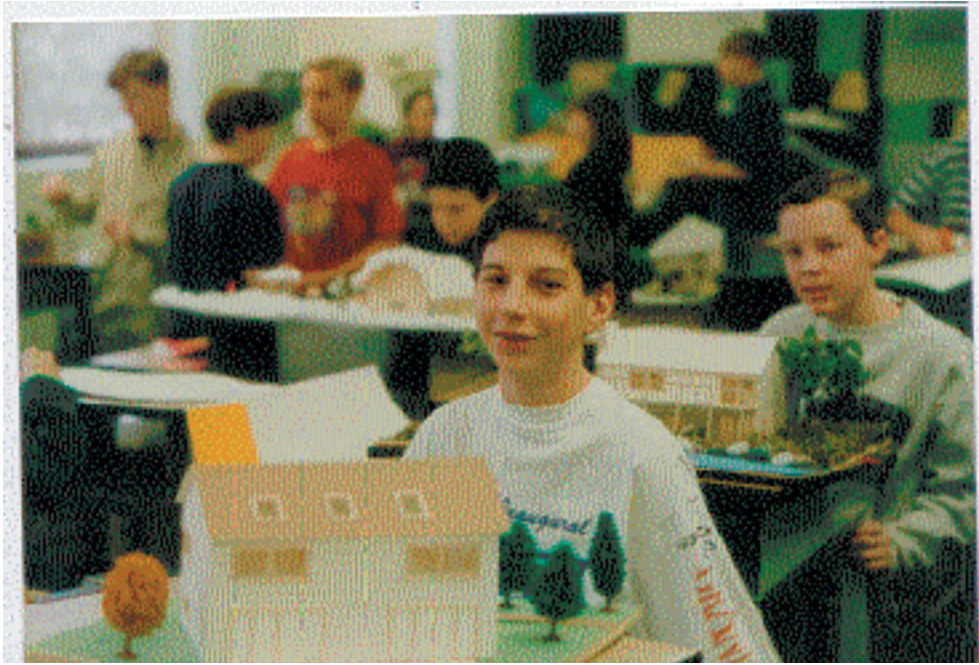


Information for the general building codes was found The Architects Studio Companion. The community center has two occupancy ratings. An assembly rating for the community hall and library and a business rating for the police and fire station.

Assembly uses include social, recreational, and civic gatherings of 50 or more persons. Business uses include office, professional, and service activities, and storage of related records and accounts. Business use also includes educational facilities past the 12th grade, but does not include retail or wholesale sales, which are classified as group M, mercantile.



A-1 Map	http://www.lakebentonminnesota.com
B-1 German Flag	www.neillsville.k12.wi.us/german/german3.gif
B-2 Norway Flag	www.jmp.co.kr/eng/sales/contact.htm
B-3 Danish Flag	www.grammarstation.com/flagquiz/denmark.gif
C-1 Old Downtown	Courtesy of Heather Ulrich Lake Benton Heritage Center
C-2 Corner Drugstore	Courtesy of Heather Ulrich Lake Benton Heritage Center
C-3 Yellowstone Trail	Courtesy of Heather Ulrich Lake Benton Heritage Center
D-1 Library	Photo taken by Eric Larson October 23rd, 2004
E-1 Fire Station	Photo taken by Eric Larson October 23rd, 2004
H-1 Cop and Child	www.sandspringspolice.com/dare.htm
H-2 Fire Officer and class	www.gaston.k12.nc.us/.../career_day_events.htm
H-3 Librarian	www.ex.ac.uk/library/trainees/prospective.html
K-1 Map	http://www.lakebentonminnesota.com
K-2 Street Map	www.yahoomaps.com
K-3 Opera House	http://lakebenton.govoffice.com/index
L-1 Aerial Map	www.teraserver.microsoft.com
L-2 Aerial Map	www.teraserver.microsoft.com
M-1 Buildings	Photo taken by Eric Larson October 23rd, 2004
M-2 Buildings	Photo taken by Eric Larson October 23rd, 2004
M-3 Site #1	Photo taken by Eric Larson October 23rd, 2004
M-4 Library	Photo taken by Eric Larson October 23rd, 2004
M-5 Opera House	Photo taken by Eric Larson October 23rd, 2004
M-6 National Bank	Photo taken by Eric Larson October 23rd, 2004
N-1 Wind Rose	http://climate.umn.edu/wind/kpqn.htm
N-2 Wind Rose	http://climate.umn.edu/wind/kpqn.htm
N-3 Wind Rose	http://climate.umn.edu/wind/kpqn.htm
N-4 Wind Rose	http://climate.umn.edu/wind/kpqn.htm
N-5 Sun Path Diagram	Sun, Wind & Light p.319
T-1 Edwards Saunders	www.trautmanassoc.com/government.html
T-2 Edwards Saunders	www.trautmanassoc.com/government.html
U-1 Village Hall	<u>Architectural Record</u> February 1986 p.92
U-2 Village Hall	<u>Architectural Record</u> February 1986 p.95



1995



2005

Eric Larson

“ High school is school, College is Life
Make the most of it”