



*A
Community
Recreational
Ice Skating
Facility*

*For
Knoxville, Tn.*

B. Michelle MacKenzie

*Arch 480
Fall 1990*

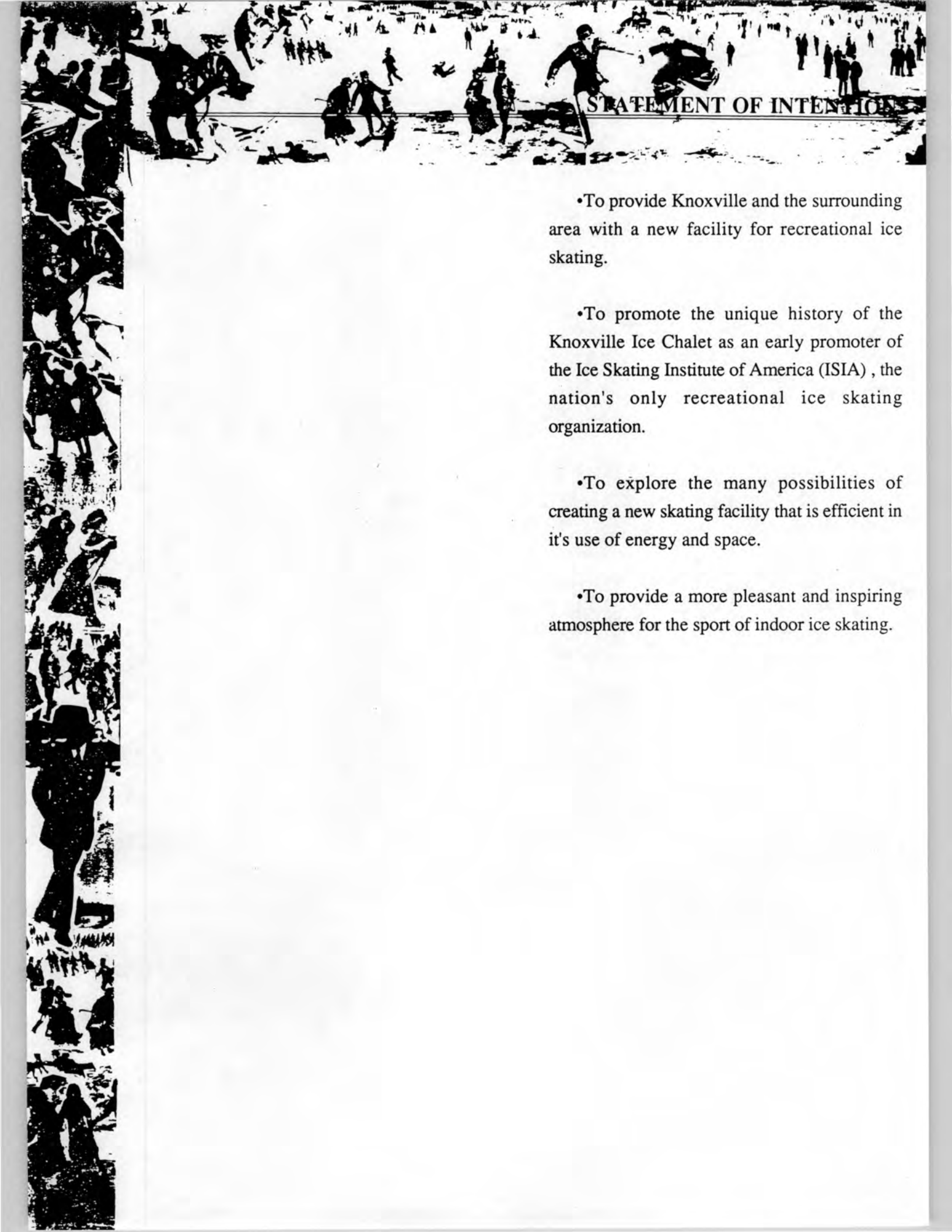
Professor Miecznikowski



*"It combines and surpasses
the joys of flying and dancing;
only in a certain type of dream
do we ever else attain
a higher degree
of the same ravishing experience
of exultantly
skimming the earth."*

*Ernest Jones;
The Fine Art of Ice Skating.
p. 25*

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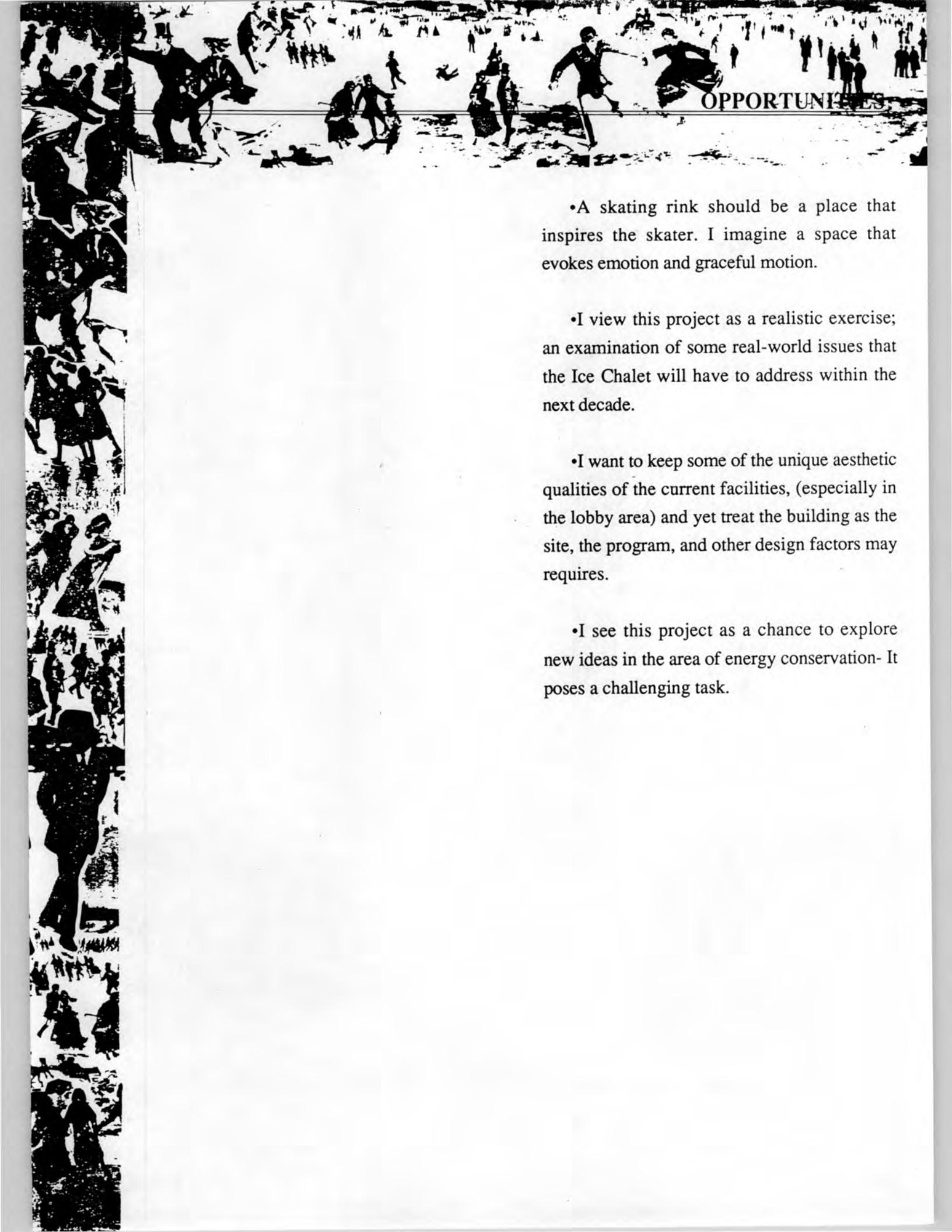
STATEMENT OF INTENTIONS

- To provide Knoxville and the surrounding area with a new facility for recreational ice skating.

- To promote the unique history of the Knoxville Ice Chalet as an early promoter of the Ice Skating Institute of America (ISIA) , the nation's only recreational ice skating organization.

- To explore the many possibilities of creating a new skating facility that is efficient in it's use of energy and space.

- To provide a more pleasant and inspiring atmosphere for the sport of indoor ice skating.



OPPORTUNITIES

•A skating rink should be a place that inspires the skater. I imagine a space that evokes emotion and graceful motion.

•I view this project as a realistic exercise; an examination of some real-world issues that the Ice Chalet will have to address within the next decade.

•I want to keep some of the unique aesthetic qualities of the current facilities, (especially in the lobby area) and yet treat the building as the site, the program, and other design factors may requires.

•I see this project as a chance to explore new ideas in the area of energy conservation- It poses a challenging task.

"I... imagination and initiative are features... as, too prevalent in some rinks. Too many managers... only in terms of how quickly the turn... will work today and too little about how to ensure... busy box office tomorrow... This Skating Age p. 140

I am a competitive figure skater, a member of the Ice Skating Institute of America, and I skate for the Robert Unger School of Skating at the Ice Chalet in Knoxville, Tn. Over the past fourteen years there, I believe I have gained insight towards what a skating facility should provide.

As a competitive skater, I have had many opportunities to visit other facilities around the country. Competitions and shows have given me the opportunity to travel to over thirty skating facilities across seven states. These facilities are located in malls, they are found at tourist attractions, they are combined with swimming pools and skateboard parks, they can operate alone or be part of a community recreational

system. At each one I have appreciated their strong points and noticed their weaknesses and have accumulated a mental scrapbook of what I believe a recreational skating facility should be.

The majority of my experiences have been in skating "barns" and warehouses and only a very few well designed skating facilities. A skating rink should be a place that inspires the skater. I imagine a space that creates emotion and graceful motion, a desire for speed and power.

Now that my home rink is looking towards the future and the inevitability of replacing their current facility, I would like to compile my ideas in a proposal that they may use as an example of what the Ice Chalet can become.



Robert Unger Ice Chalet Team from Tennessee.

I have grown up at the Ice Chalet under the guidance of ISIA philosophy. I believe that it has a purpose and a role in the recreational skating world. The children gain invaluable skills and habits that will carry on through out their lifetimes. They learn about team work and cooperation, they gain self confidence and a sense of accomplishment, they learn to work hard and set goals, they learn through interaction with a wide range of ages and backgrounds. Unlike school, you are on equal terms with people of all different ages. This produces well -rounded and confident people.

You're never too old to gain from this experience. It is a recommended sport for the elderly whether you're just getting started or you have skated all of your life.

A place like this is already small community, but it would an be ideal place for the whole community to gather. In a way, both of these groups can benefit from each other through sharing facilities and members.

3rd Annual ISIA Recreational Team Championships



Susan Home, Freestyle 7 from the Ice Chalet, Knoxville, TN, took first place in Figure 3 and with her partner, Sam Snyder, finished first in Dance 1, 9-10 year-olds.



The art of speedskating: Knees bent, bodies forward, backs straight, head and eyes facing straight ahead and arms swinging.

"if all the year were playing holidays, to work would be as tedious as to work."

William Shakespear - Henry the Fourth , Part One

Almost every book written on the subject of figure skating begins with a brief history of the evolution of the sport and then spends the majority of the text discussing the pursuit of skating's highest goal- the Olympic Games.

Those few who have reached that goal, they have done so by committing their entire lives to the sport. They have dedicated thier family's time, money, and their family's attention to the pursuit of the Olympic dream. For the majority of the skating population, though, this dream is beyond reach. For the average person, just getting around the rink several times a year is a life long goal.

Until 1959, the only organized program for standardizing and regulating skating in the U.S. was the United States Figure Skating Association. (USFSA) The persuit of skating under this intensive program begins at an early age and quickly grows to consume many hours and many dollars. This organization is geared towards training skaters for pursuit of their Olympic dream. It is the best path to take if you are truly talented and willing, but there is no place for the recreational skater in this program.

It was in that year that a second national organization was founded- the Ice Skating Institute of America (ISIA). This is the organization for "the rest of us". It was founded on the principle that skating is a sport that has something to offer to every-one, regardless of age or ability. Skating can be fun and beneficial and so it should be accessible to all. Over the past thirty years, the ISIA has

grown to encompass an impressive list of programs and activities. It provides lesson and testing programs to monitor progress, recreational team competitions where you can compete at your current level of achievement against others at that same level, Girl Scout and Cub Scout lesson programs, Senior Olympics and Special Olympics programs, even a new college scholarship program. There are many workshops and seminars for rink managers and skating instructors. They publish many manuals, regulation handbooks and even a national magazine "The Recreational Skater".

This summer will mark the tenth anniversary of the ISIA Recreational Team Championships of the United States, a national competition open to all members. There are also competitions in Hong Kong and Adelaide, Austrailia that are open to all members as well as the new ISIA College Challenge exclusively for college students who are members of the ISIA.

The Ice Chalet is a big supporter of this program and holds the oldest ISIA invitational team competition every March. The staff there has had a lot to do with the development of the program through contact with the national office.





*This snell and frosty morning,
With rhind and trees adorning,
Tho' Phoebus below,
Through the sparkeling snow,
A skating we go,
With a fal, lal, lal, lal, lal, lal,
To the sound of the merry horn.*

*From the right to the left we are
plying,
Swifter than winds we're flying,
Spheres and spheres surrounding,
Health and strength abounding,
In circles we sweep,
Our poise we still keep,
Behold how we sweep,
The face of the deep,
With a fal, lal, lal, lal, lal, lal,
To the merry sound of the horn.*

"Once upon a time long ago and as recently as 1961, there was no ice in Knoxville except in the very coldest winter time when creeks, ponds and mud holes froze over. ...

Then the Civic Coliseum was built and on occasion the city fathers would cause the ice to be prepared for traveling shows and public skating. Later a troupe of Knights rode into town with sticks and pucks and skated at the coliseum as the Knoxville Knights hockey team. And so the ice was prepared more often and the good people of the city would flock to the coliseum to skate. Sometimes they would flock only to find hard dry floors and, alas, no ice for skating.

It happened then in 1962 that a man and a woman gathered together their skates and journeyed to the coliseum only to find no room on the ice. And they were called Chambliss and Ruth Pierce. Yearning to skate and finding no ice, they complained together with Alex Harkness and Buddy Tate who shared their frustration. And these four resolved among themselves that there should be ice in Knoxville and that rink rats in the South should have a home.

And it came to pass that they found a perfect spot, the old Henley Tate property, on the Western edge of town in a shopping center called Western Plaza, for it as the westernmost center of the time, where they could build a shelter for the skaters. Responding to an ice convention advertisement, for they knew no better, they flew to Chicago where they came

upon a Going-Out-Of-Business Sale and purchased the entire equipment stock of an ice rink.

Soon thereafter the equipment, including 8 miles of pipe, arrived by freight and, upon viewing the tangled mass, they had a sudden horrible feeling that they had bought a can of worms. Undaunted, and armed with diagrams and polaroid pictures, they untangled the pipe and pieced together the compressors and a grandfather Zamboni.

And it all came together to form a flat surface of ice and tables were spread with tablecloths and candles were lit and 600 guests gathered together and the Ice Chalet was open for business. And the people of Knoxville came in droves and herds and groups and lines that stretched up the hill and along the Pike to skate. And they skated and skated and skated and skated but only in circles for there was no ice skating school."



From the Robert Unger Moms and Pops directory of skaters, 1983

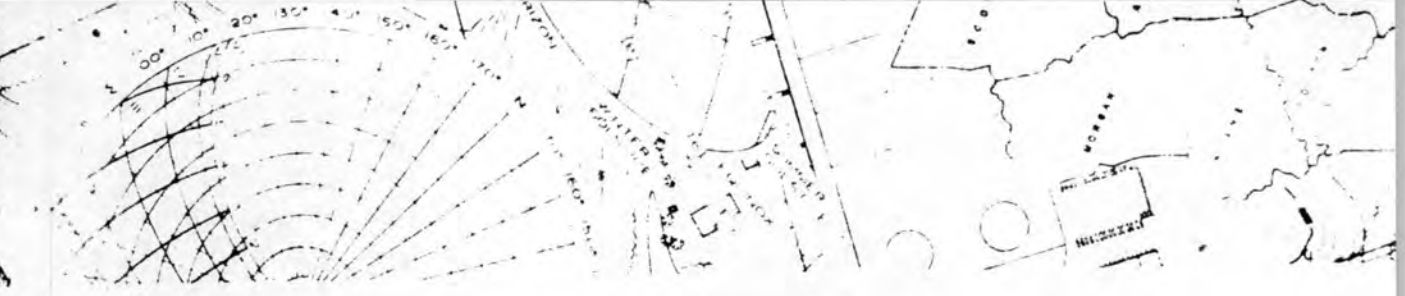
The current location of the Ice Chalet is near Western Plaza behind a Texaco station on Kingston Pike. The site was originally chosen because of its fairly good location and because the land was cheap.

The site is inadequate from an economic standpoint. It is about 20' lower than Kingston Pike so that only the sign is visible as a car passes by. It is surrounded by a vacant gas station on the left, the back of Western Plaza shopping center on the right, railroad tracks to the rear, and another gas station in the front.

Many Knoxvilleans don't even realize that there is a rink in town, even though they pass by it on a regular basis. The Ice Chalet can be easily overlooked.

There are physical inadequacies as well. The building is in a basin at the bottom of a hill. The ground water that collects there, freezes as it runs beneath the ice surface, and over several months, this ice block begins to push up on the skating surface. As a result, each spring the Ice Chalet must close so that the skating surface can be melted to allow the ground water to thaw and run off.

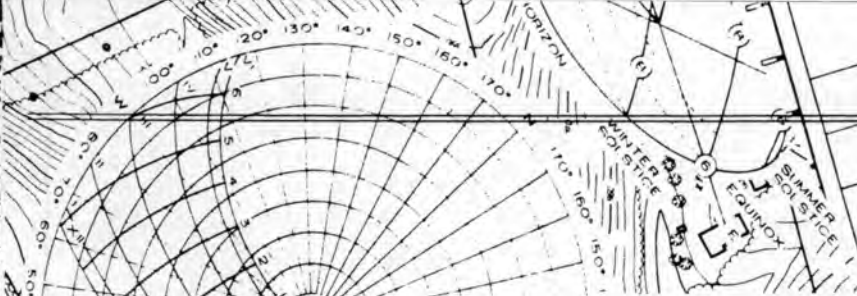




Being at the foot of a hill where a gas station is located means that when the gas tanks are filled, gasoline fumes are drawn into the building through the ventilation system. The area around the building is known to smell of sewage on occasion because of the city sewer line that runs in front of the rink. The whole facility has been flooded and covered in several inches of mud when a city water line burst nearby on Kingston Pike.

The Ice Chalet caters to young people and often they are there unattended for several hours. The staff can only supervise so much. The neighborhood is not considered safe for several reasons. There have been several robberies, vagrants sometimes cross the site or even enter the building, and for a period of time there was the shelter of a homeless person within fifty feet of the front entrance. This shelter caught fire and was destroyed. The railroad tracks are considered dangerous as well because there is no fence between the two properties. They are within forty feet of the building.

The obvious choice here is to move from this site to a better location. The Ice Chalet management owns eleven acres on Dutchtown Road in west Knoxville. This is a potential new location.



PHYSICAL CONDITION



The Ice Chalet is a used building that was brought here from Chicago in 1962. After thirty years it is beginning to show the signs of age and wear. The need for a new skating facility becomes obvious after a quick inventory of the current facility status.

- The roof leaks and there have been several creative attempts to control and prevent these leaks.

- Several different types of ceiling materials have been installed including a vinyl liner and corrugated sheet metal. The liner traps the water in pools. The sheet metal drains it away from the ice where it runs off onto the floor.

- Condensation forms on the ceiling and drips onto the ice forming dangerous stalagmites.

- The exterior walls consist of a double layer of corrugated sheet metal with little insulation in between.

- The current seating holds 200 spectators. This is inadequate for major events such as hockey games and regional competitions.

- The office space is extremely limited. Two offices measuring 10' by 10' each must serve the director, the secretary, and the teaching staff.

- The restrooms have only two stalls to serve up to 600 occupants, the dressing area is small, and there are no locker rooms.

- The zamboni must cross the path of the skaters and spectators to enter and exit the ice. This is a potential hazard.

- There is an extreme lack of storage space.

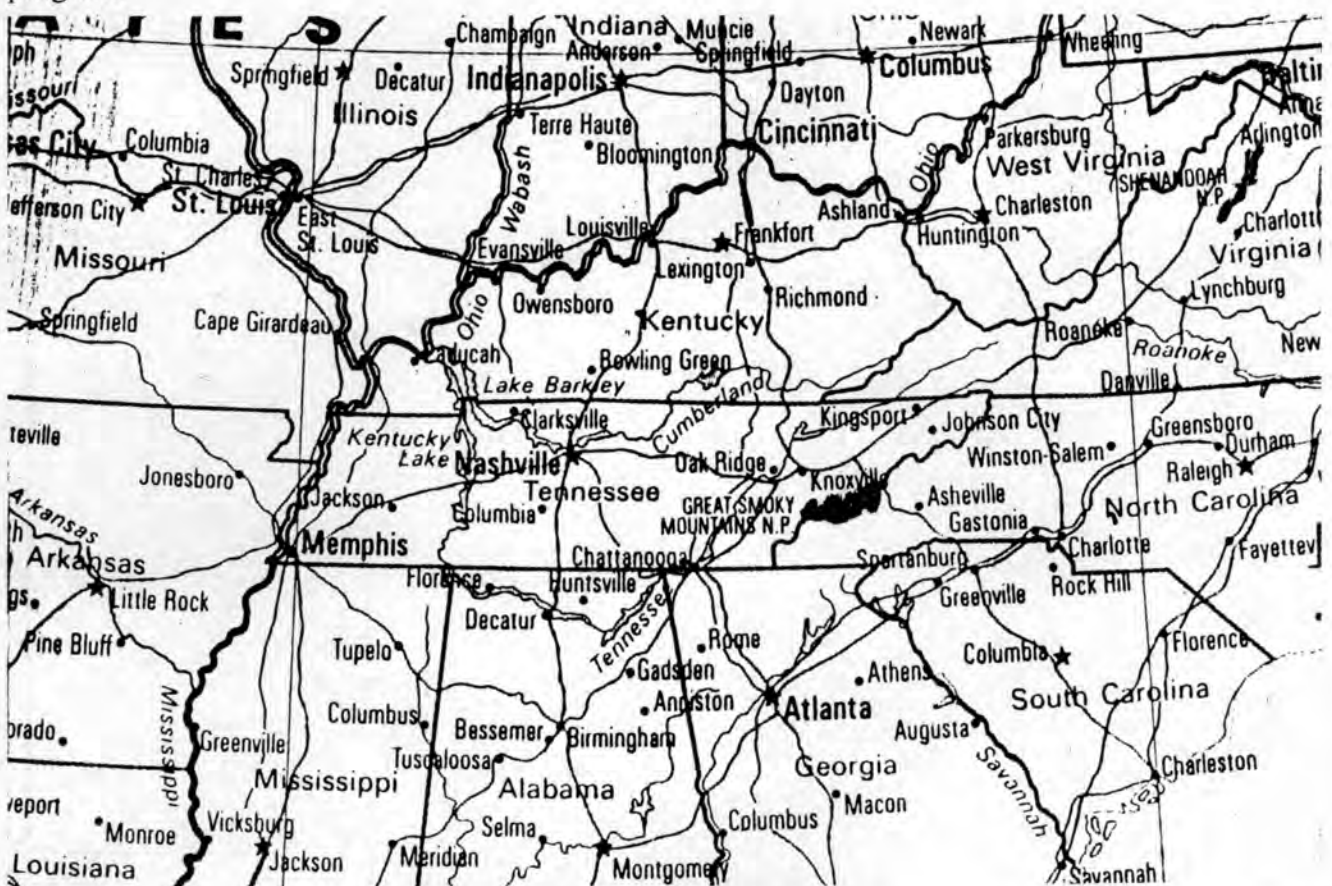
REGION

SOUTH EAST

The South East has only a sparse scattering of ice skating facilities compared to the abundant numbers found in the North. They act as more than just a municipal rink for the local citizens, they are regional centers as well.

The Ice Chalet serves an area of the South East that includes all of East Tennessee and parts of Kentucky, Virginia, North Carolina, and Georgia. This covers a radius of about 200 miles.

The nearest facilities are in major cities like Nashville, Atlanta, Lexington, and Charlotte. There is a small rink in Gatlinburg that caters mainly to tourists. While it does generate a lot of business, it has an almost nonexistent lesson program.

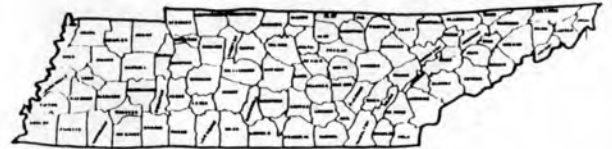


AREA EAST TENNESSEE

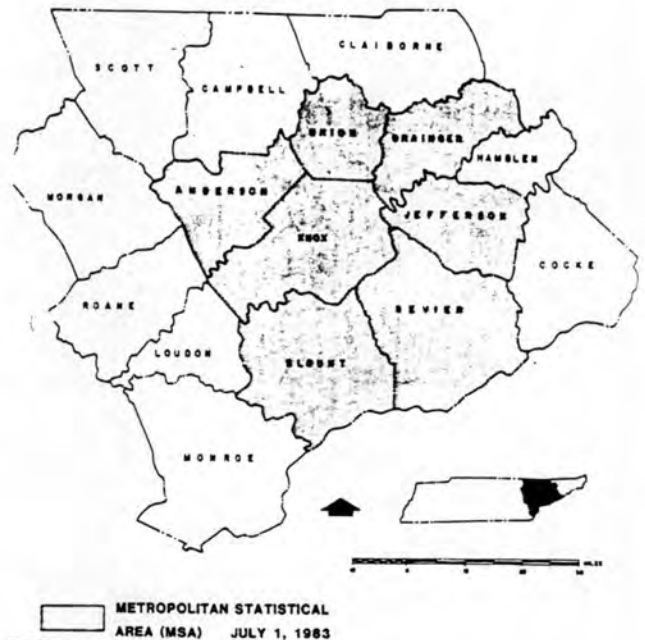
The population of Knox County and the surrounding counties constitutes the people who would most likely make regular use of the facilities. Knoxville is the major metropolitan center for East Tennessee and many people from the surrounding counties frequently make trips there.

Of the surrounding counties, Blount and Anderson have the largest populations. Oak Ridge in Anderson County, and the McGhee Tyson Airport in Blount County will soon be connected by the Pellissippi Parkway (a major highway and technology corridor) which will run through the west end of Knox County. This will create a drastic change and increase in traffic patterns for the area, and will increase activity in the already growing West Knox County.

This would be an ideal location for a regional sports complex.



EAST TENNESSEE DEVELOPMENT DISTRICT



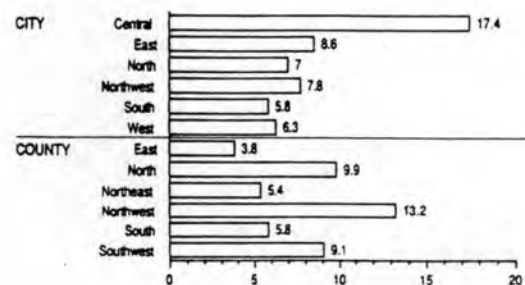
"As with all types of real estate ventures, location is essential in achieving success. The locational characteristics of commercial recreational projects will depend on the market that is to be served. Some projects focus on a particular age group or income level; thus, their locations are in part determined by the locations of their consumers. For most recreational projects, proximity to the target market is considered essential; primary users should be within a radius of 15 minutes travel time from the site. In urban areas, sites offering access to public transportation are preferable while in suburban locales sites with highway or freeway exposure and adequate parking are sought. Many recreational projects appeal to such a small percentage of the general community that locations in highly populated areas are necessary to be sure of adequate patronage. Preliminary to any site selection, a thorough market study should be made to determine the target market and optimal location."

Recreational Development Handbook p. 176

KNOXVILLE/KNOX COUNTY SECTORS

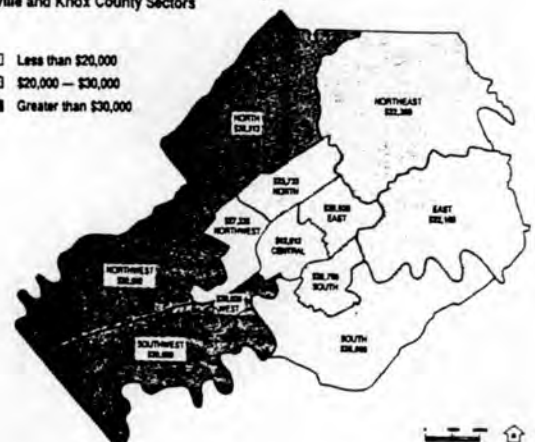


1986 POPULATION DISTRIBUTION
Percentages by Sector



1986 MEDIAN HOUSEHOLD INCOME
by Knoxville and Knox County Sectors

- Less than \$20,000
- \$20,000 — \$30,000
- Greater than \$30,000



The Ice Chalet currently owns eleven acres of land on Dutchtown Road that could be a possible location for the new facility. There would be plenty of space and a chance to create a buffer between neighbors.

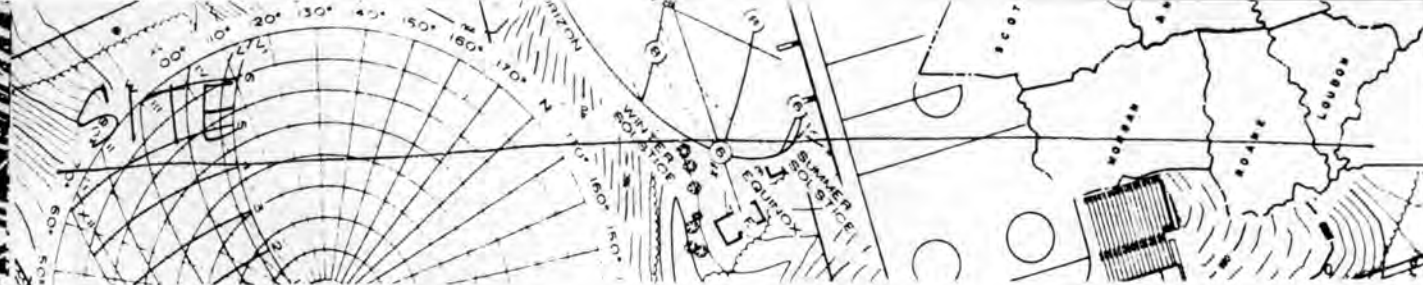
It is situated less than a mile off the Pellissippi Parkway and Mabryhood Road. There is good access to the site and it is in an area earmarked for rapid growth.

There is not much development there now and the area is zoned for science and industry.

Another possible location for the new facility is along Kingston Pike at Downtown West Boulevard. This is the current location of the Downtown West shopping center. The shopping center operates at about fifty percent and I see an opportunity to restructure the development to include an ice skating facility.

This site is central to the business strip, some residential areas, and Bearden High school. This is not a bad location, it is an example of poor planning.





KNOXVILLE, TENNESSEE

TABLE 1 NORMALS, MEANS AND EXTREMES

KNOXVILLE, TENNESSEE

LATITUDE: 35°49'N		LONGITUDE: 83°59'W		ELEVATION: FT. GRND		905 BARO		00916		TIME ZONE: EASTERN		WBAN: 13891		
	(a)	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F:														
Normals														
-Daily Maximum		46.9	51.2	60.1	71.0	78.3	84.6	87.2	86.9	81.7	70.9	59.1	50.3	69.0
-Daily Minimum		29.5	31.7	39.3	48.2	56.5	64.0	68.0	67.1	61.2	48.1	38.4	31.9	46.7
-Monthly		38.2	41.5	49.7	59.6	67.4	74.3	77.6	77.0	71.5	59.5	48.8	41.1	58.8
Extremes														
-Record Highest	44	77	83	86	92	94	102	103	102	103	91	84	80	103
-Year		1950	1977	1963	1942	1962	1944	1952	1944	1954	1953	1948	1982	SEP 1954
-Record Lowest	44	-24	-2	1	23	34	43	51	49	36	25	5	-6	-24
-Year		1985	1958	1980	1985	1963	1956	1961	1946	1967	1962	1950	1983	JAN 1985
NORMAL DEGREE DAYS:														
Heating (base 65°F)		831	658	483	181	63	0	0	0	14	201	486	741	3,558
Cooling (base 65°F)		0	0	8	19	137	283	391	372	209	30	0	0	1449
% OF POSSIBLE SUNSHINE														
	43	40	47	52	62	63	64	62	62	60	60	49	40	55
MEAN SKY COVER (tenths)														
Sunrise - Sunset	43	7.1	6.7	6.7	6.1	6.1	5.8	6.0	5.6	5.6	5.0	6.2	6.7	6.1
MEAN NUMBER OF DAYS:														
Sunrise to Sunset														
-Clear	43	6.1	6.6	7.1	8.0	8.0	7.5	6.6	8.7	9.5	12.3	8.8	7.1	96.1
-Partly Cloudy	43	6.6	6.1	7.5	8.7	9.7	12.6	12.9	11.9	9.6	7.8	6.6	6.8	106.8
-Cloudy	43	18.3	15.5	16.4	13.3	13.3	10.0	11.5	10.5	10.9	10.9	14.7	17.1	162.3
Precipitation														
.01 inches or more	43	12.4	11.3	12.8	11.1	11.0	10.3	11.5	9.7	8.3	7.7	10.0	10.8	127.0
Snow, ice pellets														
1.0 inches or more	43	1.4	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.9
Thunderstorms	43	0.8	1.4	3.2	4.2	6.5	8.2	9.7	6.8	5.0	1.4	1.0	0.5	46.8
Heavy Fog Visibility														
1/4 mile or less	43	3.0	1.7	1.6	1.1	2.3	2.1	2.1	3.4	4.0	4.9	3.0	2.6	31.8
Temperature °F														
-Maximum														
90° and above	25	0.0	0.0	0.0	0.0	0.8	4.1	9.0	6.9	2.6	0.0	0.0	0.0	23.4
32° and below	25	3.8	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	6.6
-Minimum														
32° and below	25	20.6	17.2	8.3	1.4	0.0	0.0	0.0	0.0	0.0	0.6	7.7	17.3	73.1
0° and below	25	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
AVG. STATION PRESS (mb)														
	13	984.4	983.7	981.2	981.5	980.4	981.7	982.5	983.3	983.4	981.6	984.6	984.9	983.0
RELATIVE HUMIDITY (%)														
Hour 01	25	77	73	71	71	82	86	87	88	87	84	79	77	80
Hour 07	25	80	79	79	80	86	88	90	92	91	89	83	82	85
Hour 13 (Local Time)	25	64	59	55	52	57	59	62	61	60	56	59	63	59
Hour 19	25	66	59	56	52	60	63	66	67	67	64	66	68	63
PRECIPITATION (inches):														
Water Equivalent														
-Normal		4.65	4.18	5.49	3.87	3.71	3.95	4.33	3.02	2.99	2.73	3.78	4.59	4.29
-Maximum Monthly	44	11.74	9.38	10.42	7.20	10.98	7.58	10.09	8.88	8.61	6.67	10.36	11.63	11.74
-Year		1954	1944	1975	1970	1974	1969	1967	1942	1944	1949	1948	1961	JAN 1954
-Minimum Monthly	44	1.05	0.74	1.98	0.39	0.74	0.20	0.70	0.77	0.42	1	0.97	0.45	1
-Year		1981	1968	1985	1976	1970	1944	1957	1954	1985	1963	1942	1965	OCT 1963
-Maximum in 24 hrs	44	3.89	2.89	4.85	3.65	3.40	3.57	4.69	3.25	5.08	2.44	4.06	4.89	5.08
-Year		1946	1956	1973	1977	1984	1972	1942	1959	1944	1961	1948	1969	SEP 1944
Snow, ice pellets														
-Maximum Monthly	44	15.1	23.3	20.2	7.0	1					1	18.2	12.2	23.3
-Year		1962	1960	1960	1971	1945					1962	1952	1963	FEB 1960
-Maximum in 24 hrs	44	12.0	17.5	12.1	7.0	1					1	18.2	8.9	18.2
-Year		1962	1960	1942	1971	1945					1962	1952	1969	NOV 1952
WIND:														
Mean Speed (mph)	43	8.0	8.4	8.9	8.8	7.1	6.6	6.1	5.6	5.7	5.8	6.9	7.4	7.1
Prevailing Direction														
through 1963		NE	NE	NE	WSW	SW	SW	WSW	NE	NE	NE	NE	NE	NE
Fastest Obs. 1 Min.														
-Direction	11	27	26	22	23	19	07	36	32	30	30	26	25	22
-Speed (MPH)	11	35	32	36	32	31	35	35	29	23	28	29	35	36
-Year		1978	1977	1977	1983	1985	1975	1985	1983	1984	1983	1982	1977	MAR 1977
Peak Gust														
-Direction	1	W	SW	NW	W	SW	NE	NE	N	NW	W	NW	W	W
-Speed (mph)	1	39	44	46	59	47	51	46	32	32	29	35	38	59
-Date		1984	1984	1984	1985	1985	1985	1985	1985	1984	1985	1984	1984	APR 1985

*"Sonja Henrie turned ice
skating into*

Big Business.

*There was something about
her proven ability
all packaged Hollywood style
that made her
- and ice skating -
unbelievably popular.*

*Suddenly there was ice
everywhere :*

ice rinks,

ice shows,

*ice extravaganzas of every kind,
mini-rinks in night clubs
and on top of hotels
- the entertainment boom
was on."*



1 PHYSICAL ASPECTS

- type of facility
- who designed it
- year of completion
- size and capacity of facility
- location & neighborhood
- type of materials used
- type of cooling system
- any additional amenities
- a listing & diagram of programmatic spaces

2 AESTHETIC QUALITIES

- approach
- walk-through by amateur
- walk-through by students
- walk-through by pros
- circulation
- quality of important spaces
- outer appearance

3 EVALUATION

- best points
- worst points
- evaluation

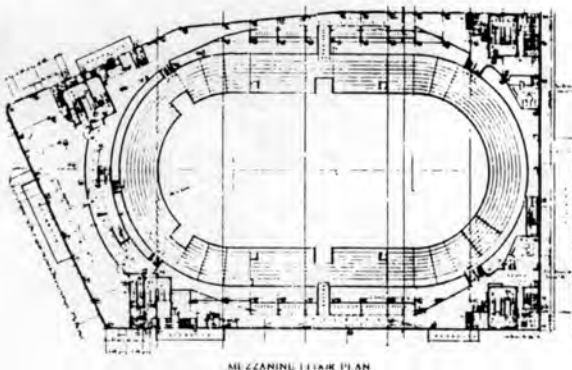
This list of topics provides a basis for analyzing and comparing the following ice skating facilities, sports complexes, and community centers.

1 PHYSICAL ASPECTS

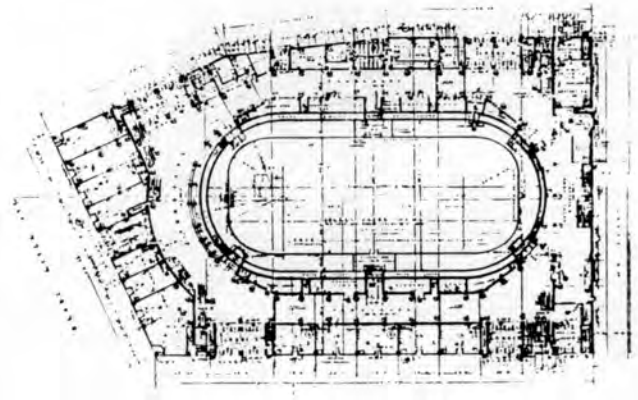
- Skating rink in large arena
- C. Howard Crane, Architect;
- Elmer George Kiehler, Ben A. Dore, Associates
- Completed 1927
- Floor area of 77,393 s.f.
- Seating capacity of 11,500
- Ice area is 242' by 110'
- " The location of the Detroit Olympia was selected primarily because of easy accessibility and because it was within one-half mile of Detroit's center of population, on a main thoroughfare, and on a four-way cross-own electric line. "
- " The construction is of steel and reinforced concrete. The main trusses have a clear span of

186'. The roof proper is of I-plate construction covered with two thicknesses of insulation and an asbestos roof. [chosen for lightness and good R value] The walls and ceilings of the promenades, passageways, vomitories, etc. are of sand finish plaster. "

• " The floor piping is covered with concrete with a granolithic top wearing surface designed to transmit refrigeration to the surface of the floor and also to resist the action of expansion and contraction. "A typical system of pipes that allow brine to flow under the ice to cool it. Ammonia condensers are used here. Special brine heaters are used to quickly loosen and remove the ice before it can melt on the concrete floor. "



MEZZANINE LEVEL PLAN



MAIN FLOOR PROMENADE

AESTHETIC QUALITIES

- Approach by any mode of transportation would be to walk in on the street level as if entering any down-town, four or five story building. The facade is Roman-esque and made of dark red brick with brown buff terra cotta trimming. It is impressive in massing.

- This facility has a standard arena plan where one enters on a main concourse level.

There are the basic amenities such as restrooms, retail space and storage that are under the main seating. I found no space for skate rental or any other sign of public skating facilities.

- Circulation is a clear system of concourse rings and various points for vertical circulation.

- I feel that the arena would be an exciting space to skate. The 90' ceiling height creates a sense of being outside, and the trusses create some interest as well. It is good that the arena walls are well back from the edge of the ice surface because that promotes the feeling of openness and freedom of movement.

- The lighting is good and bright, but the addition of sunlight of some kind would be nice for the skaters. It gives a sense of orientation and time that can not be achieved in an enclosed space.

- The lobby is spacious, orderly, and can accommodate the crowds, but here are very few opportunities to see into the arena. This feature would be a desirable plus.

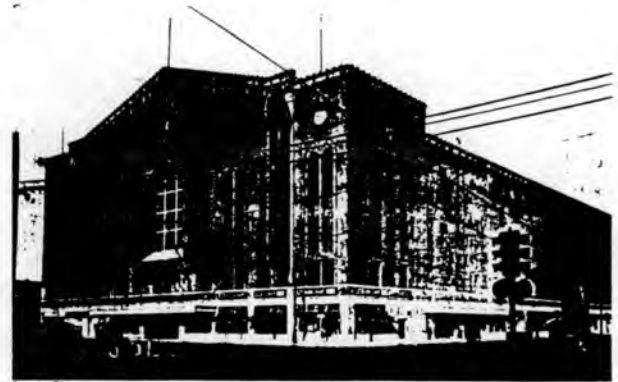


Photo by Elliott

OLYMPIA ARENA, DETROIT, MICH.
C. HOWARD CRANE, ARCHITECT; ELMER GEORGE KIEHLER, BEN A. DOME, ASSOCIATES



Photo by Elliott

OLYMPIA ARENA, DETROIT, MICH.
ARENA FLOOR WITH SURFACE PREPARED FOR SKATING. THE HEIGHT FROM THE ARENA FLOOR TO BOTTOM OF TRUSSES IS 90 FT. MAIN TRUSSES SPAN 186 FT. TYPE OF ROOFING USED WEIGHS LESS THAN 1 LBS. PER SQ. FT.

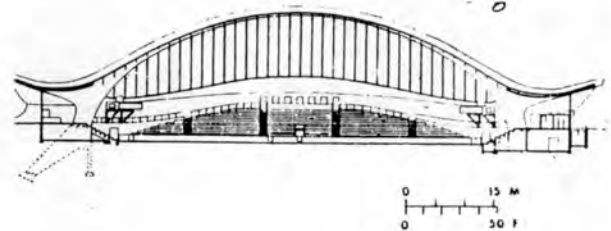
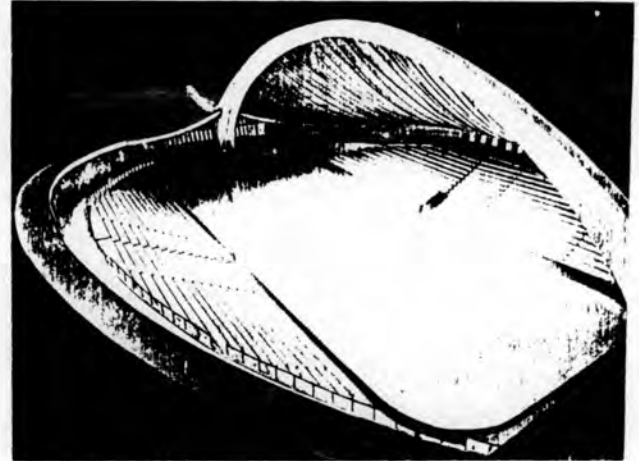
EVALUATION

- Because this is an arena facility, the most desirable qualities of the facility are its spaciousness. I would like to try to retain as much of this feeling in a smaller ice rink as possible. The Olympia also has a well-designed refrigeration system.

- I would hope to avoid the flaws of this project such as a lobby with too many entry points and a rink space with no day light.

PHYSICAL ASPECTS

- The facility is a single-use mid-size ice skating arena.
- Architects : Eero Saarinen and Associates
 - Engineers : Fred Severud
 - Completed in 1958
- The facility is located on the Yale University campus and is used mainly for hockey games, although in the off season it is also used for concerts, conferences, and parties.
- The arena is a tensile structure consisting of a concrete spine and steel cables which support a roof system. The building is partially underground so that the roof structure is all that is seen in elevation.
- The facility includes a memorial hall and a press stand.



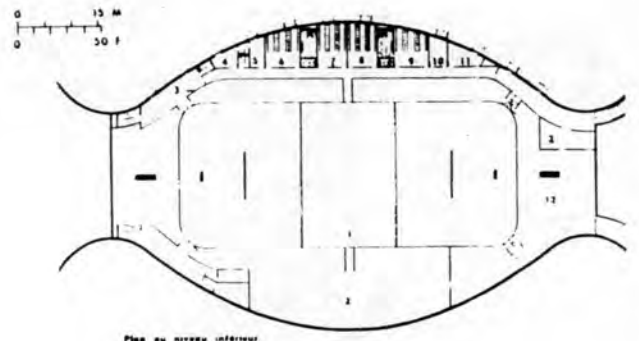
PROGRAMMATIC LISTING

Main floor :

Entrance	Memorial hall
Ticket area	Spectator seating
Press area	

Lower floor :

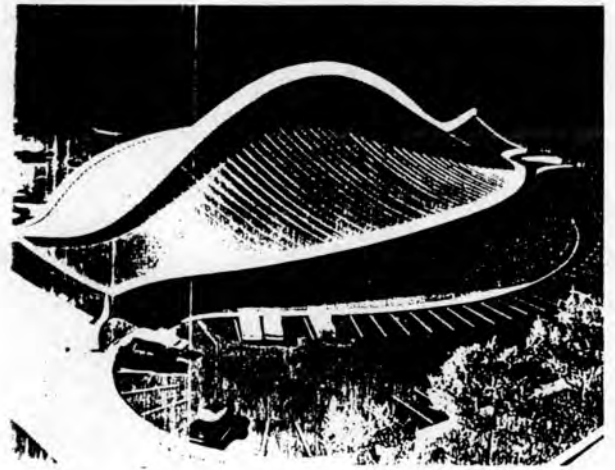
Ice surface	Locker rooms
Penalty box	Storage
Skate rental	Official's room
Service areas	Mechanical room
Spectator seating	
Equipment storage	



Plan du niveau inférieur

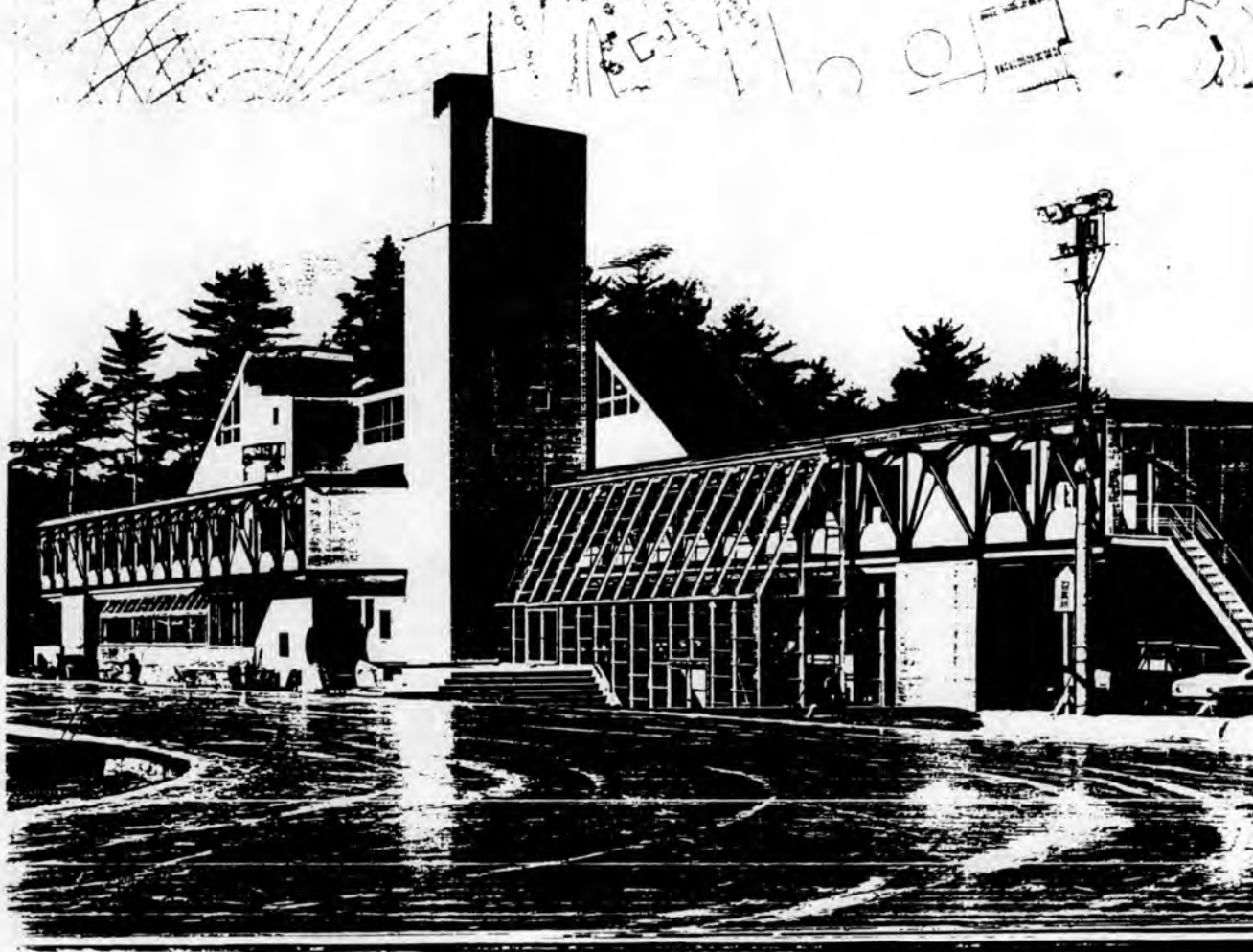
AESTHETIC QUALITIES

- You approach the building, viewing the long elevation and follow ramps around the corner and down to the main entrance plaza. You enter under the roof structure and have a clear view of the facility.
- Spectators proceed up ramps behind the seating and arrive at their seats from above.
- Skaters and officials take stairs down to lower corridors which lead to locker rooms and other activities. Skate rental is at the far end and has no view into the arena. Skaters take the ice from three entry points that cut through the seating above.
- The circulation is an extremely clear symmetrical arrangement. Spectators are separated from the participants shortly after entering the building, and the zamboni path never crosses a pedestrian path.
- The atmosphere in the main space is wonderful and fluid. Graceful curves, high above, inspire the skater. The main entrance takes advantage of the view. A small amount of natural light is included in the main space and also in the lower levels by light wells.



EVALUATION

- Best point : the arcing roof structure that dominates the facility inside and out.
- Worst point : poor visibility from the ideal areas of supervision.
- A good example of how the building envelop can work with the site to reduce heat loss.



3

PHYSICAL ASPECTS

- Single function, outdoor skating facility for hockey, speed, and figure skating.
- Hiromi Ishkawa, Architects and associates
 - January-October 1969
 - Total floor area 1,500m sq.
- The facility is located on Lake Misuzu, Nagano Prefecture, Japan.
- It is a very rustic setting of foot-hills and forest.
- The support facilities are housed in a steel and reinforced concrete structure composed mostly of glass walls.
- All of the ice surfaces are outside and there is a path down to the lake which freezes in winter for an additional ice surface.

PROGRAMMATIC LISTING**First floor :**

Dressing	Locker rooms
Skate rental	Administration
Lounge	Shop
Kitchen	

Second floor :

Press rooms	Dark rooms
Player's waiting rooms	

Third Floor :

Dressing area	Showers
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Basement :

Broadcasting	Judge's room
Reception hall	Dining area
Lobby	Storage
Outdoor dining terrace	

AESTHETIC QUALITIES

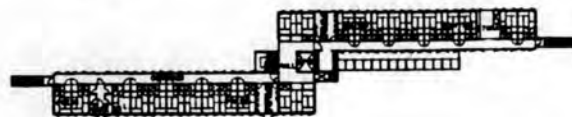
- The main approach gives an impressive first view of the site from the wooded surroundings. Parking on the east end of the site, you approach the long building end-on, passing by the ice surfaces as you enter.
- The form is dominated by a strong truss element that runs the length of the building, and a vertical core of concrete in the center of the composition.
- The recreational skater proceeds down to the first floor to rent skates and then returns back up to skate. The athlete goes upstairs to waiting rooms and showers. The staff has a separate entrance at the rear of the building.
- Facilities in the main floor include a dining facility and official's areas. There is an extensive press area on the second level with a clear view of the ice surfaces.
- Spectator seating is opposite the building, facing north.
- The circulation system is complicated because of the many changes in levels.
- The important spaces in this building are the social gathering areas where people go to warm up and relax. The dining hall is a two-storey space with lots of glass and natural light.

EVALUATION

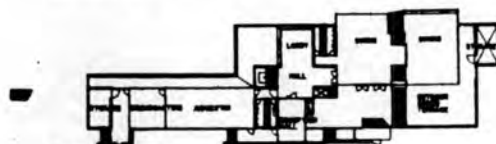
- Best point : The facility has an ideal site and was designed to take full advantage of the landscape.
- Worst point : The entry is not very clear nor is most of the circulation pattern. There are too many stairs and level changes.
- This is a good example of a training and competition center. I also like the way the facility responds to the landscape.



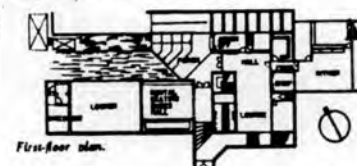
Third-floor plan.



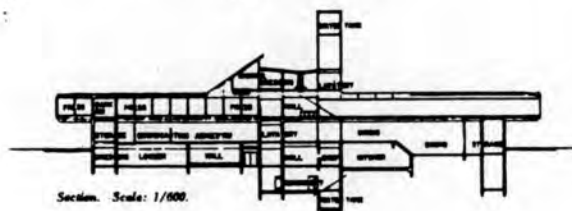
Second-floor plan.



First-basement plan.



First-floor plan.

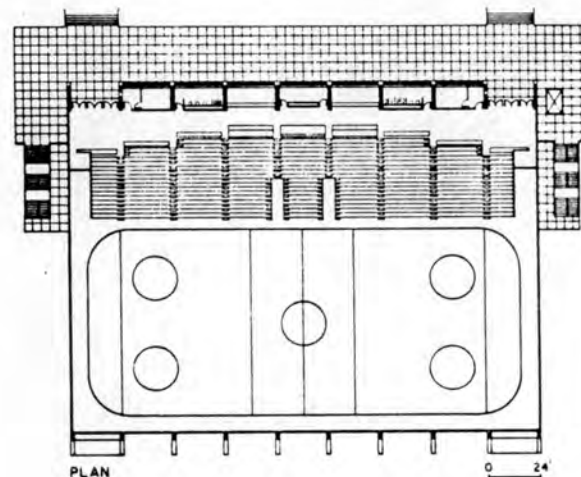


Section. Scale: 1/600.

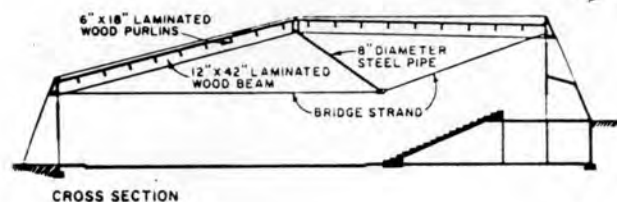
4

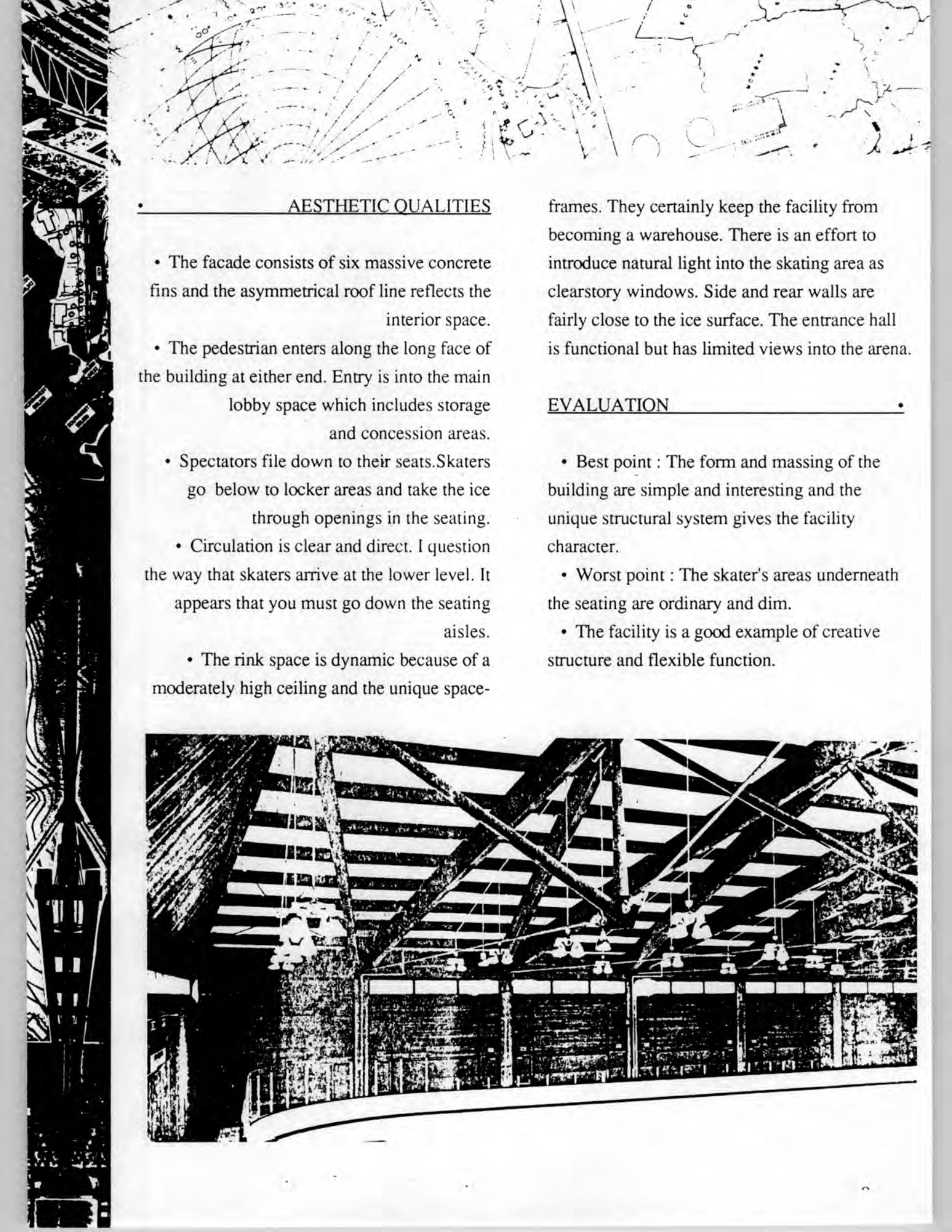
PHYSICAL ASPECTS

- A collegic hockey arena
- Warner Burns Toan Lunde, Charles Warner, partner in charge.
- Capacity : 2000 spectators
- Ice surface : 85' x 200'
- The arena is located on the campus at Wesleyan University in an area that is scheduled to be developed as a physical education complex.
- The facility is a reinforced concrete structure with a three dimensional composite truss of laminated timber, bridge strand cables, and steel piping.
- The building features a wall of vertical lift garage doors which open up to playing fields in the off season.

PROGRAMMATIC LISTING

Entrance lobby
Restrooms
Seating
Ice surface
Storage
Locker rooms





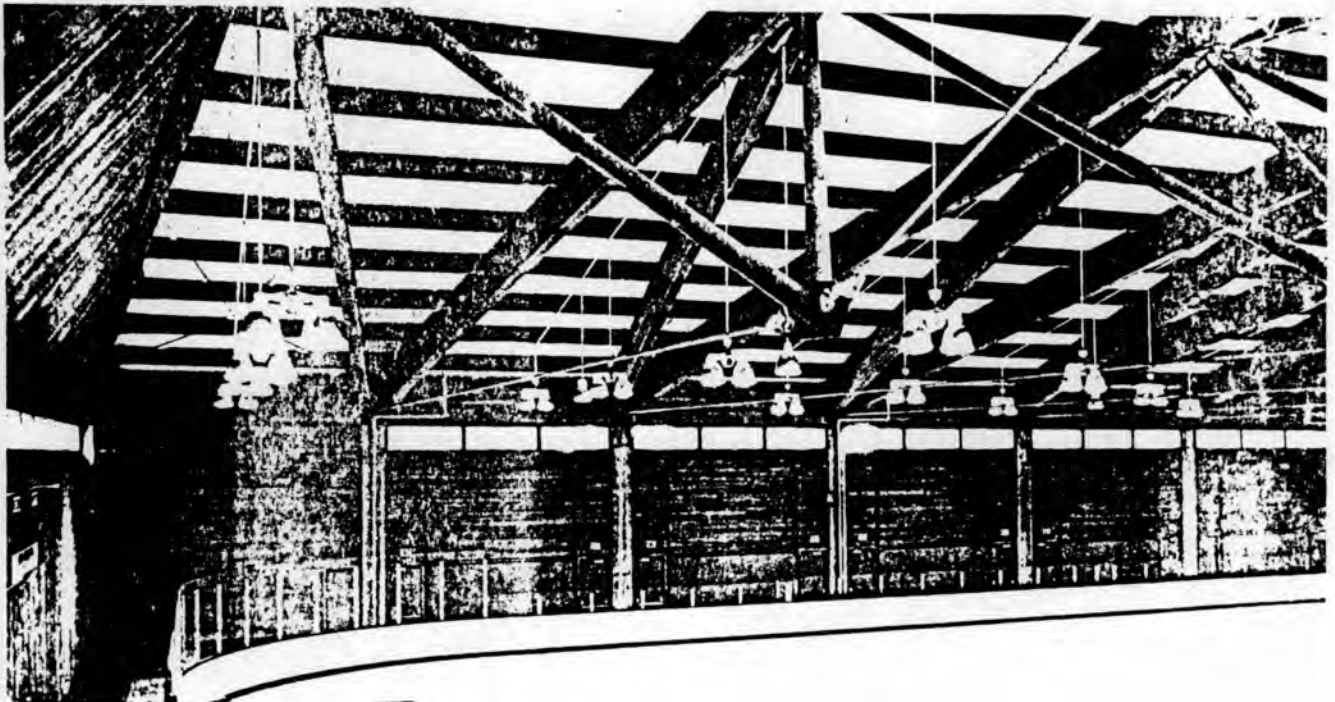
AESTHETIC QUALITIES

- The facade consists of six massive concrete fins and the asymmetrical roof line reflects the interior space.
- The pedestrian enters along the long face of the building at either end. Entry is into the main lobby space which includes storage and concession areas.
- Spectators file down to their seats. Skaters go below to locker areas and take the ice through openings in the seating.
- Circulation is clear and direct. I question the way that skaters arrive at the lower level. It appears that you must go down the seating aisles.
- The rink space is dynamic because of a moderately high ceiling and the unique space-

frames. They certainly keep the facility from becoming a warehouse. There is an effort to introduce natural light into the skating area as clearstory windows. Side and rear walls are fairly close to the ice surface. The entrance hall is functional but has limited views into the arena.

EVALUATION

- Best point : The form and massing of the building are simple and interesting and the unique structural system gives the facility character.
- Worst point : The skater's areas underneath the seating are ordinary and dim.
- The facility is a good example of creative structure and flexible function.



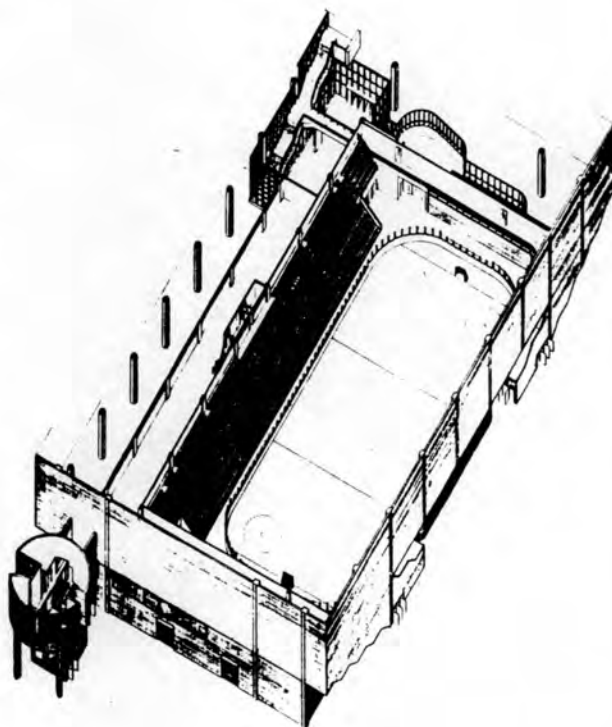
5

PHYSICAL ASPECTS

- A multi-use recreational facility including tennis courts, track, and skating rink.
- Davis, Brody & Associates, Architects
 - Total square footage : 100,000 s.f.
 - Skating rink area : 30,000 s.f.
- Rink dimensions : 110' x 200' with a 20' ceiling
 - Completed in 1981
 - On the M.I.T campus
- The structure is steel frame with brick cladding.
- The facility is used in the off season as a special events center.

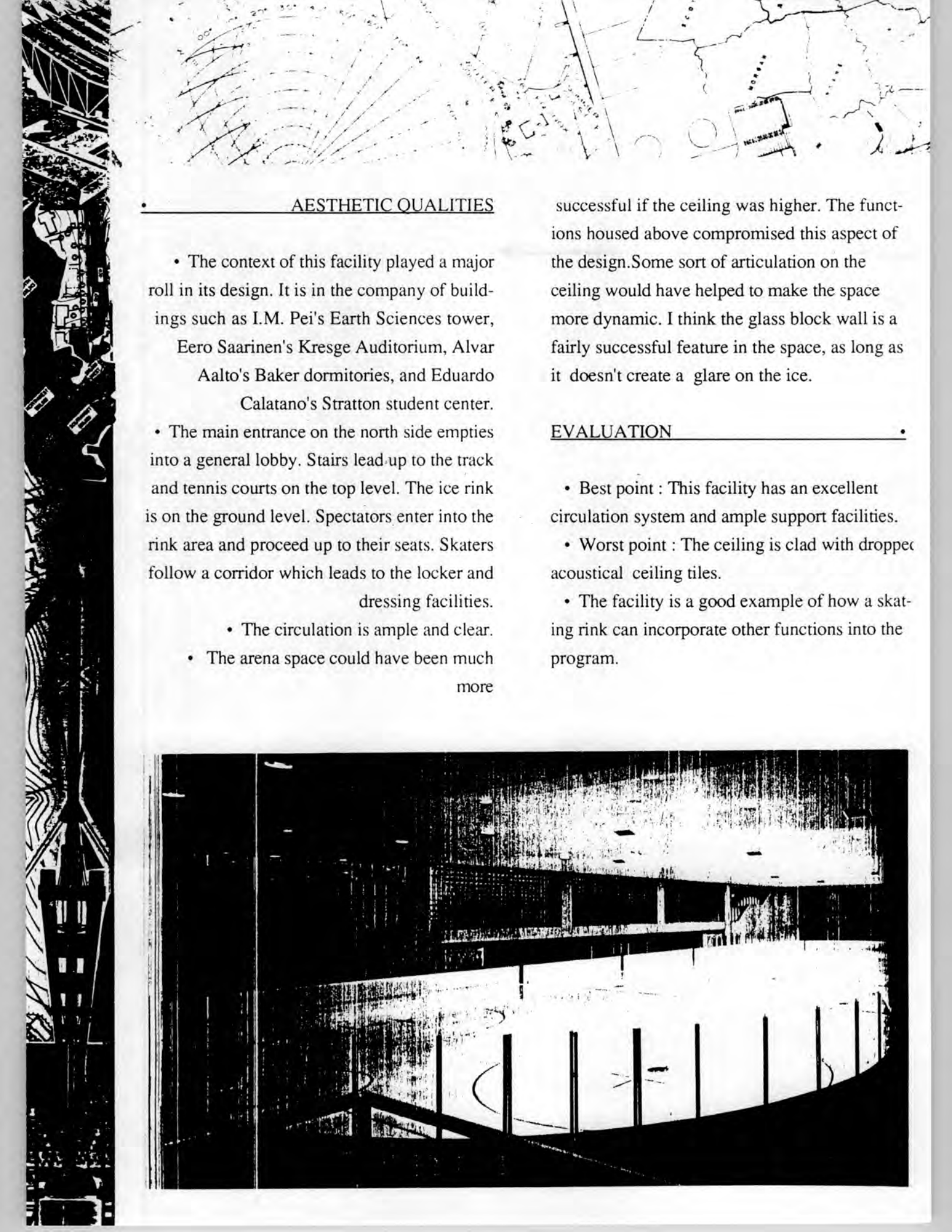
PROGRAMMATIC LISTING

Ice rink
Lobby
Seating
Dressing rooms
Office
Mechanical room



- 1 Stratton
- 2 Kresge
- 3 Baker
- 4 Phase two





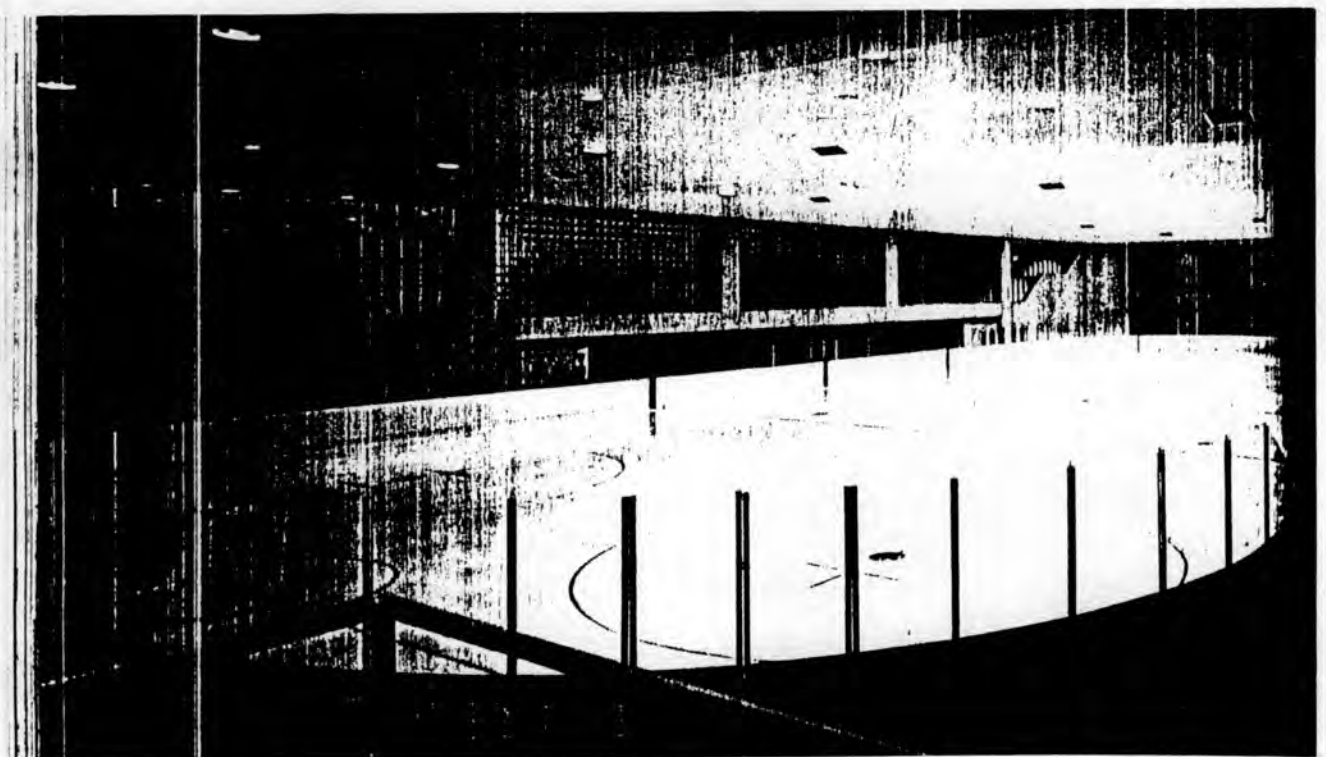
AESTHETIC QUALITIES

- The context of this facility played a major roll in its design. It is in the company of buildings such as I.M. Pei's Earth Sciences tower, Eero Saarinen's Kresge Auditorium, Alvar Aalto's Baker dormitories, and Eduardo Calatano's Stratton student center.
- The main entrance on the north side empties into a general lobby. Stairs lead up to the track and tennis courts on the top level. The ice rink is on the ground level. Spectators enter into the rink area and proceed up to their seats. Skaters follow a corridor which leads to the locker and dressing facilities.
- The circulation is ample and clear.
- The arena space could have been much more

successful if the ceiling was higher. The functions housed above compromised this aspect of the design. Some sort of articulation on the ceiling would have helped to make the space more dynamic. I think the glass block wall is a fairly successful feature in the space, as long as it doesn't create a glare on the ice.

EVALUATION

- Best point : This facility has an excellent circulation system and ample support facilities.
- Worst point : The ceiling is clad with dropped acoustical ceiling tiles.
- The facility is a good example of how a skating rink can incorporate other functions into the program.

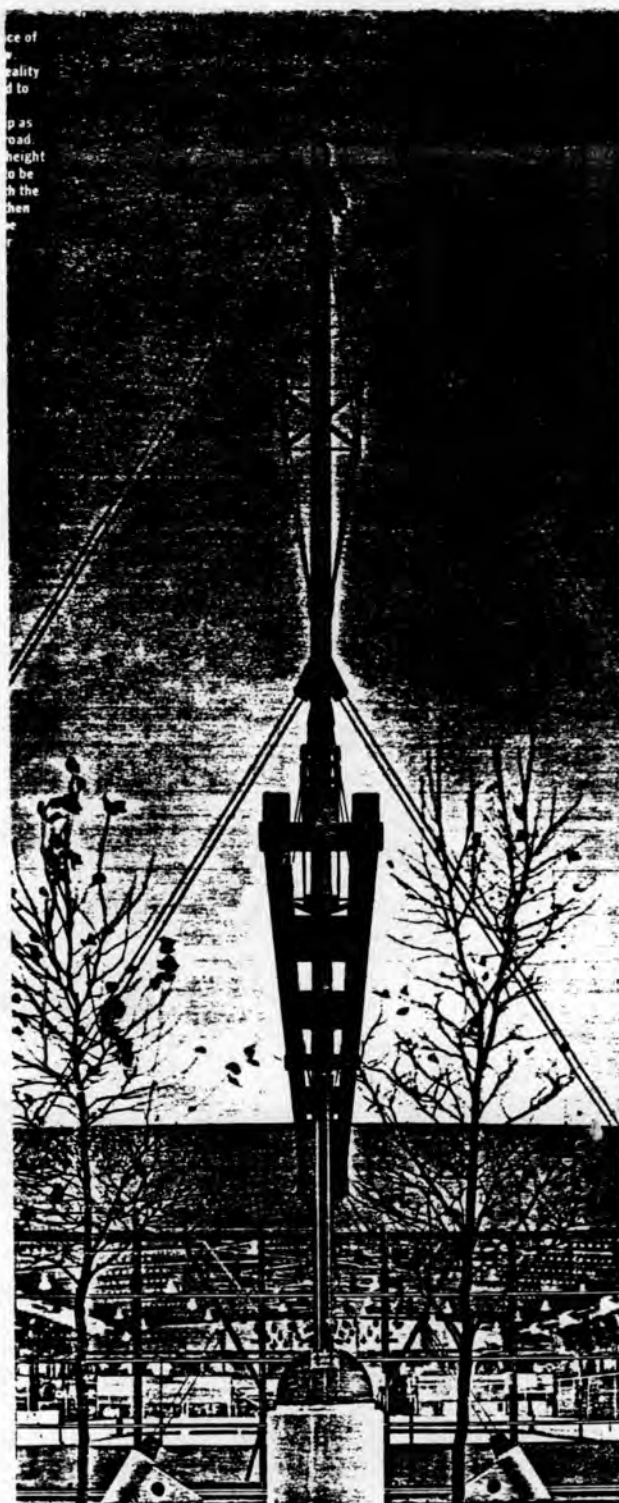


PHYSICAL ASPECTS

- A single purpose, community ice rink
- Nicolas Grimshaw & Partners, Architects
 - Ove Arup and Partners, Engineers
 - Completed 1985
- Oxford, England The facility was built on filled land normally used for recreation " in an area laid flat to make way for Oxford's link road."
- The building has a structural system of trans-verse beams and posts, a spine beam, tension rods, and masts that help simplify the foundation on filled land.
 - Ice surface area : 56m x 26m
- The facility includes a cafeteria, a bar, a disco and meeting rooms as some of its community oriented functions.

PROGRAMMATIC LISTING

Rink area	instructor's rooms
Skate changing	Disco
Mechanical	Staff room
Skate rental	Conference room
Kitchen/cafeteria	Bar
Changing rooms	Shop
Performer's entry	Management
Team benches	Seating



AESTHETIC QUALITIES

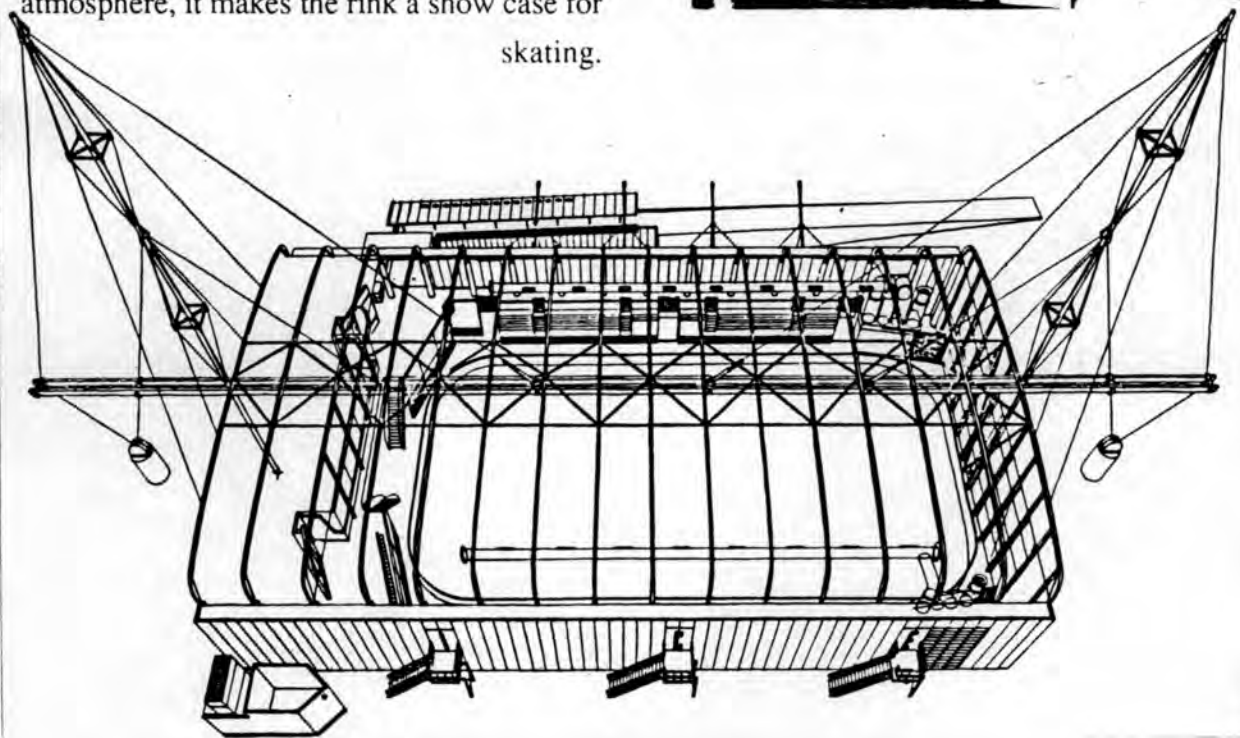
- As you approach the facility by car, you first notice the structural masts and the articulated exit stairs. Approaching the building up the ramp, you arrive at the main lobby space which has an excellent view of the entire facility and which looks down to the ice surface. There are shops and offices at this level. Spectators proceed down a side corridor and then down to their seats, while skaters go down central stairs to the rental and locker areas. There is a separate entrance for training skaters which by-passes the lobby.

- The rink space has some impressive qualities including an interesting ceiling system, ample rink to side wall distances, and a wonderful glass wall at the far end of the rink that allows clear views into and out of the rink.

This wall is one way to avoid a closed-in atmosphere, it makes the rink a show case for skating.

EVALUATION

- Best point : I can't choose one aspect as the best when the whole facility is well designed.
- Worst point : The change of levels must be carefully addressed, but can work well.
- This facility is a jewel ! It is by far my favorite example of how a community rink can overcome the metal shed syndrome.



7

PHYSICAL ASPECTS

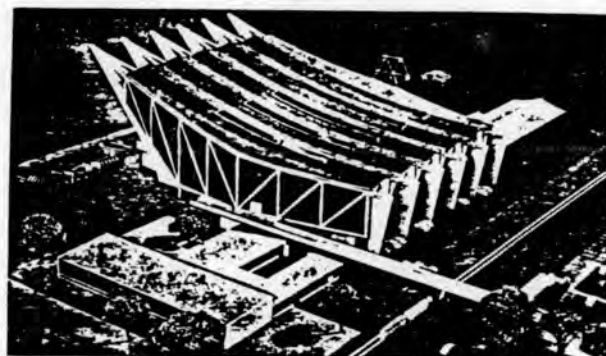
- A multi-use municipal hall
- Roland Rainer, Architect
- Breme, Germany The building is located in an area allocated for a municipal park. It is near a city streetcar line.
- The building structure is steel and reinforced concrete.
- The facility includes an events arena and a swimming complex as well as a cafeteria.

PROGRAMMATIC LISTING

Seating	Offices
Arena floor	Pool
Kitchen	Cafeteria
Mechanical	

AESTHETIC QUALITIES

- The site plan was carefully laid out so that the pedestrian and vehicular paths to and around the site are fairly well separated. The facade presents an impressive view on approach. The building consists of large trusses that cut through the space and curve upwards in response to the



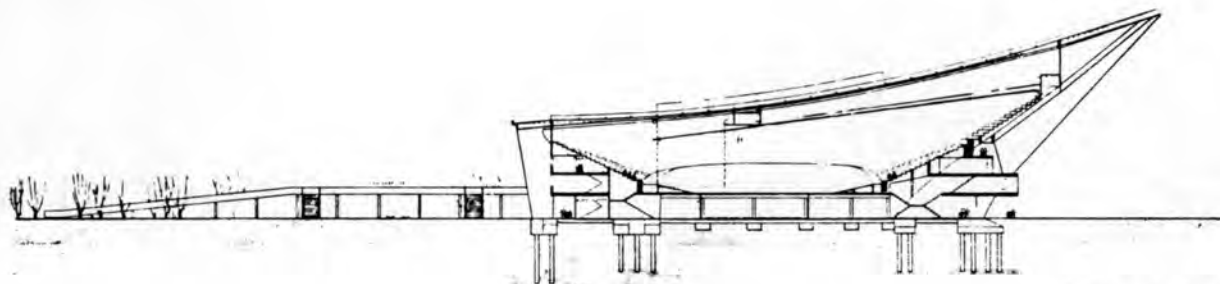
seating. This building houses only the main arena. The support facilities are in a subordinate building that connects to the arena by a corridor.

- Circulation is fairly standard yet a little complex because of an abundance of vertical circulation.

- The main hall is a dynamic space of sweeping trusses and over head sky lighting. The swimming pool occupies a more mundane space because it is underneath the arena.

EVALUATION

- Best point : The dynamic structure dominates this facility both inside and out.
- Worst point : The lower spaces has sacrificed aesthetics for conservation of space.
- An example of a separation of main space and support functions



Coupe longitudinale.

- A multi-purpose sports complex and community market place
- Louis-Saint Calbre, Architect
- The structure is concrete and steel tension cables.
- Paris, France The site is in a densely populated location with scarce amounts of open and and so the two functions had to be combined.
- The facility includes an ice rink, a gymnasium, a pool, and a covered market place.

Basement :

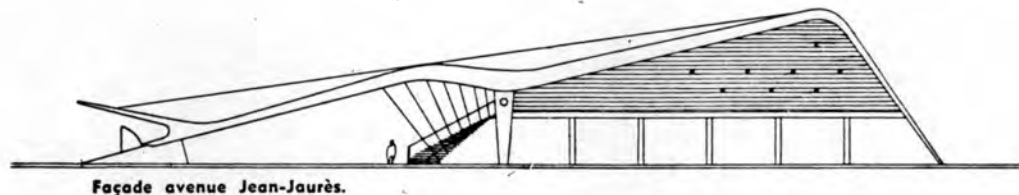
Gymnasium	Swimming Pool
Locker area	Massage room
Bar	

Ground floor :

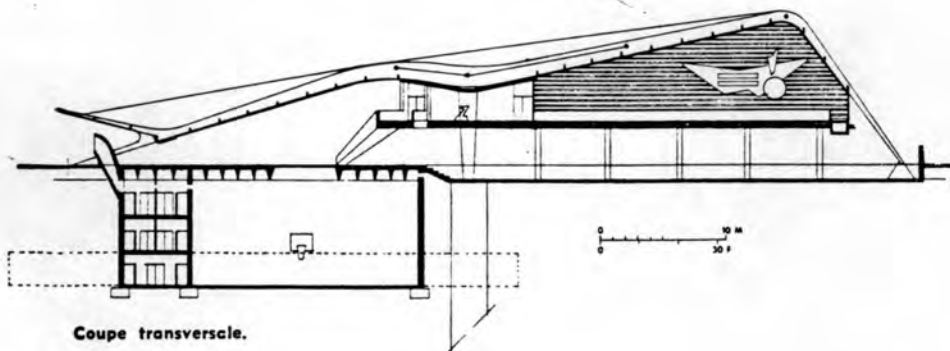
Open market area	Restrooms
Office	Storage
Entrances to building	Storage

Upper floor :

Ice rink	Ticket office
Locker area	Restrooms
Bar	Infirmary
Storage	



Façade avenue Jean-Jaurès.



Coupe transversale.

AESTHETIC QUALITIES

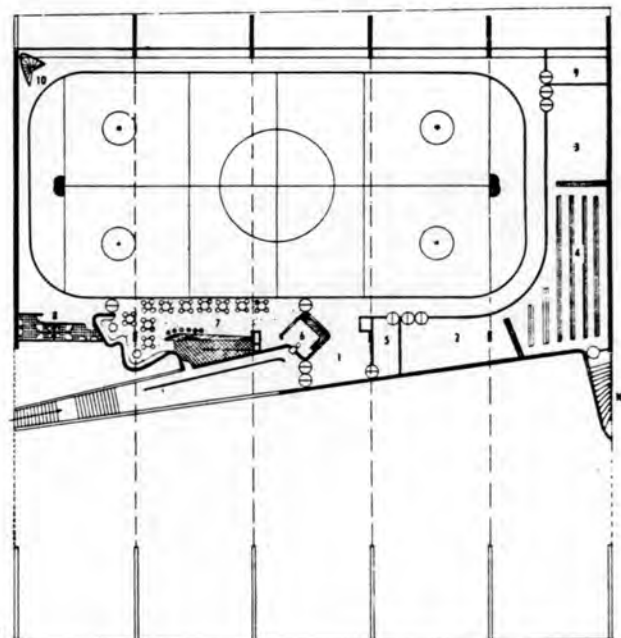
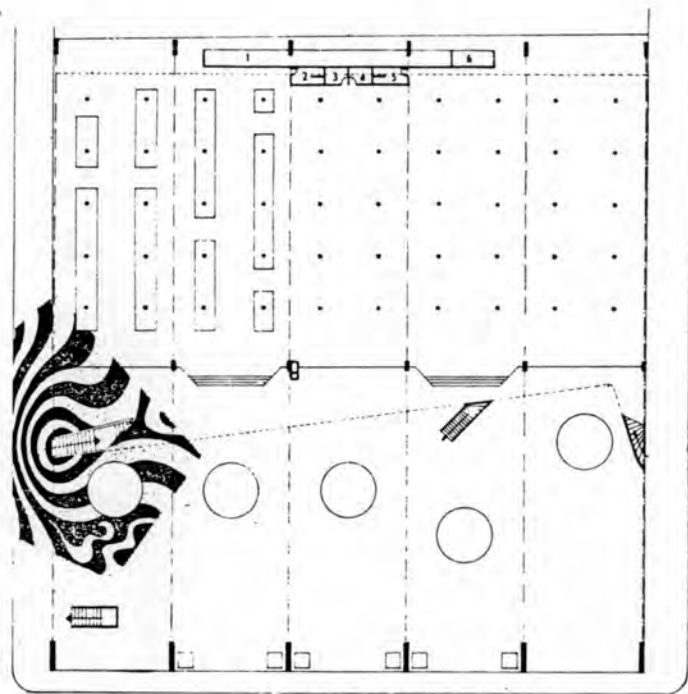
- This free form structure lends itself to an interesting profile and entry underneath the undulating roof line. The open ground level adds to the unique appearance of the building. You may go down to the gym and pool areas or up to the skating facility.

- The ice rink has two separate entries for the upper level, one for participants and one for the spectators. Participants enter directly into the locker area and then proceed to the ice. Spectators purchase a ticket upon entering and can then be seated at the bar.

- Circulation is clearly divided by the very nature of the facility.
- The main rink space would feel confined if it weren't for the high ceiling. The side walls come quite close to the ice surface. There is limited natural light from some small windows at the ground level. The roof is made of a trans-lucent material that allows the whole ceiling to glow.

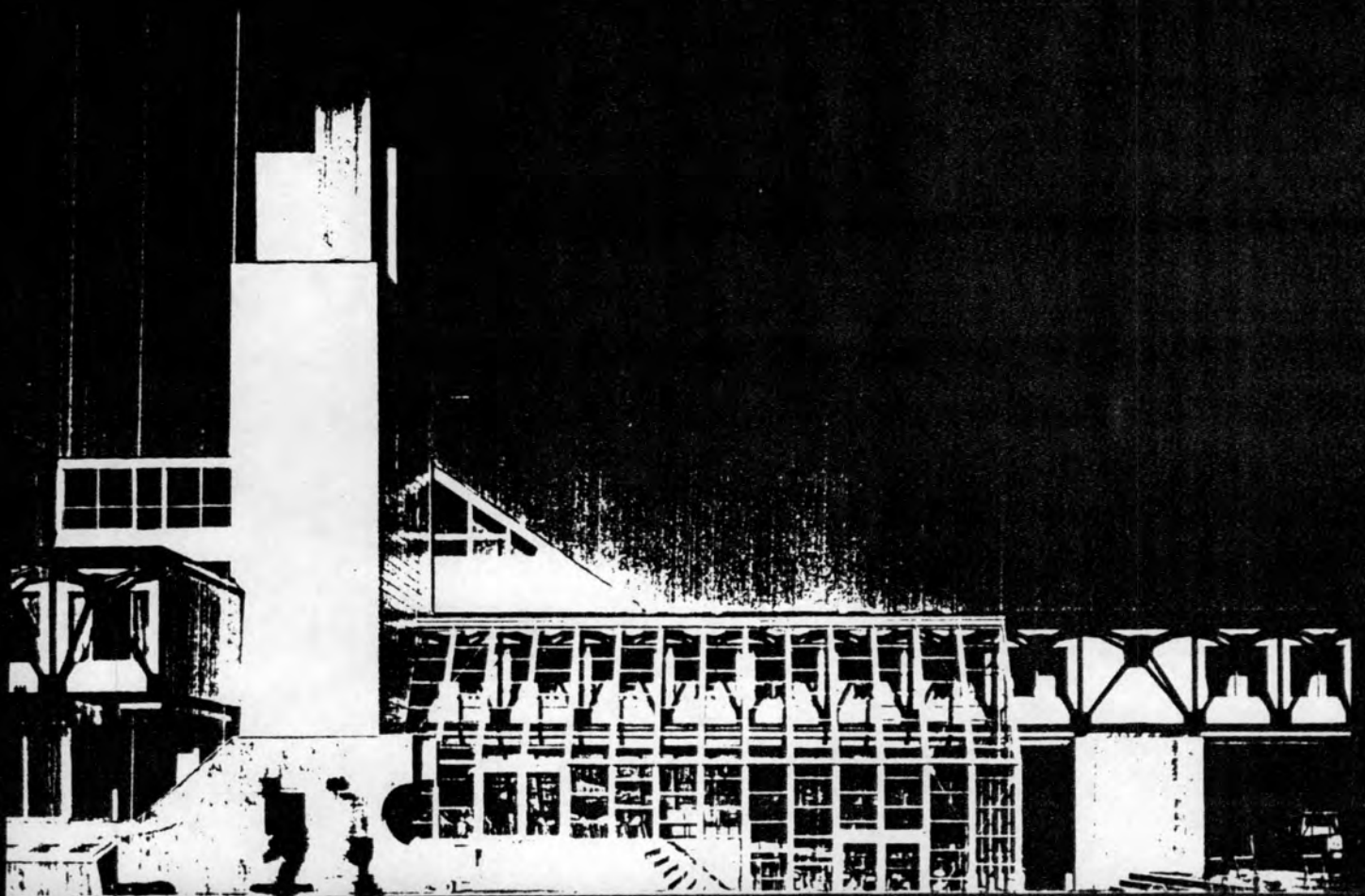
EVALUATION

- Best point : The building concept is the most successful part of the project.
- Worst point : The large covered plaza is going to dim most of the time.
- This complex is an efficient use of space on a limited site. It carefully defines the separate functions housed within.



*"In an area of architecture
not previously noted for its design
context,
sport is therefore beginning to
contribute much
to the urban and suburban scene
where good design is increasingly
essential
to the modern quality of life. . . ."*

Design For Sport, preface



1	<u>GENERAL PUBLIC</u>	<u>SUPPORT</u>	4
	Main entrance...200	200...Equipment storage	
	Lobby...300	100...Supply storage	
	Skate changing area...600	150...Prop storage	
	Snack area...450	600...Zamboni room	
	Lounge...600	800...Machine room	
	Bleachers...3,750	100...Skate repair room	
	Restrooms...400	60...Trophy display	
	Dressing rooms...400	5...Message display	
		50...Custodial storage	
		50...Loading dock	
2	<u>SKATER'S AREAS</u>		
	Rink area...15,200	<u>SPECIAL FUNCTIONS</u>	5
	Studio rink...3,500		
	Penalty box... 75	75...Judge's area	
	Rest rooms / locker facilities...2,000	75...press area	
	Team rooms...600	450 e...Meeting rooms	
	Dance / work out area...1,600	450 e...Special event rooms	
	Class room...400	400...Awards area	
		100...Special sales	
		75...Video area	
		25 e...Show lighting	
3	<u>STAFF AREAS</u>		
	Ticket office...50		
	Skate rental...300	3,6930... <u>SUB TOTAL</u>	•
	Snack bar...225		
	Pro shop...400	3,700...Mechanical (10%)	
	Business office...120	1,900...Circulation (5%)	
	Manager's office...120		
	Staff offices...e 100	42, 530... <u>TOTAL AREA</u>	•
	Staff work room...200		
	Break room...150		
	First aid...150		
	Sound system control room...150		

•The following is an ice rink manager's wish list. Eventually some of these spaces will be combined or will share a space, but they are detailed separately here to insure that nothing is left out.

1 MAIN ENTRANCE

- 10' x 20', 10' high
- Should be bright with both natural and artificial light
- Should be an air lock of sorts to keep out excess heat in the summer and cold air in the winter.
- Can be a noisy, busy area
- Should connect to the lobby and the ticket office, should have a view of the ice surface, should be visible from a staff area.

There will be only one main entrance and some required fire exits because of the need to control where skaters may walk with their skates on. It should be an inviting space.

LOBBY 1

- 15' x 20', 10' high
- Should be bright with both natural and artificial light.
- Temperature should be controlled by HVAC system only.
- Will be a high - traffic, high-noise area.
- Will be a central point connecting to many other spaces, mainly the ticket office, the skate rental and changing areas, the offices, and the snack area and restrooms.
- Should include some form of traffic control for admission into the building.

The lobby is an area of information and circulation. Visibility to other areas of the building is very important at this point for clear directions. It is a potential location for information boards because it is a holding and waiting zone for both entering and exiting the building. There should be seating with a clear view of the entrance provided for those waiting for transportation.

- 20' x 30', 10' high
- Should include both natural and artificial lighting.
- Should be a heated area
- Will be a high traffic area and the floor surface will be constantly abused by skate blades.
- Should directly connect to the rink area and the skate rental area as well as the public restrooms and dressing areas. Should be visible from a point of control and should have views to the ice surface.
- This area will always be wet and should include adequate drainage. It will require lots of seating and locker space.

This area has an unavoidable crossing of traffic between those with skates on and those walking sock-footed and should be carefully arranged to minimize this dangerous situation.

- 15'x30', 8' high
- Should include both natural and artificial lighting.
- Can include natural ventilation if properly located.
- Could be considered one of the quieter public spaces and should have a cozy atmosphere ; a place to retreat to.
- Should be directly next to the snack sales area and might be partially combined with the lounge.
- Will require tables, chairs and garbage cans and should be accessible to those with skates on. Will require drainage for melting ice and spills.

It would be nice if this area could have a view of the rink area and also views outside. It might even include an outdoor eating area. It should be a quiet and relaxing place.

- 30'x 20', 10' high
 - Should include both natural and artificial lighting.
 - Could involve some natural ventilation if properly located and should be a heated space
 - Should be a moderately trafficked area with a comfortable noise level.
 - Could connect to the snack area and the pro shop. Will be accessible to those with skates on and should be near the public restrooms.
 - Should be visible from a security point and could have views to the rink area.
 - Must have adequate drainage for melting ice.
- Could include tables and chairs. The current facility features a fire place.

The lounge area is one of the nicest spaces in the existing facility and its character could be repeated in the new facility as a reference to that atmosphere. It is a cozy, dimly lit space that centers around a fireplace, it's a place to rest and warm up over a cup of hot chocolate.

- 150'x 25', 20' high
- Will be mainly artificial lighting with as much natural lighting as permitted by the energy efficiency requirements of the space.
- Ventilation will be only through the HVAC system, and heating would be nice.
- When this area is in use it will be among the noisiest spaces in the facility. It will be a high traffic zone and in most cases is restricted from those wearing skates.
- Should be directly connected to the ice surface and should be relatively close to the ticket office, the snack bar, and the public restrooms. Emergency exits are required for this space.

It would be advantageous if the path of the spectator could be separated from that of the skater.

- 10'x 20', 8' high
- Should be a combination of artificial and natural lighting.
 - Should be standard ventilation with a possibility of natural ventilation as well.
- Will be a moderately trafficked area for most of the year with exceptionally high usage during maximum capacity events such as competitions and hockey games.
 - Should be adjacent to the public dressing rooms. Should be convenient to the bleachers the lobby, the skate changing area, the offices, and the lounge.
- Should include standard restroom fixtures and must be able to handle those with skates on.

- 20'x 10', 8' high
- Should be a combination of natural and artificial lighting.
- Could be a combination of artificial and natural lighting.
- Will be a moderately trafficked area most of the year with peak usage during maximum capacity events.
- Must be adjacent to the public restrooms, and should be convenient to the skate changing area.
- Should include lockers and benches, and must be able to accommodate those with skates on.

RINK AREA

- 80'x 190', 20' high
- Should include as much natural lighting as possible without compromising the energy efficiency of the space. Must also be capable of relying on artificial lighting for night events.
- Must be totally dependant on the HVAC system as the temperature and humidity are vital concerns.
- Is normally a noisy space and is usually in use of a sound system for music and announcements.
- Should be in direct contact with the following spaces : bleachers, zamboni room, equipment and prop storage, judge and press areas, video area, special lighting area, and team rooms. It would be ideal if most of the spaces within the facility had views into the rink area. There should be views to outside as well.

The aesthetics of this space are the most important in the facility. This space has the ability and responsibility of influencing the performance of the skater. It should reflect freedom of movement and spaciousness. Contrasts between surfaces must be carefully approached. A spinning skater relies on some visual marker for orientation, and strong massing too close to the ice surface can be a psychological barrier.

- 80'x 50', 15' high
- Should use as much natural lighting as possible, and should be fully equipped with artificial lighting fixtures.
- Must rely on the HVAC system as the temperature and humidity are of vital concern.
- Should have moderate usage for special events and private functions.
- Should directly connect with the zamboni room and machine room. Could be convenient to the team rooms, the skate changing area, and the special event rooms.

This space will have the same aesthetic concerns as in the main rink area. It will be used for group lessons, private lessons and parties, and any function that might coincide with another event on the main rink. It might also be in use when the main rink is closed for repairs.

- 5'x 15'
- Must be directly next to the ice surface
- Requires benches
- Will receive a considerable amount of physical abuse.

This space will be located in the main rink and is used during hockey games. It should be flexible enough to be used for other events such as, a press area or judging area.

- 20'x 50', 8' high
- Should rely on both natural and artificial lighting
- Should also be able to employ both natural and artificial ventilation. Will be a heated space
- Will be a moderately used space and will be used mainly by experienced skaters.
- Should be convenient to both the main and studio rinks.
- Could include benches, lockers, standard bathroom fixtures, and possibly some showers. Will be used by skaters and should have proper floor covering and drainage.

These rooms will be used mainly by experienced skaters during lessons and practices. They will be used at maximum capacity during special events such as competitions and games. Normally these spaces are very cold and drab and I would like to try to improve the atmosphere of this area.

- 15'x 20', 8' high
- Should be able to use both natural and artificial lighting.
- Could use some natural ventilation with caution , should be a heated space.
- This is a infrequently used space and should be considered available for other functions.
- Should be close to the main rink.
- Will be used by skaters and should have proper floor covering and drainage. Will require seating.

These rooms are used during shows, games, and competitions and are considered "back stage " areas. They should be away from the general public. Their most important function is to keep waiting skaters warm and comfortable while waiting to perform.

- 40'x 40', 10' high
- This room should have a strong emphasis on natural lighting during the day
 - It should also have plenty of natural ventilation
- Should be a relatively quiet space that has moderate usage.
- Should be convenient to the locker facilities
- Should be equipped with a sound system, mirrored walls, and possibly some exercise equipment.

This room should be a change of scenery for the skater. It should be a warm, bright space where the skater can concentrate on herself.

- 20'x 20', 8' high
- Should make use of both natural and artificial lighting.
- Should have a combination of both natural and artificial ventilation.
- Will be a lightly used and quiet space.
- Can be located in a number of areas within the building.
- Should include seating and work surfaces and possibly video equipment.

This space would be used infrequently and could be combined with other spaces and functions.

TICKET OFFICE

- 5'x 10', 8' high
- Should include plenty of natural and artificial lighting and ventilation.
- Will be located in an area of high traffic and noise.
- Must be connected to the main entrance and lobby areas. Should be close to the offices and the skate rental area. Could have views to the rink area, the lobby, and outside.
- Will require a work station for one or two employees, a cash register, and a ticket dispenser.

This area is a central point of control and supervision for the facility. It serves as a gate that everyone must pass through.

SKATE RENTAL AREA

- 15'x 20', 8' high
- Should make use of natural lighting and ventilation as much as possible.
- Will be a high use area, and is usually busy and crowded.
- Must be connected to the skate changing area and should be close to the lobby, main entrance, and the staff areas. Should have a good view of the rink area and the lobby.
- Will require a system to house the rental skates and is usually fronted with a counter.

The employees of this area are usually required to assist the customer with the fitting of their skates so there should be easy access between these two spaces.

- 15'x 15', 8' high
- Should include natural and artificial lighting and ventilation.
- Will be a high traffic area and will be fairly noisy in the preparation of food.
- Should be connected to the dining area. Could be near the lounge.
- Will require standard kitchen equipment, a cash register, a serving line, and possibly some vending machines.

The type of food prepared here is mainly prepackaged and frozen.

- 20'x 20', 8' high
- Can include natural and artificial lighting and ventilation and could include special display lighting.
- Should be a moderately used, fairly calm space.
- Can be located in a number of locations throughout the building, but should be in a public zone.
- Will require standard shop display cases, racks, and shelving as well as a cash register. Could be used by those with skates on and should have the proper floor covering and drainage.

- 10'x 12', 8' high
- Should include natural and artificial lighting and ventilation.
- Will be an area of daily use with moderate traffic and noise.
 - Should be close to the lobby and main entrance, the manager's office, and the staff offices. Should have a good view of the lobby and the rink area.
- Will include one or two work stations and other standard office furniture.

This is one of the few areas that is occupied the entire time the rink is open for business. It is also used when the rink is closed for the season. Emphasis should be placed on a pleasant work environment.

- 10'x 12', 8' high
- Should include both natural and artificial lighting and ventilation.
- Will be a quiet, but daily used area with light traffic.
- Should be near the other offices, the lobby, and main entrance. Should have views of the rink area and lobby.
- Will include standard office furniture.

- 10'x 10', 8'high (each)
- Will include as much natural lighting and ventilation as possible.
- Should be frequently used, quiet spaces.
- Should be near the other offices, the locker facilities, the class rooms, and the skating surfaces.
- Should have standard office furniture, and should have a skate - ready floor surface.

There will probably be two or three of these spaces and they will be shared by several staff members.

- 10'x 20', 8' high
- Could include natural and artificial lighting and ventilation.
- Should be a moderately used space with light traffic.
- Should be located in a private area near the staff offices.
- Should include a work surface, storage, seating , and some specialized equipment.

This space may be combined with some other functions because of its light use.

- 10'x 15', 8' high
- Should include a combination of natural and artificial lighting and ventilation.
 - Will be a moderately used quiet space.
- Should be in a private zone near the staff offices.
- Could include a small food preparation and storage area as well as casual seating.

This should be a place to relax and retreat from the rink areas. It should be warm and cozy.

- 10'x 15', 8' high
- Will include specialized lighting and some natural lighting.
- Will include specialized HVAC systems as well as some form of natural ventilation.
- Should be an infrequently used area and a quiet one.
- Will require specialized equipment and some storage areas.

3 SOUND SYSTEM CONTROL ROOM

- 10'x 15', 8' high
- Will probably have no natural lighting or ventilation because of location within the building. Should be a warm space.
- Will be a frequently used space during public sessions, parties, competitions, and hockey games.
- Must have good views to the rink areas, Should be near the office areas.
- Will include sound equipment for the rink areas and possibly equipment and storage for recording music.

Some rinks maintain music libraries for producing skater's programs; this room might be used for this function. If so, it should be sound proof.

CUSTODIAL STORAGE

4

- 5'x 10', 8' high
- Could have natural lighting and ventilation but will be mainly artificial.
- Should receive light, daily use.
- Location is flexible, could be located in a remote area.
- Will require a floor drain, a large sink, and shelving.

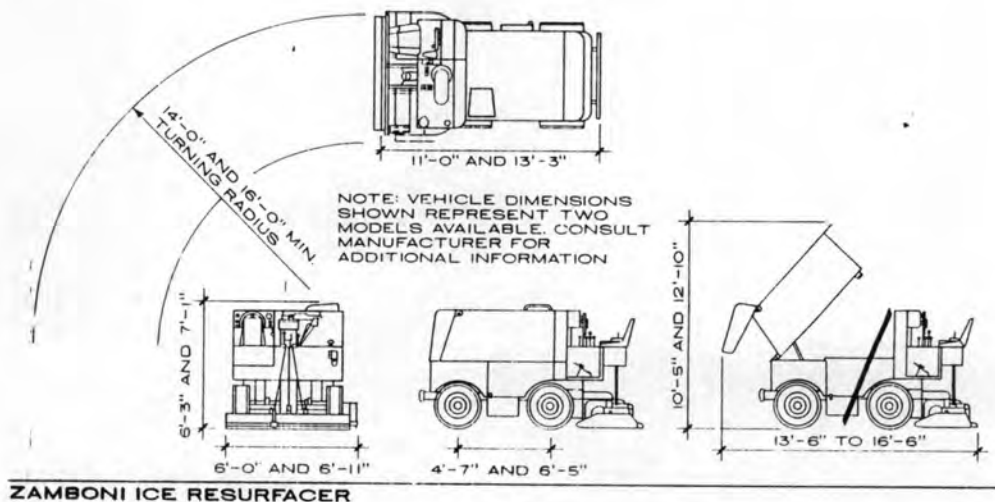
- 10'x 20', 10' high
- Lighting and air control systems will be mainly artificial as this only a storage space.
- Should encounter infrequent traffic.
- Should be close to the rink areas.

This area is mainly for storage of hockey equipment and any other bulky items.

- 10'x 15', 10' high
- Should provide artificial lighting.
- Could be a frequently used area and will be fairly noisy.
- Should be close to the kitchen, the pro shop, and the custodial storage area.
- Could include garage doors to close off the space.

- 20'x 40', 12' high
- Could use both natural and artificial lighting and ventilation.
- Will be a lightly trafficked area and will always be very noisy.
- Must be near the ice surfaces. Should be convenient to the office area.
- Will have a great deal of specialized equipment which will be spelled out later.

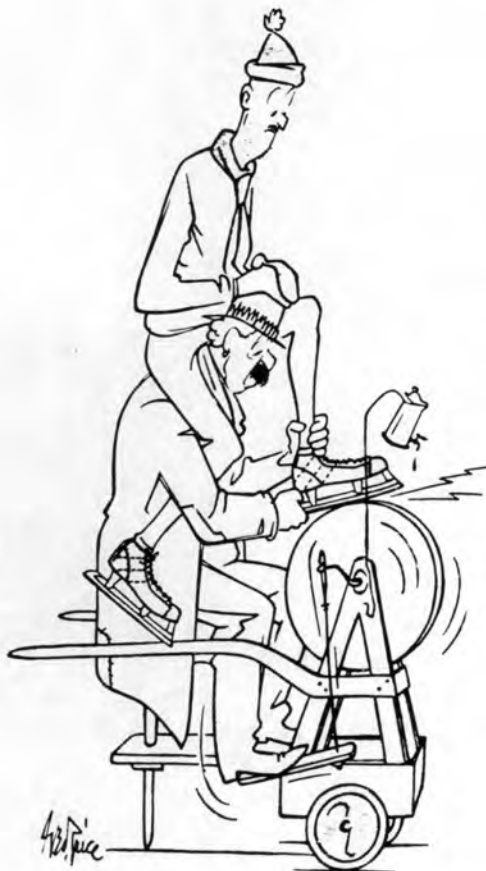
- 20'x 30', 12' high
- Should have artificial light only because of its proximity to the rink area. Could be a heated space.
- Will be used constantly and will be very noisy as well.
- Must connect directly to the ice surfaces and to the snow dumping area (usually outside).
- Will have an elaborate drainage system for the disposing of snow. Also includes a hose bib for filling the zamboni and a gasoline storage tank. Could include a hydraulic system for zamboni repair.



ZAMBONI ICE RESURFACER

- 10'x 10', 8' high
- Should include both natural and artificial lighting and ventilation.
- Will be an infrequently used space and could be noisy at times.
- Should be close to the skate rental area.
- Should include skate repair equipment, storage and a work space.

- 10'x 10'
- Will be sufficiently lit by artificial lighting and might be located outside.
- Will be constantly used and will be a noisy area.
- Must connect directly with the zamboni room
- Must be equipped with a drainage system that will allow for the melting of large quantities of snow.



- 5'x 15'
- Will be incorporated in the rink area and will rely on its lighting although additional lighting and a heating system may be added.
- Should be a rarely used space and a quiet one when in use.
- Should connect with the ice surface. Should be convenient to the special events rooms. Should have visual access to the sound system control room.
- Should include seating and work surfaces.

- 5'x 15'
- Could be incorporated in the rink space where it would rely on the rink space lighting.
- Should be an infrequently use space and a moderately calm one when in use.
- Should be next to the ice surface.
- Must have ample electrical outlets for electronic equipment. Should be a dry location if possible.

- 15'x 30', 8' high (each)
- Should include both natural and artificial lighting and ventilation.
- Should have moderate to light usage and will be fairly quiet when in use.
- Should be close to the lobby and the offices.
- Should include seating and a work space.

These rooms are to be used for rink functions as well as for community functions. There will probably be two of them and they may be combined with other similar rooms.

- 15'x 30', 10' high
- Could use both natural and artificial lighting and ventilation.
- Will be used infrequently (during tournaments and competitions) and when in use, will be fairly quiet spaces.
- Could be close to the offices and lobby.
- Should include seating and work spaces.

These rooms would be used during competitions for hospitality, concessions and visiting coaches' break rooms etc.

- 20'x 20'
- Should include lighting suitable for photography.
- When in use, will be a very noisy and crowded area.
- Should be near the lobby, main entrance ,or lounge areas.
- Could require a temporary sound system and will require a winner's podium.

This is a temporary area used during competitions. It is usually used several times a day during the three day event. It was mentioned mainly as something to keep in mind when designing the public gathering spaces.

- 5'x 20'
- Should use both natural and artificial lighting and ventilation.
- Will be used only during competitions and other special events and will be a frequently used and busy area.
- Should be near a regular sales area for the use of a cash register and counter space.

This another temporary area that is used mainly during competitions for the sale of flowers, souvineers and also for skater registration. It is mentioned only to be kept in mind when designing the retail spaces.

- 5'x 15'
- Will be lit by the rink space in which the area is located.
- Should be used during lessons, practices, shows, games, and competitions, and will be a quiet space.
- Must have an unobstructed view of the ice surface and would be ideally located by the ice surface.
- Should be equipped with electrical outlets for the video equipment and should be a dry space.

- 3 at 5'x 5' each
- Will be light by the rink area lighting
- Will be rarely used and when in use, will be very quiet spaces.
- Must be located at the top of the bleachers or at some other high point in the main rink space.
- Should be equipped for spotlight operation and storage.



*"Look closely at its
architecture.*

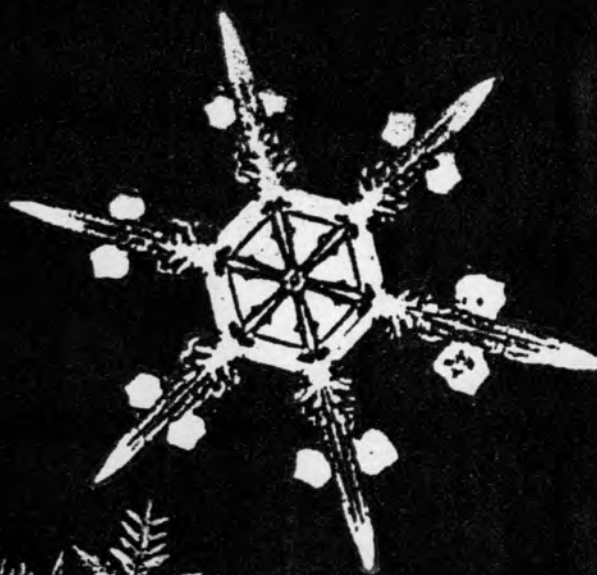
Magnify the crystals.

*See prisims, needles,
flowers,
branching stars.*



What a paradox.

*Such gaiety and
lightness,
such variety.*



Now look again.

There's no variety at all.

*Other crystals assume
thirty-two different
geometric forms;
ice is always*



hexagonal.

Always."



ABILITY

RESPONSIBILITY

I possess a gift. I have the ability to visualize a place, a space, in my mind and then make that vision tangible. This ability is as rare and inconceivable to others as the ability to hear a melody that has not been written would be for me.

Share the gift

I believe that design is a tool that must be used carefully. It can be used for great good or it can be mishandled. We are responsible for decisions that effect a great many people who have no voice.

Consider their needs

Architecture is a service to society. There is a delicate balance between what the architect would like to design and what the client would like to have done. We must listen carefully. We must know when to advise and when to take advice. The final project is our reputation, but it is their daily reality.

Respect their ideas



INSPIRATION

It is very easy for me to find design inspiration from the forms found in the natural world. It isn't that I use those shapes literally, but it is intriguing to know that there are systems that order the seemingly random natural environment. There is more unity than is apparent and yet nothing becomes repetitive.

A "Nova" television program that I saw several years ago discussed some interesting theories of natural structure. All of nature's patterns can be classified into six categories: the spiral, the helix, the double helix, the hexagon, the branch and the meander.

The Mathematical Tourist is another source for the explanation of natural forms. This book on applied mathematics discusses the recent breakthroughs in the fields of fractals and chaos theory. They reveal that there are mathematical equations for the complex forms in nature. This is as revolutionary as the discovery of constructed perspective drawing.

It is the exciting knowledge of a small piece of mysterious wonder.



APPLICATION

This only the beginning of a list of issues that I would like to investigate in the comprehensive project.

SYMMETRY

It is easy and fairly common to arrange a skating facility symmetrically- the ice surface is symmetrical, the stands are symmetrical, even the skaters are symmetrical, or are they?

Just as we are all left or right handed skaters have a preferred direction. Usually all skaters' jumps and spins rotate either clockwise or counter clockwise. We have a strong and a weak side.

We use both symmetry and asymmetry on the ice. School figures are always symmetrical, dance patterns can sometimes be symmetrical, but most free skating programs are not. In fact the pattern, or the path of the skater's movement, is judged by it's creativity and variety.

EMULATING NATURE

The indoor ice rink is a fairly recent invention, just over 120 years old. Skaters wanted the fun of skating without the inconvenience of weather. We learned to copy nature, we learned to control it. We perfected its good qualities and erratically its flaws. We may now have ideal conditions, but we have lost the essence. Nothing can simulate the feeling of natural ice and open sky.



*"I was skating in the craziest place in Connecticut Sunday—no lights,
no music, no restaurant. It was simply fantastic."*

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"Stop me!"

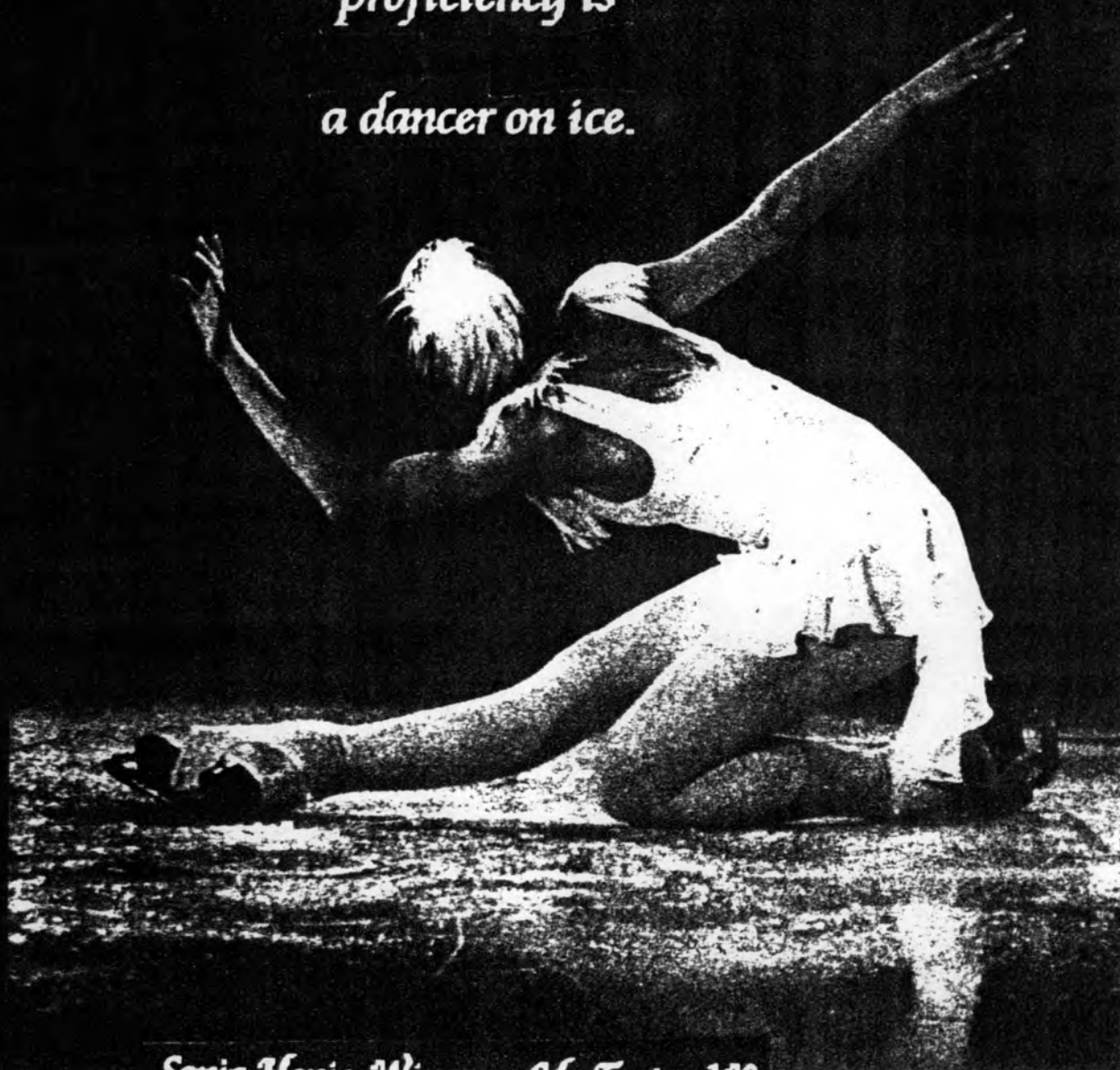
"Yes, I use the word 'art' unreservedly.

*There is no other sport today
in which one's artistic feel for music
and movement to music
can be so readily expressed.*

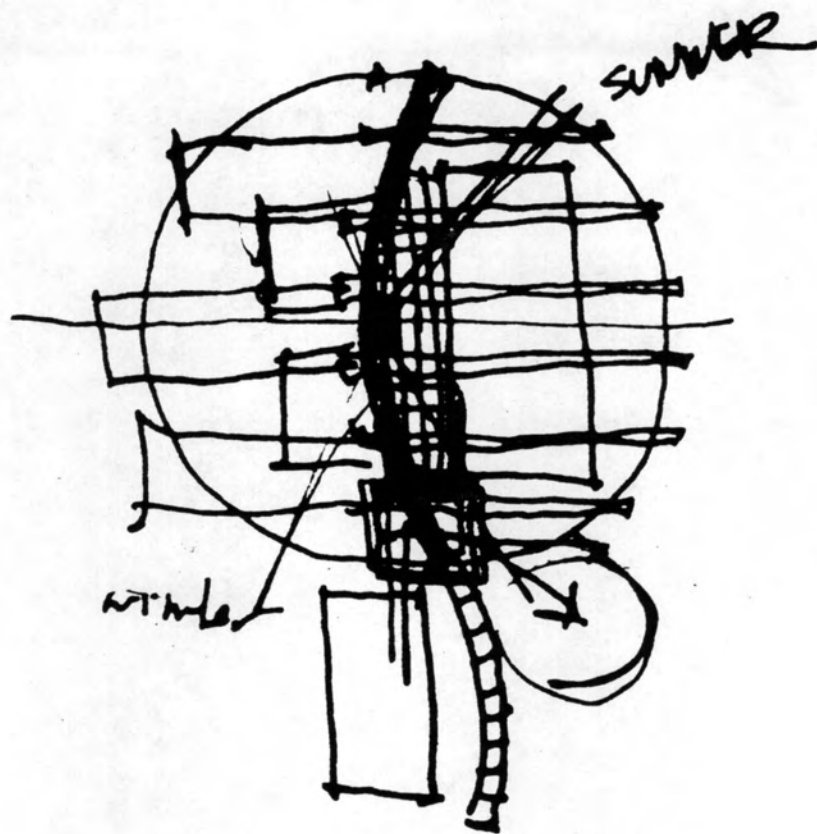
Skating and dance are closely fused.

*A skater with even a slight degree of
proficiency is*

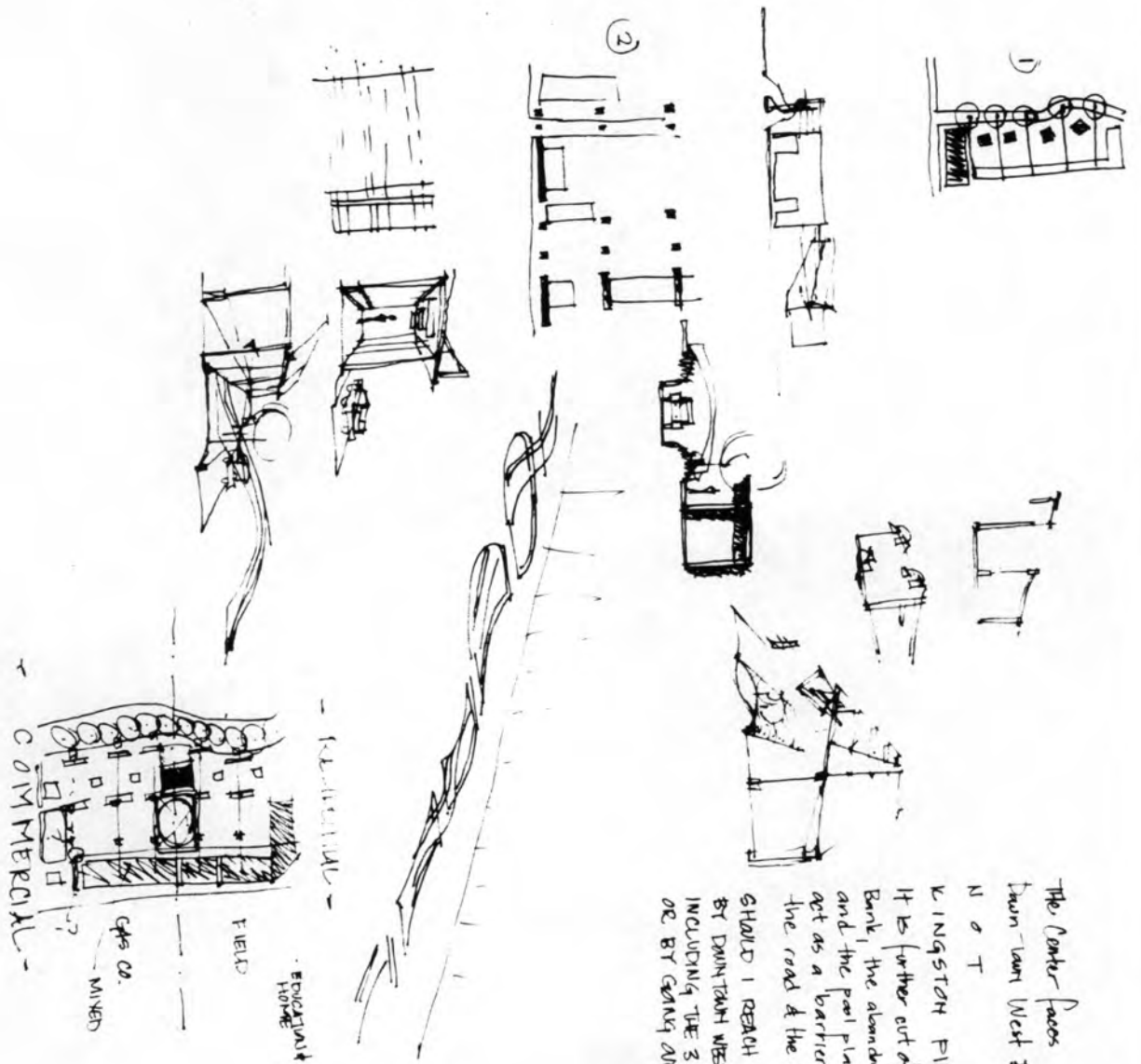
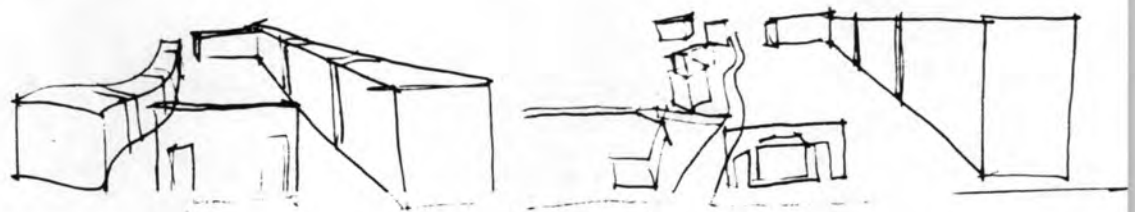
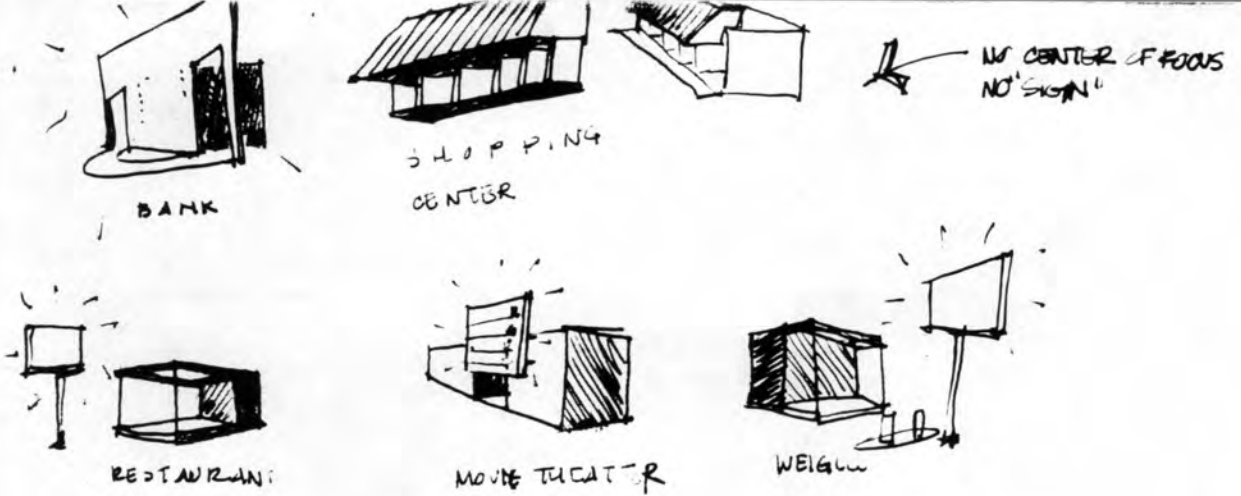
a dancer on ice.



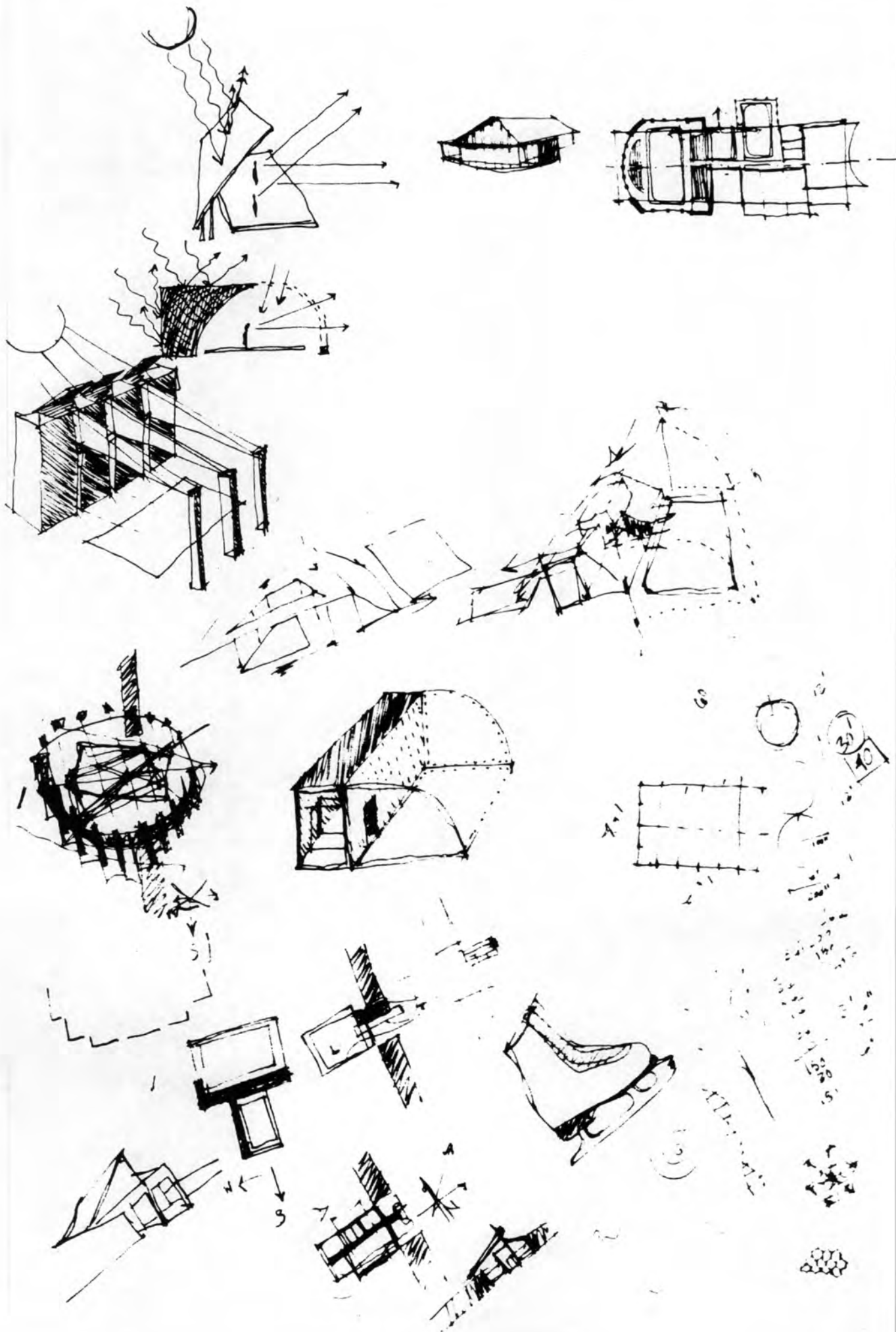
Sonja Henie: Wings on My Feet. p.100



DESIGN LAB SPRING 1991



The Center faces
Town-own West Blvd.
N o T
KINGSTON PIKE!
It is further out off by th
Bank, the abandoned buil
and the pool place which
act as a barrier betw
the road & the center
SHOULD I REACH K.P. VE
BY DOWNTOWN WEST BLVD.
INCLUDING THE 3 FACING
OR BY GOING AHEAD THEIR

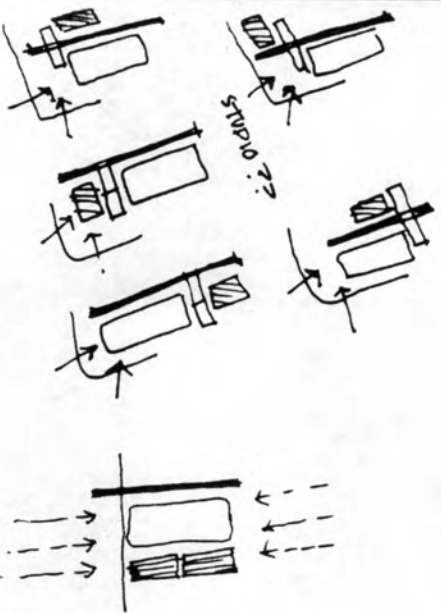




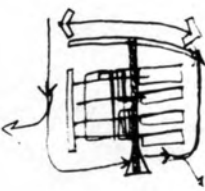
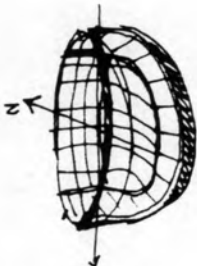
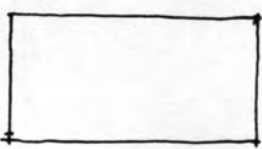
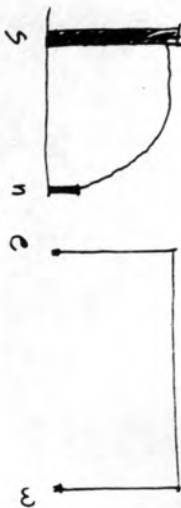
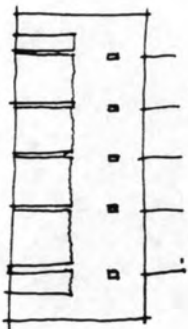
HEAT
RESISTANT
MATERIAL

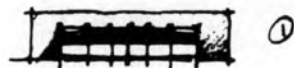
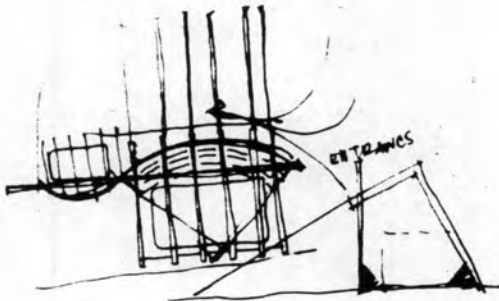
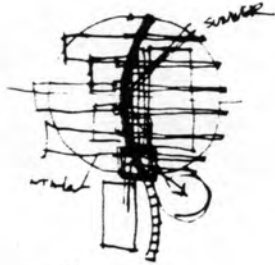
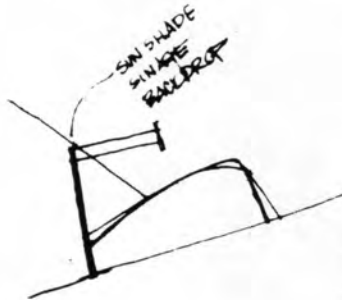
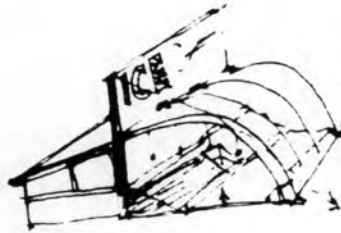
INSULATION

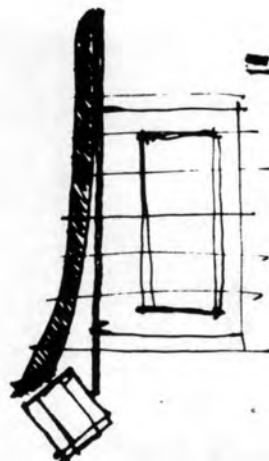
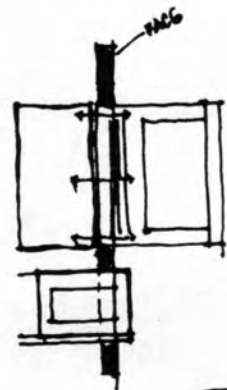
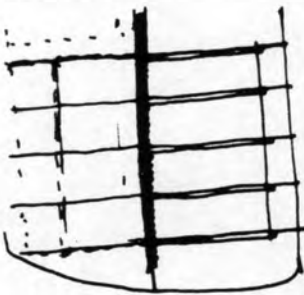
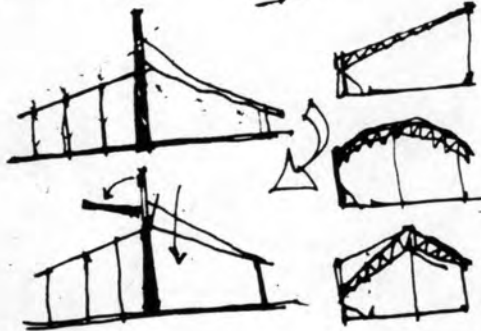
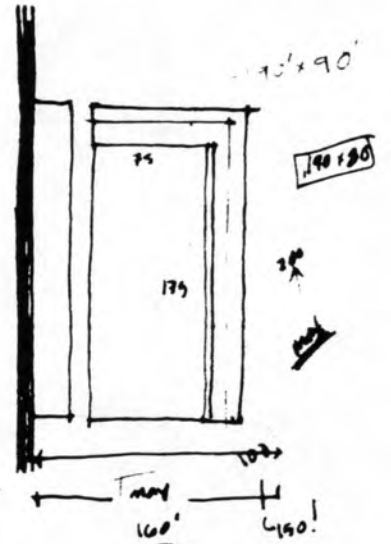
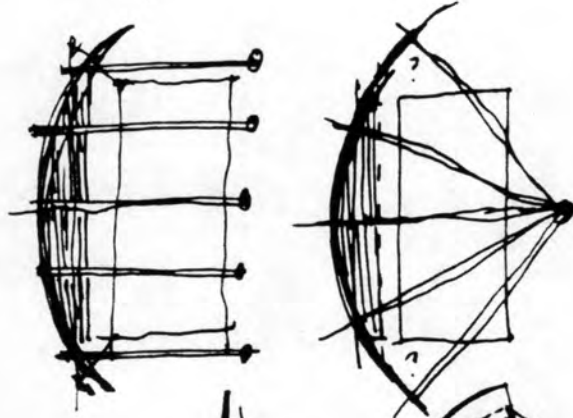
REFLECTIVE COATINGS



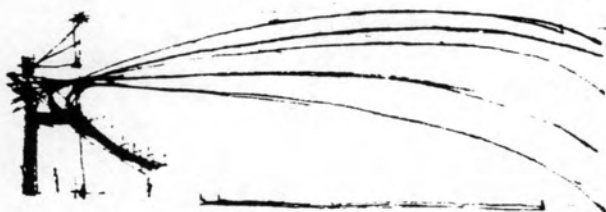
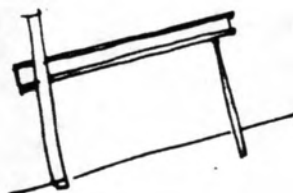
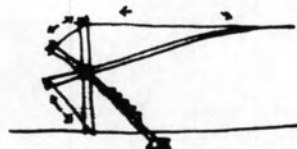
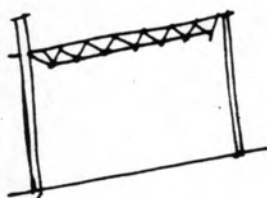
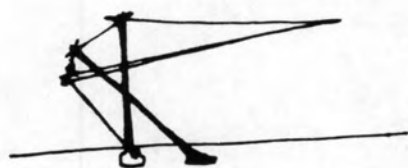
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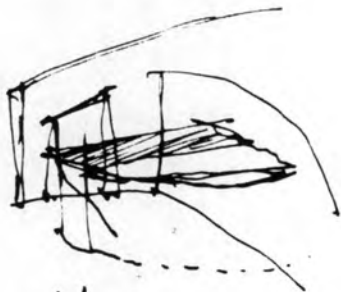
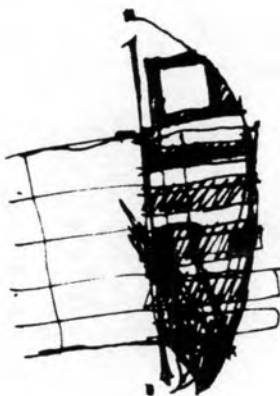




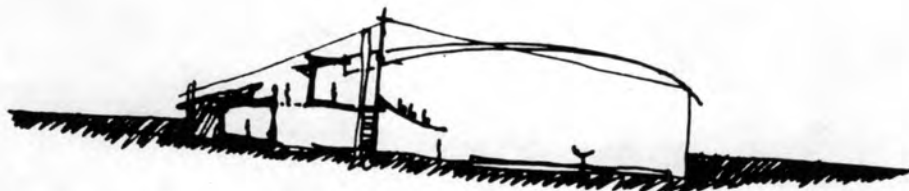
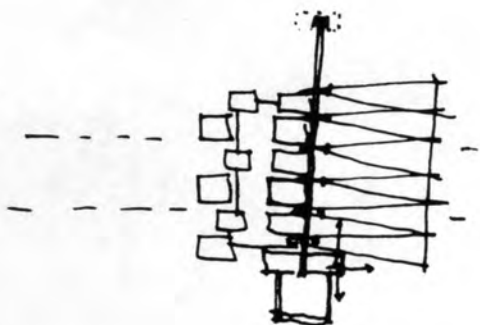
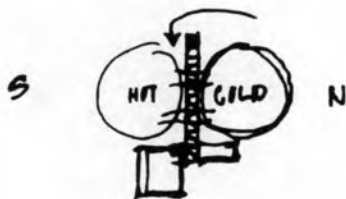


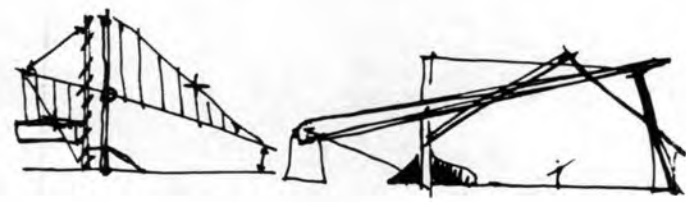
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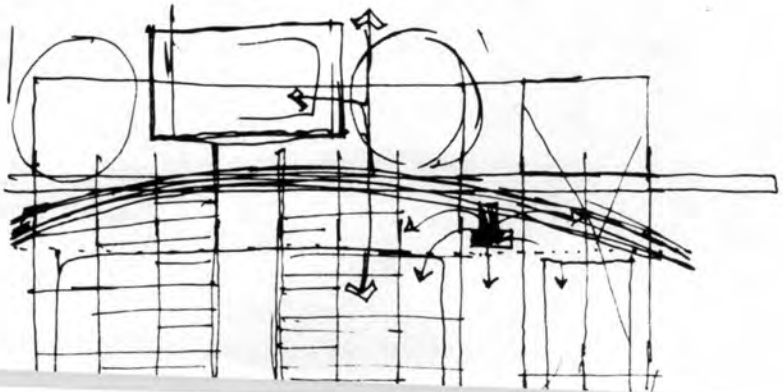
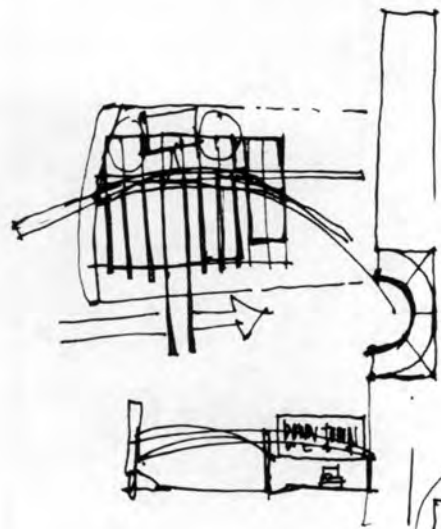
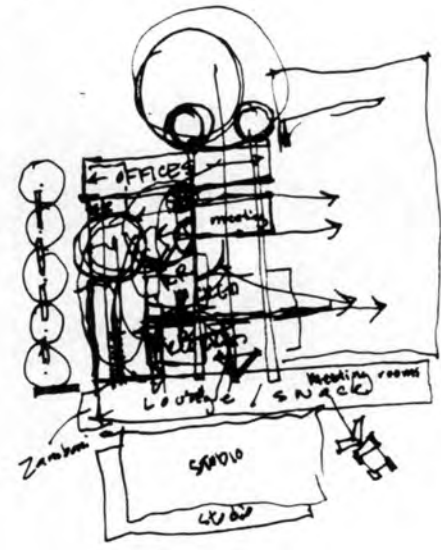
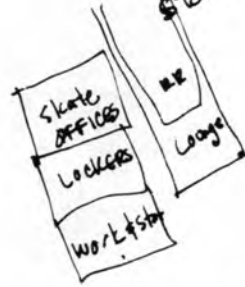


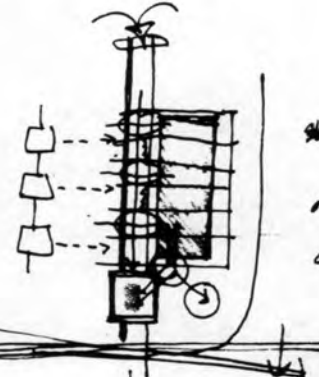
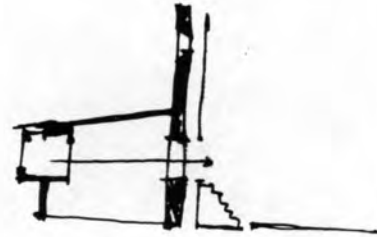
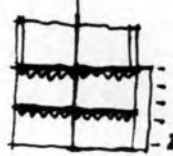
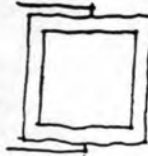
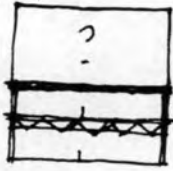
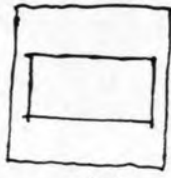
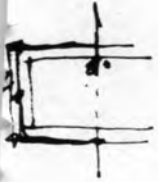
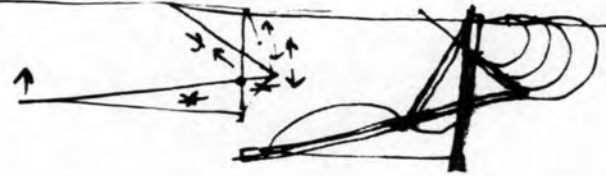
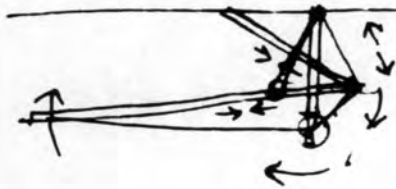
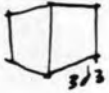
WHY?



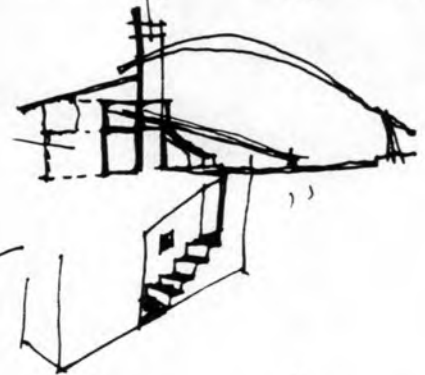
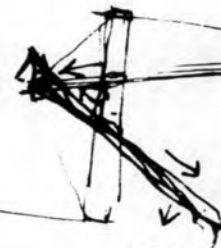
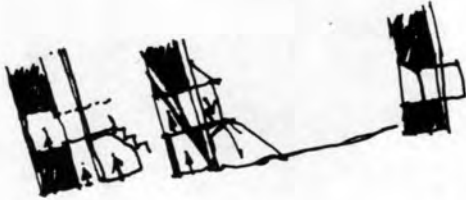


SKATE REPAIR SKATE RENTAL
OFFICES
FIRST AID
REST ROOMS
LOCKERS
TEAM ROOMS
STUDIO FUNK
ZAMBONI AREA
LOADING AREA
STORAGE
LOUNGE / SNACKS
MEETING ROOMS / CLASS ROOM
REST ROOMS
DANCE STUDIO
P. & S. SHOP

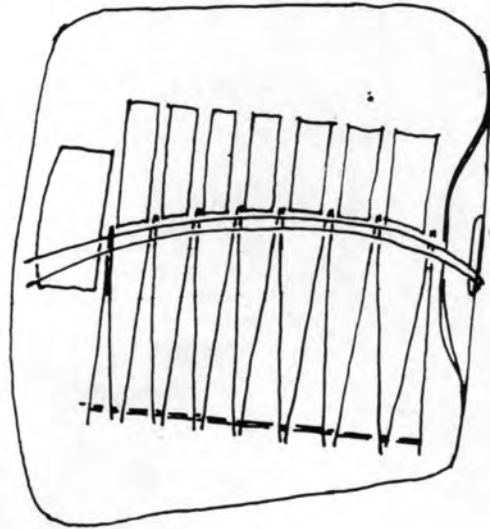
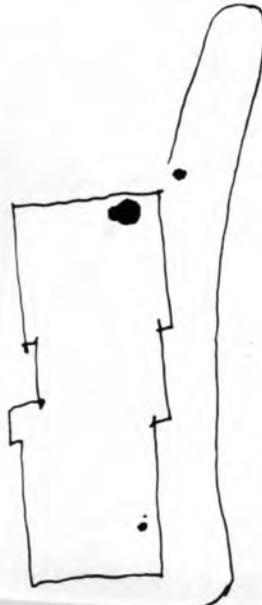




Food/Lounge
skate rental
meeting
OFFICES
OFFICES
Meeting
Studio
Studio

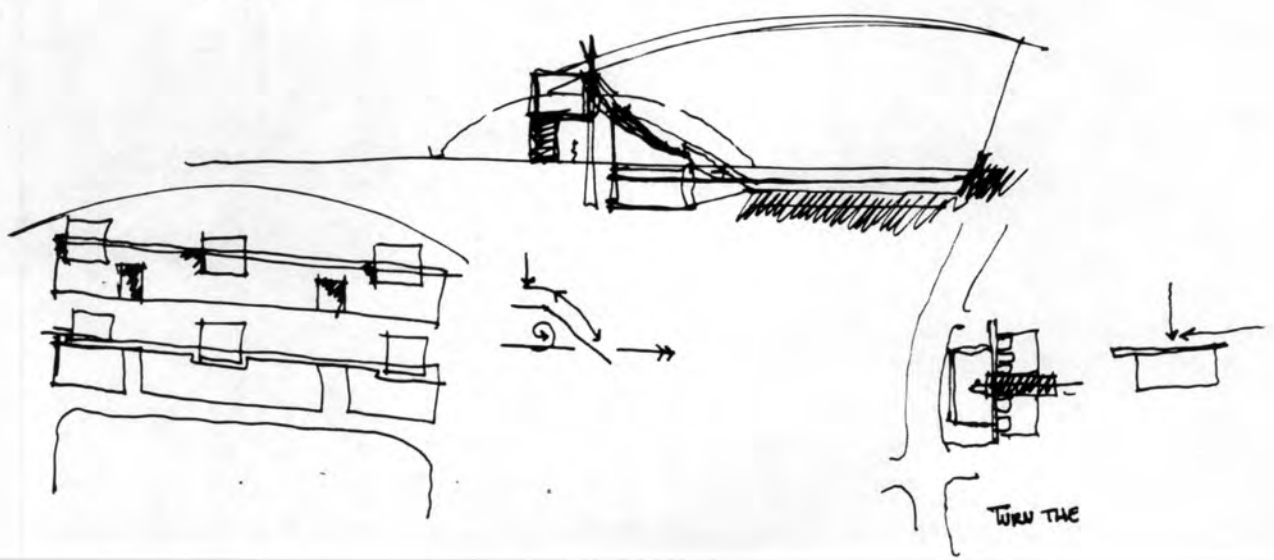
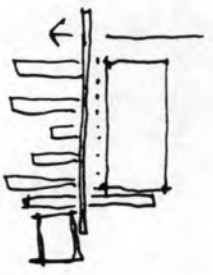
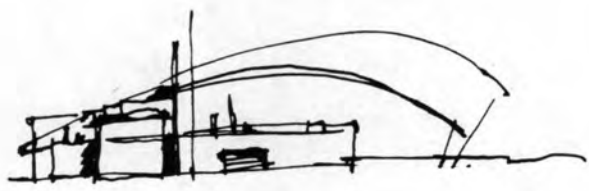
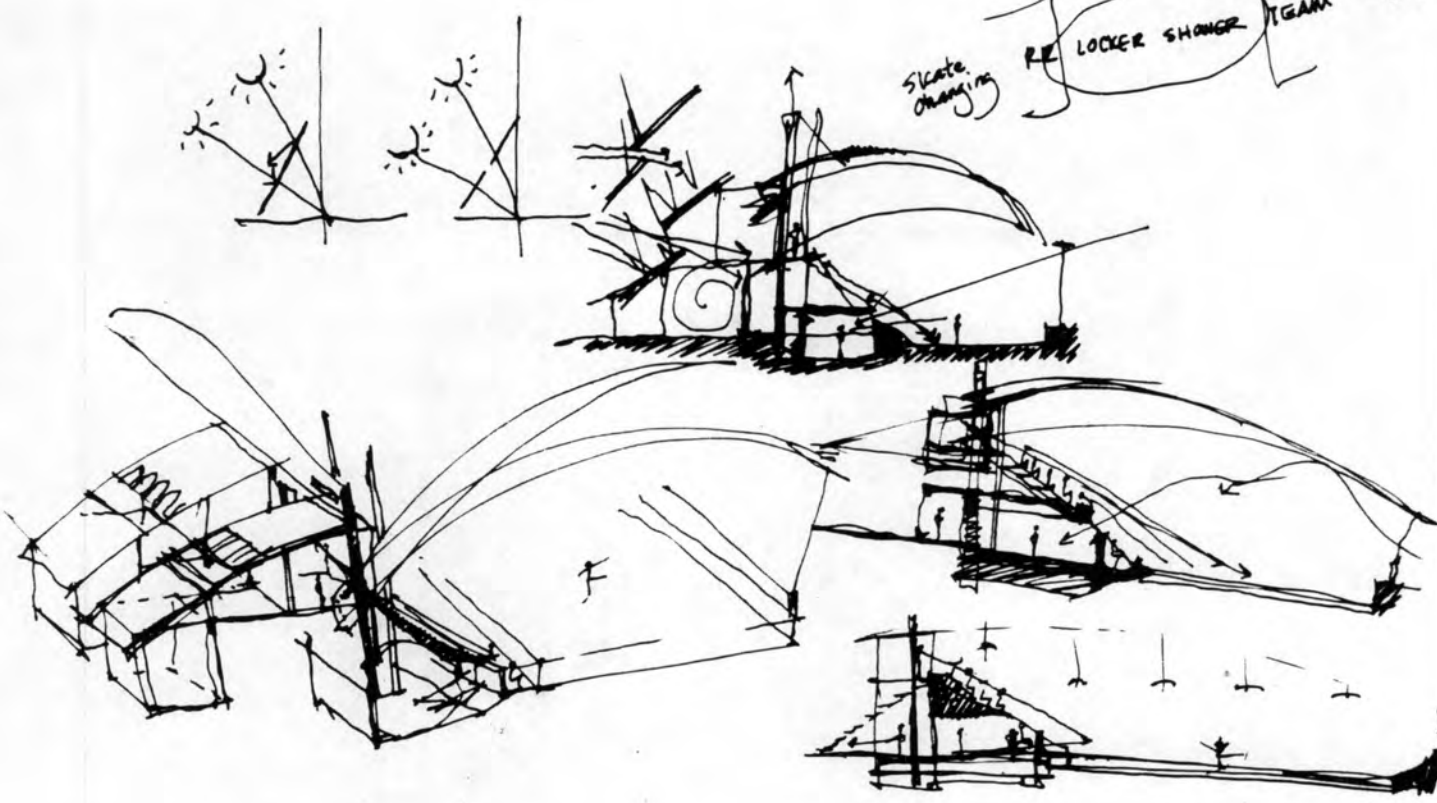


AN INDOOR ICE RINK IS
A CONTRADICTION TO NATURE
ESPECIALLY IN THE SOUTH
ESPECIALLY IN THE SUMMER

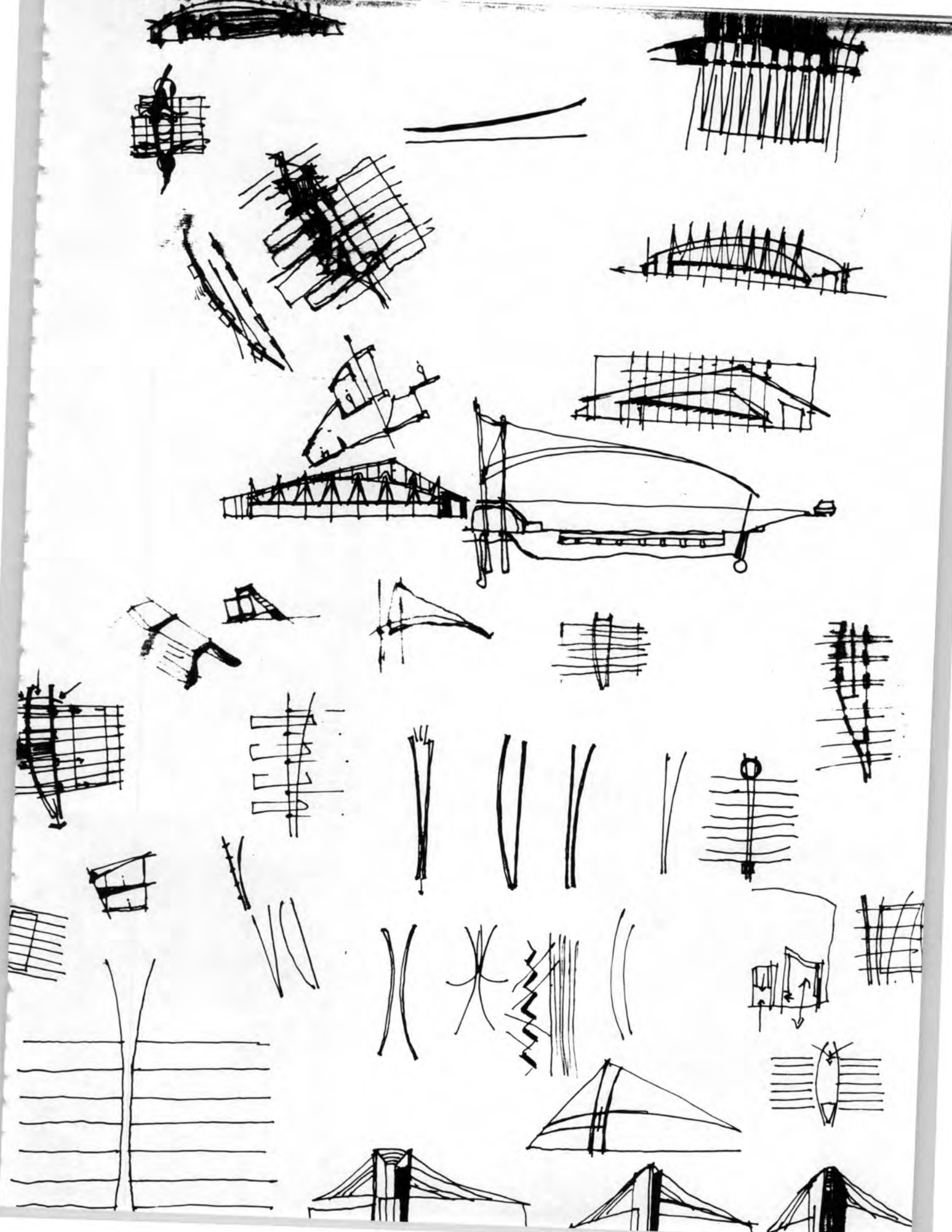


skate
changing

LOCKER SHOWER TEAM

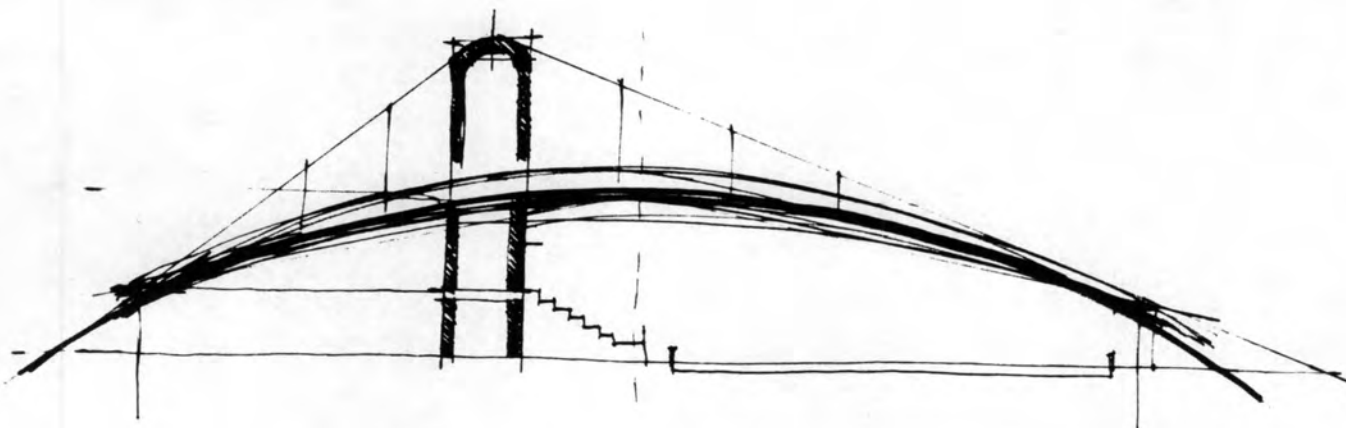
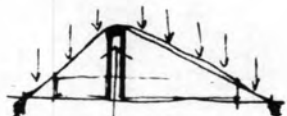
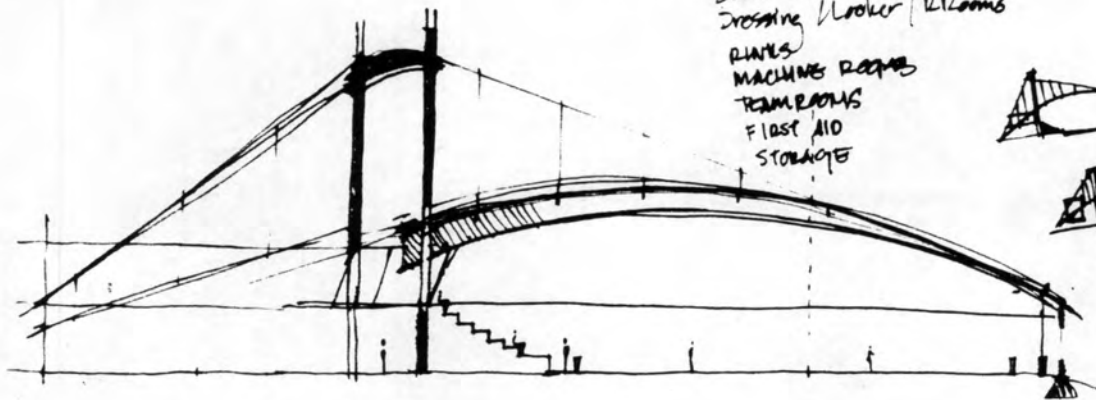


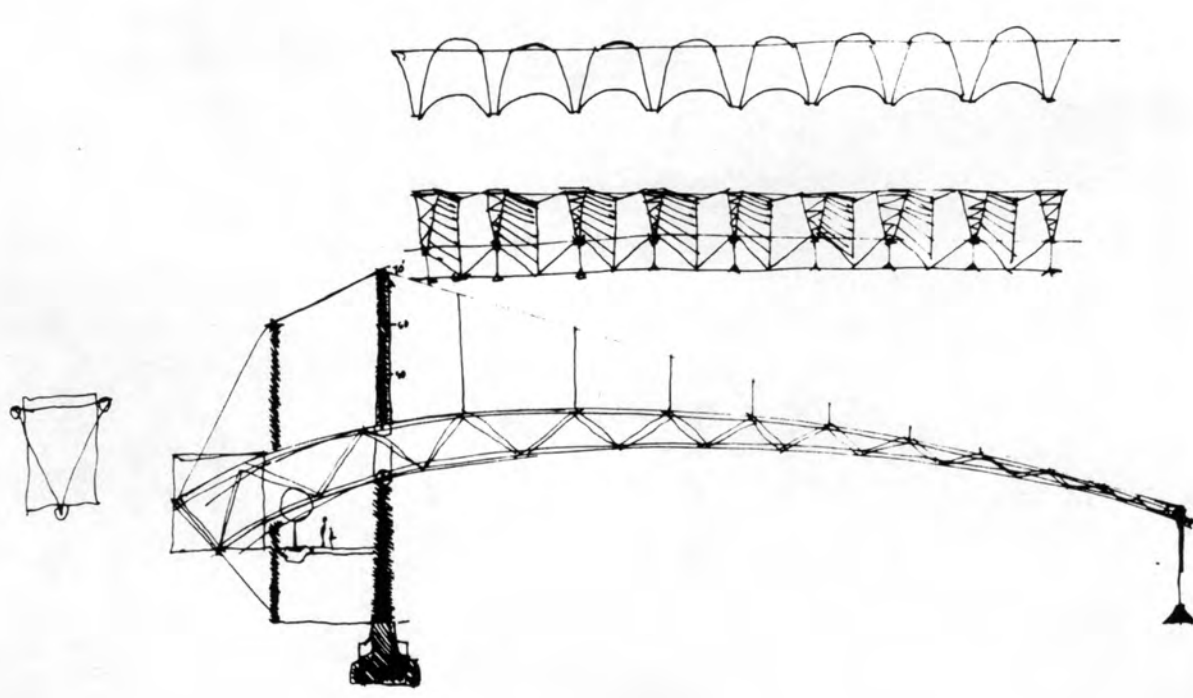
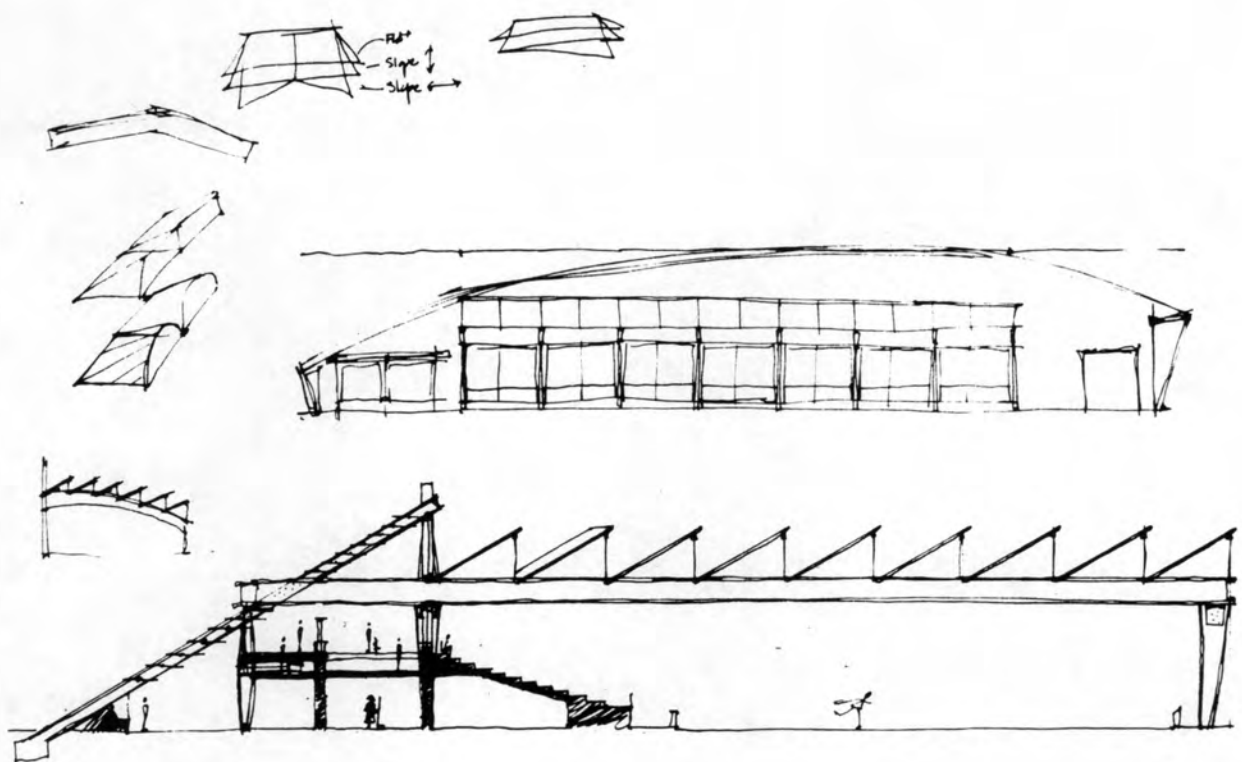
TURN THE

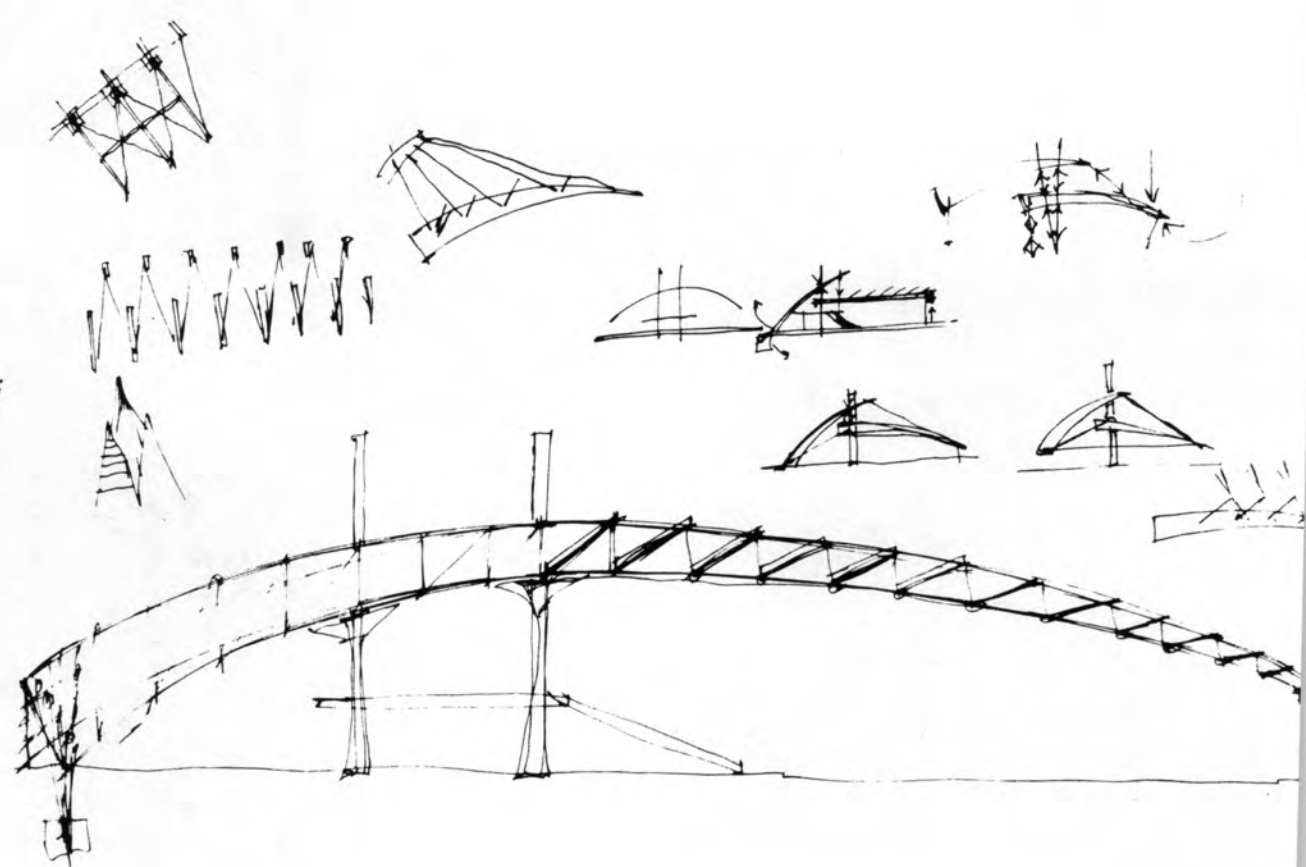
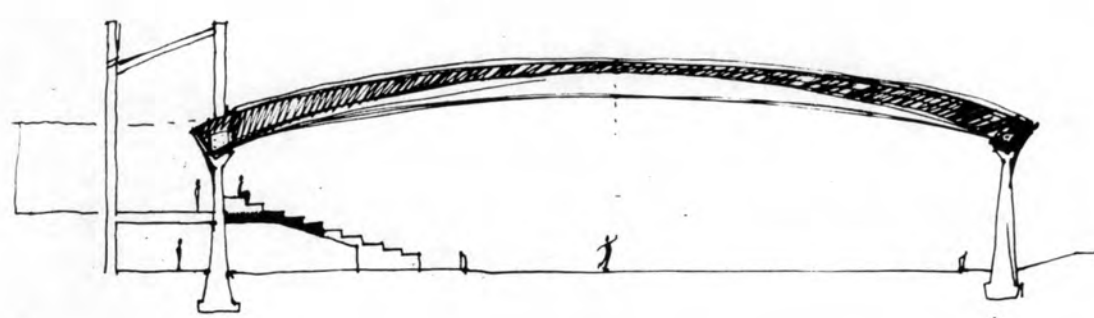
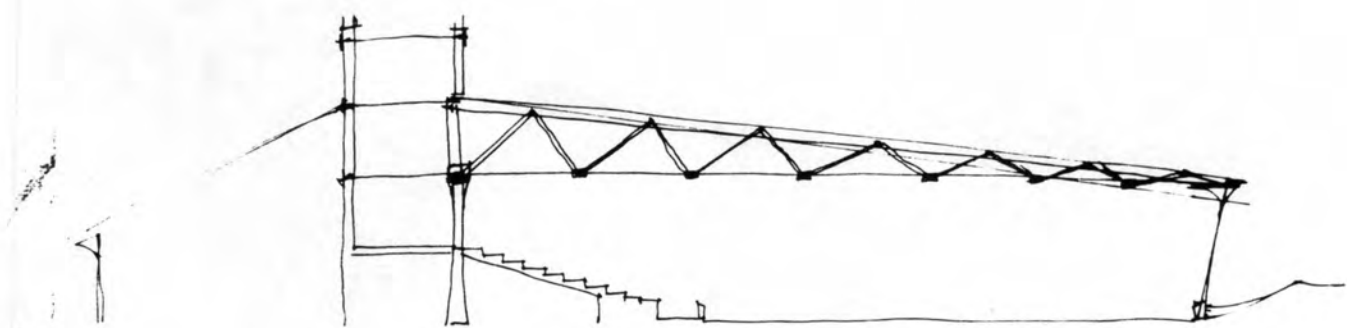


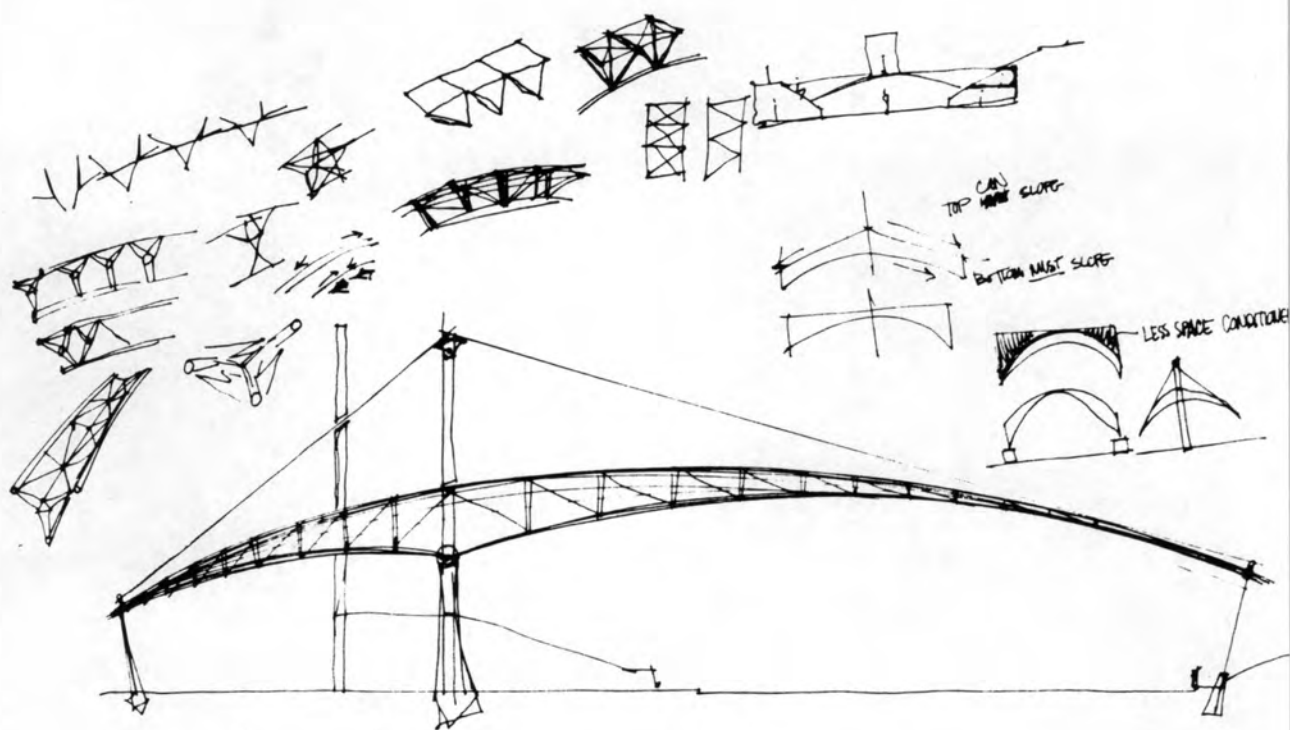
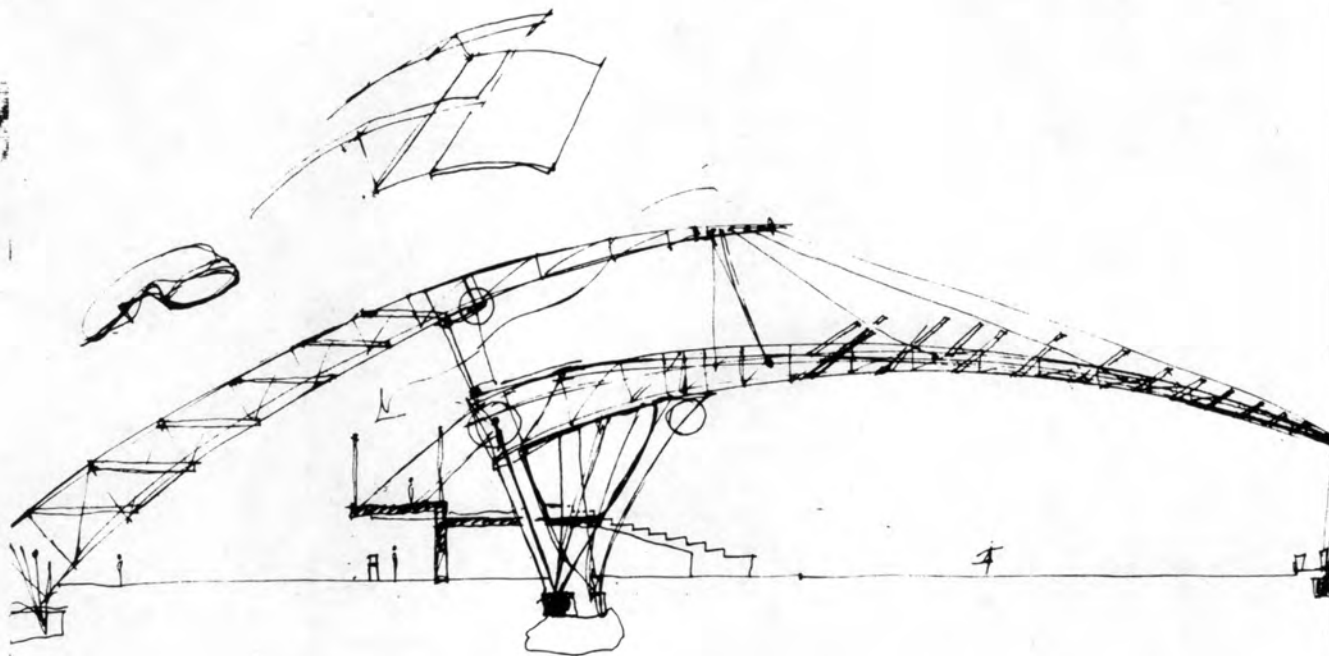
bottom - skate changing
skate rental
Dressing / Locker / 2 Rooms
RINKS
MACHINE ROOMS
TEAM ROOMS
FIRST AID
STORAGE

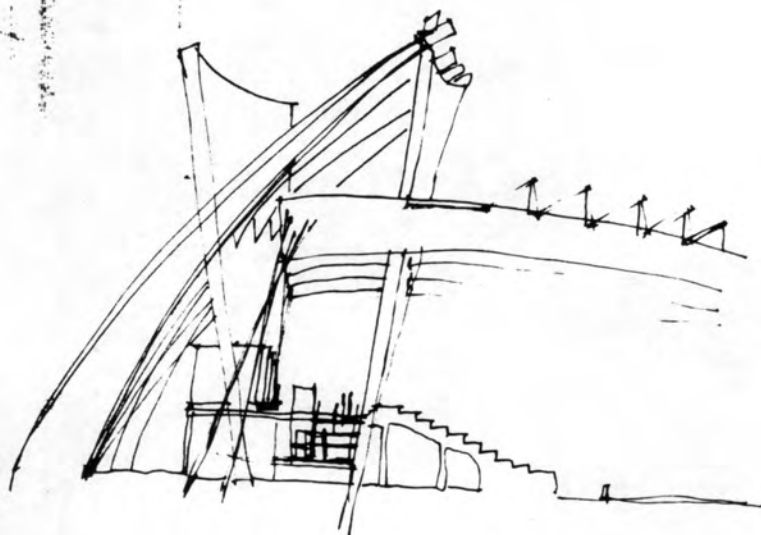
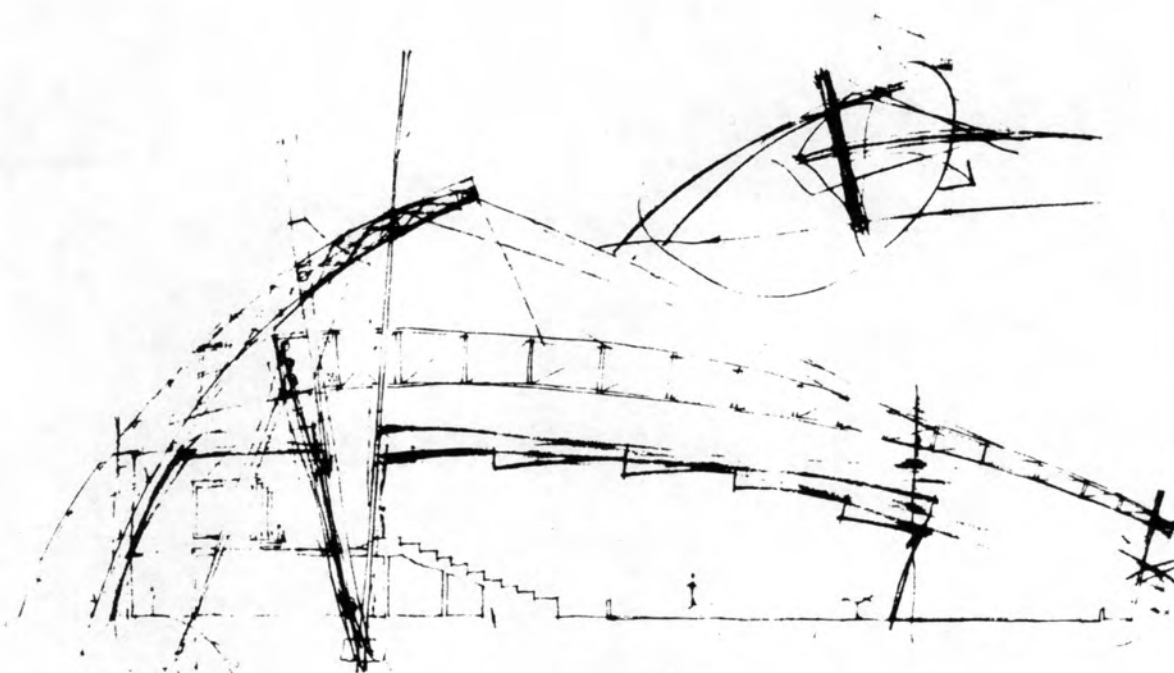
Zamboni Room











1 GENERAL PUBLIC

Main entrance...200
Lobby / skate changing area...1,700
Snack area / Lounge...1,500
Bleachers...6,800
Restrooms...400
Dressing rooms...420

2 SKATER'S AREAS

Rink area...24,150
Studio rink...8,400
Penalty box... 75
Rest rooms / locker facilities...3,200
Team rooms...600
Dance / work out area...3,500
Class room (All purpose room)...400

3 STAFF AREAS

Ticket office...50
Skate rental...1,200
Snack bar...350
Pro shop...525
Business office...150
Manager's office...150
Staff offices...e 150
All purpose room...400
First aid...150
Sound system control room...200

SUPPORT

4

200...Equipment storage (in Ice Plant room)
100...Supply storage (in Ice Plant Areas)
150...Prop storage (in Ice Plant areas)
600...Zamboni room
900...Ice Plant (Studio)
1,750...Ice Plant (Main Rink)
150...Skate repair room
60...Trophy display
5...Message display
100...Custodial storage
200...Loading dock

SPECIAL FUNCTIONS

5

75...Judge's area (In Rink Area)
75...press area (In Stands)
400...Meeting room (All Purpose room)
also in Lounge and Dance Studio
400...Awards area (in Lobby)
400...Special sales (in All Purpose room)
Video area (in Rink Area)
25 e...Show lighting (in Bleachers)

58,770...SUB TOTAL

•

5,900...Mechanical (10%)
3,000...Circulation (5%)

67,670...TOTAL AREA

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