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AN ATHLETIC CLUB, GREAT FALLS, MONTANA

Part I

Undergraduate Thesis in Architectural Design

By

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of the requirements for the degree of Bachelor of Architecture

at

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i n t r o d u c t i o n

INTRODUCTION

Great Falls, Montana, with 73,749 (2) people in the metropolitan area, has an exceptional number of individuals with a keen interest in competitive and recreational athletics. Because of this interest and the lack of facilities, the city is in need of an athletic club.

A brief look at the present recreational program for adults will indicate the interest. Competitive sports for all season are now offered and directed by the City Recreation Department. Total number of participants are nearly 3,000 (8). Games include touch football, horseshoes, housewife tennis, basketball, softball, and others. In softball alone, there were 1680 participants. (8) In addition, many sportsminded adults take part in administering Babe Ruth League, Little League, and hockey programs.

The need for an athletic club in the city is definite. A club could expect generous support and be a beneficial contribution to the community.

The site selected is within phase one of the proposed urban renewal program. Urban renewal refers to the attempts of local governments to eliminate slums, prevent the growth of blighted areas, and provide better housing and neighborhoods. Some areas may be completely destroyed and rebuilt. The city buys and destroys dilapidated buildings, then builds needed playgrounds, commercial, and other facilities. The federal government shares the costs of these local programs. (5)

need

SITUATION CREATING A NEED

At present there are two buildings where residents may participate in activities normally housed within an athletic club. One is the Heisey Memorial and the other is the Y.M.C.A. The Heisey is located adjacent to a grade school and used primarily by school children. It has limited facilities and is closed most of the summer months. The Y.M.C.A. houses the present "Y" Athletic Club, (Y.A.C.) and it is because of the condition and the facilities there, that I have proposed this athletic club.

Increasing Membership

Present membership of the Y.A.C. is 275. This is a maximum number of members because limited locker and other facilities will not allow more. Mr. J.C. Johnson, Secretary of Y.A.C., believes a 400 member club could be sustained if a larger and more adequate building were provided.

Additional Desired Activities

During an interview, Mr. Jay Jewett, club member, pointed out that many have expressed a strong desire for additional facilities. Among the prevalent wishes were tennis courts, pool, billiard tables, card room, and a bar.

Handball is the most popular activity. The club has sponsored memorial, city, and several state championship tournaments in the past. The state championship has been held by a club member for the past 12 years. But there are only two handball courts now available, and are consistently in use from ten a.m. until late evening. Mr. J.C. Johnson feels it necessary for five courts in order to handle the interested participants.

Undesirable Characteristics of Present Building

The present Y.M.C.A. was built in 1915 and has several undesirable features. The partially remodeled interior has no relationship to its exterior. Windows are blocked up to enable the locker room to be enlarged. The exterior appearance will contrast with probable new buildings erected in the area under the urban renewal program.

The building is 51 years old and is in need of plumbing and heating replacements or repairs. Many areas in the structure are quite uncomfortable in the summer, and lack heat during the winter months.

Although the building has room for expansion, many of the desired activities would not be achieved or any problems solved

by this move. Immediately adjacent to the club is a parking area, however, the area is not large enough for two tennis courts. Any construction for expansion would be done at the cost of much needed parking space for the club and city.

local

conditions

LOCAL CONDITIONS

Geographical

Great Falls is located slightly northwest of the center of the state of Montana. The city is of latitude $47^{\circ} 29'$ N. and longitude $111^{\circ} 21'$ W., at elevation of 3333' above sea level. (2)

The city is located in a transitional zone between mountain ranges and plains. Much of the surrounding terrain is rolling, grass-covered foothills, benches and plateaus.

To the north, plains stretch as far as the eye can see. To the south the Rocky Mountain Range can be seen rising in the skyline. The eastern view shows the Belt Mountain Ranges and westward is a picture of rolling foothills growing into the mountains and the Continental Divide.

The Missouri River winds through the city dividing Great Falls into two natural districts. The muddy Sun River joins the Missouri in the southwest corner of the city and the greater river then continues through the area northeastwardly.

Climate

Due to its geographical location, Great Falls is subject to a wide range of temperature. The extreme temperatures are the exception and not the rule, and are somewhat misleading. The city's climate can best be described as moderate.

Topography plays an important part in Great Falls' climate. Summer days are moderately warm and sunny, with cool nights making the area consistently pleasant. Adding to the pleasantness is the low humidity, which eliminates any hot humid days. In the summer the average temperature is 69°F.

Winters are not as bad as might be expected by the continental inland location, because of "chinook" winds. The recurring "chinook" winds throughout the winter seldom leave heavy snow cover on the ground for more than a few days. By the same token, sub-zero weather seldom lasts more than a short period of days at a time. The average temperature during the winter months is 23.6°F.

A prevalent factor in the city's weather is the local winds. Great Falls is known through the state as the "windy city". Prevailing winds are from the southwest and have an average velocity of 25-30 m.p.h.

<u>Month</u>	<u>Mean Temperature</u>	<u>Precipitation</u>
Jan.	23.0	.66 in.
Feb.	25.2	.78 in.
Mar.	31.3	.90 in.
Apr.	44.0	1.02 in.
May	53.6	2.35 in.
June	60.2	2.92 in.
July	69.7	1.28 in.
Aug.	67.6	1.07 in.
Sept.	57.8	1.28 in.
Oct.	48.5	.74 in.
Nov.	34.9	.84 in.
Dec.	28.7	.56 in.

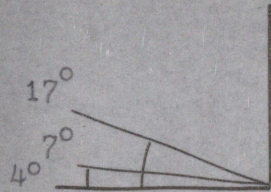
Mean Temperature - 45.4°F.

Mean precipitation - 14.40 inches

Sun Angles for Great Falls

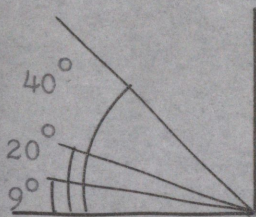
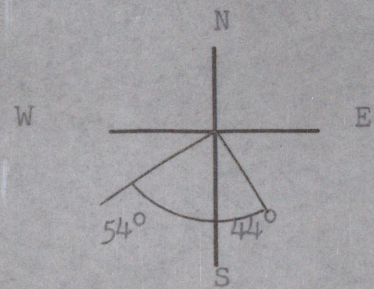
Vertical

Times: 12, 5, 8

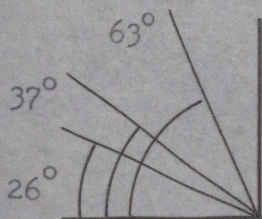
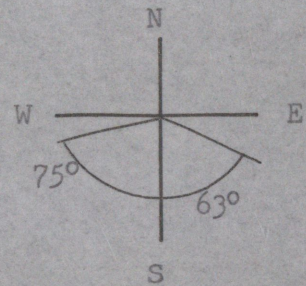


December

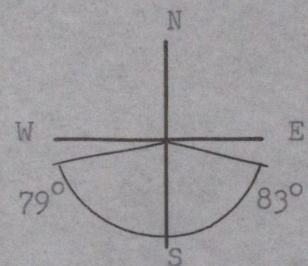
Horizontal



March



June



Economics

Historically, the Missouri and Sun Rivers afforded Great Falls an extensive river travel for shipping goods into the city, and for shipping local products to eastern cities. With this freedom of movement of goods to and from the city, Great Falls became the trading center of the rancher and homesteaders in the surrounding area.

The city today still handles a great deal of shipping with the Great Northern Railroad, Chicago, Milwaukee-St. Paul Railroad, and three large trucking firms. Numerous large and politically influential businesses are well represented in the area. The two large firms in the state are the Montana Power Company and the Anaconda Company; the latter being especially well established in Great Falls.

Other basic industries pertinent to the economy of metropolitan Great Falls are:

- 1) Air Force and missile personnel living in the area.
- 2) Large agricultural areas to the north and east of the city.
- 3) Petroleum and similar refineries and industries.
- 4) The Great Falls Select Brewery.

All of the above bring capital into the area.

Social

Social life of Great Falls is varied and interesting. The Elks, Eagles, Moose, Legion and Shrine Clubs are all well established in the city. The Meadowlark Country Club is an exclusive

organization ranking high in the social structure. Many functions are sponsored and take place at the Club, especially for the women of the city.

The College of Great Falls attracts and provides several cultural features that are open to the citizens of the metropolitan area. Other organizations sponsor regular concerts and art shows in the city parks throughout the year.

Night life in Great Falls is entertaining, expensive, and exhausting. There are numerous night clubs and bars where one may spend an evening. Black Eagle, just north of the city, across the Missouri, is noted for several excellent Italian night clubs.

Recreational

As previously mentioned, the city recreational program for all ages is excellent. However, at the present time 71.2% of the acreage set aside for parks was established before 1915. Considering the rapid population growth and the expansion of the metropolitan area, especially since 1940, the growth of city parks has failed to keep pace. Adding to the ills is the fact that some of the allotted park area has become overgrown with weeds, and has collected all types of debris. The land dedicated is not suitable for park use, because of size, shape, location, and topography.

There are several golf courses in Great Falls, all being used quite heavily. The city has an 18-hole municipal golf course, the Anaconda Company has a private 9-hole course, and

Meadowlark Country Club has an 18-hole course, exclusive to members. Recently the city council approved the addition of four new swimming pools for the city, two of which are now under construction. The city is desperately in need of tennis courts, which will be provided under the urban renewal program. The present courts are used steadily.

The area surrounding Great Falls offers excellent recreational opportunities. South of the city, the Missouri River is considered one of the best fishing streams in the country. The river is also used extensively for boating and water skiing. Other fishing streams and lakes are within easy driving distance of Great Falls, and in the fall and winter months, wide areas are available for big game and bird hunting.

National forests are also within driving distance and provide picnic grounds, camping sites, and fishing areas which can be utilized and enjoyed by families and individuals.

site

SITE

Selection

The site is located on Fifth Street and Fifth Avenue South. Situating the club on this site has definite advantages for members and the designer. While interviewing Mr. J.C. Johnson, he stated that on a yearly average 75 members use the Y.M.C.A. club between the hours of 10 a.m. - 2 p.m. daily. Most of the members reach the club by foot, so it must be within easy walking distance from the central business district.

A major factor in the selection of the site is the urban renewal program which calls for a park, including six tennis courts directly across the street to the west. This provides members easy access to enjoy this desired activity and at no cost for additional land to provide these courts.

Urban renewal is to improve slums and blighted areas, converting them into attractive living or commercial areas. The city

buys and redevelopes the land being assisted financially by the Federal Government. The site lies within phase one of the redevelopment which is encompassed between Third and Seventh Street from First Avenue South to Tenth Avenue South. It will include a shopping center, convention center, a motel, a park, and other commercial buildings.

Adjacent Environment

The environment surrounding the site is quite varied. As previously mentioned, directly west will be a public park, to the north will be a shopping center, and a commercial zoning section is to the east and south.

There are several large and well matured trees located around the area which will be preserved during demolition when beginning the urban renewal program. These trees yield a possibility of incorporating some of them into the design, giving a relief from the cement and pavement predominating most commercial areas.

The most pleasant view will be to the south facing the park and, I will most likely orient the entrance in that direction.

Traffic Patterns

Fifth Street is a one-way street running south, acting as a major arterial to Tenth Avenue South and Highway 87 for east-west traffic. Traffic is heavy during the noon, but the peak is from 5 - 6 p.m. The following travel times were taken from the city's extreme points on July 26, 1966. It should be noted that these times were not taken during rush hours, therefore some additional

time should be allotted during these periods.

Malmstrom Air Force Base to site - 12 minutes

Country Club Addition to site - 8 minutes

Riverview Addition to site - 9 minutes

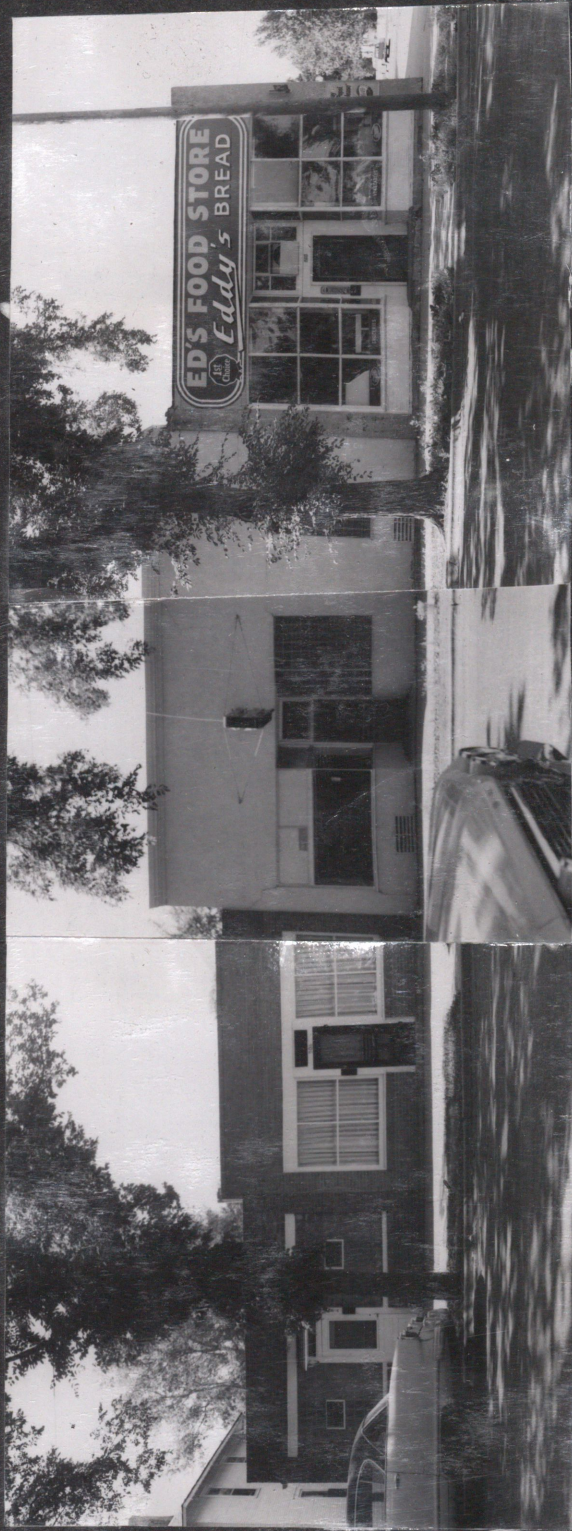
Some parking will be provided, and any overflow will be able to make use of the abundant parking facilities furnished by the adjacent shopping center. Also many members have private parking places in the downtown area near their businesses.

Zoning Regulations

Present zoning regulations are for commercial use or Zone B. When the renewal program is initiated, the regulations will be improved and updated.



VIEW OF EXISTING BUILDINGS



VIEW OF EXISTING BUILDINGS



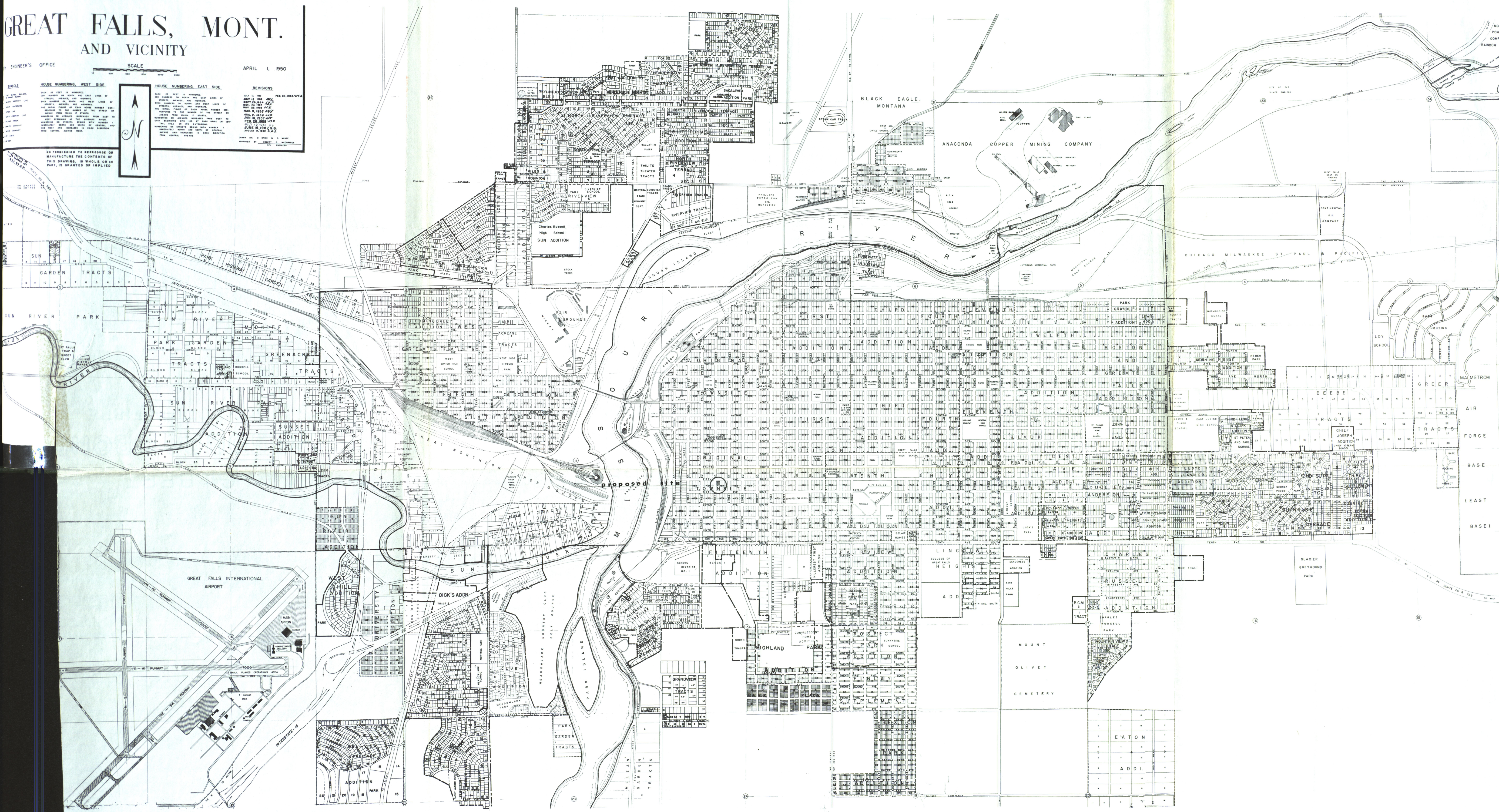
VIEW OF SURROUNDING CONDITIONS



GREAT FALLS, MONT. AND VICINITY

ENGINEER'S OFFICE
SCALE
APRIL 1, 1950

HOUSE NUMBERING, WEST SIDE
HOUSE NUMBERING, EAST SIDE
REVISIONS
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p r o g r a m

BUILDING PROGRAM

The building will be planned primarily for male members with consideration given to the entire family for certain activities.

The club will be open from 10 a.m. until 10 p.m. every day including Sundays and holidays.

<u>Area</u>	<u>Approx. Sq. Ft.</u>
1. <u>Entry</u>	1200
Function - The entry should be attractive and inviting. It must be easily accessible from parking lot and sidewalk. Inside, the entry will join with a lobby to direct traffic. It will separate the relaxation area from the locker room and exercise area.	
Equipment - benches, chairs, couches, tables.	
Relationship - direct to all major activities.	
2. <u>Bar</u>	300
Function - The bar provides members with alcoholic drinks as well as a place for relaxation and conversation. Finish materials and fabrics should convey a warm rich feeling. One bartender will be on duty from 4 p.m. until 10 p.m. Monday through Saturday.	

<u>Area</u>	<u>Approx. Sq. Ft.</u>
Equipment - Bar stools, equipment for mixing drinks, storage for bottles and glasses, washing equipment, refrigeration units, and miscellaneous bar accessories.	
Relationship - Direct to entry.	
3. <u>Office</u>	150
Function - To provide individual work space for club managers.	
Equipment - desk, chairs, files, safe.	
Relationship - direct to lobby.	
4. <u>Card room</u>	200
Function - provide suitable area for card playing.	
Equipment - poker tables and chairs.	
Relationship - direct to billiard room, indirect to bar.	
5. <u>Billiard Room</u> (3 pool tables)	900
Function - provide area for billiards.	

<u>Area</u>	<u>Approx. Sq. Ft.</u>
Equipment - cue storage, chairs for spectators, pool tables.	
Relationship - direct to bar.	
6. <u>Locker rooms</u> (men and women)	2500
Function - to provide a dry area for dressing and safe storage of clothing. Also to provide showers and rest rooms.	
Equipment - lockers, benches water closets, urinals, lavatories, mirrors, showers and miscellaneous equipment.	
Relationship - direct to all exercise facilities and entry.	
7. <u>Steam room</u>	200
Function - to provide steam baths.	
Equipment - benches	
Relationship - direct to shower and locker rooms.	

- | | <u>Area</u> | <u>Approx. Sq. Ft.</u> |
|-----|---|------------------------|
| 8. | <u>Exercise room</u>
Function - to provide area
for exercise.
Equipment - massage tables,
bicycles, weights, weight
benches, vibrators.
Relationship - direct to shower
and locker rooms. | 600 |
| 9. | <u>Laundry room</u>
Function - to provide area for
washing and drying gym clothes.
Also storage for janitorial equip-
ment.
Equipment - washer, dryer, shop
sink.
Relationship - direct to locker
room. | 150 |
| 10. | <u>Gymnasium</u>
Function - the gym will be used as
a multi-purpose area providing for
a variety of games including: deck
tennis, basketball, badminton, volley-
ball. It will also provide a workout | 5000 |

Area

Approx. Sq. Ft.

area for running.

Equipment - backboards, baskets,
benches.

Relationship - direct to locker
and shower rooms.

11. Swimming pool (24 x 42)

1720

Function - to provide an area for
water sports and recreational
swimming. The pool should be
located away from the entry and
bar so that the odor of the
chlorine may not be detected.

Consideration will be given to
the possibility of a semi-enclosed
area during summer and an entirely
concealed area during winter months.

Equipment - diving board, filtering
systems, water heater, chlorine
mixer.

Relationship - direct to locker
rooms and shower rooms.

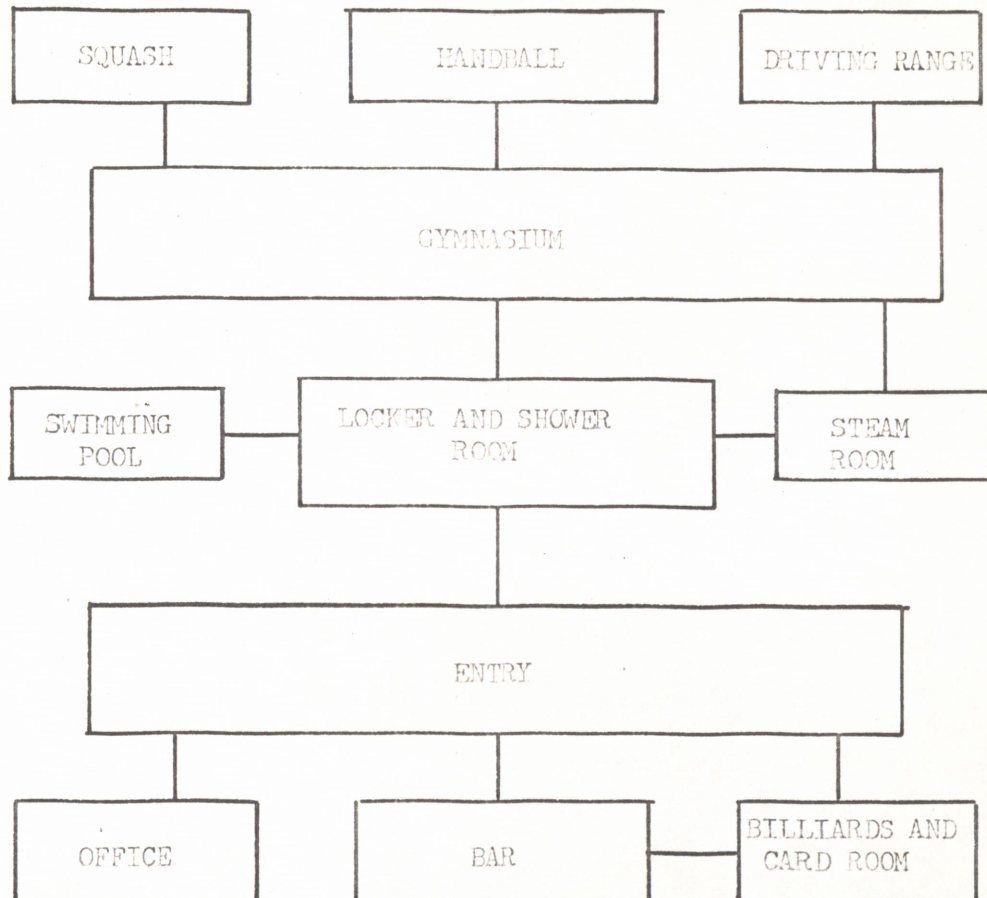
<u>Area</u>	<u>Approx. Sq. Ft.</u>
12. <u>Handball (5 courts)</u>	5290
Function - provide an area to play handball.	
Equipment - access ladder.	
Relationship - indirect to locker room through gymnasium.	
13. <u>Squash</u>	1219
Function - provide area for playing squash.	
Equipment - access ladder, metal shield on front wall, squash rackets.	
Relationship - indirect to locker and shower room through gymnasium.	
14. <u>Golf driving range</u>	1250
Function - practice driving.	
Equipment - net, driving mats.	
Relationship - indirect to locker and shower room through gymnasium.	

Total approximate square foot required 20,679

15% for halls, aisles, and miscellaneous storage 3,109

Total 23,780

FLOW DIAGRAM



a e s t h e t i c

AESTHETIC CONSIDERATIONS

Architecture is universally regarded as one of the fine arts. Architecture has been labeled the "manly art", but essentially it is an "art of space and form". Buildings may be expressed not as buildings, but details of a spacial composition and the atmospheric landscape. The buildings themselves, by their position, create and enclose space.

Location of site and surrounding condition play a part in indicating the aesthetics of the building. It is impossible to foresee how surrounding buildings will appear, because all present buildings on and around the site will be demolished or removed from the area. However, the site has some conditions which may influence the character of the building. Located directly to the west of the site is a park and immediately north is a proposed shopping center. Although the building is located within a commercial zone it may provide a transition between the central

business district and the residential area.

A feeling of strength, or what may be termed, brutalistic, will be the character of the building. This can be accomplished by the structural system and use of materials. The building houses many activities, each which require varied spaces and volumes. I wish to let these spaces be expressed outwardly and create a pleasing composition by arrangement of spaces and forms.

Most of the activities require a hard surface which gives a cold feeling. Extreme care must be taken in selection of color to provide a warm active sensation. The entrance and lobby will act as the focal point of the building and should give an inviting expression. The bar, card, and billiard rooms, along with the lobby will require a complete change of material giving a calm, relaxing atmosphere.

The proposed building would be one of the first erected under the urban renewal development. The architect carries the added responsibility of setting the theme for the area and the renewal program.

e c o n o m i c

ECONOMIC CONSIDERATION

Financial Program

The initial cost of the project is the heaviest stone to lift. Raising capital for the purchase of land and the cost of construction may be approached by two methods or some combination of each.

Normal procedure is to initiate a fund raising campaign soliciting donations, and membership pledges for two or more years. With the capital acquired by this means, the organization can approach the five city banks and then receive a loan. In the past, the banks have been very cooperative concerning similar projects.

The second means of financial assistance is through governmental urban renewal funds. The site lies within phase one of the redevelopment plan, soon to be submitted to the U.S. Department of Urban Renewal and Redevelopment for approval. Upon approval of the master plan, the club will be eligible for funds

under the urban renewal program.

Governmental funds pooled with money gathered through fund raising and membership campaigns, together with the availability of a bank loan, would provide resources enough for the building.

Operation and Maintenance

Operation of the club and maintenance cost must be supported by membership fees. Membership is on a yearly basis with a fee of \$120 or ten dollars a month. Additional revenue will be acquired by operation of the bar and other activities held at the club, such as tournaments.

Cost Analysis

The Great Falls area has several contractors located in the city and an abundant supply of tradesmen. The cost of materials not fabricated or available in this area may prohibit its use.

At this stage of the design phase the only accurate means of estimating is by the square foot method. I have 23,780 square feet of building area. This can be used with figures from Marshall Valuation Service to give a total cost. The service considers area factor, heating in cold climate, and local conditions. According to this reference the athletic club will cost about \$20.00 per square foot.

Landscaping will cost about one per-cent of the total construction cost. Asphalt paving cost will be \$.29 per square foot.

Cost and Size Estimate

Building area 23,780 sq. ft. @ \$20.00	\$475,620
Approximate cost of land	18,000
Total	<u>\$493,620</u>

This estimate does not include the architect's fees, the paving or landscaping expenses.

SUMMARY

BIBLIOGRAPHY

Books:

1. Marshall Valuation Service, Marshall and Stevens, Los Angeles: Marshall Stevens Company.
2. Master Land Use, City County Planning Board - Cascade County City of Great Falls, Montana, Page 24.
3. Planning Facilities for Health, Physical Education, and Recreation by Participants in National Facilities Conference, Chicago 4, Illinois, 1956, Page 87.
4. Sports and Recreation Facilities: For School and Community, M. Alexander Gabrielsen and Caswell M. Miles, Prentice-Hall, Inc., 1958, Page 153.
5. The World Book Encyclopedia, Field Enterprises Educational Corporation, Volume 18, 1961, Page 1893.

Interviews:

6. Mr. Jay Jewett, Y.A.C. Member, June 17, 1966.
7. Mr. J. C. Johnson, Secretary of Y.A.C., July 26, 1966.
8. Mr. Tom Sullivan, Director, City Recreation Department, July 25, 1966.

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