# FIRE STATION #24

EDMONTON, ALBERTA

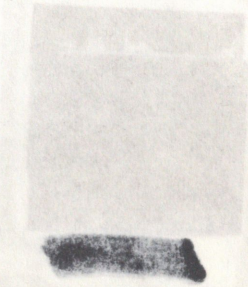
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# FIRE STATION 24

by

Timothy Pierre Mathieu

A professional paper submitted in partial fulfillment
of the requirements for the degree

of

BACHELOR OF ARCHITECTURE

APPROVED:

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Thesis Coordinator

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Director, School of Architecture

MONTANA STATE UNIVERSITY
Bozeman, Montana

June 1987

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Timothy Pierre Mathieu

Date June 11, 87

*This book*
*is*
*dedicated*
*to my*
*family*
*for their*
*support,*
*trust,*
*and faith...*
*and to*
*Jill*
*for being there.*

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# - INTRODUCTION -

To complete my studies at Montana State University, I, Timothy Mathieu, have chosen a final design project. This project, basically, is to design Fire Station #24 on a site located on the outskirts of Edmonton, Alberta, Canada.

I have chosen a project at this site because I wish to involve myself with the creation of micro-environments contained within the separate rooms, and the cohesiveness of these separate areas which allows the Fire Station to function as such. The procedures which rule this functionality are basic to all fire stations and shall form the core of my further design explorations.

I have prepared this written and diagrammatic text as an explanation of my past, current, and future discoveries concerning Fire Station #24.

# - PURPOSE -

The need for a fire station in this area has already been established by the citizens of Edmonton. As soon as funding is granted, the city of Edmonton will accept design proposals for this station. Thus, this station must be designed within the means of current materials and building techniques.

Besides efficient functionality, the Fire Station also must serve as a community icon since it shall be a highly visible public building. The community citizens assume ownership of public buildings since tax dollars pay for the construction and maintenance of these structures. With such a large audience of clients, the external imagery of the Station becomes a difficult challenge. Investigation of historic images provides a rich vocabulary of detailing often associated with the Fire Station, such as red brick and a tower. But no overall building form can assume the name of Fire Station. The Fire Station's imagery strives not only to depict "fire station" to all observers, but also to depict "new." (Taxpayers don't like paying for new "old-looking" buildings.) This attitude of the people of Edmonton suggests that a futuristic external image is necessary. A futuristic image also compensates for future land use changes in the surrounding vicinity.

*The internal imagery must inspire and energize the occupants of this building. Functionlity is not an excuse for banal. The functional needs are very strict in this project. These needs must be met, and in an efficient manner; that is given. But, the manipulation of these needs-turned-form is a higher state of design which, if done successfully, leads to achievement of inspiring energetic spaces.*

*A successful marriage of the internal and external imageries is a difficult task, even when both images are less demanding. In the case of the Fire Station, the internal and external must merge to create a visible, functional, futuristic building. The question of which comes first -- the internal or the external -- is as insatiable as the chicken-and-egg dilemma. Neither develops first; they (the internal and external) came together.*

- GOALS -

*The final goal, to be achieved upon completion of Thesis II, is the creation of Fire Station #24 for Edmonton, Alberta.*

*Of major concern is the design accommodation to largely diverse needs such as living area near dispatching rooms.*

*The close proximity of all internal areas is necessary to ensure efficient fire protection for Edmonton citizens. Therefore, the interrelationship of these cellular spaces, within the Fire Station body, is a harmony whose fulfillment leads directly to my final goal.*

*Through achievement of many basic goal-needs, the totality of Fire Station #24 shall evolve. A summary of the needs which became apparent in Thesis I follows:*

- *To contain all areas with the vertical dimensions of one or two levels.*
- *To take advantage of valuable, natural solar features such as sun angles and temperature variances.*
- *To provide a valid infrastructure of services such as proper lighting and waste removal which shall support the Fire Station.*
- *To allow each individual space possession of a unique personality.*
- *To establish a hierarchial order among the internal areas with the hierarchy being based on need priorities.*

- To concern myself with the interaction nodes and separation of various circulation pathways such as vehicular, emergency vehicular, service, or pedestrian.

- To provide a building design which can be built and maintained on a menial budget.

- To provide for future expansion.

- To create an external building envelope which portrays such abstracts as strength and security to the surrounding community.

With these guidelines in mind, I shall design Fire Station #24 for Edmonton.

HISTORY OF THE FIRE STATION...

## Early Fire Protection and Fire Regulations

Public fire departments have evolved through five kinds of community effort toward fire protection:

(1) Establishment of a night watch service.

(2) Drafting of fire prevention regulations and appointment of fire protection officers.

(3) Efforts to salvage building contents from loss by fire.

(4) Organization of voluntary fire fighting companies.

(5) Appointment of fire fighting officers and personnel.

Possibly the first organized fire protection occurred when Augustus became ruler of Rome in 24 B.C. A "vigile" or watchman service was created, and regulations for checking and preventing fires were issued. Night patroling and night watch forces were the principal services, and some of the vigiles had duties more like those of police or soldiers than fire fighters. It is clear from the history of that period, however, that fires were a major problem and that the vigiles were provided with fire fighting tools and equipment (buckets, axes, etc.).

One of the earliest recorded fire protection regulations came about in the year 872 in Oxford, England, when a curfew was adopted requiring that hearth fires be extinguished at a fixed hour in the evening. After 1066, William the Conqueror established a general curfew law in England. This law appears to have been enforced not only as a fire prevention measure, but also as a means of preventing revolt.

# Fire Protection in Early America

Following a disastrous fire in 1631, the very young town of Boston adopted the first fire ordinance in the New World. The ordinance prohibited thatched roofs and wooden chimneys, and was enforced by the "board of Selectors." In 1648, New Amsterdam appointed five municipal "fire wardens" with general fire prevention responsibilities. This is often considered to be the origin of the first public fire department in North America.

In 1679, as a result of a conflagration that destroyed 155 principal buildings and a number of ships in Boston. Building laws were adopted requiring stone or brick walls for building and slate or "tyle" roofs for houses. The 1679 conflagration also led to the establishment of the first paid municipal fire department in North America, if not in the world. Boston imported a fire engine from England and employed twelve fire fighters and a fire chief. From the start, Massachusetts adopted the practice of using paid municipal firemen on a call basis as contrasted with the unpaid volunteer fire companies that were later organized in other colonies.

Colonial communities required each householder to keep two fire buckets and, upon the ringing of church bells, to report to the scene of fires to form lines for passing water from wells or springs. When hand-pumped fire engines were obtained, teams were organized to operate the engines. As late as 1810, Boston citizens were subject to a fine for failure to respond to alarms with their buckets. The laws in a number of states still impose penalties on citizens who refuse to assist in fighting fires upon orders from fire officers.

Fire wardens were appointed in Boston in 1711. With the members of their staffs, fire wardens responded to fires and supervised citizen bucket brigades. By 1715, Boston had six fire companies with engines of English manufacture.

Mutual Fire Societies:

The first of a number of mutual fire societies was formed in Boston in 1718 when some of the more affluent citizens organized to assist each other in salvaging goods from fires in their homes or places of business. Their equipment was a bag in which to collect valuables, a screwdriver, and a bed key. The bed key was an important tool, for with it beds could be disassembled and brought outside a burning building.

About a century later, these fire societies became inactive when fire insurance became available to the more prosperous citizens. The mutual fire societies are often considered to have been the forerunners of the salvage corps.

Salvage Corps:

After the principal cities of the United States organized paid fire departments with steam engines in the latter half of the nineteenth century, insurance interests formed salvage corps to reduce water damage at fires. While the insurance salvage corps did much to develop the techniques of salvage work, improved fire fighting procedures plus the increased expense of operation led to their disbandment. Today, public fire departments handle salvage operations at fires.

Growth of Paid Departments:

Lack of discipline in the ranks of volunteer fire fighters coupled with their resistance to the introduction of steam pumping engines led to the organization of paid fire departments in the larger cities. Following serious disorders at fires, a paid fire department with horse-drawn steam pumpers was placed in service in Cincinnati on April 1, 1853. In 1855 two steamers were delivered to New York City, but

the volunteer fire fighters would not use them. Ten years later the "Metropolitan Fire Department," using steamers, replaced New York's volunteers.

Duty Systems and Training:

Until World War I, paid members of fire departments worked a continuous duty system with only limited amounts of time off. By World War II, most paid fire departments had adopted some form of the two-platoon system which made allowances for additional days off and reduced the average number of hours worked per week. The hours worked per person has continued to decline, although in most cities the hours worked per week are still greater than in private industry o other lines of municipal employment. Although many fire fighters continue to work 24-hour duty shifts, federal legislation implemented in 1975 has had a significant impact on the working hours of fire fighters.

In 1889, the Boston Fire Department established the first drill school where probationary men were required to complete thirty days of basic training, and uniform company drills were established. Today most departments provide some degree of training for personnel.

In 1914, New York City established a "Fire College" for advanced officer training, and during that

same year the first state fire school was organized in North Carolina. In 1925, Illinois and Iowa started state fire schools for the training of volunteer fire fighters. By 1950, most states were providing systematic fire service training. In 1937, Oklahoma A&M College (now Oklahoma State University) initiated a two-year (later four-year) college program in fire protection. The initial objective of the program was to provide trained individuals for the fire service; however, the emphasis was later shifted to the industrial and insurance aspects of fire protection. Currently, there are approximately 200 to 250 institutions in the United States offering two-year programs in fire protection education. Two four-year programs (the University of Maryland and Illinois Institute of Technology) offer a full curriculum in fire protection engineering.

*FIRE SERVICE TRADITIONS...*

## SPARKY THE FIRE DOG:

The choice of a dalmatian as the basis for Sparky was an obvious one, as was the Sparky name. Dalmations have shared the barns and the hunt courses with horses for centuries. Look closely at any good English hunt print and you'll see dalmatians racing across the fields along with the hunters on horseback.



When fire apparatus was horse-drawn, nearly every firehouse had its resident dalmation to help direct the horses, keep the horses company, and guard the firehouse. Some dalmations stayed behind when the apparatus was rushed to a fire; others rode on the fire truck and were as much a part of the fire scene as were the fire fighters themselves.

## ST. FLORIAN AND THE FIRE SERVICE:



Florian was born about 250 A.D. in Cetium, which is now Weisselmauer, Austria. He joined the Roman army as a youth and, through diligence to duty, advanced through the ranks. By the year 305, his administrative abilities had won the high regard of Emperor Diocletian and his chief aide, Maximian.

Thus, Diocletian was shocked when he learned that Florian was not carrying out his edict to persecute all Christians in the area. Aquilinus, a man historians describe as a "ruthless enforcer," was dispatched to Eastern Bavaria with orders from Maximian to "slaughter all believers in Christ" and to investigate Florian's behaviour. Leaving a trail of blood behind him, Aquilinus confronted Florian in Lorch, and sentenced him to death by fire.

Standing on his funeral pyre, Florian is reputed to have challenged the Roman soldiers to light the fire, saying, "If you do, I will climb to heaven on the flames." With apprehension, Aquilinus abandoned the idea of burning Florian. Instead, a millstone was tied around Florian's neck and he was drowned in the nearby river Enns. Valerie, a pious lady, had his body recovered and buried him on her country estate.

About 600 years later, sometime between 900 and 955, a monastery was erected near the tomb, and subsequently the village of St. Florian grew up around it. This monastery, under the care of the Augustinians since 1071, is one of the oldest in the world and is a sanctuary for art treasures. Following ancient custom, pilgrims assemble at the monastery's church each year on 4 May, St. Florian's feast day, to participate in special services.

St. Florian was adopted as patron saint of Poland after Pope Lucius III consented to the request of King Casimir to send relics of Florian to that country. Soon after, a person was saved from a fire by invoking St. Florian's name. Since then, Florian has been invoked against fire and has generally been regarded in most countries as the patron saint of the fire service.

(Source: Cork Fire Brigade Centenary Review, 1877-1977. Cork Corporation Fire Department, Ireland.)

*FIRE MARKS:*

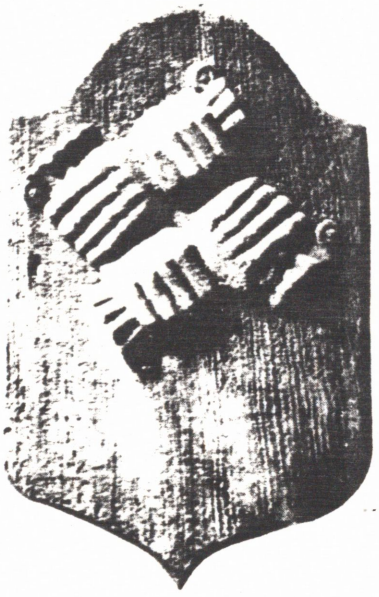
*Valued today as collector's items, fire marks once meant the difference between receiving organized help in fighting a fire or no help at all.*

*Starting in Philadelphia in 1752, each fire insurance company developed its own distinctive fire mark which might be likened to a corporate "logo" today. As a firm designed its fire mark, it had copies cast in lead or carved of wood and painted. It then nailed one fire mark in a conspicuous place on each building it insured.*

*Insurance companies next began to offer rewards for fire fighting assistance in saving their properties. Fire marks -- or their absence -- helped competing fire brigades decide whether or not it was worth their while to try to extinguish a fire.*

*At the sound of a fire alarm, every brigade within earshot responded "in a furious dash," according to one writer. "It was the case of winner take all, the first company arriving having the undisputed privilege of dealing with the flames. If a house bore a fire mark -- no matter whose -- it was a guarantee that the brigade succeeding in beating the fire would receive its just due from the insuring company. Burning houses bearing marks therefore received energetic attention. But if a piece of burning property bore no fire mark, the gallant volunteers more often than not quickly left." (from "Fire Marks," copyright 1938 by the American Reserve Insurance Company, New York City).*

*In 1752, the first fire mark appeared in America. This was also the year of the founding of the first American fire insurance company, the Philadelphia*





Contributionship. The new firm based its mark on a design used in London as early as 1714. The emblem was known as a "Double Hand-in-Hand," depicting two pair of hands, each hand grasping the wrist of another, with the resulting square formation commonly known today as the "Boy Scout Grasp" or, in England, the "Lady-to-London" grip which is almost unbreakable, signifying great strength and said to also represent trust, faith and goodwill.

Some early insurance companies decided not to insure houses with trees nearby, because trees often caught fire and helped spread flames from one structure to another. Citizens who wanted both trees on their property and fire insurance organized the Mutual Assurance Company in 1784 and, almost inevitably, chose "The Green Tree" as their fire mark.

Following the Hand-in-Hand, Green Tree, American Eagle, and other early fire mark designs with ideological and patriotic origins, came marks reflecting developments in fire fighting. Designs showing a fire hydrant with hose attached, a fire engine, and a fire hydrant, reflected the gradual improvement in apparatus.

The use of fire marks generally declined after 1871, when Philadelphia instituted its first paid city fire department. Fire marks were issued rarely after that time and only for advertising purposes.

## CHEMICAL FIRE APPARATUS:

The first chemical fire apparatus used by the fire department, and a forerunner of the chemical engine, was the "fire extinguisher wagon." This apparatus, equipped with 10 hand extinguishers, was commissioned by the Boston Fire Department in 1871 and designated as Extinguisher Co. No. 1. In 1872, two more of the fire extinguisher wagons, each carrying 25 extinguishers, were put into service in Boston.

Research shows that the Babcock Manufacturing Company of Chicago was the first American builder of wheeled chemical engines for fire department service. These engines were of the upright stationary-tank type. The acid was mixed in the solution by inverting a lead container. A hand pump was provided for refilling the chemical cylinders from water sources. These chemical units were delivered to the Chicago Fire Department in 1872. In 1873, Charles T. Holloway of Baltimore introduced the first wheeled chemical engine to the Boston Fire Department. Boston also purchased one of the Babcock engines and before long Boston owned 12 chemical engines.

Chemical apparatus came into use when most fires were fought with streams from 2-1/2 inch hose lines on hand- or steam-operated apparatus. Few communities, however, had adequate water mains. So at first it was thought that all hand a steam fire engines could be replaced with chemical engines carrying 100 to 200 gallons of water. When the water was mixed with "magic" chemicals and projected through a 1-inch hose, these engines could extinguish any fire using a 2-1/2 inch hose stream.

But chemical engines were overrated and soon their limitations were realized.

*They became "first-aid apparatus" instead. Chemical engines were of the double upright-tank type, with a third tank carrying a reserve water supply. The 1-inch hose was on a reel under the driver's seat. The chemical engine companies also had a second piece of apparatus called a "water tender." These apparatus could charge alternately the tanks and by refilling its supply from hydrants, steamers, or hand pump, could keep operations going almost indefinitely.*

*(Source: The Fairchester Hose Haulers Association.)*

## COMBINATION APPARATUS:

About 1890, hose wagons began to replace hose reels. The hose wagons of Somerville, MA, were equipped with a chemical tank, hose reel and three-horse hitch. These apparatus generally carried one 50- or 60-gallon tank or two 35-gallon tanks.

The first automobile apparatus followed the body designs of the combination hose and chemical wagons. In 1913, Charles A. Fox, of Ahrens-Fox, conceived the idea of mounting a small capacity front end pump and water tank on a motor hose wagon, instead of the commonly used chemical tank. He named the water tank and pump assembly "Booster." The original "Booster" apparatus was placed in service by the Cincinnati Fire Department. The idea of putting a small stream of plain water on a fire through a "garden hose" was openly ridiculed by many fire fighters and officers who still thought that "chemicals" had extinguishing qualities not possessed by ordinary water. However, the "Booster" grew rapidly in favor and soon displaced the chemical engines and chemical combinations.

(Source: The late Clarence E. Meek, F.D.N.Y. Librarian with the assistance of Assistant Librarian Fireman Paul F. Stolz, F.D.N.Y. who researched and translated.)

## FIRE SERVICE EMBLEMS:

### History of the Maltese Cross

The insignia of the fire service is the Cross Pattee-Nowy, otherwise known as the Maltese Cross. This cross represents the fire service ideals of saving lives and extinguishing fires.

The fire service borrows the emblem of the cross from the Knights of St. John of Jerusalem, a charitable, non-military organization that existed during the 11th and 12th centuries. A white or silver cross on a dark background was adopted by these Knights or Hospitallers, as they were also known, because of their charity toward the sick and poor in setting up hospices and hospitals. Later, they assisted the Knights of the Crusades through their goodwill and also through military assistance in an effort to win back the Holy Land. The Knights of St. John eventually moved to the Island of Malta, the island for which the Maltese Cross was named.

The need for an identifiable emblem for the knights had become crucial. Because of the extensive armor which covered their entire bodies and faces, the knights were unable to distinguish friend from foe in battle. They chose the cross of Calvary as their symbol since they fought their battles for a holy cause. The cross was later called the "Maltese Cross" and represented the principles of charity, loyalty, chivalry, gallantry, generosity to friend and foe, protection of the weak, and dexterity in service.

During the Crusades, many knights became fire fighters out of necessity. Their enemies had resorted to throwing glass bombs containing naphtha and sailing their war vessels containing naphtha,

rosin, sulphur, and flaming oil into the vessels of the knights. Many knights were called to perform heroic deeds by rescuing fellow knights and extinguishing fires. In acknowledgement of these feats, the cross worn by these knights was decorated and inscribed. This was considered a most honorable acclaim.

## The Phoenix



Phoenix

Other emblems of the fire service today can be traced back in history. The Phoenix, a bird nearly equal in size to the Eagle, was symbolic to the early Christians of the resurrection of Christ and of eternal life. Legend tells us that the Phoenix would set a fire and renew its strength and youth, emerging from the ashes as beautiful as ever. The Phoenix can be found on fire hats, flags, badges, and fire department seals.

## The Eagle



Eagle

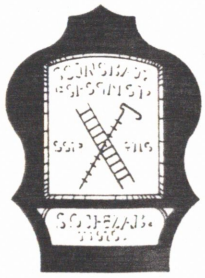
The Eagle, veritably a symbol of courage and majesty, is displayed with extended wings on the crests and shields of high-ranking officers. This symbol signifies that the wearer is a person of authority. The open wings stand for charity and protection; the beak and talons represent enforcement of discipline.

## The Badge




Maltese Cross

The badge of the fire service is in the shape of a shield containing the Maltese Cross on either the crest or the shield. During the Crusades, shields were used by the knights as protective gear to guard against the enemy. In a similar sense, the fire service acts as a shield, a form of protection against the enemy of fire.



A rope or cord, forming an unbroken circle and symbolic of unbroken service and loyalty, can often be found decorating the badge, forming a border. Inside this circle are found various emblems, each representative of a trait, an event, etc. Crossed ladders indicate one who was "extremely brave" in battle. Crossed arms, axes, ladders, etc. in the form of "St. Andrew's Cross" represent one who was "the bravest." Fire chiefs today wear the badge with the cross and crossed speaking trumpets denoting rank; one silver trumpet is a lieutenant; two silver trumpets, a captain; two gold trumpets, crossed, battalion chief. Five crossed trumpets is the Chief Engineer.



## Colors



Colors were symbolic during the Crusades as they are to the fire service today. "Blue" represented sincerity and truth as in the "Blue of the Uniform." White or silver stood for peace; red for nobleness; gold or yellow for generosity and elevation; and black for grief.

The colors of the badge, crest and frontpiece of the fire helmet indicate the rank of the fire service -- gold and white for a chief; white and black for an officer below rank of chief.

FIRE DEPARTMENT STRUCTURE...

## Fire Department Structure

Fire departments, like other organizations, are comprised of a group of people working together in a coordinated effort to achieve a common set of objectives. In order for a department to function effectively, it must have an organizational plan that shows the relationship between the operating divisions and the total organization. An organizational plan does not preclude the necessity for active leadership; it merely provides the means by which the organization can be managed effectively.

### Principles of Organization:

One of the first and most basic principles is that the work should be divided among the individuals and operating units according to a considered plan. The plan should be based on the individual functions that must be performed, such as fire prevention, training, communications, etc.

The next principle is that as the department increases in size and becomes more complex, there is an increased need for coordination. Small departments are simple organizations that allow frequent personal contact among individuals, thus there is little need

for extensive coordination. However, as departments increase in size and become more complex, they require more extensive coordination of the operating units in order to achieve their objectives.

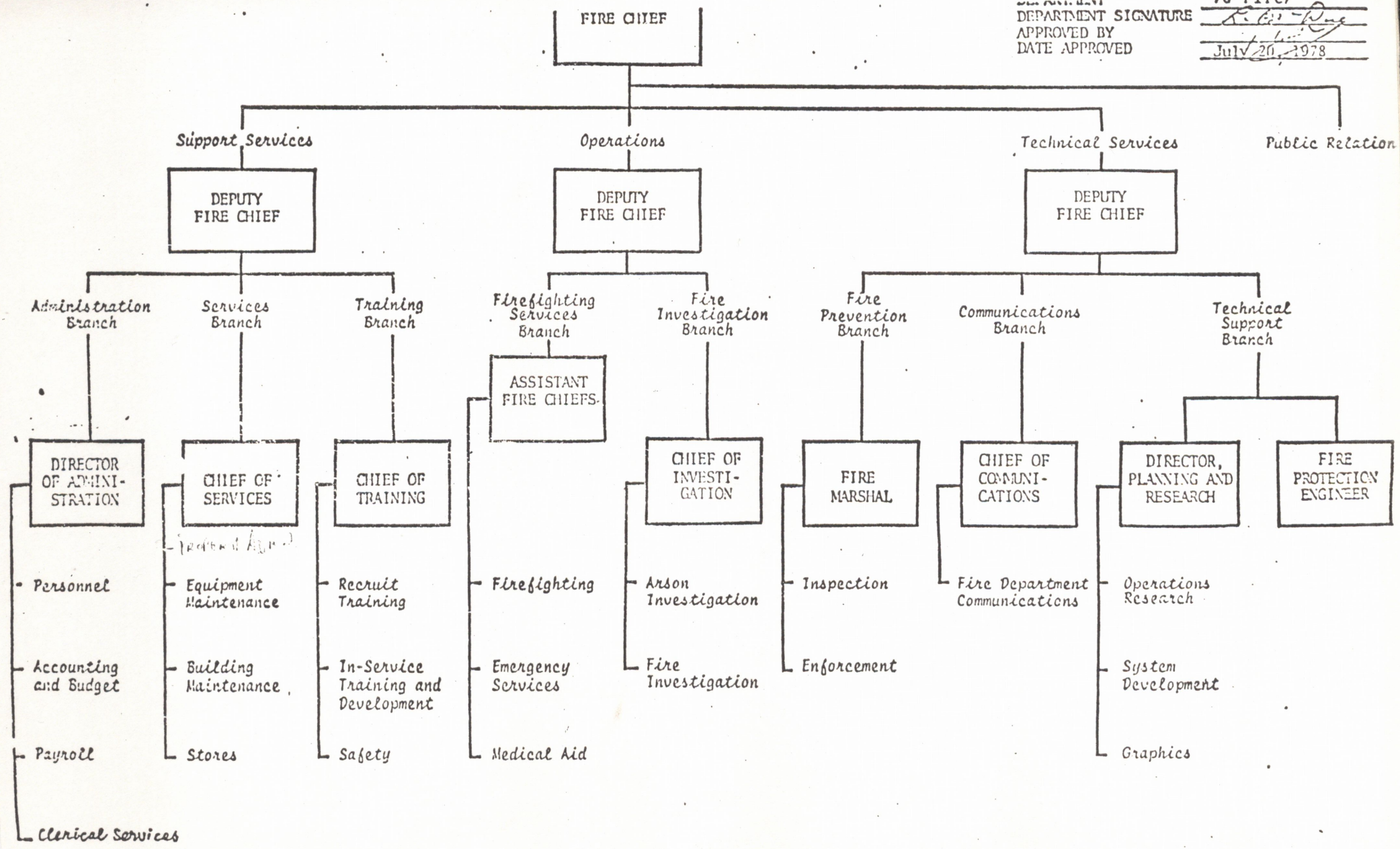
Another principle is that lines of authority must be established. Each individual should know his relationship to the total organization, and each operational unit or division must know its relationship to the total organization. In many cases individuals are given the responsibility of performing certain tasks but are not given the authority to make some of the decisions necessary to complete the tasks. This will restrict the performance of the organization since such individuals will need to constantly consult their immediate supervisors when decisions have to be made. When responsibility is assigned, authority must also be granted.

Unity of command in departmental structure is of prime importance in that an individual receiving conflicting orders from several superiors is likely to become confused and inefficient, while an individual receiving orders from only one supervisor will have a better chance to perform more efficiently. Also, the capacity to efficiently supervise becomes limited if there are too many individuals reporting to one

supervisor. Supervisors having too many persons directly reporting to them tend to become involved in details, thus leaving themselves little time for additional managerial and supervisory duties.

Source: Fire Protection Handbook, 15th edition (Quincy, MA: National Fire Protection Association).

DEPARTMENT SIGNATURE
APPROVED BY
DATE APPROVED July 20, 1978



SITE ANALYSIS...

Location

Neighborhood Context

Size and Zoning

Legl

Circulation

Utilities

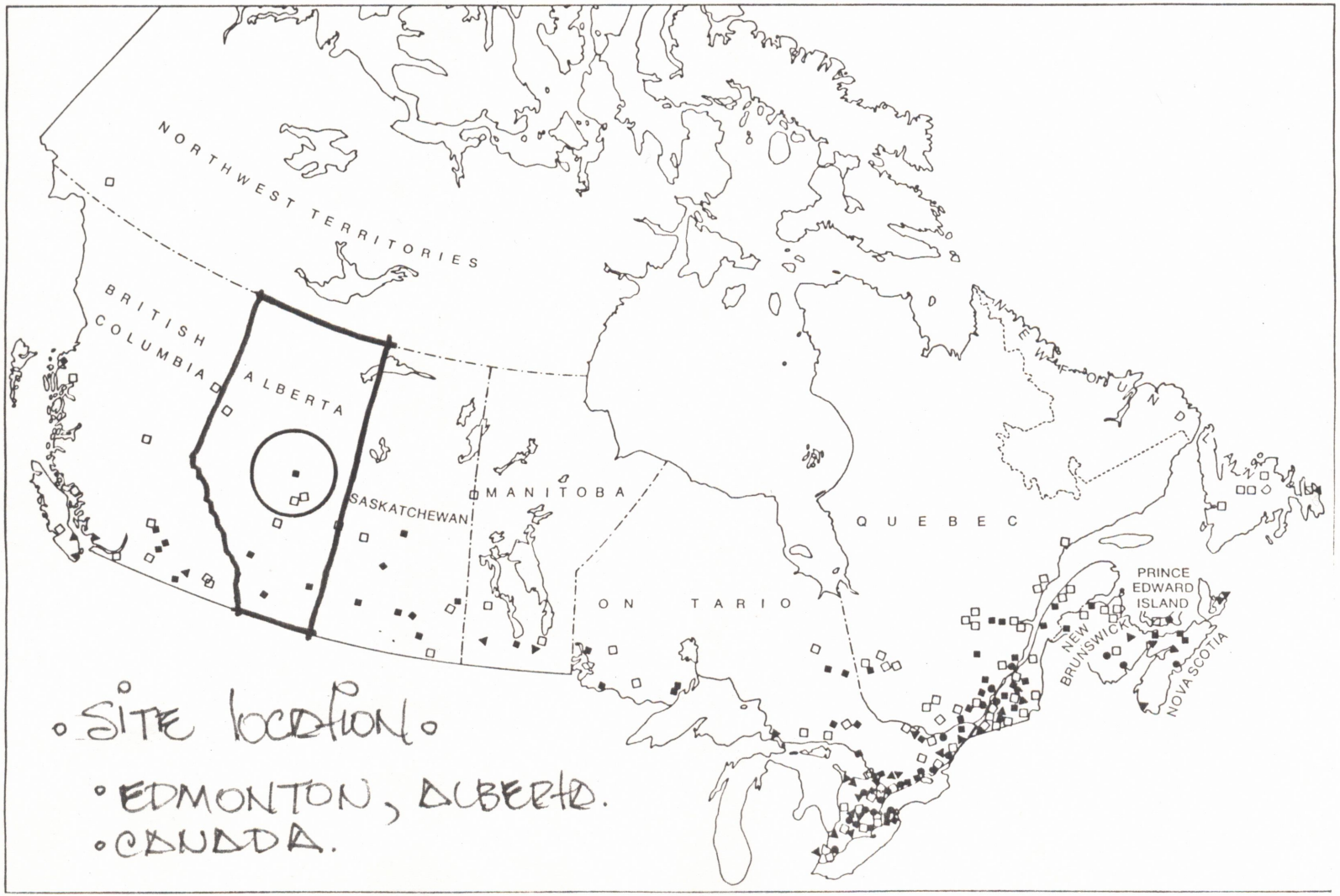
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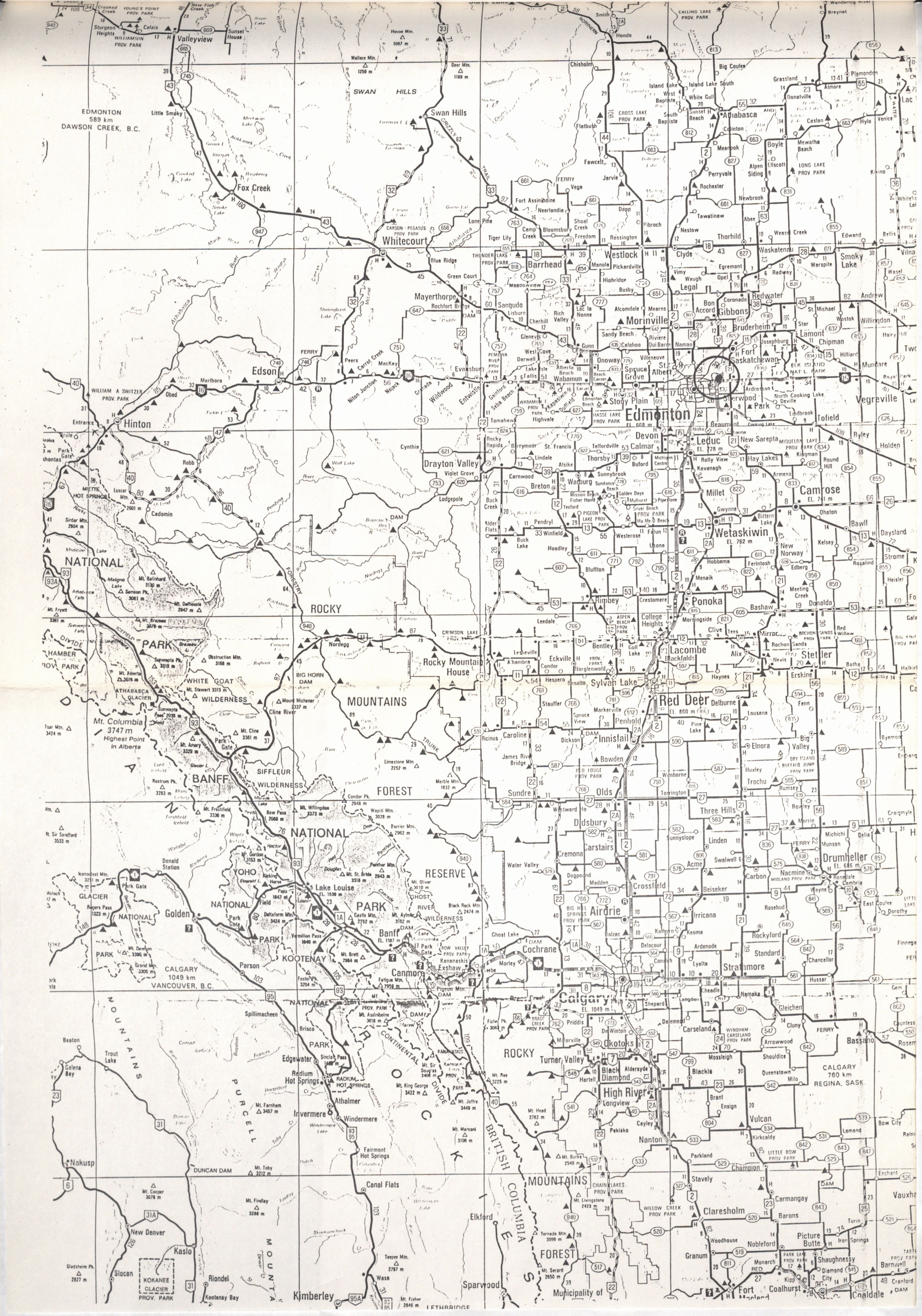
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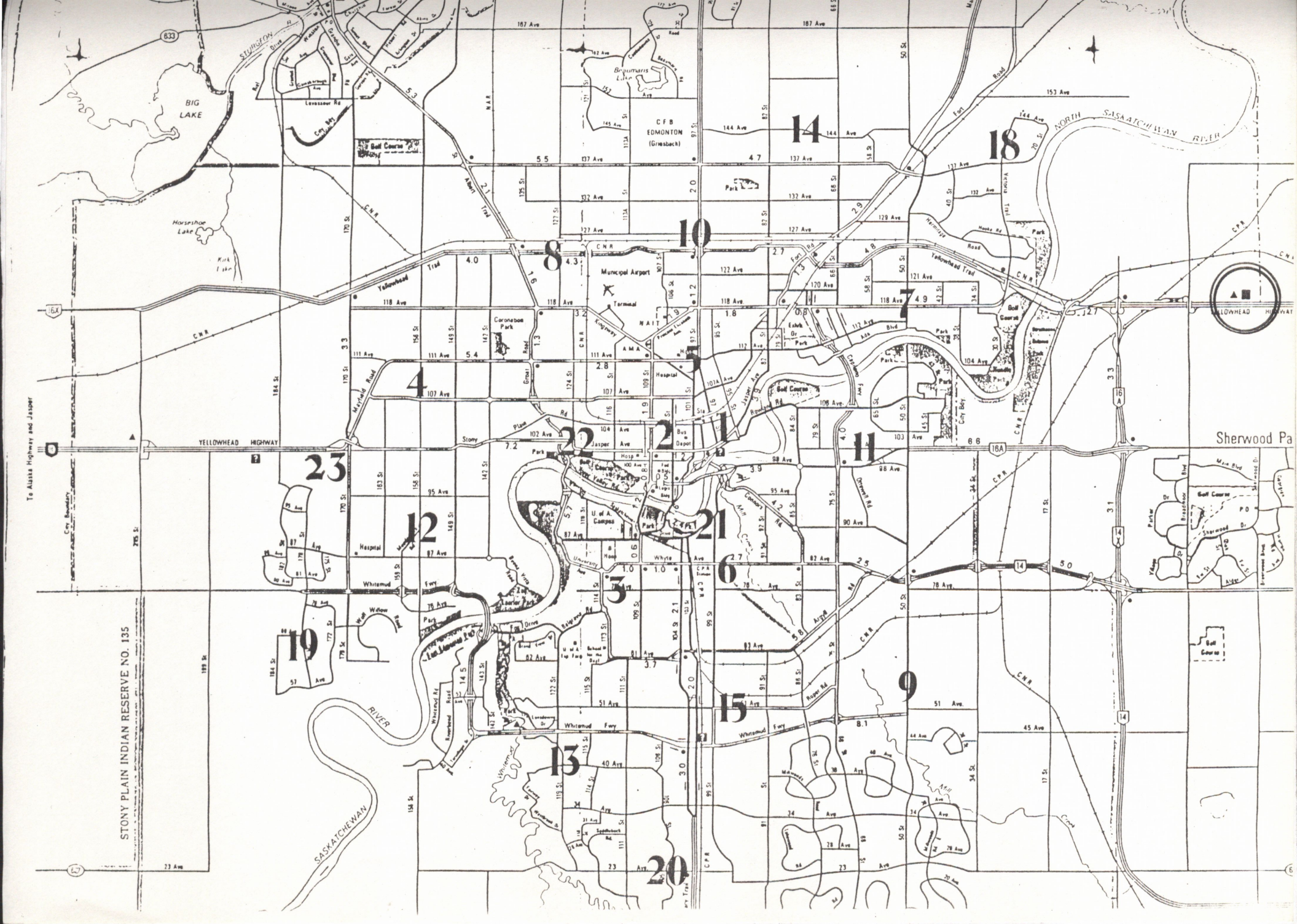
- Noise

Coimate

LOCATION...

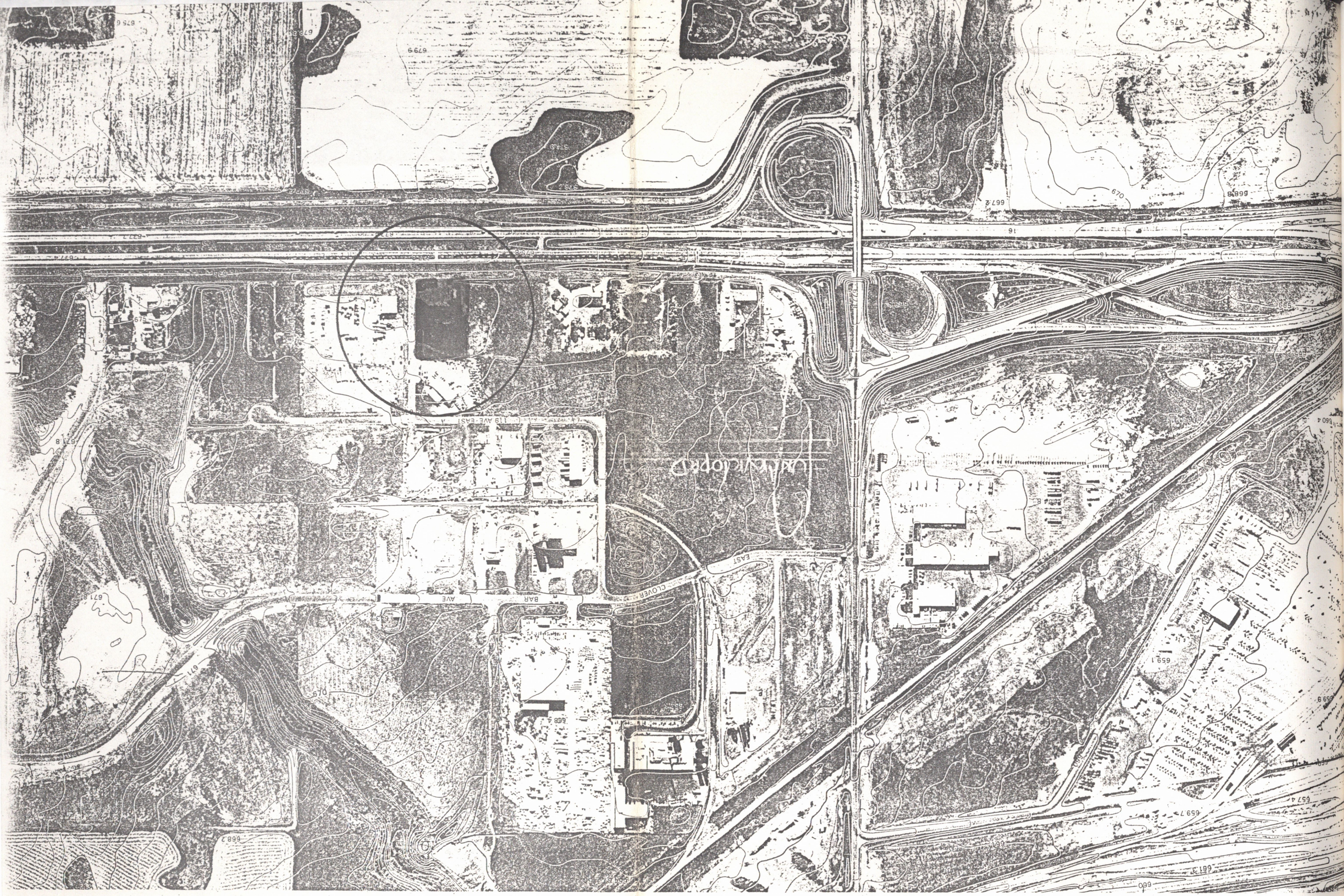

NORTHWEST TERRITORIES
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
NEWFOUNDLAND
PRINCE EDWARD ISLAND
NEW BRUNSWICK
NOVA SCOTIA
• SITE LOCATION •
• EDMONTON, ALBERTA.
• CANADA.


Edmonton
EL. 668 m
St. Albert
Spruce Grove
Stony Plain
Fort Saskatchewan
Leduc
Devon
Calmar
Camrose
Wetaskiwin
Ponoka
Lacombe
Red Deer
Innisfail
Olds
Didsbury
Carstairs
Airdrie
Crossfield
Calgary
EL. 1049 m
Cochrane
Canmore
Banff
Lake Louise
Okotoks
High River
Black Diamond
Turner Valley
Nanton
Claresholm
Stavely
Vulcan
Drumheller
Three Hills
Strathmore
Bassano
Picture Butte
Coaldale
Fort Macleod
Vegreville
Tofield
Smoky Lake
Athabasca
Westlock
Barrhead
Morinville
Whitecourt
Swan Hills
Mayerthorpe
Edson
Hinton
Fox Creek
Valleyview
Drayton Valley
Rocky Mountain House
Sylvan Lake
Sundre
Golden
Radium Hot Springs
Invermere
Windermere
Canal Flats
Kimberley
Sparwood
Elkford
Nakusp
Kaslo
New Denver
Slocan
Mt. Columbia
3747 m
Highest Point
In Alberta
ROCKY MOUNTAINS FOREST RESERVE
BANFF NATIONAL PARK
YOHO NATIONAL PARK
KOOTENAY NATIONAL PARK
SIFFLEUR WILDERNESS
WHITE GOAT WILDERNESS
GHOST RIVER WILDERNESS
CONTINENTAL DIVIDE
BRITISH COLUMBIA
PURCELL MOUNTAINS
SWAN HILLS
EDMONTON
589 km
DAWSON CREEK, B.C.
CALGARY
1049 km
VANCOUVER, B.C.
CALGARY
760 km
REGINA, SASK
KOKANEE GLACIER PROV. PARK
DUNCAN DAM
BIG HORN DAM
ICEFIELD PARKWAY
FORESTRY TRUNK ROAD
Municipality of


STONY PLAIN INDIAN RESERVE NO. 135
To Alaska Highway and Jasper
YELLOWHEAD HIGHWAY
BIG LAKE
Horseshoe Lake
Kirk Lake
Municipal Airport
CFB EDMONTON (Griesbach)
Braumaris Lake
NORTH SASKATCHEWAN RIVER
SASKATCHEWAN RIVER
Sherwood Pa
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| STATION | | BUILDING # | E-REQ. NUMBER | PHONE NUMBER |
|---|---|---|---|---|
| #1 | 10351 - 96 Street | 007001 | E802426 | 428-5083 |
| #2 | 10221 - 107 Street T | 007002 | E802427 | 428-3454 |
| #3 | 11226 - 76 Avenue | 007003 | E802428 | 436-4355 |
| #4 | 10949 - 156 Street T | 007004 | E802429 | 483-2514 |
| #5 | 11169 - 101 Street T | 007005 | E802430 | 477-3453 |
| #6 | 8105 - 96 Street | 007006 | E802431 | 439-0742 |
| #7 | 5025 - 118 Avenue | 007007 | E802432 | 474-2811 |
| #8 | 12503 - 128 Street | 007008 | E802433 | 454-8765 |
| #9 | 5604 - 50 Street T | 007009 | E802434 | 466-1033 |
| #10 | 12735 - 101 Street T | 007010 | E802435 | 475-2122 |
| #11 | 6625 - 101 Avenue T | 007011 | E802436 | 469-2082 |
| #12 | 9020 - 156 Street | 007012 | E802437 | 489-2140 |
| #13 | 4035 - 119 Street T | 007013 | E802438 | 434-4513 |
| #14 | 7312 - 144 Avenue T | 007014 | E802439 | 475-1377 |
| #15 | 5120 - 97 Street | 007015 | E802440 | 436-3433 |
| #16 | 2904 - 66 Street | 007016 | E802441 | 462-3290 |
| #17 | 15505 Castle Downs Rd. | 007017 | E802442 | 456-4510 |
| #18 | 13808 - 29 Street | 007018 | E802443 | 478-4021 |
| #19 | 6210 - 178 Street | 007019 | E802444 | 481-3151 |
| #20 | 2303 - 105 Street | 007020 | E802445 | 436-3720 |
| #21 | 9315 - 101 Street T | 007021 | E802446 | 423-4633 |
| #22 | 10124 - 123 Street | 007022 | E802447 | 488-4792 |
| #23 | 10130 - 178 Street | 007023 | E802448 | 483-7258 |
| Fire Service Centre | | | | |
| | 9320 - 101 Street | 007051 | E802449 | 428-5179 |
| Fire Training School | | | | |
| | 9315 - 101 Street | 007052 | E802450 | 428-5160 |
| A/C Maintenance Communications | | | | |
| | 9620 - 103A Avenue | 007053 | E802451 | 428-8345 |
| Airport Station | | | | |
| | 10908 - 120 Avenue | 007054 | E802401 | 479-0211 |
| Fire Department Apparatus | | 008001 | E802403 | |

NEIGHBORHOOD CONTEXT...


CLOVER
EAST
BAR
AVE

...NCE OF THE ...
...PERSONALLY PRESENT AND DID SEE SHAPOUR NAKHOSTIN ASSEF
...NAHID NAKHOSTIN ASSEF NAMED IN THIS PLAN WHO ARE PERSONALLY
...E TO BE THE PERSONS NAMED HEREIN DULY SIGN AND
...E SAME FOR THE PURPOSES NAMED HEREIN;
...E SAME WAS EXECUTED AT THE CITY OF EDMONTON
...INCE OF ALBERTA AND THAT I AM THE SUBSCRIBING WITNESS
...AT I KNOW THE SAID SHAPOUR ASSEF AND .....
...SEF ..... AND THEY ARE IN MY BELIEF EACH OF
...E OF EIGHTEEN YEARS.

...RE ME AT THE
...AKEWOOD PARK, IN
...E OF ALBERTA
...Y OF Nov. ...1980.

Madhu Syal
WITNESS

...NER FOR OATHS IN AND
...VINCE OF ALBERTA.

SIGNED BY THE MORTGAGORS RE MORTGAGE No. 802203074 IN THE PRESENCE OF

SHAPOUR NAKHOSTIN ASSEF — Madhu Syal WITNESS

NAHID NAKHOSTIN ASSEF — Madhu Syal WITNESS

THAT I WAS PERSONALLY PRESENT AND DID SEE PETER VAN WEES ..... NAMED IN THIS PLAN WHO IS PERSONALLY KNOWN TO ME TO BE THE PERSON NAMED HEREIN, DULY SIGN AND EXECUTE THE SAME FOR THE PURPOSES NAMED HEREIN;

THAT THE SAME WAS EXECUTED AT THE CITY ... OF TORONTO IN THE PROVINCE OF ONTARIO AND THAT I AM THE SUBSCRIBING WITNESS THERETO, THAT I KNOW THE SAID PETER VAN WEES ..... AND HE IS IN MY BELIEF OF THE FULL AGE OF EIGHTEEN YEARS.

SWORN BEFORE ME AT THE CITY ... OF TORONTO IN THE PROVINCE OF ONTARIO THIS 27 DAY OF NOVEMBER 1980.

Janet Finlay WITNESS

...NOTARY PUBLIC IN AND ... THE PROVINCE OF ONT...

SIGNED BY THE MORTGAGOR RE MORTGAGE No. 802159462 IN THE PRESENCE OF

PETER VAN WEES — Janet Finlay WITNESS

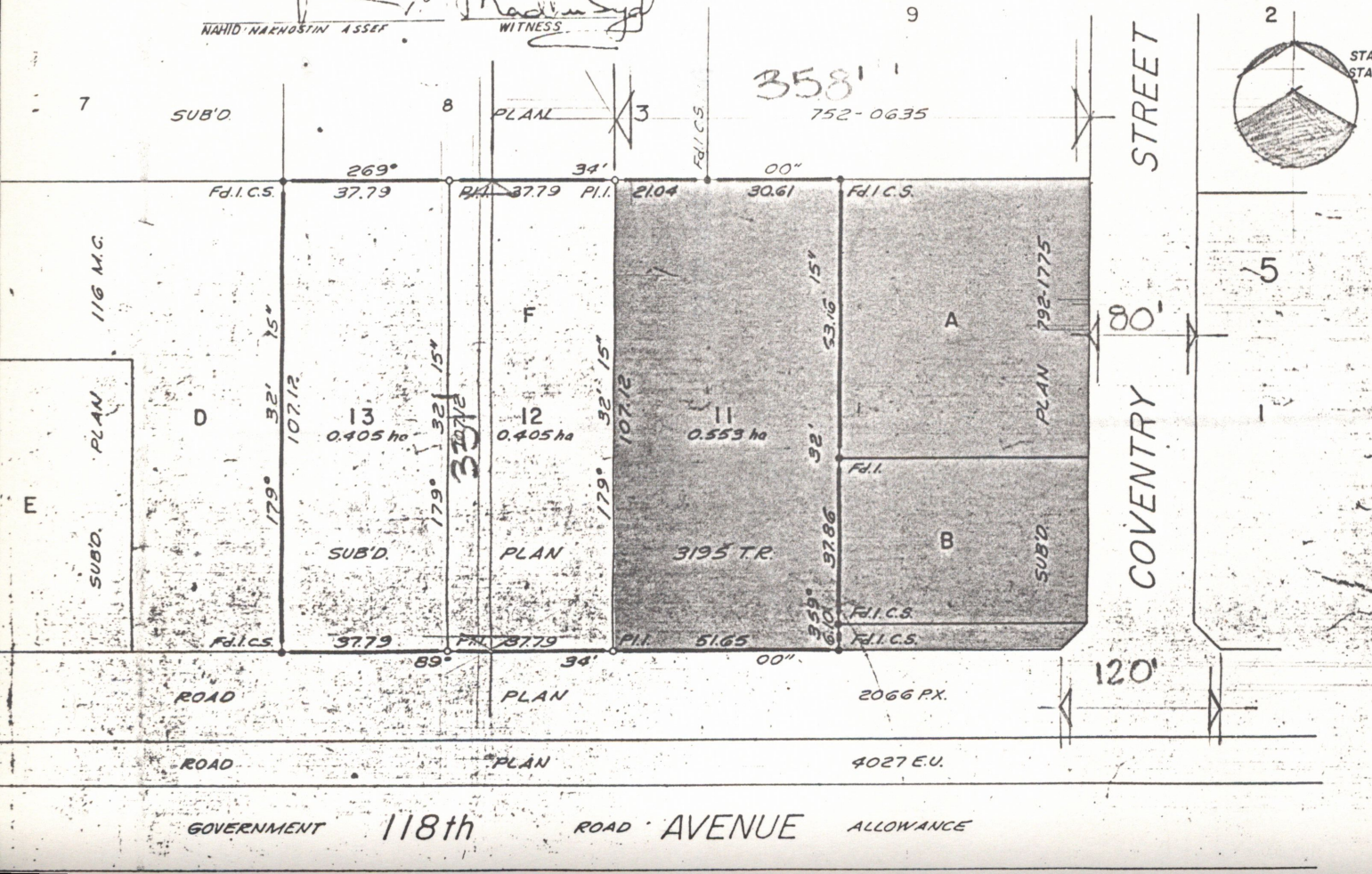
# PLAN SHOWING SURVEY OF SUBDIVISION OF LOT F, PLAN 3195 T... IN S.W. 1/4 SEC. 15-TP. 53-R... COUNTY OF STRATH...

SCALE 1:1000 1980 A.C. ...

0 10 20 30 40 50 60 70 ...

LEGEND:

STATUTORY SURVEY MONUMENTS FOUND SHOWN THUS
STATUTORY IRON SURVEY POSTS PLANTED SHOWN THUS
DISTANCES ARE IN METRES AND DECIMALS THERE...
LANDS DEALT WITH BY THIS PLAN BOUNDED ...
AND CONTAINS 1.36 HECTARES.
C.S. STANDS FOR COUNTER SUNK.
BEARINGS SHOWN ARE GRID AND ARE DERIVED FROM SUBDIVISION PLAN 792 1775.




I, A. C. HEINRICHS ..., OF THE CITY OF EDMONTON, ALBERTA LAND SURVEYOR, SOLEMNLY AFFIRM AND ...

1. THAT THE SURVEY REPRESENTED BY THIS P... MADE UNDER MY PERSONAL SUPERVISION,
2. THAT THE SURVEY WAS MADE IN ACCORDAN... GOOD SURVEYING PRACTICES AND IN ACCOR... WITH THE PROVISIONS OF THE SURVEYS A...
3. THAT THE SURVEY WAS PERFORMED BETWE... DATES OF DEC. 12th, 1979 AND APRIL 23rd ... AND THAT THIS PLAN IS TRUE AND CORRE... IS PREPARED IN ACCORDANCE WITH THE PRO... OF THE LAND TITLES ACT.

SOLEMNLY AFFIRMED AND DECLARED BEFORE ME AT THE CITY ... OF EDMONTON IN THE PROVINCE OF ALBERTA, THIS 27 DAY OF MAY ..., 1980.

A. C. Heinrichs
ALBERTA LA...

H.M. Smith
A COMMISSIONER FOR OATHS IN AND FOR THE PROVINCE OF ALBERTA. H.M. SMITH #619832

I, NAHARSINGH KALSI OF THE CITY ... OF ... IN THE PROVINCE OF ALBERTA, MAKE OATH AND ...

THAT I WAS PERSONALLY PRESENT AND ... KUMAR SYAL AND MADU SYAL ... NAME... ARE PERSONALLY KNOWN TO ME TO BE THE ... HEREIN, DULY SIGN AND EXECUTE THE SAME FOR ... NAMED HEREIN;

THAT THE SAME WAS EXECUTED AT THE ... EDMONTON IN THE PROVINCE OF AL... I AM THE SUBSCRIBING WITNESS THERETO, THA... KRISHAN KUMAR SYAL AND MADHU SYAL AND ... IN MY BELIEF OF THE FULL AGE OF E...

SWORN BEFORE ME AT THE ...

SIZE AND ZONING...

*LEGAL . . .*

## GI - GENERAL INDUSTRIAL DISTRICT

(1) Uses:

| Permitted Uses | Discretionary Uses |
|---|---|
| Grain elevators | Agricultural produce cleaning and packing |
| Light manufacturing, assembly and processing | Commercial, recreational or public service uses unlikely to restrict the use of the district for light industry |
| Warehousing, storage, supply depots | Public utility uses and installations |
| Bottle exchange | Accessory buildings and uses, including caretaker or watchman residence |
| Bulk oil sales | Any other use which, in the opinion of the Commission, is of a similar nature |
| General contractors and construction | |
| Repair and service shops | |
| Truck depots | |
| Light industrial uses not noxious or hazardous | |
| Accessory buildings and uses | |

(2) Site Coverage:

The maximum area of each site which may be built upon shall be 60% of the site area.

(3) Minimum Yard Requirements:

a)

| Use | Front | Side | Rear |
|---|---|---|---|
| All uses | 6m (19.7 ft.) | 4.5m (14.8 ft.) | 4.3m (14.1 ft.) |

b) No area for parking, loading or storage or any other like purpose shall be permitted within such minimum yards;

c) Side yards at a distance of 12 metres (39.4 feet) or more from the front property line may be used for parking of motor vehicles;

d) Side yard requirements may be reduced by the Development Officer or Commission where there is an abutting railway line, lane or utility lot;

e) Rear yards may be reduced to 1.2 metres (3.9 feet) by the Development Officer where there is a rear lane;

f) Rear yards shall not be less than 7.5 metres (24.6 feet) where the rear boundary abuts a residential district;

g) No rear yard is required where the rear boundary abuts a railway line;

h) Where side or rear yards abut a residential district, the applicant shall provide screening to the satisfaction of the Development Officer at least 2 metres (6.6 feet) in height;

i) When the development fronts on a declared Provincial or secondary highway, a minimum front yard shall be 7.5 metres (24.6 feet) from the service road right-of-way or such other distance as may be required by the Commission.

(4) Performance Standards:

a) No operation or activity shall emit air and water contaminants in excess of the standards prescribed by the Province of Alberta pursuant to the Clean Air Act and the Clean Water Act and the regulations pertaining thereto;

b) Any industrial operation, including production, processing, cleaning, testing, repairing, storage or distribution of any material shall conform to the following standards at all times:

i) Noise:

emit no offensive noise of industrial production audible at any point on the boundary of the lot on which the operation takes place;

ii) Smoke:

no process involving the use of solid fuel is permitted, save the use of waste disposal incinerators of a design approved by the Development Officer;

iii) Dust and Ash:

no process involving the emission of dust, fly ash or other particulate matter is permitted;

iv) Smell:

the emission of any odorous gas or other odorous matter is prohibited;

v) Toxic Gases, etc.:

the emission of toxic gases or other toxic substances is prohibited;

vi) Glare or Heat:

no industrial operation shall be carried out that would produce glare or heat discernible beyond the property line of the lot concerned;

vii) External Storage:

external storage of goods or materials is permitted if kept in a neat and orderly manner or suitably enclosed by a fence or wall to the satisfaction of the Development Officer;

viii) Industrial Wastes:

no wastes shall be discharged into any sewer which does not conform to the standards established from time to time by bylaw of the County;

c) The onus of proving to the Development Officer's or Commission's satisfaction that a proposed development does and will comply with these standards rests with the developer and/or operator;

d) The Development Officer or Commission may prescribe or approve screening or buffer area for uses which involve the outdoor storage of goods, machinery, vehicles, building materials, waste materials and other similar uses;

e) In considering the application, the Development Officer or Commission shall have regard to the intent of this section, which is to establish use on the basis of:

i) appropriate performance standards;

ii) the methods, equipment and techniques of the applicant;

iii) the use of neighbouring lands and land use districts and the compatibility of the proposed use with neighbouring lands and land use districts.

(5) Appearance:

At the discretion of the Development Officer or Commission, the following may be required:

a) All yards abutting the highway or road shall be landscaped, and the entire site and all buildings maintained in a neat, tidy manner, including the trimming and upkeep of landscaped areas and the removal of debris and unsightly objects;

b) All storage, freight or trucking yards shall be enclosed or completely screened by buildings, trees, landscaped features or fences, or a combination thereof to provide effective screening from the ground to a height of 2 metres (6.6 feet);

c) All driveways with access to paved public streets shall be paved for a minimum distance of 15 metres (49.2 feet) from the front property line;

d) All front yards shall be landscaped to the satisfaction of the Development Officer.

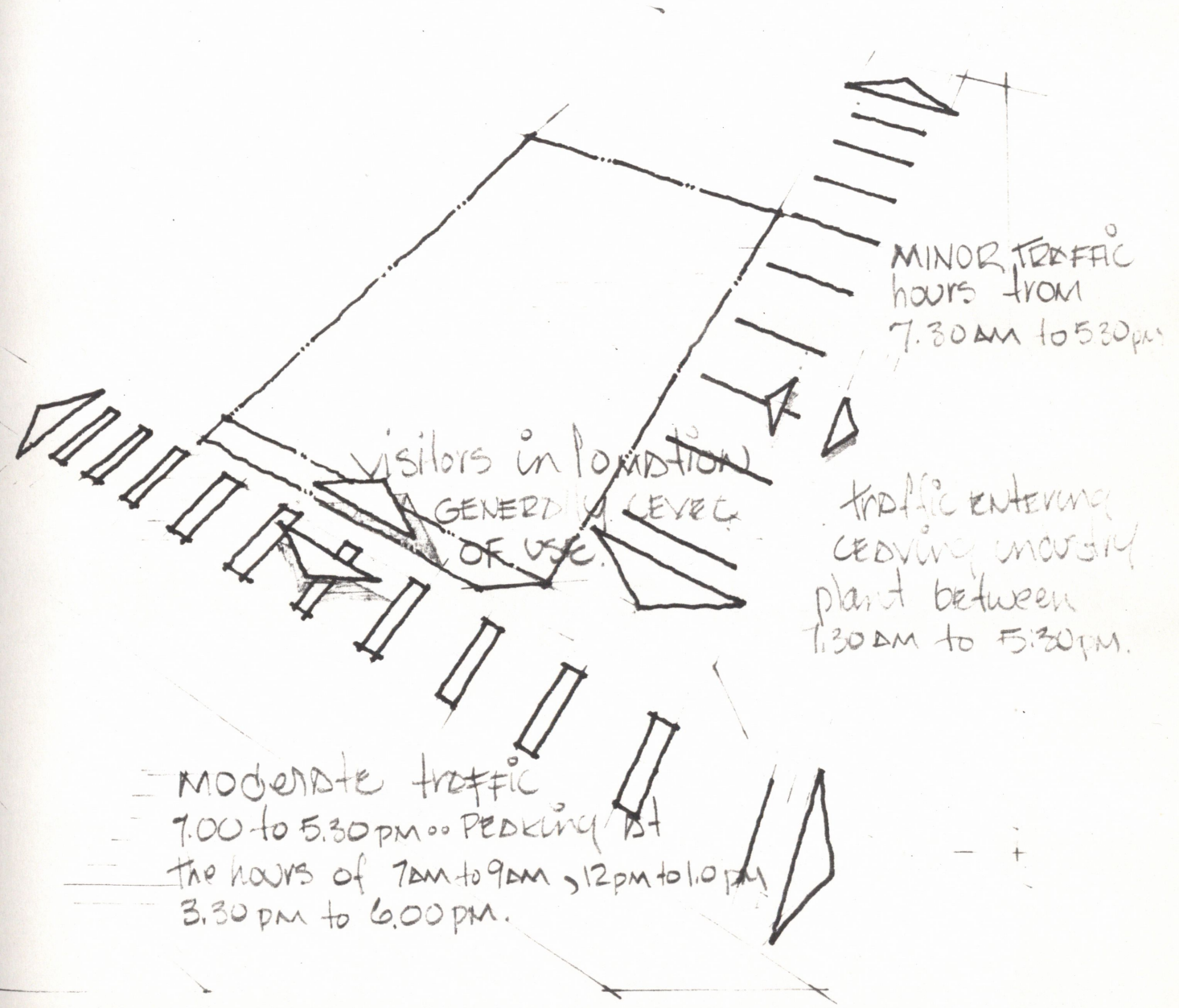
(6) Off-Street Parking:

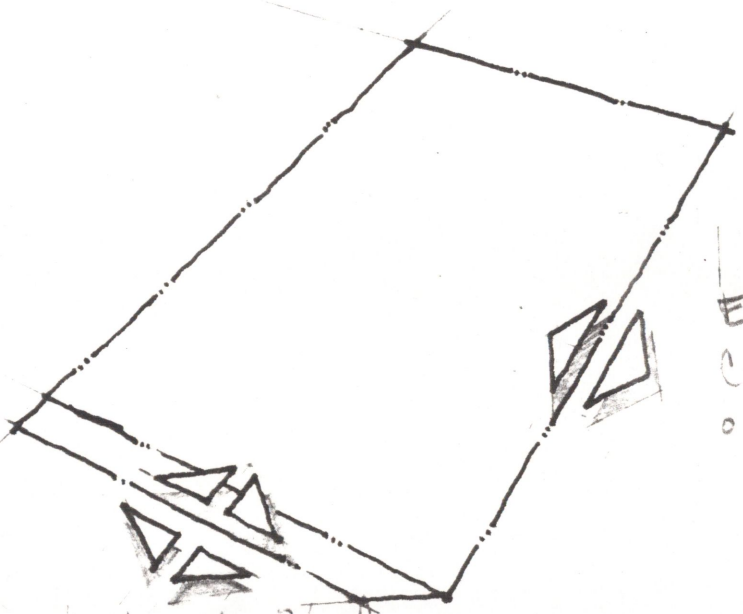
Off-street parking and loading requirements shall be in accordance with those regulations set out in Schedule 3.

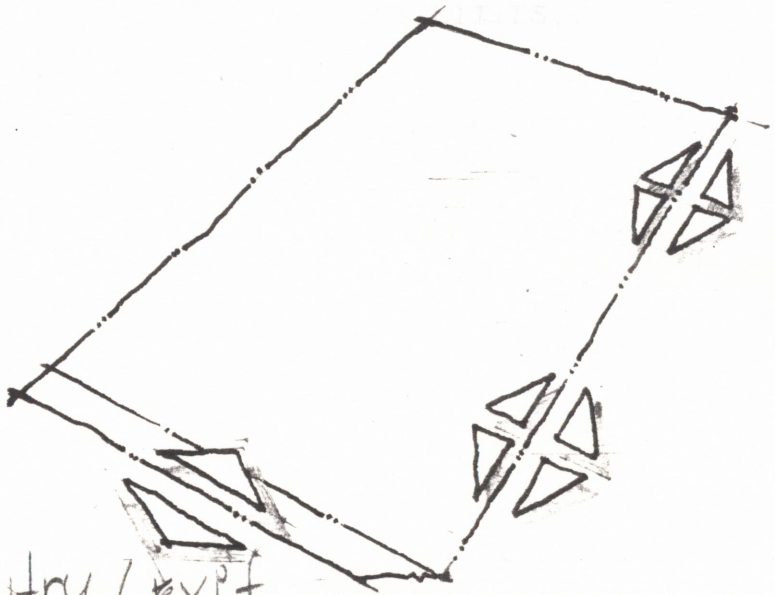
(7) Signs:

Signs shall be permitted in accordance with those regulations set out in Schedule 4.

*CIRCULATION...*


MINOR TRAFFIC
hours from
7.30 AM to 5.30 PM
visitors in location
GENERAL LEVEL
OF USE.
traffic entering
leaving nursery
plant between
7.30 AM to 5.30 PM.
Moderate traffic
7.00 to 5.30 PM with peaking at
the hours of 7AM to 9AM, 12PM to 1.0 PM
3.30 PM to 6.00 PM.

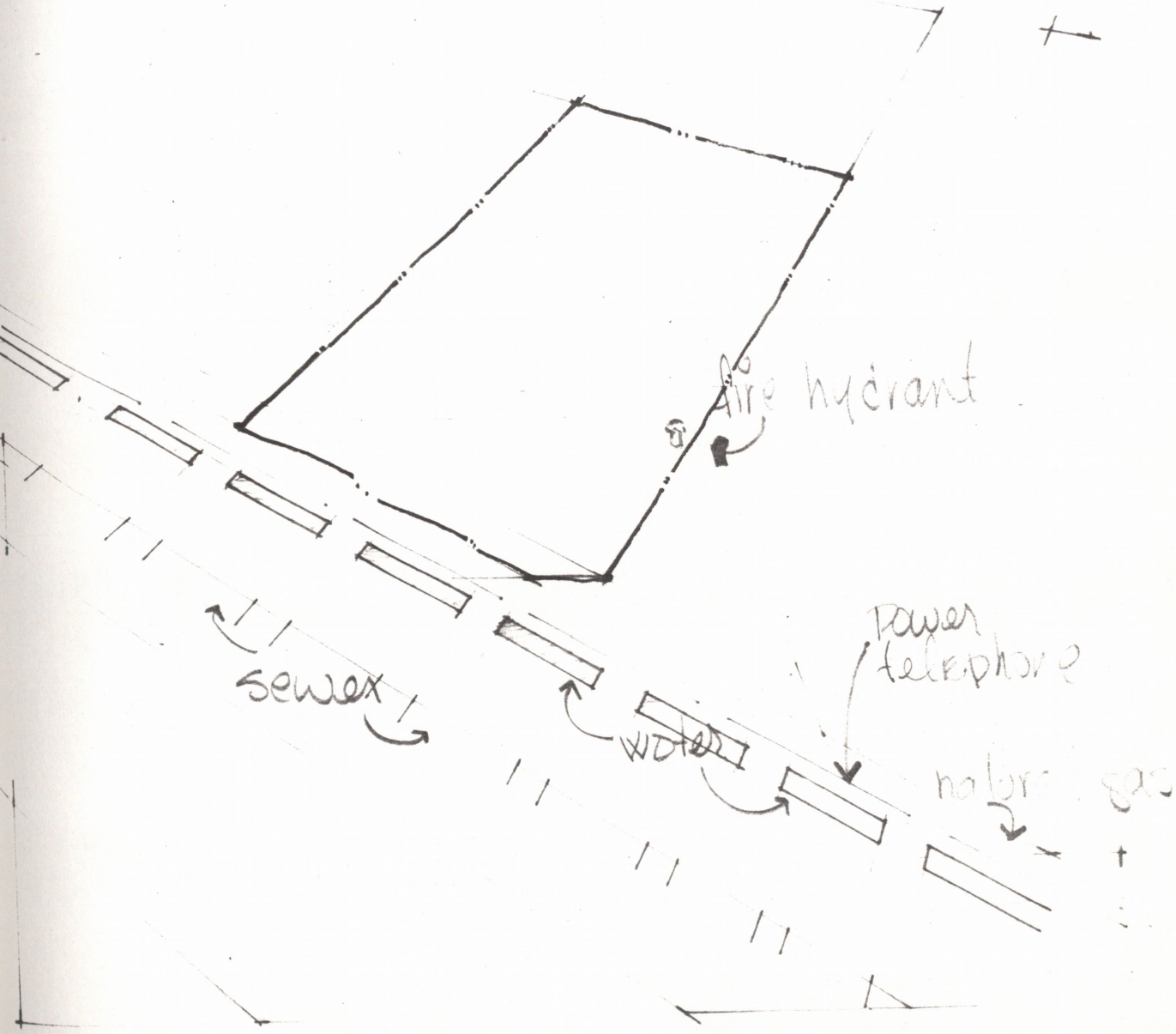

ENTRY /EXIT from
Coventry street.
• VISITOR
OMation
ENTRY /EXIT FROM
118 AVE EAST
• FIRE STATION •



ENTRY / EXIT
COVENTRY STREET
of fire station.

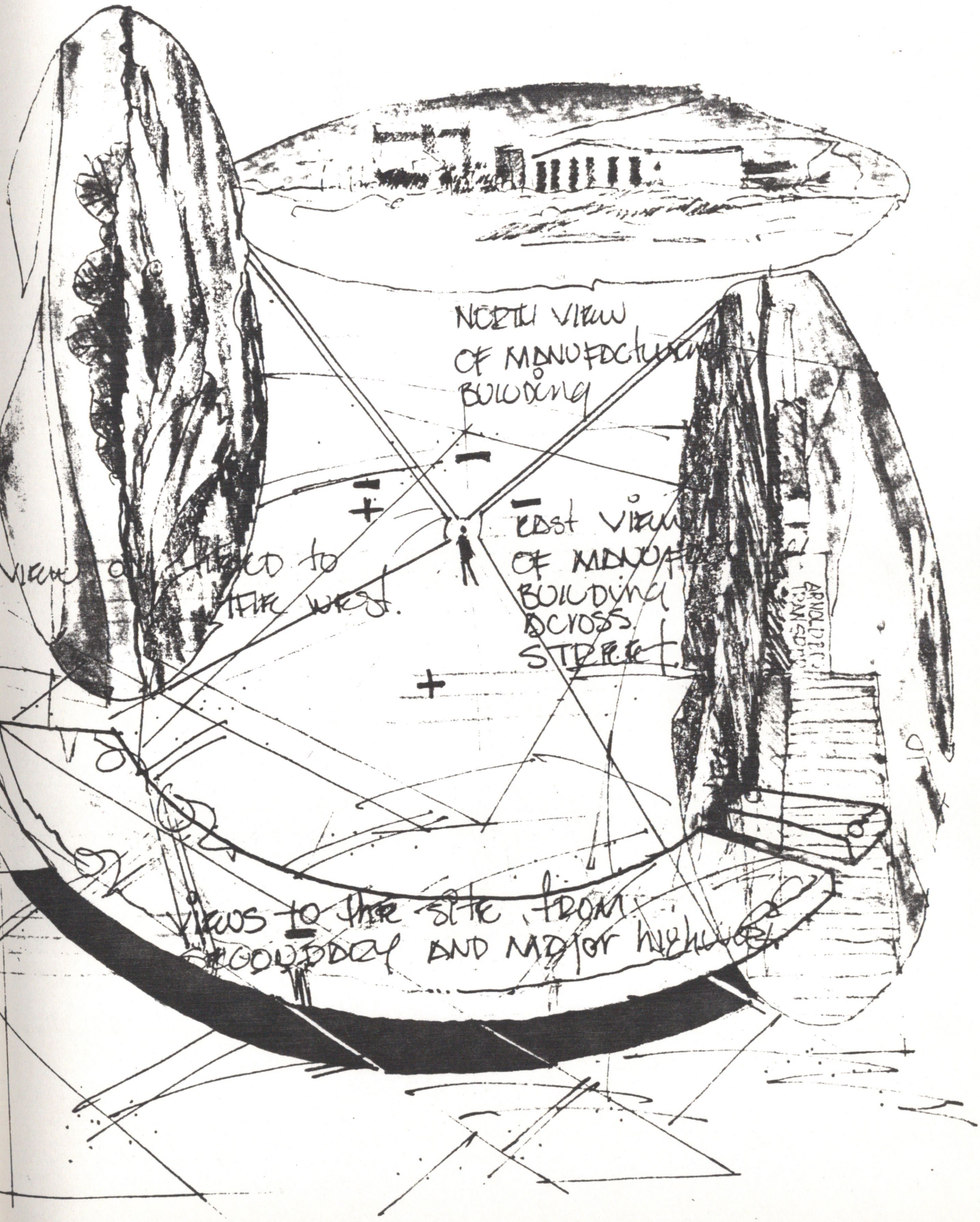
ENTRY / EXIT
FROM 118 AVE EAST.
VISITORS INFORMATION

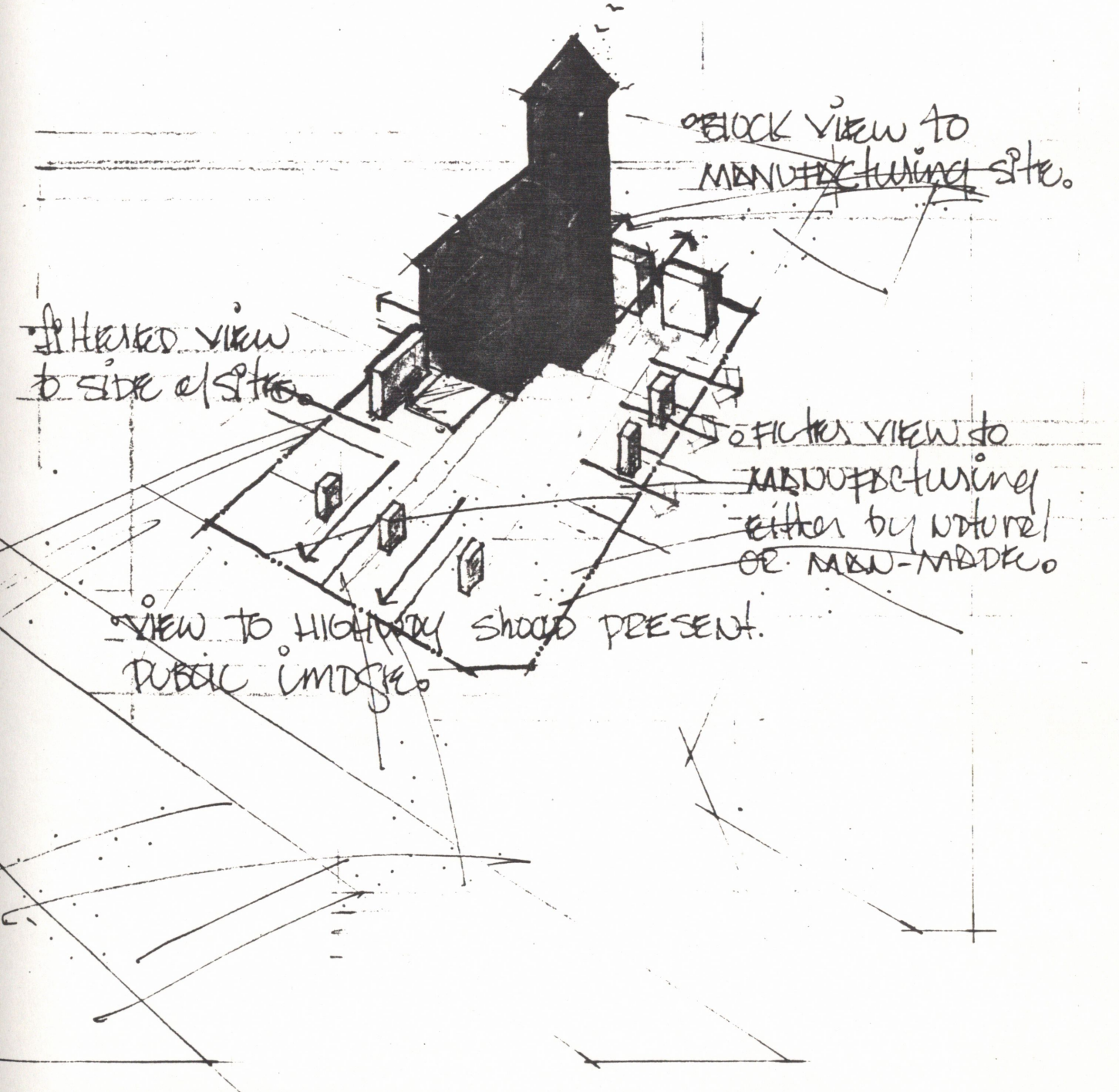
*UTILITIES...*

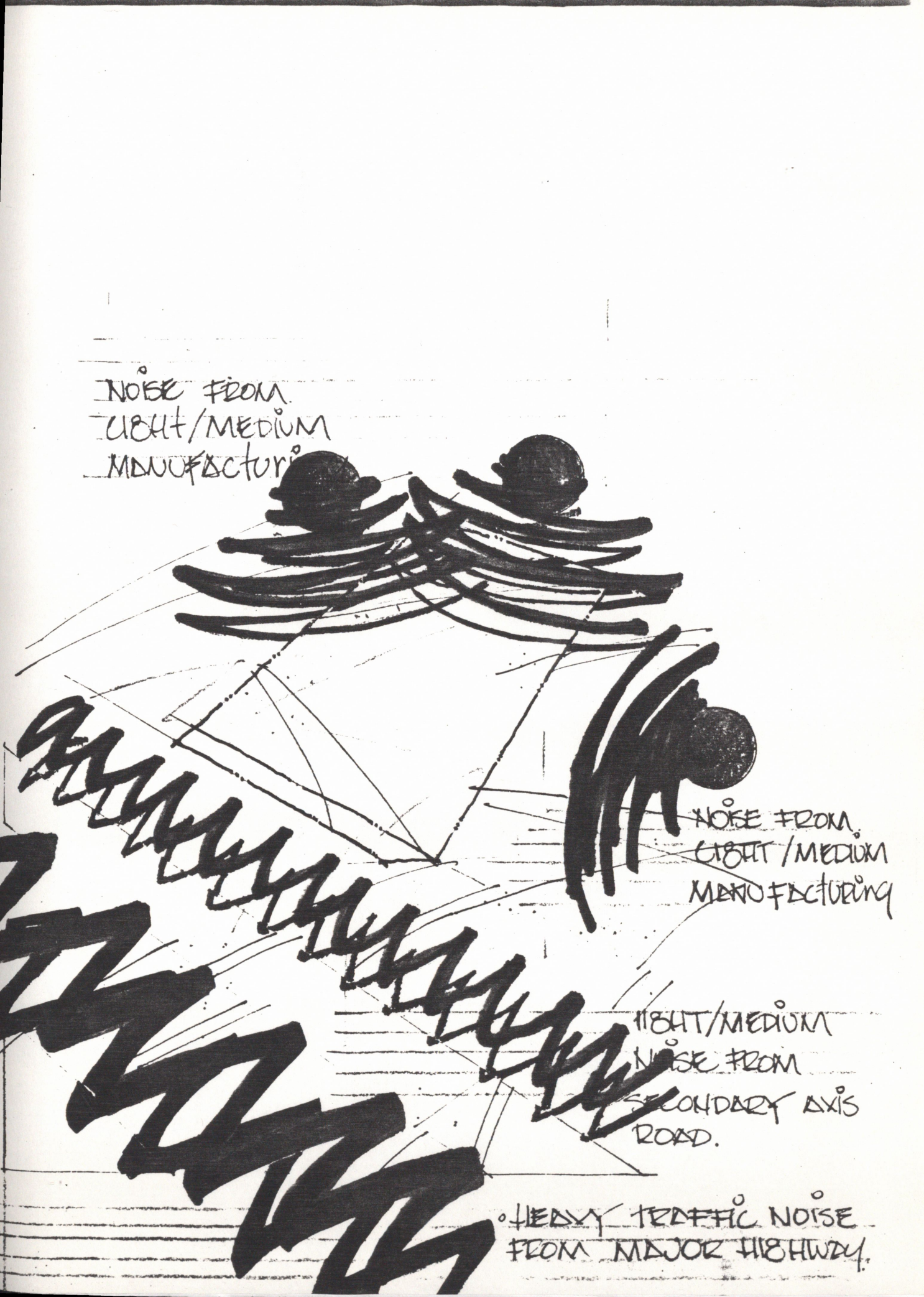

fire hydrant
sewer
power
telephone

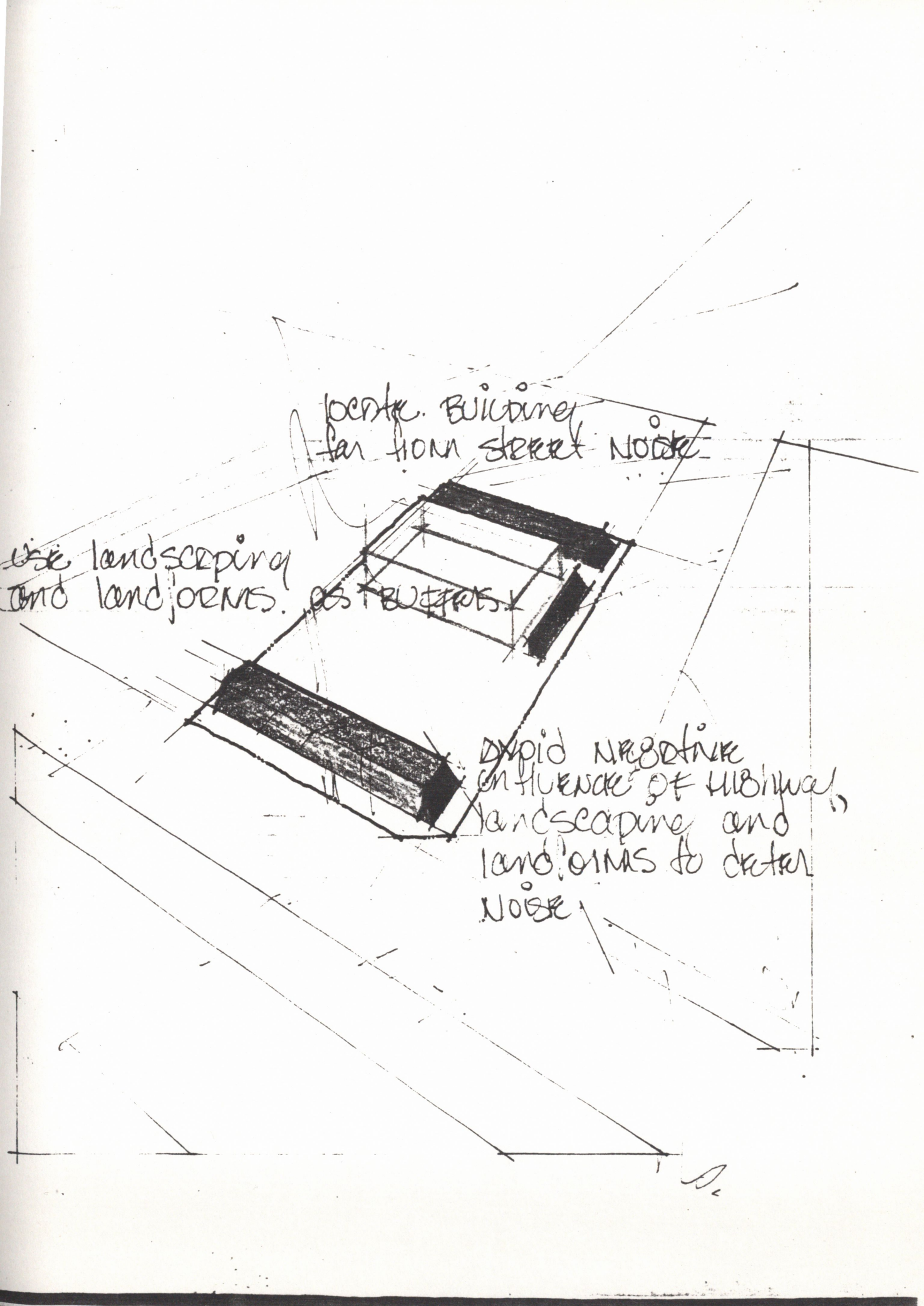
SENSORY...

- Views
- Noise


NORTH VIEW
OF MANUFACTURING
BUILDING
EAST VIEW
OF MANUFACTURING
BUILDING
ACROSS
STREET
VIEWS TO THE SITE FROM
RAILROAD AND MAJOR HIGHWAYS

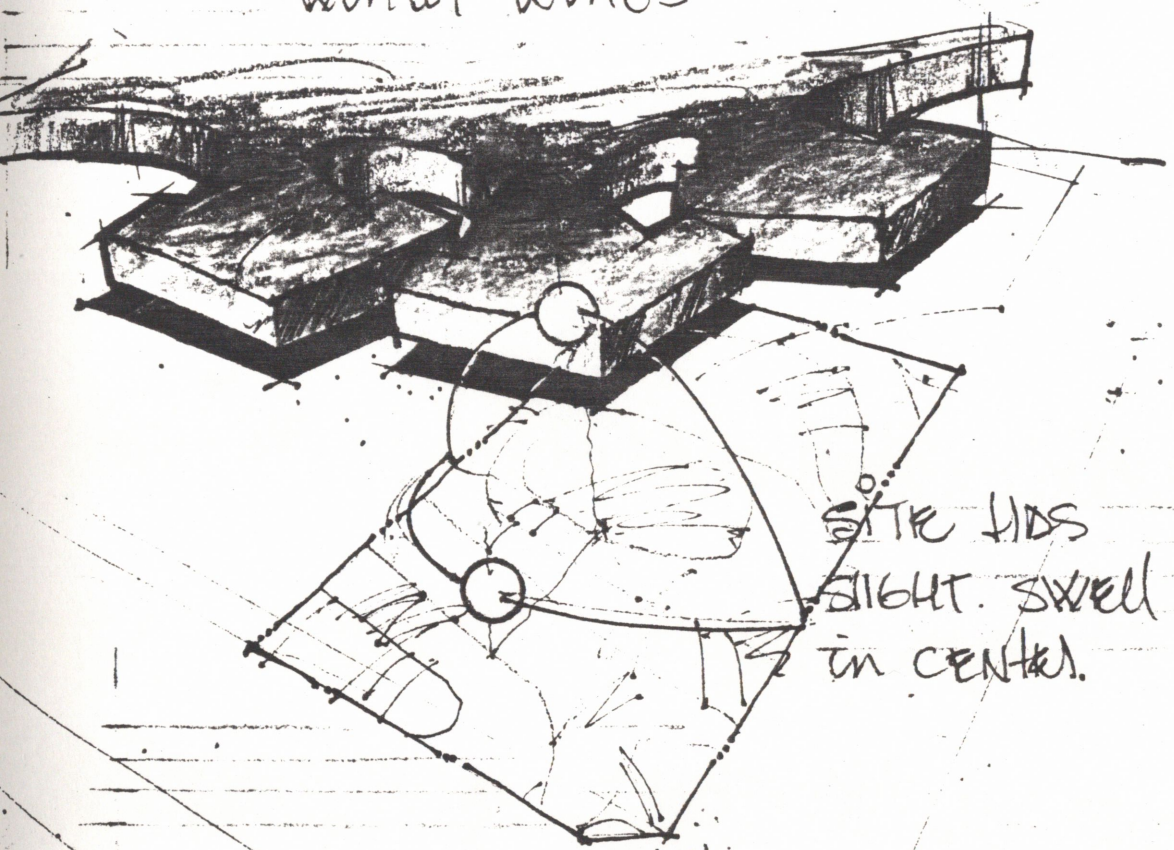

BLOCK VIEW TO MANUFACTURING SITE.
FILTERED VIEW TO SIDE OF SITE.
FILTERED VIEW TO MANUFACTURING - either by natural OR MAN-MADE.
VIEW TO HIGHWAY SHOULD PRESENT PUBLIC IMAGE.


NOISE FROM
LIGHT/MEDIUM
MANUFACTURING
NOISE FROM
LIGHT/MEDIUM
MANUFACTURING
LIGHT/MEDIUM
NOISE FROM
SECONDARY AXIS
ROAD.
HEAVY TRAFFIC NOISE
FROM MAJOR HIGHWAY.

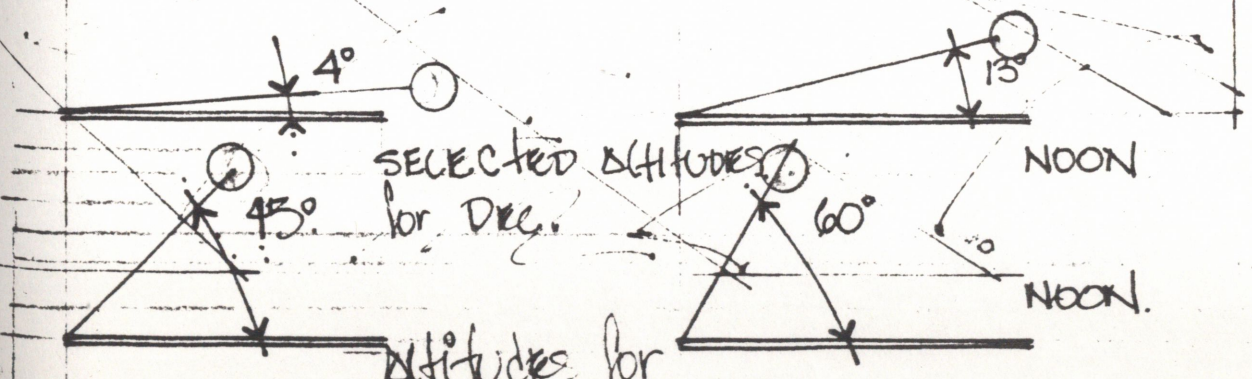

locate BUILDING far from STREET NOISE
use landscaping and landforms as BUFFERS
RAPID NEGATIVE influence of HIGHWAY, landscaping and landforms to deter NOISE

CLIMATE...

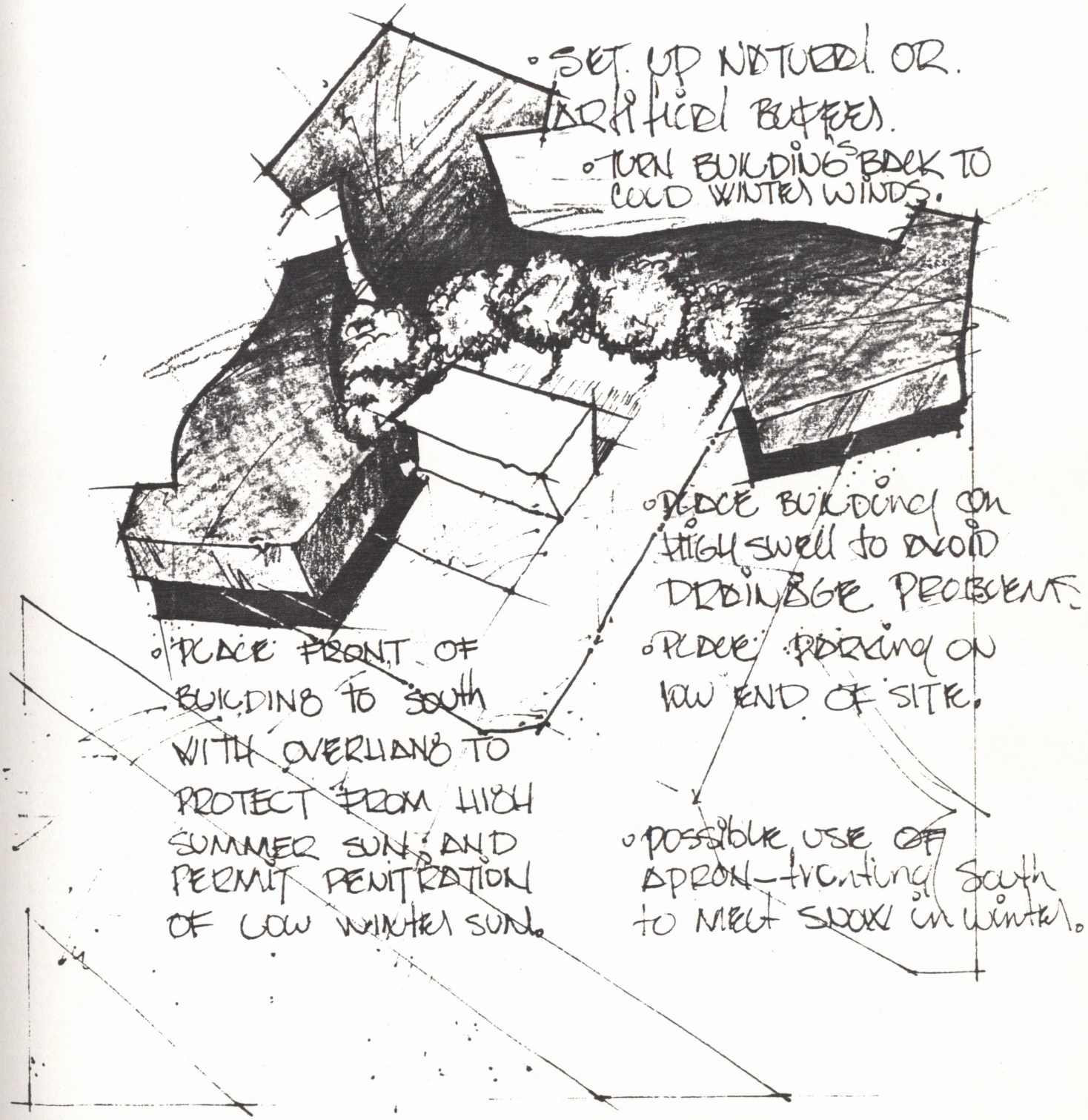
prevailing NORTH-WEST
Winter winds



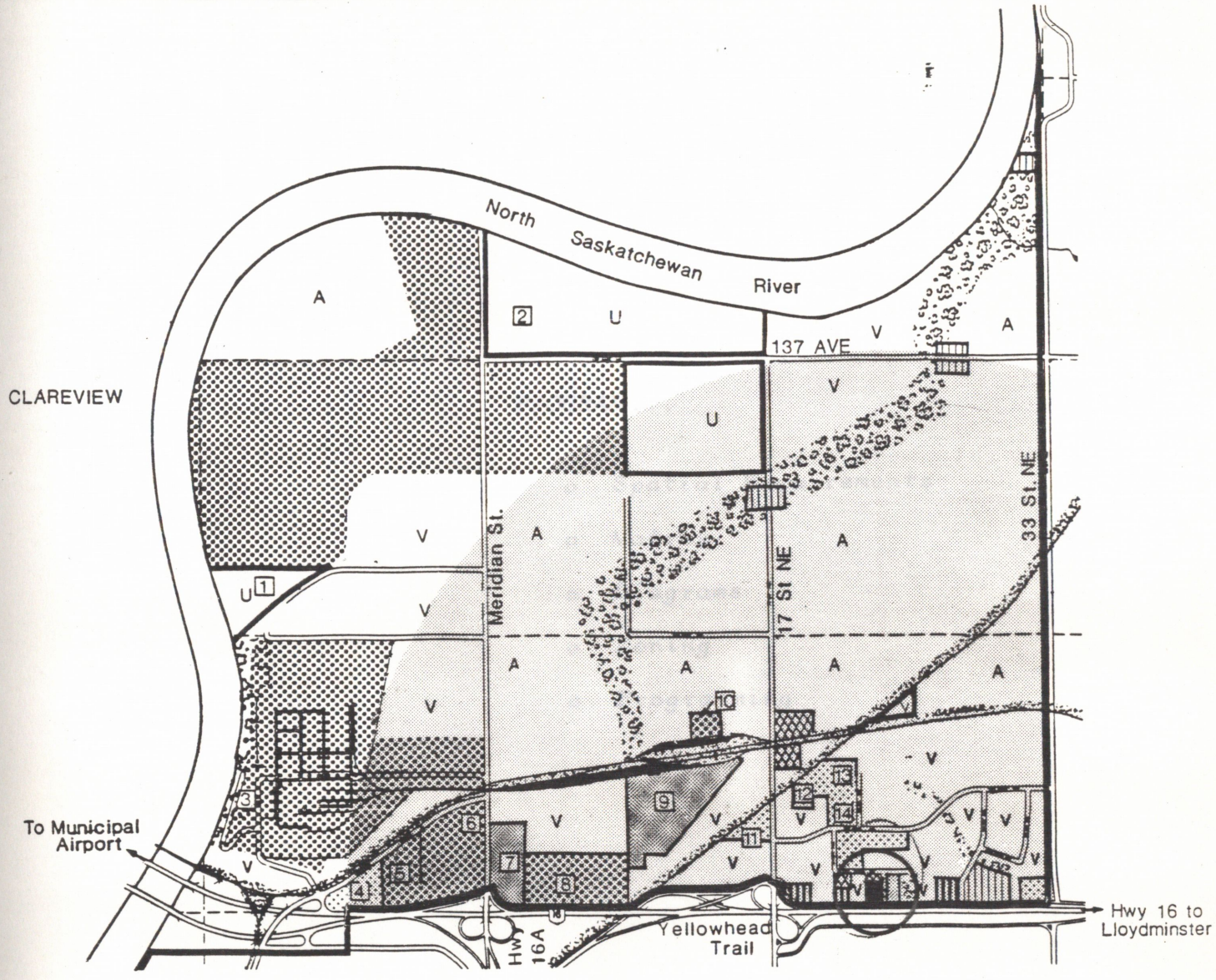
SITE HAS
SLIGHT. SWELL
IN CENTER.



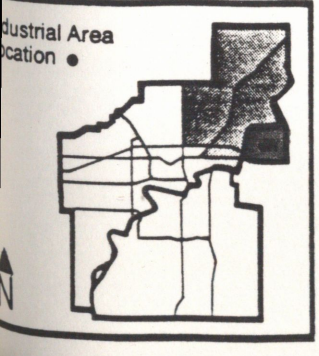

Altitudes for
JUNE.


• SET UP NATURAL OR ARTIFICIAL BUFFERS.
• TURN BUILDING'S BACK TO COLD WINTER WINDS.
• PLACE BUILDING ON HIGH SWELL TO AVOID DRAINAGE PROBLEMS.
• PLACE PARKING ON LOW END OF SITE.
• PLACE FRONT OF BUILDING TO SOUTH WITH OVERHANG TO PROTECT FROM HIGH SUMMER SUN AND PERMIT PENITRATION OF LOW WINTER SUN.
• POSSIBLE USE OF APRON-fronting South to MELT SNOW in winter.

*RESPONSE RADIUS...*




1. Clover Bar Generating Station
2. Clover Bar Landfill Site
3. Celanese Canada Inc.
4. Alberta Research Council
5. Canada Fibreglass
6. Uniroyal
7. Rheem Transport
8. Truroc Gypsum Products Ltd.
9. C.N.R. Auto Compound
10. Canada Cement Larfarge Ltd.
11. Westcan Bulk Transport
12. Federated Co-operatives Ltd.
13. Northern Alberta Processing
14. Vanguard Concrete Products Ltd.




- Heavy Industry
- Light/Medium Manufacturing
- Shipping & Storage
- Industrial Sales & Services
- Transportation
- Recreation/ Open Space
- Commercial — Office
- Commercial — Retail and Service
- Residential
- Institutional
- U — Utilities
- V — Vacant. Undeveloped
- A — Agriculture

Source: Yellowhead ASP-1983
District Planning Program
1984 Field Survey

PROGRAM...

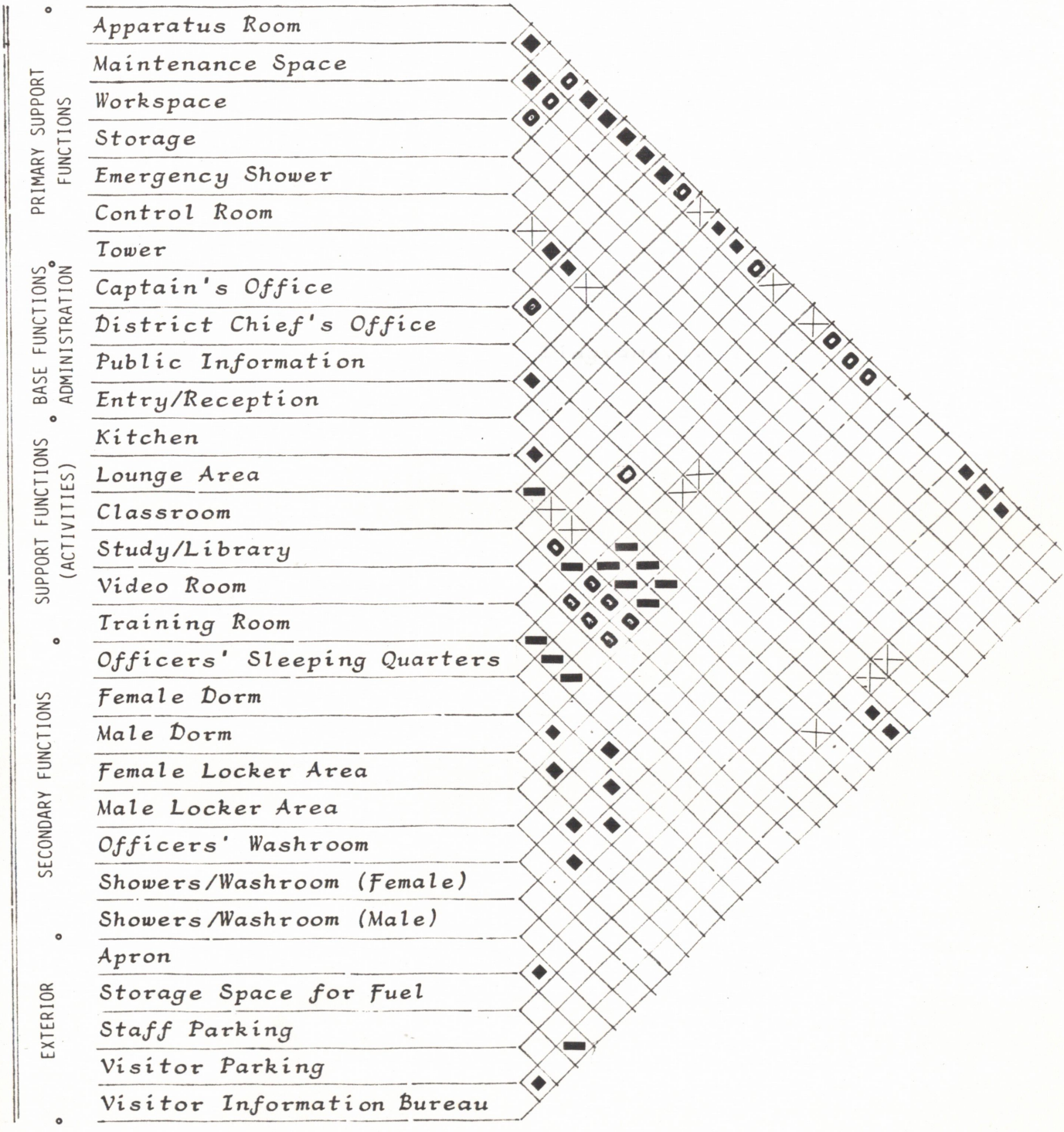
- Spatial Requirements
- Matrix
- Diagrams
- Zoning
- Programming

*Spatial Requirements...*

| | Sq.Ft. |
|---|---|
| **A. PRIMARY SUPPORT FUNCTIONS** | |
| Apparatus Room | 5,760 |
| Apron | |
| Storage Space for Fuel | |
| Workspace | 500 |
| Storage | 1,100 |
| Emergency Shower | 30 |
| Control Room | 430 |
| Tower | 670 |
| **B. BASE FUNCTIONS ADMINISTRATION** | |
| Captain's Office | 216 |
| District Chief's Office | 216 |
| Entry (Reception) | 60 |
| **C. SUPPORT FUNCTIONS (ACTIVITIES)** | |
| Kitchen | 750 |
| Lounge Area | 1,200 |
| Classroom | 612 |
| Study/Library | 612 |
| Video Room (Audio-Visual Center) | 612 |
| Training Room | 1,500 |
| Male Washroom | 95 |
| Female Washroom | 95 |
| **D. SECONDARY FUNCTIONS (PASSIVE)** | |
| Officers' Sleeping Quarters | 350 |
| Female Dorm (75 s.f./bed) | 700 |
| Male Dorm (75 s.f./bed) | 1,800 |
| Female Locker Area (4.25 lockers/bed) | 350 |
| Male Locker Area (4.25 lockers/bed) | 560 |
| Officers' Washroom | 150 |
| Showers/Washroom (Female) | 150 |
| Showers/Washroom (Male) | 480 |
| Subtotal | 18,326 |
| H.V.A.C. (5%) | 917 |
| Circulation (25%) | 5,502 |
| Parking | 9,600 |
| Firestation Total | 34,345 |

| | Sq.Ft. |
|---|---|
| VISITOR INFORMATION BUREAU -- PUBLIC INFORMATION..... | 1,400 |
| Male Washroom..... | 144 |
| Female Washroom..... | 144 |
| Parking..... | 2,000 |
| V.I.B. Total..... | 3,688 |
| Total..... | 38,033 |

*Matrix...*


PRIMARY SUPPORT FUNCTIONS
BASE FUNCTIONS ADMINISTRATION
SUPPORT FUNCTIONS (ACTIVITIES)
SECONDARY FUNCTIONS
EXTERIOR
Apparatus Room
Maintenance Space
Workspace
Storage
Emergency Shower
Control Room
Tower
Captain's Office
District Chief's Office
Public Information
Entry/Reception
Kitchen
Lounge Area
Classroom
Study/Library
Video Room
Training Room
Officers' Sleeping Quarters
Female Dorm
Male Dorm
Female Locker Area
Male Locker Area
Officers' Washroom
Showers/Washroom (Female)
Showers/Washroom (Male)
Apron
Storage Space for Fuel
Staff Parking
Visitor Parking
Visitor Information Bureau
very important
important
desirable
not critical
negative

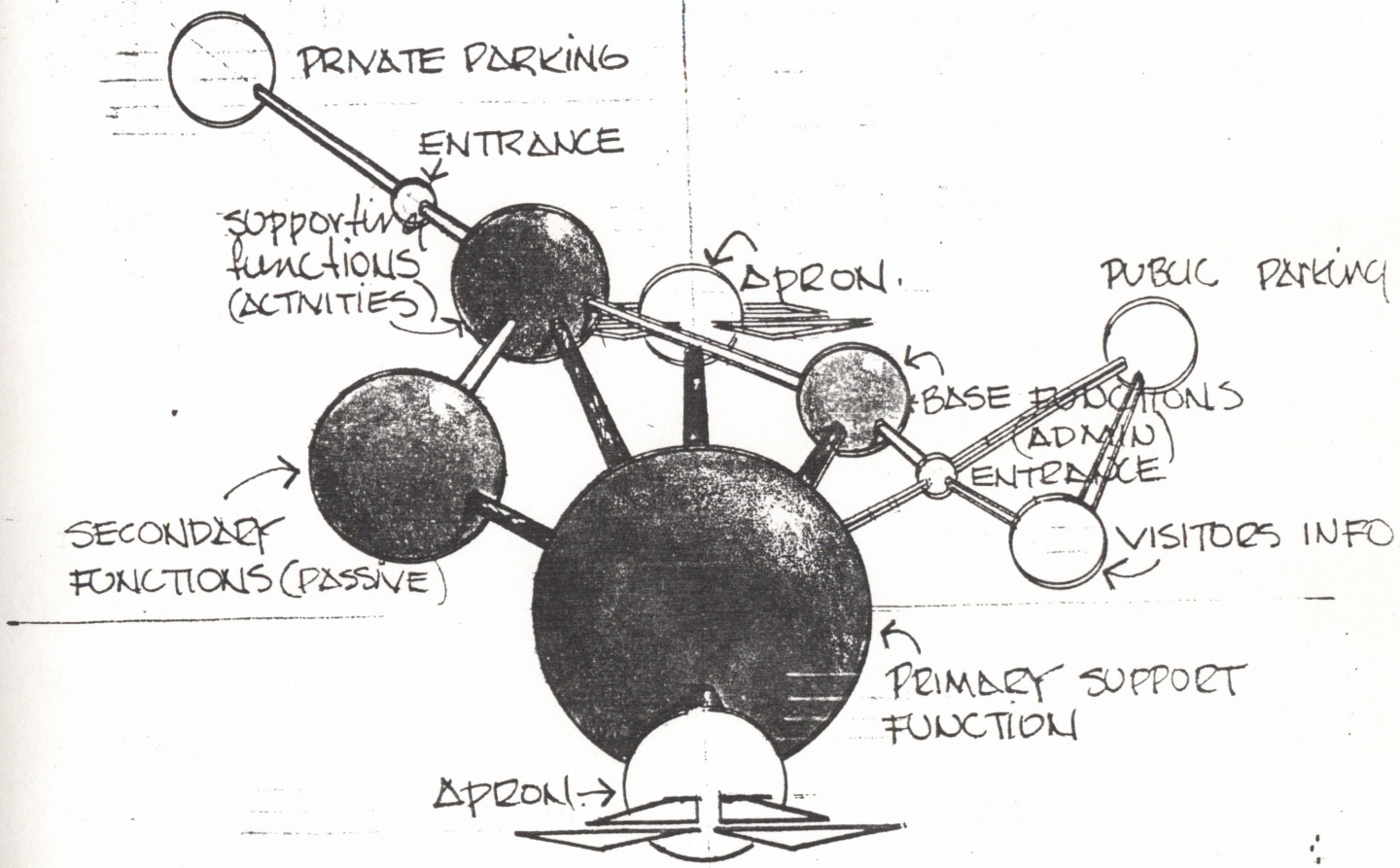
*Diagrams...*

PRIMARY SUPPORT FUNCTIONS:

BASE FUNCTIONS (ADMINISTRATION):

SUPPORTING FUNCTIONS (ACTIVITIES):

SECONDARY FUNCTIONS (PASSIVE):



## PRIMARY SUPPORT FUNCTIONS:

Apparatus Room

- Apron
- Storage space for fuel

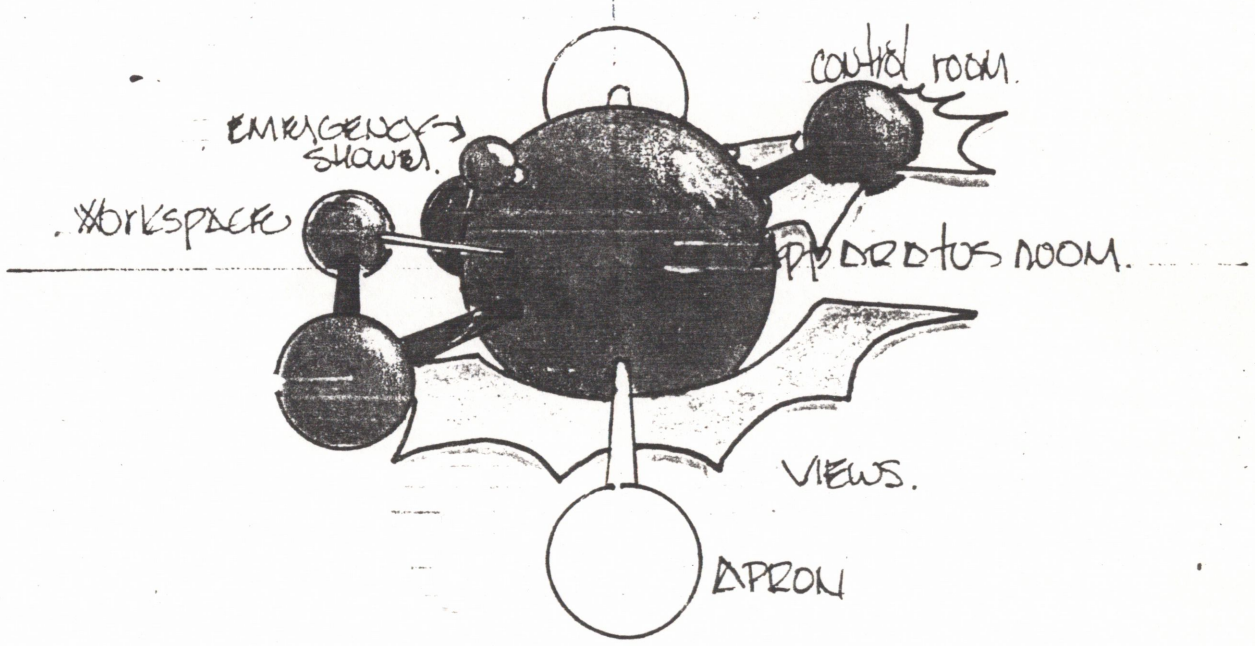
Workspace

Storage

Emergency Shower

Control Room

Tower




- CONTROL ROOM MUST HAVE CLEAR VIEW OF APPARATUS AREA.
- CONTROL ROOM, MAINTENANCE BAY, E.S., MUST HAVE DIRECT ACCESS TO APPARATUS AREA.
- APRON MUST HAVE A CLEAR UNOBSTRUCTED VIEW.

D

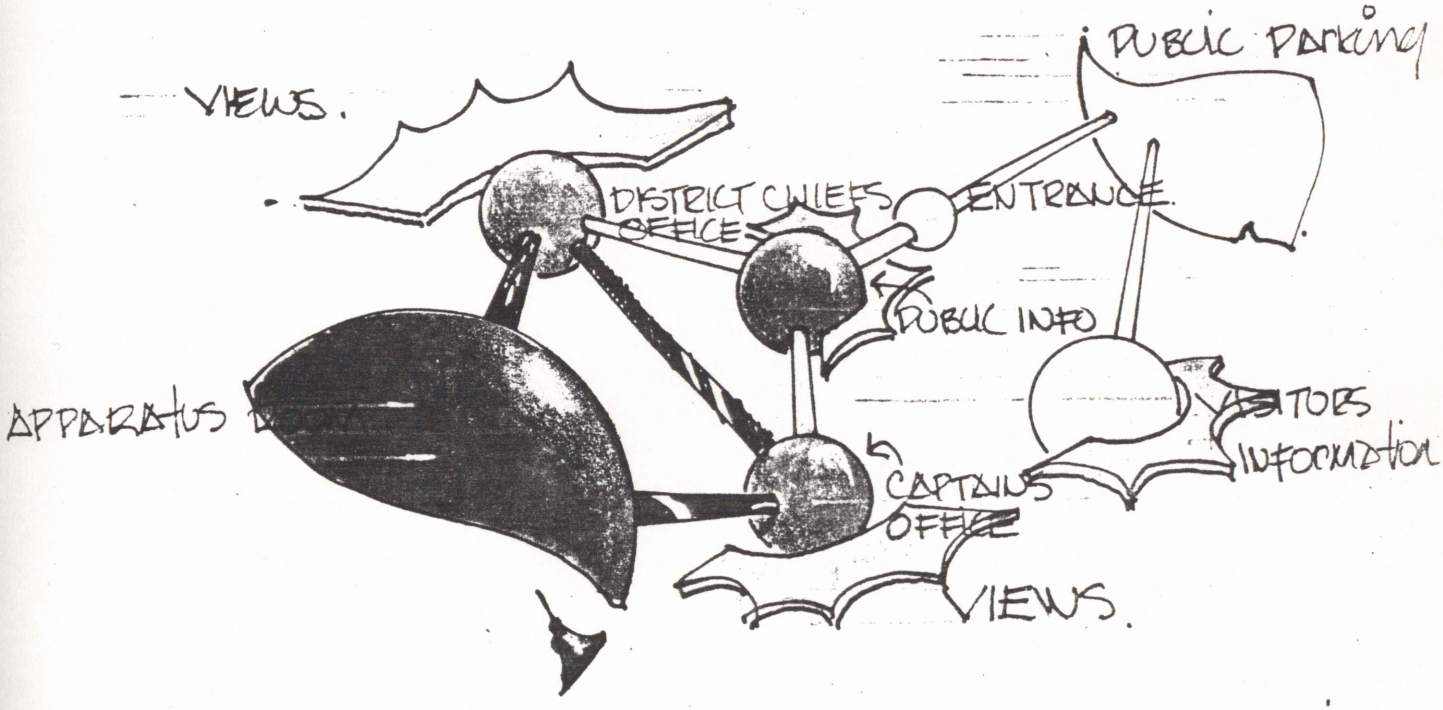
# BASE FUNCTIONS (ADMINISTRATION):

Captain's Office

District Chief's Office

Public Information

Entry/Reception




*DISTRICT Chiefs OFFICE, CAPTAINS OFFICE AND D.R MUST HAVE DIRECT ACCESS TO EACH OTHER.

## SUPPORTING FUNCTIONS (ACTIVITIES):

Kitchen

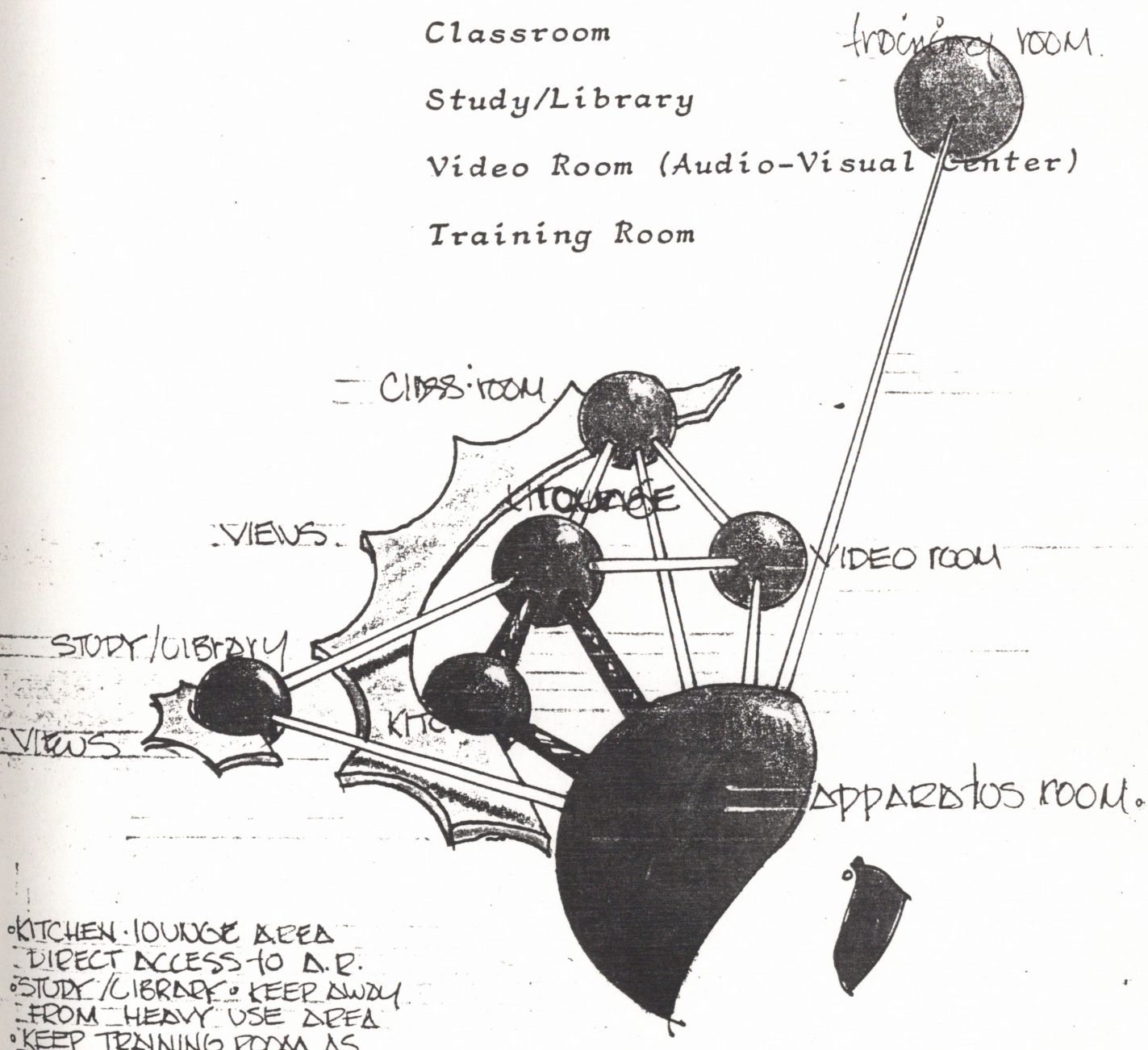
Lounge Area

Classroom

Study/Library

Video Room (Audio-Visual Center)

Training Room




- KITCHEN · LOUNGE AREA DIRECT ACCESS TO A.R.
- STUDY/LIBRARY · KEEP AWAY FROM HEAVY USE AREA
- KEEP TRAINING ROOM AS FAR AWAY FROM STUDY/LIB AS POSSIBLE

## SECONDARY FUNCTIONS (PASSIVE):

Officers' Sleeping Quarters

Female Dorm

Male Dorm

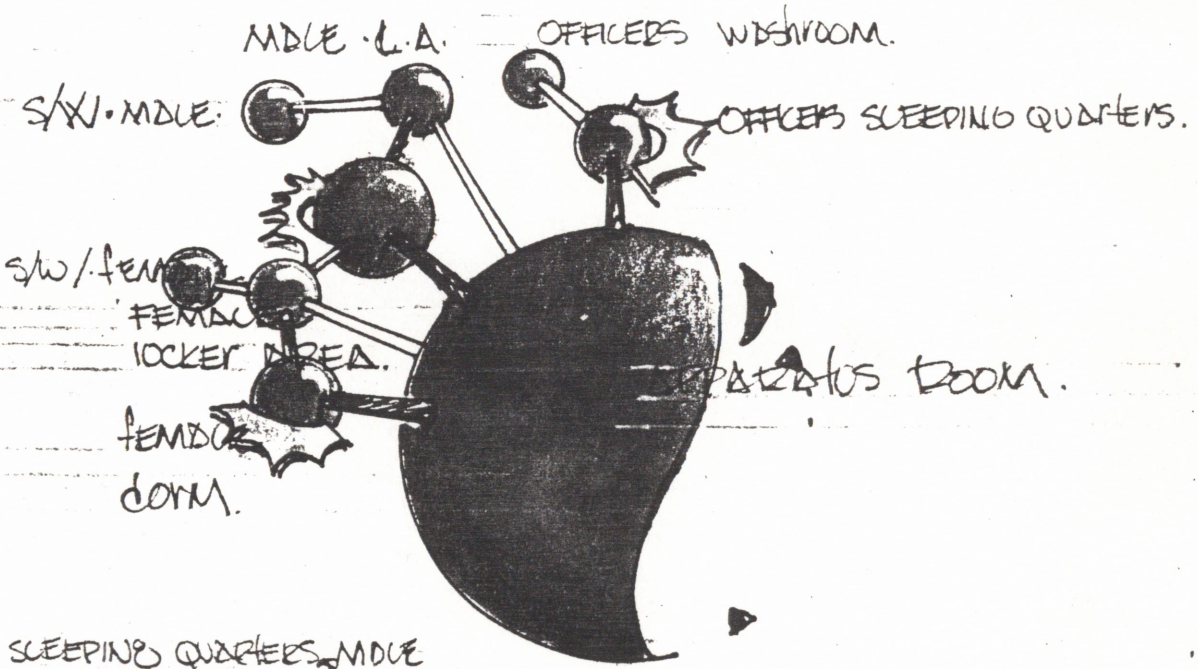
Female Locker Area

Male Locker Area

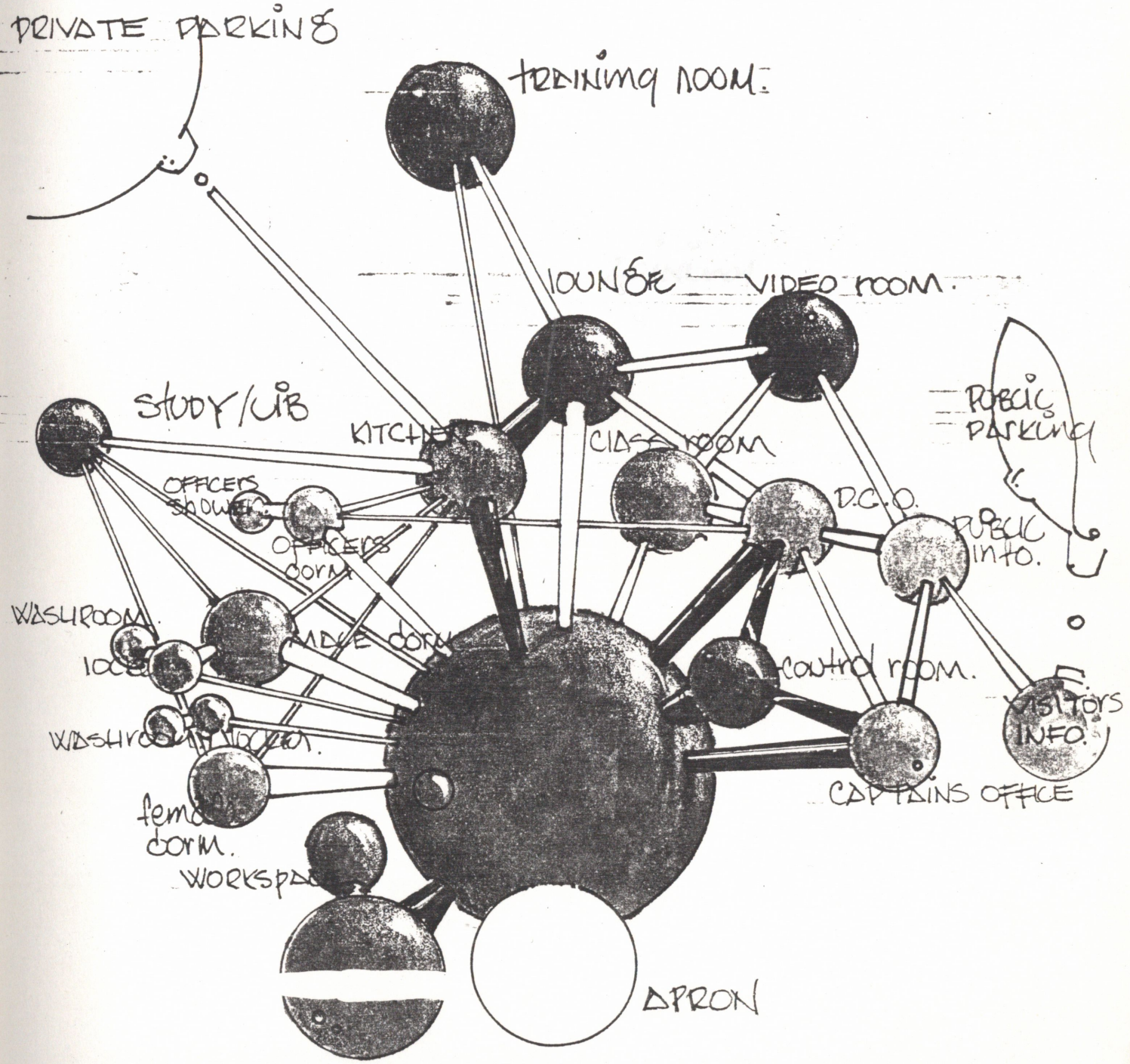
Officers' Washroom

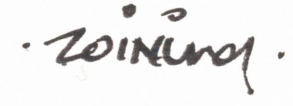
Showers/Washroom (female)

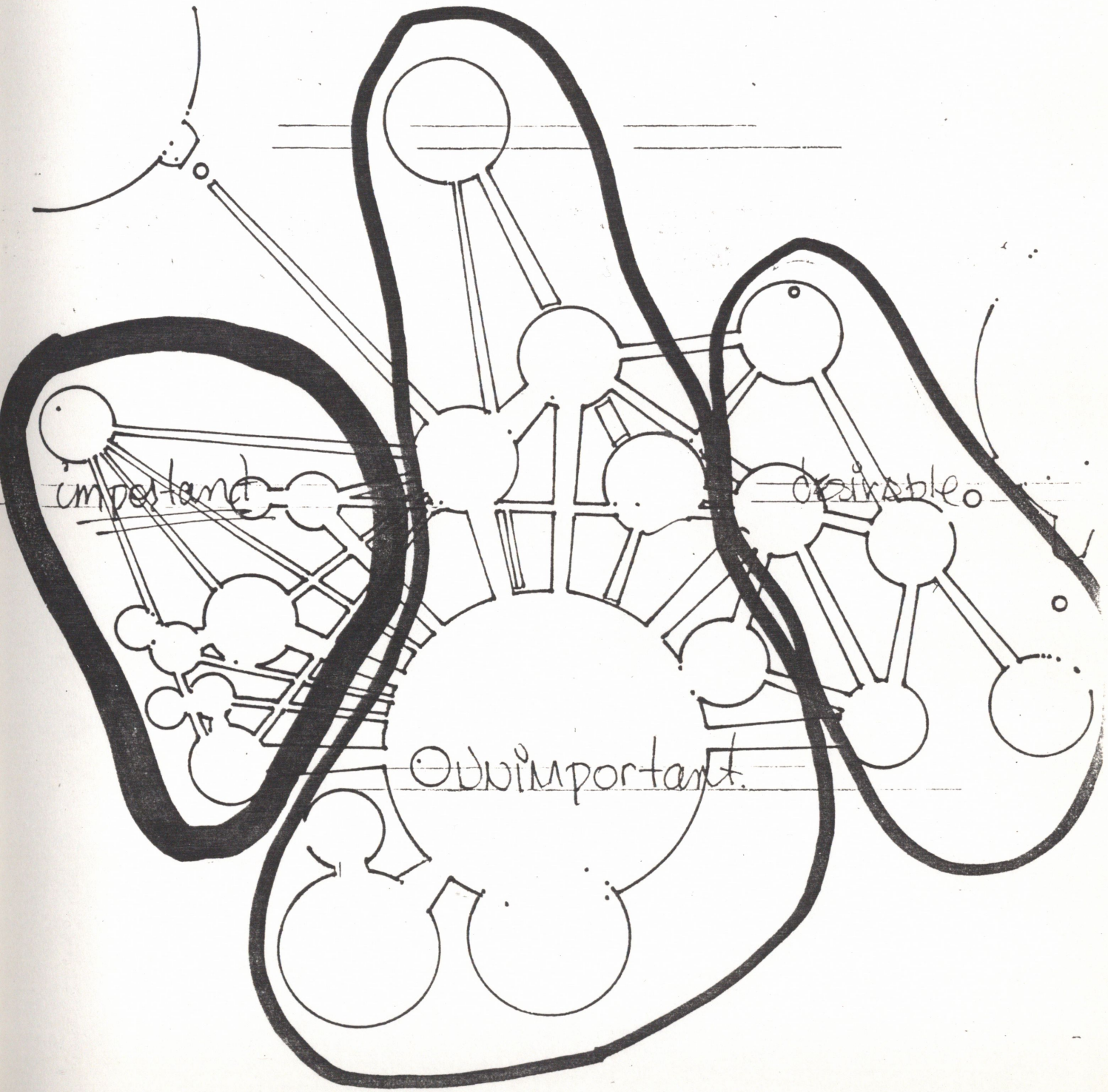
Showers/Washroom (male)

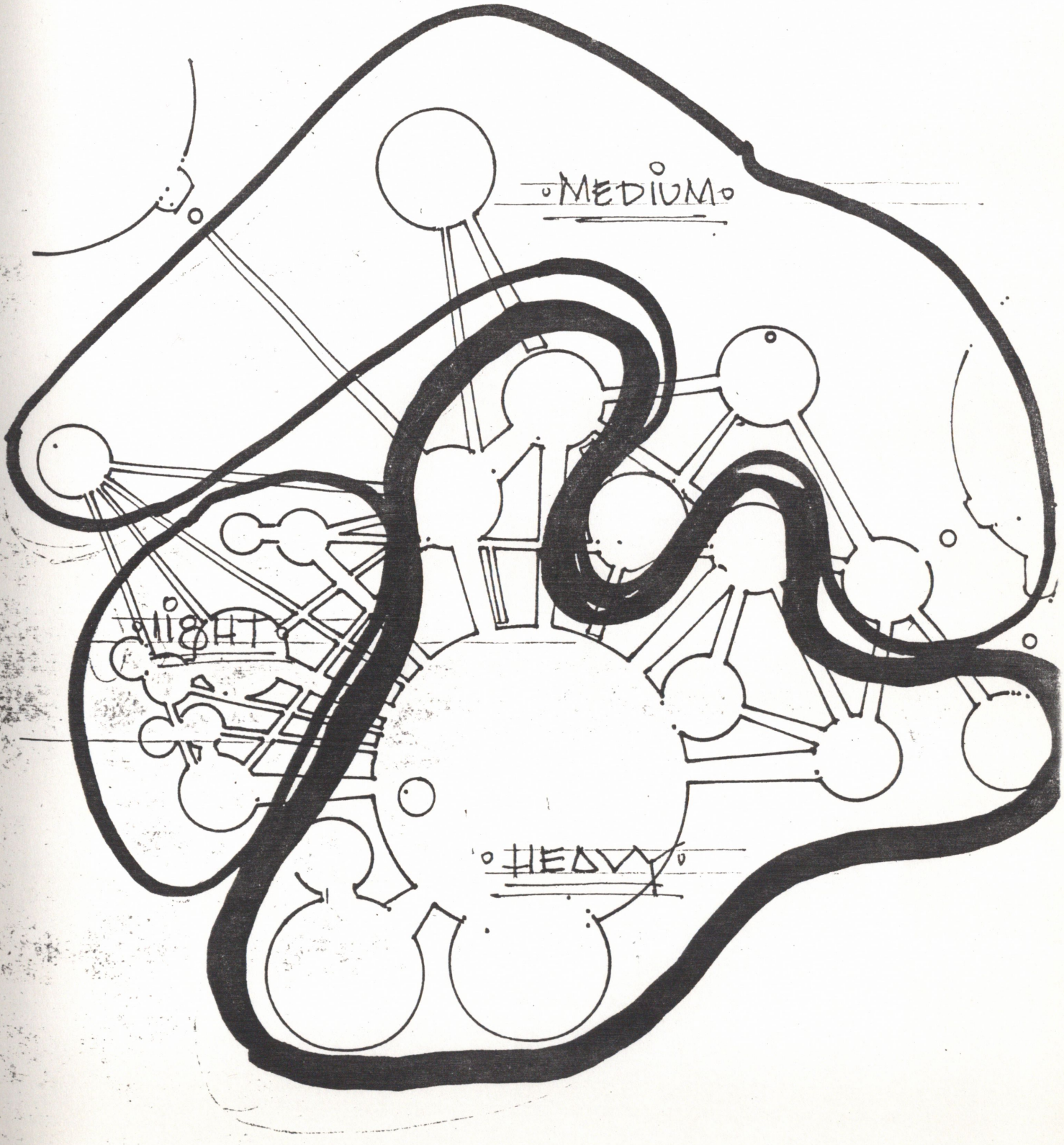


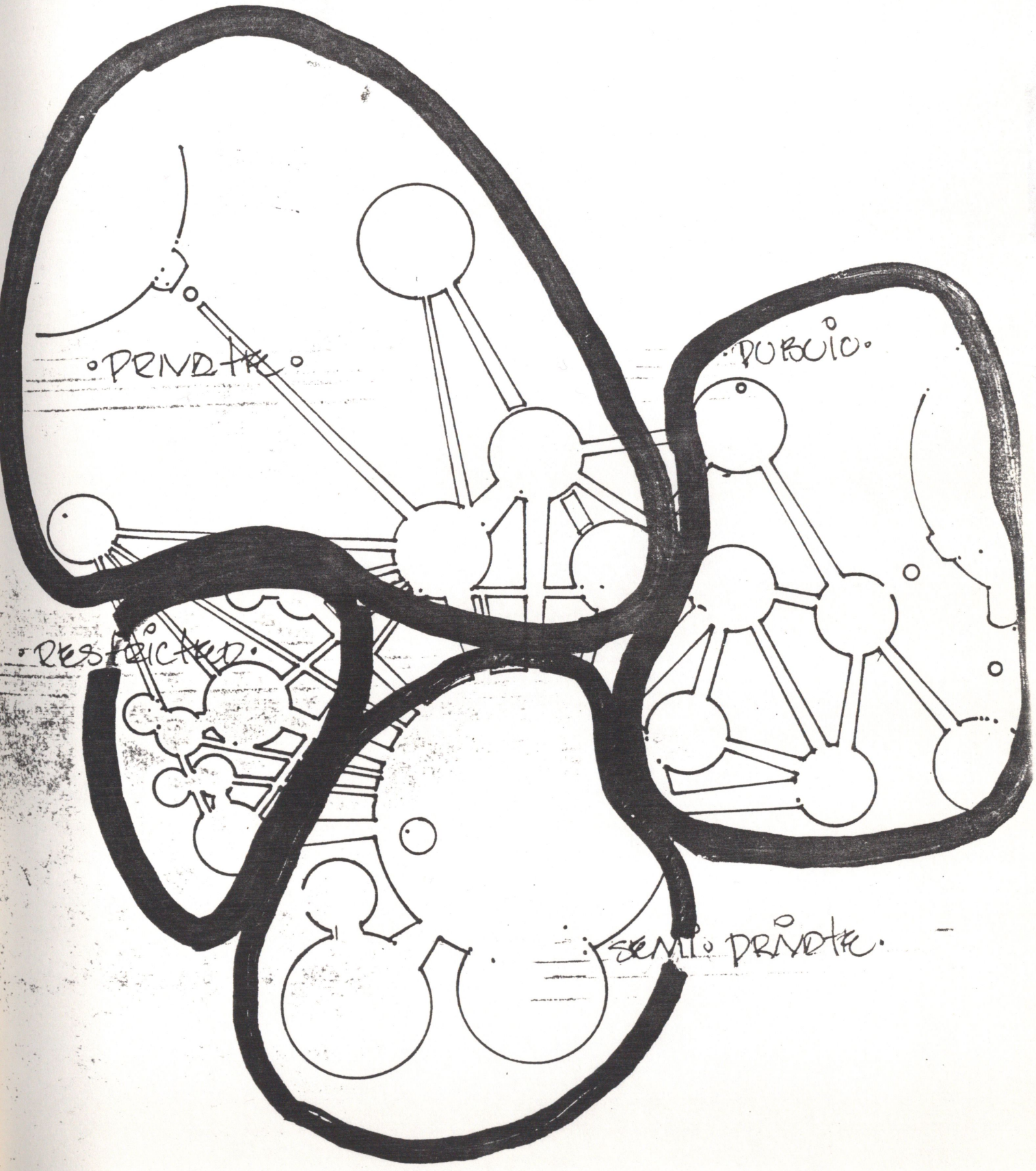

- OFFICERS SLEEPING QUARTERS, MALE DORM, FEMALE DORM, DIRECT ACCESS TO A.R.
- KEEP ALL PASSIVE AREAS FROM ALL OTHER NOISY AREAS.

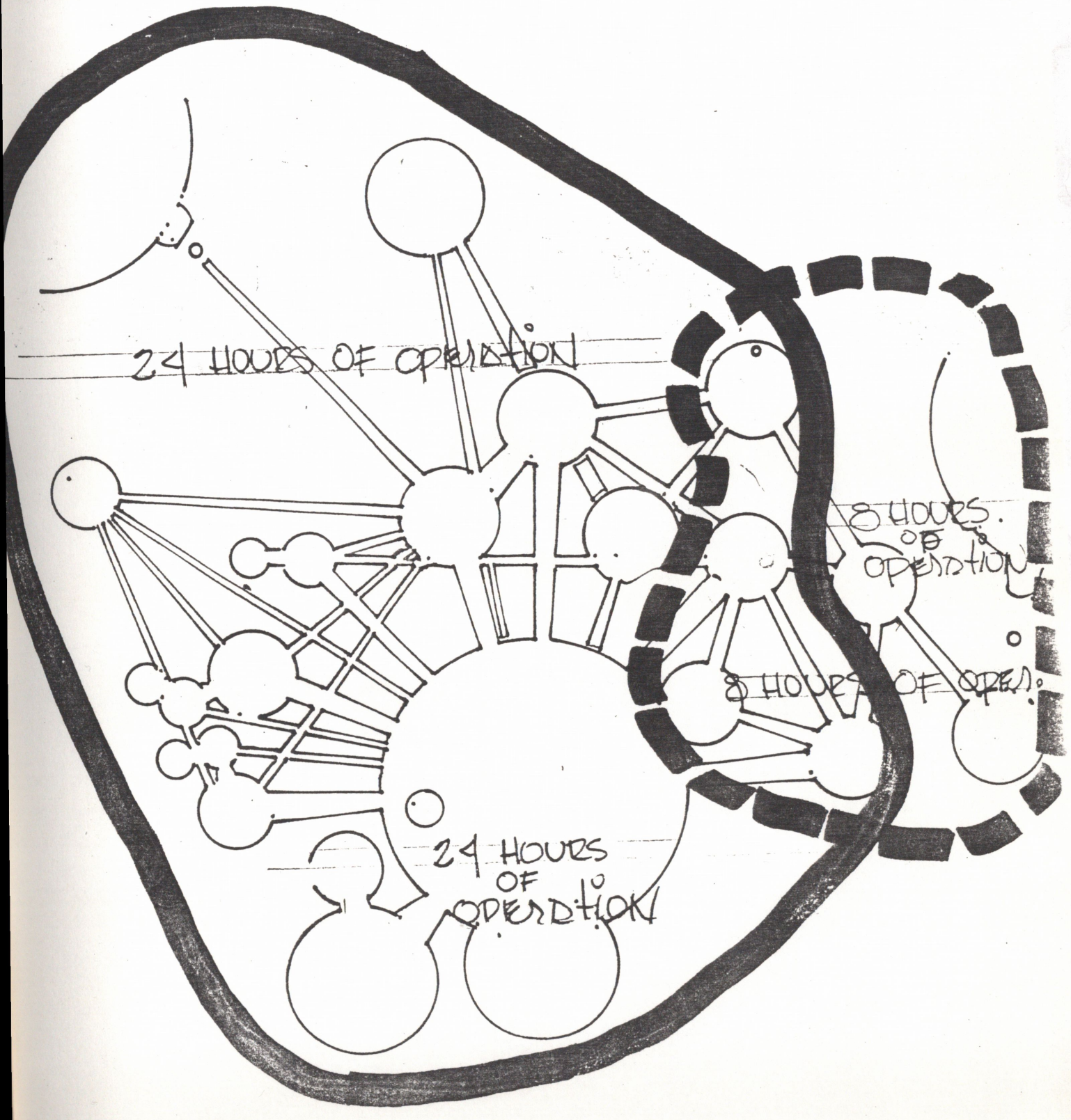

PRIVATE PARKING
training room.
lounge
VIDEO room.
STUDY/LIB
KITCHEN
CLASS room
PUBLIC PARKING
OFFICERS SHOWER
OFFICERS dorm
D.C.O.
PUBLIC info.
WASHROOM.
MALE dorm
control room.
VISITORS INFO.
CAPTAINS OFFICE
female dorm.
APRON

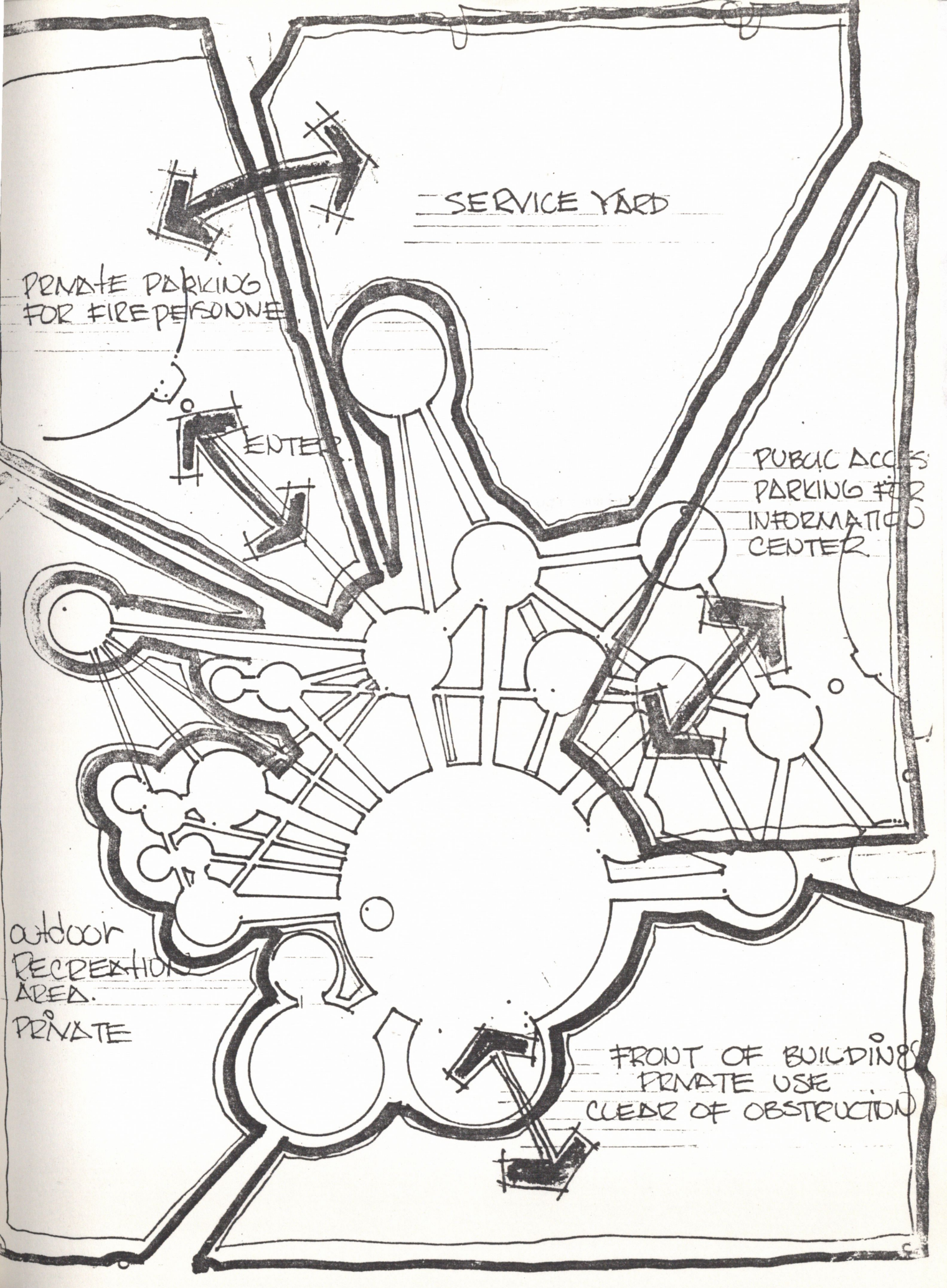



important
desirable
unimportant.


MEDIUM
LIGHT
HEAVY


PRIVATE
PUBLIC
RESTRICTED
SEMI-PRIVATE


24 HOURS OF OPERATION
8 HOURS OF OPERATION
24 HOURS OF OPERATION


SERVICE YARD
PRIVATE PARKING FOR FIRE PERSONNEL
ENTER
PUBLIC ACCESS PARKING FOR INFORMATION CENTER
outdoor RECREATION AREA. PRIVATE
FRONT OF BUILDING PRIVATE USE CLEAR OF OBSTRUCTION

# Programming

SPACE
NET AREA REQUIRED
SPATIAL RELATIONSHIPS
PARTICIPANTS
ACTIVITIES
SERVICES
- Water
- Sewer
- Power
- Telephone
- Special P.A. System

ENVIRONMENTAL CONTROL
- Heating
- Ventilation
- Air-conditioning

ILLUMINATION
- Fluorescent Light
- Incandescent Light
- Task Illumination
- Direct Light
- Natural Light

NOISE CONTROL
- Important
- Desirable
- Unimportant

ZONE
- Restricted
- Private
- Semi-private
- Public

TRAFFIC
- Low
- Medium
- Heavy

VIEW OUT
- Important
- Desirable
- Unimportant

CEILING HEIGHT
- Low
- Normal
- High

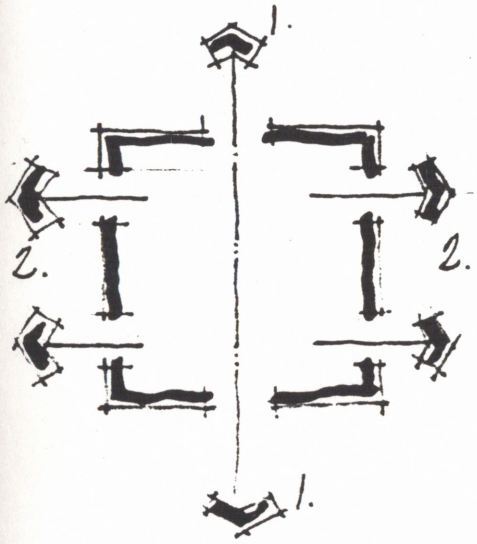
DESIGN REQUIREMENTS
FURNISHINGS AND EQUIPMENT

SPACE:

Apparatus Room

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 5760 s.f. | | 5760 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to outside
2. Direct access from all areas

PARTICIPANTS:

Fire personnel
Captains
District Chief

ACTIVITIES:

Responding to alarms
Maintenance
Loading/unloading
Parking

NOTES:

SERVICES:

Special P.A. system
Water, sewer
Power

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Direct Light
Natural Light

NOISE CONTROL:

Unimportant

ZONE:

Semi-private

TRAFFIC:

Heavy

VIEW OUT:

Important

CEILING HEIGHT:

High, 20'

DESIGN REQUIREMENTS:

Free of obstacles.

Easily cleanable floor.

Floor should be of concrete slab construction w/care taken to avoid a slick finish.

Floor 6" lower than rest of area.

Air entrained concrete should be used to avoid snow damage.

Stations require a minimum width of 20'/bay, and a maximum depth of 80'.

Overhead doors open vertically; should be able to raise manually in case of power failure.

FURNISHING AND EQUIPMENT:

Coat racks for personnel
Equipment racks
Overhead exhaust system
Overhead doors, 16' x 14'
Drainage system with sump pump

NOTES:

The Apparatus Room will house:

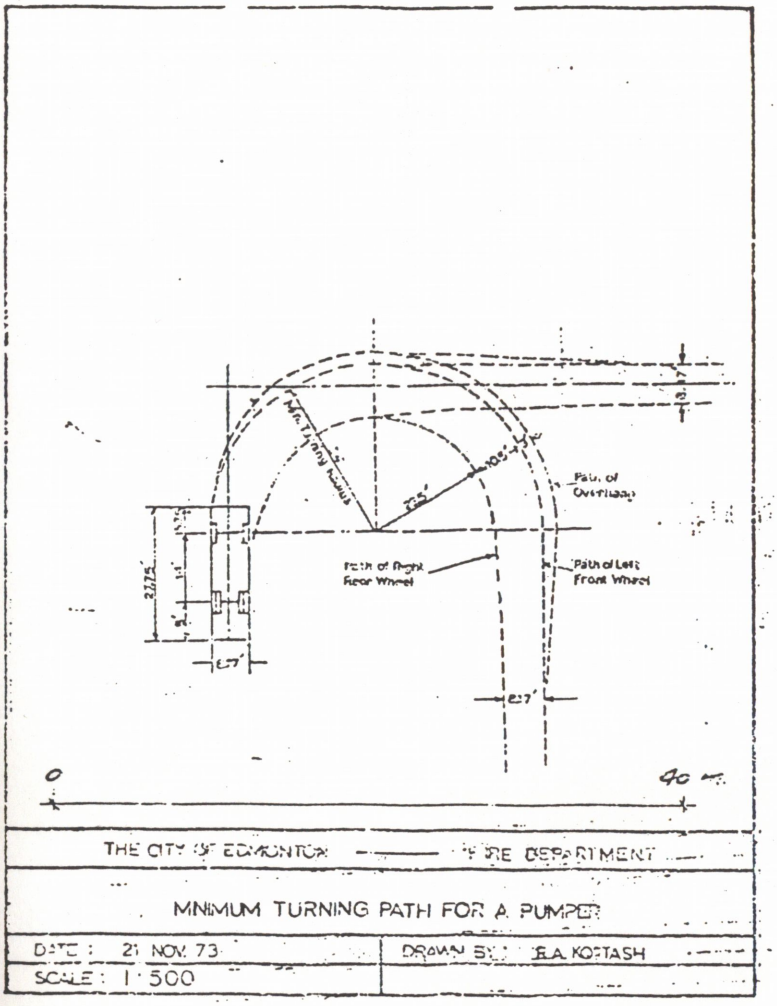
- one emergency truck
- one pumper truck
- one tanker truck

With expansion to include:

- one District Chief car
- one emergency truck
- one aerial truck
- one pumper truck
- one tanker truck
- one salvage truck

# FIRE TRUCKS

30.9



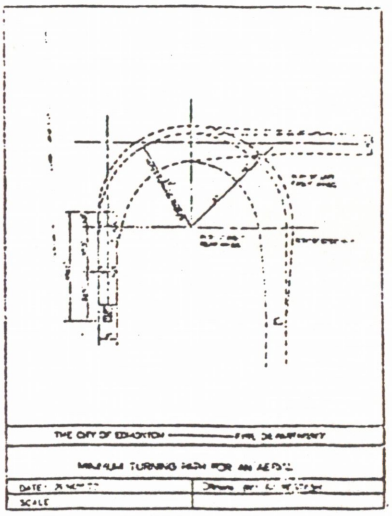

THE CITY OF EDMONTON ——— FIRE DEPARTMENT

MNIMUM TURNING PATH FOR A PUMPER

DATE : 21 NOV. 73 | DRAWN BY : B.A. KOSTASH

SCALE : 1 : 500

1 : 1000

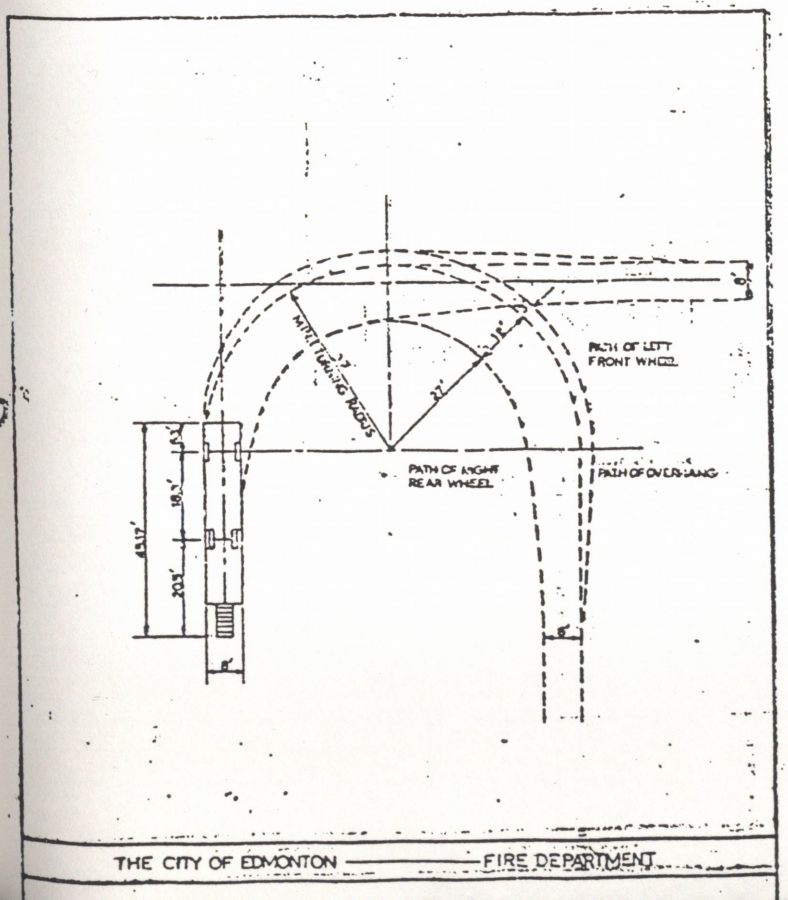


THE CITY OF EDMONTON ——— FIRE DEPARTMENT

MINIMUM TURNING PATH FOR AN AERIAL

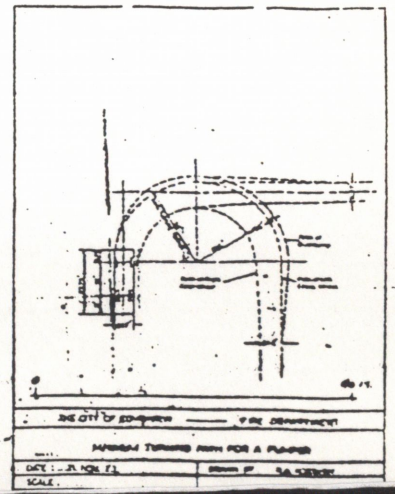
DATE :

SCALE :




THE CITY OF EDMONTON ——— FIRE DEPARTMENT

1 : 1000



THE CITY OF EDMONTON ——— FIRE DEPARTMENT

MINIMUM TURNING PATH FOR A PUMPER

DATE : 21 NOV. 73 | DRAWN BY : B.A. KOSTASH

SCALE :

SERVICES:

Special P.A. system
Water/sewer
Power

DESIGN REQUIREMENTS:

Easily cleanable floor
Free of obstacles

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

FLuorescent Light
Task Illumination

FURNISHING AND EQUIPMENT:

Heavy-duty shelves, racks
Workbench area
Storage space for welder
Slop sink with sump pump
Air compressor

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Heavy

VIEW OUT:

Unimportant

CEILING HEIGHT:

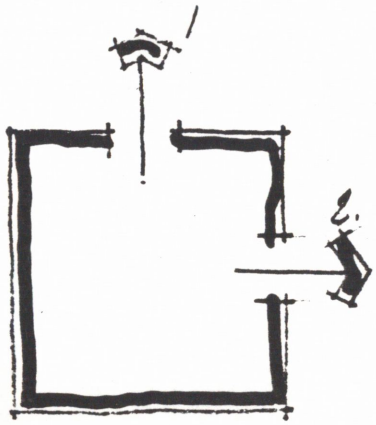
Normal to high, 8' to 20'

SPACE:

Work Space

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 500 s.f. | | 500 s.f. |




SPATIAL RELATIONSHIPS:

1. Directly adjacent to apparatus bay
2. Access to storage area

PARTICIPANTS:

Fire personnel

ACTIVITIES:

General maintenance

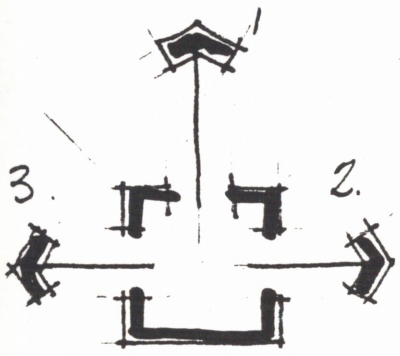
NOTES:

SPACE:

Storage

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 1100 s.f. | | 1100 s.f. |




SPATIAL RELATIONSHIPS:

1. Accessible from A.R.
2. Access to Work Space

PARTICIPANTS:

Fire personnel

ACTIVITIES:

Storing, retrieving tools/equipment

NOTES:

SERVICES:

Power

DESIGN REQUIREMENTS:

Floor should be easily cleanable.

ENVIRONMENTAL CONTROL:

Heating

ILLUMINATION:

Incandescent Light

FURNISHING AND EQUIPMENT:

Tools
Lawn mowers
Snow clearing equipment
Lost bicycles
Space for welder, compressor

NOISE CONTROL:

Unimportant

ZONE:

Restricted

NOTES:

TRAFFIC:

Low

VIEW OUT:

Unimportant

CEILING HEIGHT:

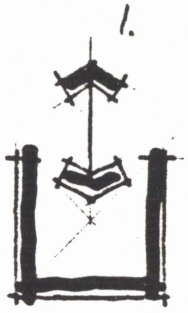
Normal, 8'

SPACE:

Emergency Shower

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 30 s.f. | | 30 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to/from apparatus room

PARTICIPANTS:

Fire fighters

ACTIVITIES:

Taking emergency showers

NOTES:

SERVICES:

Water, sewer
Power

DESIGN REQUIREMENTS:

Floor and wall should be waterproof.

ENVIRONMENTAL CONTROL:

N.A.

ILLUMINATION:

FLuorescent Light

FURNISHING AND EQUIPMENT:

Two showers

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Low

VIEW OUT:

Unimportant

CEILING HEIGHT:

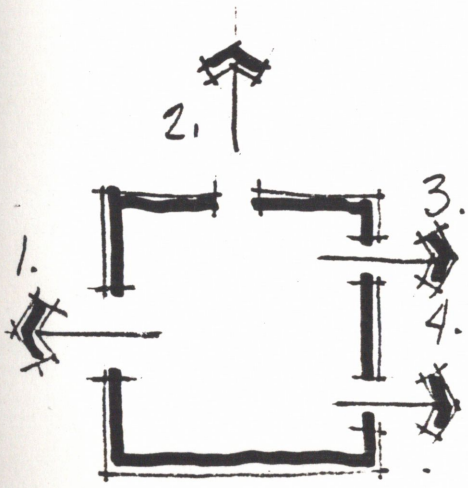
Normal, 8'

SPACE:

Control Room

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 430 s.f. | | 430 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to apparatus room
2. Close to entrance
3. Direct access to District Chief's office
4. Direct access to Captain's office

PARTICIPANTS:

Fire personnel
Captains
District Chief

ACTIVITIES:

Responding to incoming calls
Controlling overhead doors
Responding to P.A. system

NOTES:

One person per shift will be assigned to take charge of this area.

SERVICES:

Special P.A. system
Power
Telephone

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination
Direct Light
Natural Light

NOISE CONTROL:

Important

ZONE:

Restricted

TRAFFIC:

Low

VIEW OUT:

Important

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Control Room should have clear visual access to the A.R.

Glass panels should be used as much as possible.

Area should be as soundproof as possible.

FURNISHING AND EQUIPMENT:

Communication system

Desk arrangement with space for maps, schedules, and instructions

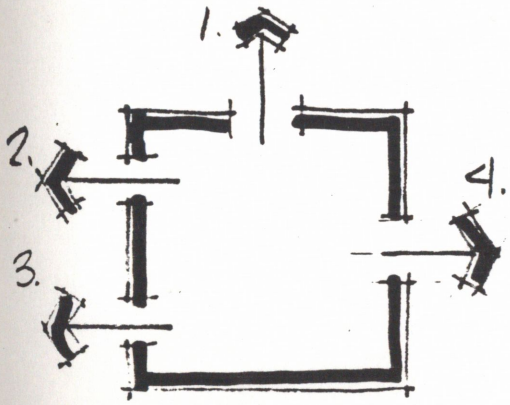
NOTES:

SPACE:

Captain's Office

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 216 s.f. | | 216 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to apparatus room
2. Direct access to to control room
3. Close to District Chief's office
4. Close to officers' dorm

PARTICIPANTS:

One captain per shift
Fire personnel
Visitors

ACTIVITIES:

Responding to P.A. system
Receiving visitors
Supervising
Writing reports
Telephone/typing
Planning schedule

NOTES:

Both senior and juniot captains share one office space.

SERVICES:

Special P.A. system
Power
Telephone

DESIGN REQUIREMENTS:

Provide for visual and acoustic privacy

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination
Direct Light
Natural Light

FURNISHING AND EQUIPMENT:

One desk
One arm chair
Two chairs
Filing cabinet
Bookshelves
Bulletin boards

NOISE CONTROL:

Desirable

ZONE:

Private

NOTES:

TRAFFIC:

Low

VIEW OUT:

Desirable

CEILING HEIGHT:

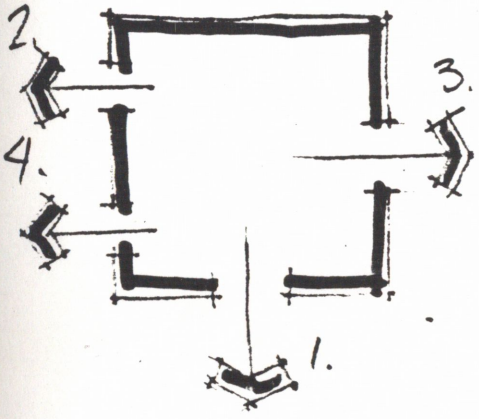
Normal, 8'

SPACE:

District Chief's Office

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 216 s.f. | | 216 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to apparatus room
2. Close to Captain's office
3. Close to officers' dorm
4. Direct access to control room

PARTICIPANTS:

District Chief
Fire personnel

ACTIVITIES:

Responding to P.A. system
Reports (written)
Supervising

NOTES:

SERVICES:

Special P.A. system
Power
Telephone

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination
Direct Light
Natural Light

NOISE CONTROL:

Desirable

ZONE:

Private

TRAFFIC:

Low

VIEW OUT:

Desirable

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Floor should be carpeted.

Provide for visual and acoustical privacy.

FURNISHING AND EQUIPMENT:

One arm chair
One desk
Filing cabinets
Bookcases
Storage

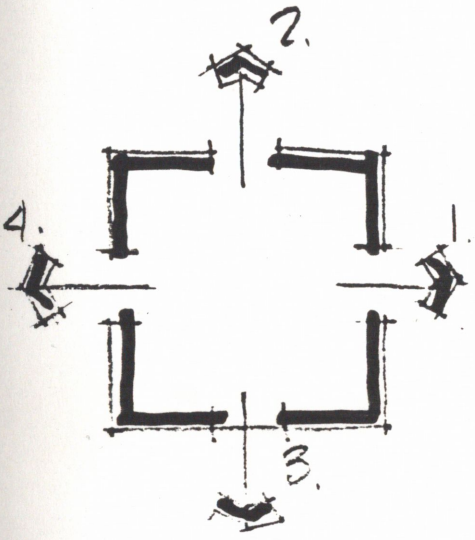
NOTES:

SPACE:

Kitchen

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 750 s.f. | | 750 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to apparatus room
2. Direct access to lounge area
3. Accessible to dorms
4. Access from private parking

PARTICIPANTS:

Fire personnel
Captains
District Chief

ACTIVITIES:

Responding to P.A. system
Cooking/eating
Coffee breaks

NOTES:

SERVICES:

Special P.A. system
Water, sewer
Power

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination
Incandescent Light
Natural Light

NOISE CONTROL:

Unimportant

ZONE:

Semi-private

TRAFFIC:

Heavy

VIEW OUT:

Important

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Emphasize rounded corners and eliminate tight crevices that hide dirt and are hard to clean.

Seating should be arranged to encourage conversation.

FURNISHING AND EQUIPMENT:

One electric stove
One refrigerator
One dishwasher
Double sink w/garbage disposal
Metal cupboards
Bulletin boards
Tables/chairs

NOTES:

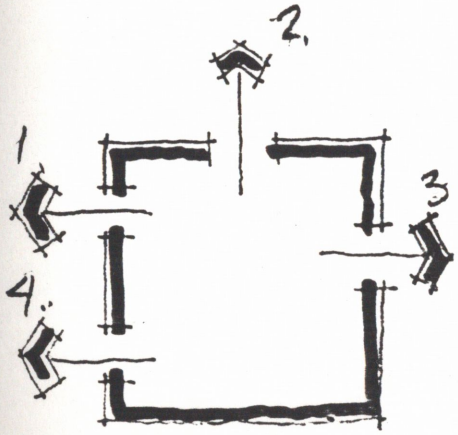
Cleanliness and good hygiene are essential to living in a closed-cycle environment.

SPACE:

Lounge Area

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 1200 s.f. | | 1200 s.f. |




SPATIAL RELATIONSHIPS:

1. Access to A.R.
2. Access to kitchen
3. Close to video room
4. Accessible to offices

PARTICIPANTS:

Fire personnel
Captains
District Chief

ACTIVITIES:

Responding to P.A. system
Relaxing
Conversation
Reading
Watching TV

NOTES:

SERVICES:

Special P.A. system
Power
Telephone

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination
Incandescent Light
Natural Light

NOISE CONTROL:

Desirable

ZONE:

Public

TRAFFIC:

Heavy

VIEW OUT:

Important

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Floor should be carpeted.

Provision of a friendly atmosphere to encourage interaction.

Comfortable seating.

FURNISHING AND EQUIPMENT:

Lounging chairs
TV set
Shelves
Storage

NOTES:

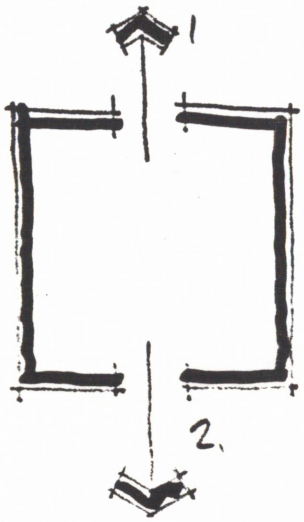
Lounge area should be as far away from dorm as possible to prevent noise intrusion.

SPACE:

Study/Library

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 612 s.f. | | 612 s.f. |




SPATIAL RELATIONSHIPS:

1. Accessible to A.R.
2. Close to dorm room

PARTICIPANTS:

Fire personnel
Captains
District Chief

ACTIVITIES:

Reading
Studying
Relaxing

NOTES:

SERVICES:

Special P.A. system
Power

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Task Illumination

NOISE CONTROL:

Important

ZONE:

Private

TRAFFIC:

Low

VIEW OUT:

Desirable

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Floor should be carpeted to reduce noise.

Task lighting for study.

Comfortable seating.

FURNISHING AND EQUIPMENT:

Desks or study carrels
Shelves for books
Storage
Bulletin boards

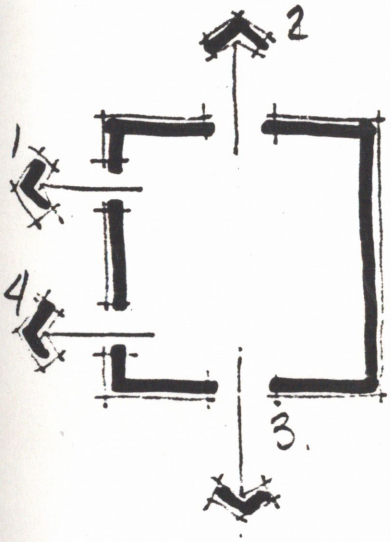
NOTES:

SPACE:

Audio Visual Center

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 612 s.f. | | 612 s.f. |




SPATIAL RELATIONSHIPS:

1. Access to apparatus room
2. Access to lounge
3. Access to public information
4. Access to control room

PARTICIPANTS:

Fire personnel
Public

ACTIVITIES:

Studying films
Discussion
Relaxing

NOTES:

SERVICES:

Special P.A. system
Power
Telephone

DESIGN REQUIREMENTS:

Floor should be carpeted to reduce noise.

Comfortable seating.

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

FLuorescent Light

FURNISHING AND EQUIPMENT:

Chairs
TV set and VCR
Storage for videos
Shelves
Bulletin boards

NOISE CONTROL:

Important

ZONE:

Semi-private

NOTES:

TRAFFIC:

Medium

VIEW OUT:

Unimportant

CEILING HEIGHT:

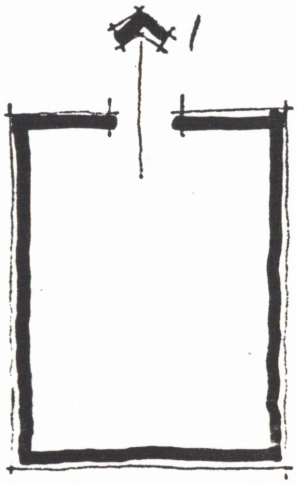
Normal, 8'

SPACE:

Training Room

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 1500 s.f. | | 1500 s.f. |



SPATIAL RELATIONSHIPS:

1. Close to apparatus room

As far away as possible from other living areas

PARTICIPANTS:

Fire personnel

ACTIVITIES:

Working out
Relieving stress

NOTES:

SERVICES:

Special P.A. system
Power

DESIGN REQUIREMENTS:

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Direct Light

FURNISHING AND EQUIPMENT:

Possible racquetball courts
Weights
Free machine
Table tennis

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Medium

Due to high-stress occupation, it is important to maintain physical and mental health.

VIEW OUT:

Undesirable

CEILING HEIGHT:

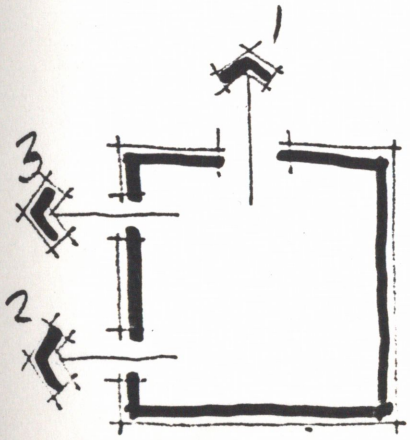
Normal to high, 8' to 10'

SPACE:

Officers' Sleeping Quarters

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 350 s.f. | | 350 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to officers' W.R.
2. Accessible to A.R.
3. Close to office

   As far away from recreational area as possible.

PARTICIPANTS:

District Chief
Senior Captain
Junior Captain

ACTIVITIES:

Responding to P.A.
Sleeping
Resting
Reading
Changing clothes
Relaxing

NOTES:

SERVICES:

Special P.A. system
Power
Telephone

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Incandescent Light
Direct Light
Task Illumination
Natural Light

NOISE CONTROL:

Important

ZONE:

Private

TRAFFIC:

Low

VIEW OUT:

Desirable

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Should be arranged to suit individual preference.

Floor should be carpeted.

Heavy drapes should be used to block out daylight for daytime sleeping if necessary.

FURNISHING AND EQUIPMENT:

Four single beds
Individual night lights
Private storage space
Seventeen lockers

NOTES:

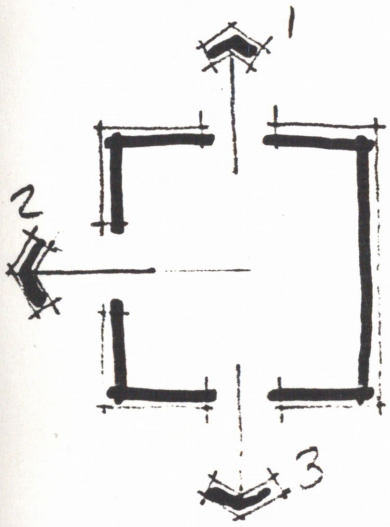
4.25 lockers per bed
85 s.f. per bed

SPACE:

Firepersons' Dorm (Female)

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 700 s.f. | | 700 s.f. |




SPATIAL RELATIONSHIPS:

1. Accessible to A.R.
2. Direct access to washrooms/showers
3. Close to study area

PARTICIPANTS:

Female fire personnel

ACTIVITIES:

Responding to P.A.
Sleeping
Reading
Quiet conversation
Relaxing

NOTES:

SERVICES:

Special P.A. system
Power

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Incandescent Light
Direct Light
Task Illumination
Natural Light

NOISE CONTROL:

Important

ZONE:

Private

TRAFFIC:

Heavy

VIEW OUT:

Desirable

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Provision for visual privacy.

Carpeted to reduce noise.

Provide for a quiet, warm, cheerful environment.

Circulation path should be cleared at all times.

FURNISHING AND EQUIPMENT:

Seven single beds
Individual reading lights

NOTES:

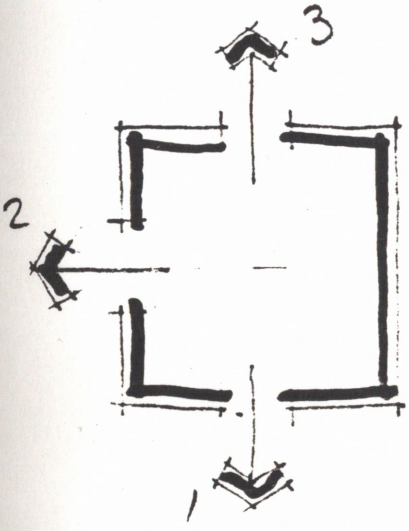
75 s.f. per bed

SPACE:

Firepersons' Dorm (Male)

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 1800 s.f. | | 1800 s.f. |




SPATIAL RELATIONSHIPS:

1. Accessible to A.R.
2. Direct access to washrooms/showers
3. Close to study area

PARTICIPANTS:

Male fire personnel

16 per shift, 2-bay
21 per shift, 3-bay

ACTIVITIES:

Responding to P.A.
Sleeping
Reading
Quiet conversation
Relaxing

NOTES:

SERVICES:

Special P.A. system
Power

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Incandescent Light
Direct Light
Task Illumination
Natural Light

NOISE CONTROL:

Important

ZONE:

Private

TRAFFIC:

Heavy

VIEW OUT:

Desirable

CEILING HEIGHT:

Normal, 8'

DESIGN REQUIREMENTS:

Provision for visual privacy.

Carpeted to reduce noise.

Provide for a quiet, warm, cheerful environment.

Circulation path should be cleared at all times.

FURNISHING AND EQUIPMENT:

Twenty-one single beds
Individual reading lights

NOTES:

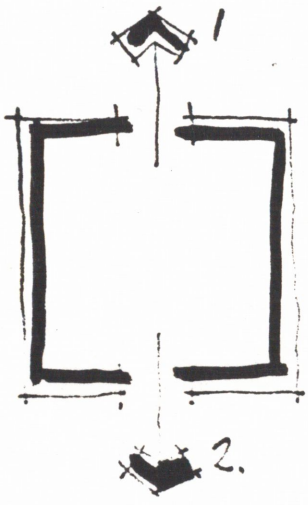
75 s.f. per bed

SPACE:

Female Locker Area

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 350 s.f. | | 350 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to female dorm and showers
2. Access to A.R.

PARTICIPANTS:

Female fire personnel

ACTIVITIES:

Changing clothes
Using lockers

NOTES:

4.25 lockers per bed

SERVICES:

Power
Special P.A. system

DESIGN REQUIREMENTS:

Carpeted to reduce noise

Circulation path should be cleared at all times

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Direct Light

FURNISHING AND EQUIPMENT:

Lockers
Mirrors
Benches

NOISE CONTROL:

Desirable

ZONE:

Private

NOTES:

TRAFFIC:

Medium

VIEW OUT:

Desirable

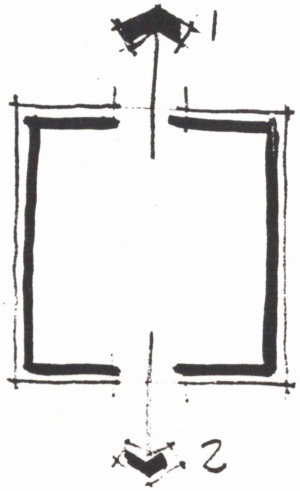
CEILING HEIGHT:

Normal, 8'0"

SPACE:
Male Locker Area

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 560 s.f. | | 560 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to male shower and dorm
2. Access to A.R.

PARTICIPANTS:

Male fire personnel

ACTIVITIES:

Changing clothes
Using lockers

NOTES:

4.25 lockers per bed

SERVICES:

Power
Special P.A. system

DESIGN REQUIREMENTS:

Carpeted to reduce noise

Circulation path should be cleared at all times

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

Fluorescent Light
Direct Light

FURNISHING AND EQUIPMENT:

Lockers
Mirrors
Benches

NOISE CONTROL:

Desirable

ZONE:

Private

NOTES:

TRAFFIC:

Moderate

VIEW OUT:

Desirable

CEILING HEIGHT:

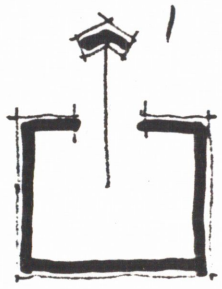
Normal, 8'0"

SPACE:

Officers' Washroom

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 150 s.f. | | 150 s.f. |



SPATIAL RELATIONSHIPS:

1. Direct access from officers' dorm

PARTICIPANTS:

Officers

ACTIVITIES:

Responding to P.A.
Showering
Personal hygiene
Shaving
Handwashing

NOTES:

SERVICES:

Special P.A. system
Water, sewer
Power

DESIGN REQUIREMENTS:

Floor and walls should be easily cleanable.

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

FLuorescent Light

FURNISHING AND EQUIPMENT:

Sinks
Showers
Urinals
Toilets
Mirrors

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Low

VIEW OUT:

Unimportant

CEILING HEIGHT:

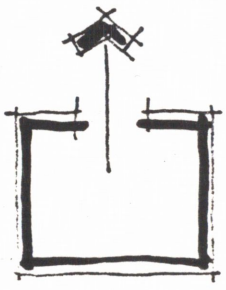
Normal, 8'

SPACE:

Showers/Washroom (Female)

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 150 s.f. | | 150 s.f. |



SPATIAL RELATIONSHIPS:

1. Direct access from female dorm
2. Direct access from female lockers

PARTICIPANTS:

Female fire personnel

ACTIVITIES:

Responding to P.A.
Showering
Personal Hygiene
Handwashing

NOTES:

SERVICES:

Special P.A. system
Water, sewer
Power

DESIGN REQUIREMENTS:

Floor and walls should be easily cleanable.

Bright atmosphere.

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

FLuorescent Light

FURNISHING AND EQUIPMENT:

Showers
Toilets
Sinks
Mirrors

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Heavy

VIEW OUT:

Unimportant

CEILING HEIGHT:

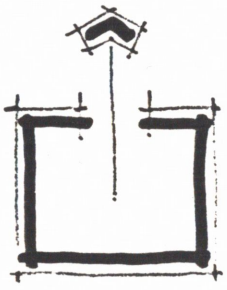
Normal, 8'

SPACE:

Showers/Washroom (Male)

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 480 s.f. | | 480 s.f. |



SPATIAL RELATIONSHIPS:

Direct access from male dorm
Direct access from male lockers

PARTICIPANTS:

Male fire personnel

ACTIVITIES:

Responding to P.A.
Showering
Personal hygiene
Shaving
Handwashing

NOTES:

SERVICES:

Special P.A. system
Water, sewer
Power

DESIGN REQUIREMENTS:

Floors and walls should be easily cleanable.

Bright atmosphere.

ENVIRONMENTAL CONTROL:

Heating
Ventilation

ILLUMINATION:

FLuorescent Light

FURNISHING AND EQUIPMENT:

Showers
Toilets
Urinals
Sinks
Mirrors

NOISE CONTROL:

Unimportant

ZONE:

Private

NOTES:

TRAFFIC:

Heavy

VIEW OUT:

Unimportant

CEILING HEIGHT:

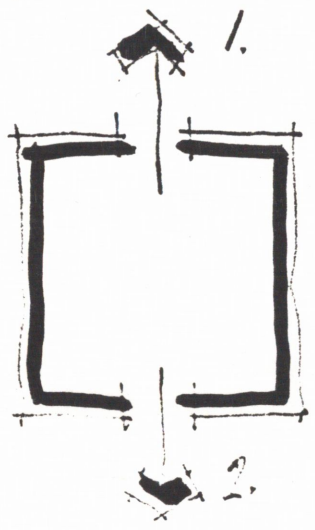
Normal, 8'

SPACE:

Visitor Information Bureau --
Public Information

NET AREA REQUIRED:

| 1987 | -- | 1997 |
|---|---|---|
| 1500 s.f. | | 1500 s.f. |




SPATIAL RELATIONSHIPS:

1. Direct access to parking
2. Access to Fire Department

PARTICIPANTS:

General public

ACTIVITIES:

Staff dealing with public
Receiving the public
Giving tours (with reservations)

NOTES:

SERVICES:

Power
Telephone
Water
Sewer

DESIGN REQUIREMENTS:

Carpeted (child-proof)
Well lit
Accoustically isolated

ENVIRONMENTAL CONTROL:

Heating
Ventilation
Air conditioning

ILLUMINATION:

Fluorescent Light
Direct Light

FURNISHING AND EQUIPMENT:

Display stands
Seating
Coffee table

NOISE CONTROL:

Desirable

ZONE:

Public

TRAFFIC:

Heavy

NOTES:

VIEW OUT:

Important

CEILING HEIGHT:

Normal, 8'0"

*JOURNAL . . .*

10:20 AM.....

I am feeling apprehension and excitement simultaneously. It is my first day here, and I'm not sure how to act, and I'm equally unsure of how the firemen will react towards me -- if they'll even accept me. But so far, so good! The firefighters are keeping busy. Earlier in the day things were a lot quieter and more relaxed around here. Now the men are acting as a complex team of a highly specialized order; each is doing his own part for the good of the whole. There is little time now for anything other than work.

12:00 Noon.....

After spending 1½ hours in the apparatus room, I have become more familiar with the trucks, pumper tanker, and responding to alarms. When an alarm comes in over the dispatch, the firemen drop everything and respond to the call. They jump into the truck and away they go. I have also discovered that there are two different types of fires: offensive and defensive. An offensive fire is one that allows the firemen to enter the building in which it is located in order to prevent it from spreading. A fire that is too intense or strong to handle from inside the building is labeled as defensive. Firemen attempt to control this type of fire from a place outside the building. As I sit here

thinking about this, the aroma of "sloppy Joes," which are being prepared by one of the chiefs, wafts in from the kitchen.

I am still unsure of what the firefighters think or expect of me. A few of the men have approached me, and now I feel a little more at ease. As for the rest, I'm not really sure if they agree with my presence here. I guess they could just be shy. Time will tell. (The time here is still very young.)

The "sloppy Joes" tasted great and the attitude at lunch was pleasant. After eating, the cost of the meal was divided among the six of us -- $1.95 apiece. (I guess this is common practice.) We immediately washed the dishes, and after doing so, I accidentally sat down in the "wrong" chair -- and was told to remove my #$%*! They were just kidding, of course.

We relaxed and talked for awhile, but soon it was back to our respective areas...

As I sit here, everyone else is busy doing one thing or another. I sense that the station is their home; they work hard during the day and at night they are ready to study or engage in a hobby. Their home is their work. The fire station has come a long way from the "horse-drawn hey days."

I'm sitting in the kitchen letting my eyes wander. I keep on thinking how a kitchen should have a "homey"

atmosphere, but this one seems so stark and cold, really institutional. I think it is safe to say the design in here has contradicted itself. The kitchen here, even its details, just seems so cold. The designer should have gone further, to make his "corrections" correct. The answer is not a television set or a microwave oven; it's the attitude, the style, the color, and the feeling one should taste and touch.

2:00 PM.....

I arrived at the fire station at 10:20 this morning, immediately after my first class, and missed the regular routine at 7:00 AM. Not to worry! I'll catch all the action tomorrow morning, bright and early. Anyway, they are all giving me a hard time today. The officer asked me who my "hairdresser" was, and before that, they were teasing me about the earring. I have a feeling it's going to be a long week!

A retired fire chief, Bill, came later on in the afternoon and was extremely helpful in my study. He gave me information on the technical side of the fire station, information that will be extremely helpful in my project. Now that I know where and how to look, I'll be able to find more information on my own.

As the minutes change to hours, and the fire personnel become more comfortable in my presence, I am sure they will approach me and relate their feelings toward their experiences here. We all have something to offer! Well then, goodnight.

7:30 AM.....

Good Morning! It is around 7:30 AM and I have already been introduced to the three new firefighters. They invited me in and offered me a cup of coffee! Officer Miller quickly began talking to me about the station, asking me if I would like to stay a complete 24-hour period which would, perhaps, enable me to more fully understand the station and all of its components. Once the chief has settled in with his coffee and "McDonald's" it will be easier to ask him if I should stay the night. This reminds of my my mom and dad when I was young, asking them for a favor.

As I wake up to their day, the firemen follow through their everyday routines. Everyone seems to know their job inside and out. As I sit here in the kitchen, I feel something is changing. I think I am beginning to understand the space of the kitchen and see how it can be better developed and organized more efficiently. The kitchen is the business center, conversation center and activity center. It seems just like home!

Midafternoon.....

Lunch was great again today -- sauerkraut and sausage. Soon after lunch we were back downstairs, preparing the "new" van for a painting bid. As the fire station grows, so do the equipment needs. The Fire Department bought a used van for $20,000 which saved the city $20,000 -- the difference in price between a used and a new one. They are doing all the work themselves, saving the taxpayers' dollars.

The firemen are working on the van in a space called the maintenance bay. The maintenance bay is simple; it is just a space where the firemen can do the maintenance or servicing on the trucks themselves. Without a maintenance bay, the men still do the servicing, but the firetrucks must be parked outside so as to do the servicing in a more specialized place.

I tried sketching, but I can't seem to concentrate, so I think I'll just continue my observations instead. I was just informed that the captain is allowing me to stay the night. This way I can find out what the living quarters are "all about."

I have come to the conclusion that fire stations have developed into more than just fire fighting units. The firefighters have extensive interaction with the public. They are continually developing their skills in first aid, emergency care, and "first response."

This results in more specialized rooms -- such as classrooms, a library, video rooms and training rooms -- in which firefighters continue their interaction with the public. The training room is necessary for maintaining both physical and mental health, s the demands on the firefighters are great. Firefighting has always been a stressful occupation, and the training room is crucial as a release from stress and tension.

I am sitting here in the apparatus room and I feel cramped. The need for an unobstructed space is obviously very important. The trucks are very large, so high ceilings are necessary. High ceilings are also very soothing to the mind. A well-developed exhaust system is important for air exchange as it transports poisonous exhaust fumes to the outside air.

Dinner.....

Dinner was tasty, as are all the meals here. We had fish, stir-fry vegetables, and for dessert -- lemon sherbet ice cream.

In the evenings, the attitude here changes. The men read, study, or just relax. It's like going home after a job; the only difference is the firefighters stay in the station, and they are always "on duty."

The living quarters still seem so institutional here, and not very comfortable. I have been here since early this morning and if I hadn't gone out for some fresh air, I would have gone crazy. In my opinion, the quarters are cramped, the atmosphere is stale and there aren't any spaces for "specialized attitudes," or privacy. If one wanted to study or just be alone, there isn't really anywhere to go, and the stress just increases. I am sure the firefighters must get used to it. After a while one begins to condition himself, but sooner or later you have to let off some steam. The inside of this place must be designed for "wear and tear."

Tonight I am doing my homework. One fireman is off somewhere studying, another is watching television, another is servicing his truck. One of the many complaints I have heard here is the absence of natural daylight in this building.

The evening progresses, and we all eventually to to bed. Before the firemen go to sleep, they place their fire gear next to their beds.

7:45 AM.....

Good morning! All the firemen are bustling about as we must leave sometime between 7:30 and 8:00, but first we must make our beds, take our sheets and place them in our lockers.

As I reflect on last night's sleep, I remember how clear the television sounded from my sleeping area. I must remember that the sleeping quarters should be a good distance from the general living quarters.

6:00 PM, Wednesday evening.....

The lights are dim as I carry myself up the stairs. I enter the living room and the officer welcomes me with, "Hello, have a seat." As I sit down, I notice how tired he looks. He informs me that he has had a hard and busy day, and I believe him, as I have some small knowledge of what he goes through.

It's around 7:00, and the firemen are just beginning dinner. The lights are dim, and once again, it feels like home. As the men attend to their daily duty of washing the dinner dishes, they comment on their desire for a dishwasher -- not because of laziness, but for sanitation purposes. If one person has a cold in the station, the entire "platoon" comes down with it, and it seems as if the germs are at least partially spread through the dishes. A dishwasher would clean

and sanitize, keeping the kitchen and fire station more sanitary, more clean.

As we speak, the alarm goes off. The officer quickly picks up the phone, and his voice and the dispatcher are heard over the PA system throughout the station. This way there is no confusion as to the location of the fire. As I write, I can hear the sound of the fire alarm and the truck slowly fade away.

I hear the officer tell us over the intercom that a car has caught fire in a parking lot. He tells us it won't take long.

Hi! I'm back. The officer is also back. He said the fire was caused by a heater plug's contact with a car cover. The owner had been attempting to protect the "new paint job" on her car with a cover, the cord became hot and started a fire. Total damage was around $250.00.

After a fire, paperwork quickly follows (standard procedure).

It's now around 9:00. The paperwork is completed, and it's now time to realx and eat ice cream. YUM!

CASE STUDIES...

CASE STUDY #1

- Building

FIRESTATION, RECREATION CENTER

- Location

CORNING, N.Y.

- Function

Firestation

- Architect

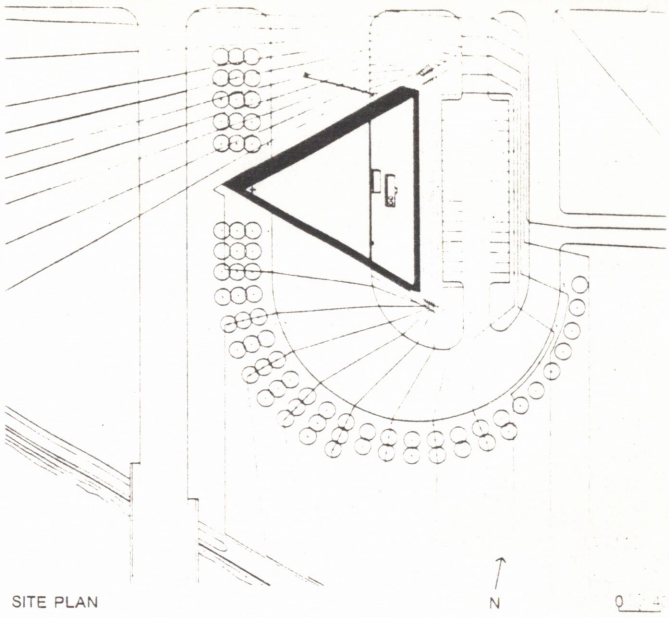
Gunnar Birkerts AND Associates.

- Similarities

- EASE OF ENTRY into Apparatus BAY.
- Simple, Clean design.
- USE OF Metal-
  - Although it looks kinda of cold.

Fire Station, Recreation Center

# Two machines




**Two 'machine aesthetic' buildings have recently been completed: one is the Municipal Fire Station in Corning, N.Y., by Gunnar Birkerts & Associates; the other is the Greater Model Community Recreation Center in Baltimore, Md., by Designbank Incorporated.**

During the 1974 P/A Awards proceedings, the jury singled out several projects designed in the "machine aesthetic" which they did not want to award, but on which they did want to comment (P/A, Jan. 1974, p. 66). To some of the jurors this "unfortunate trend" represented only a styling device that did not necessarily have anything to do with the programs of the individual buildings. The most extreme reactions of the judges came from Denise Scott Brown, who said "I don't approve of the whole approach," and Paul Kennon who thought "they're all very skillful." Whether one agrees with their attitudes, or with juror Barton Myers who noted "it's not that one is right or wrong," Scott Brown's "damned mechanical aesthetic" is upon us, and two of those projects singled out are now completed.

While Gunnar Birkerts' fire station in Corning, N.Y., and Designbank's recreation center in Baltimore, Md., share nothing in common other than a related aesthetic approach, both were faced with sites that demanded little or no participation from the buildings on them in relation to their immediate surroundings. As a consequence, both are legitimately—and forcibly—free-standing objects that respond primarily only to the ground directly beneath them. The only other thing these buildings have in common is the reflection of an acknowledged playful intent on the part of their designers.

## Municipal Fire Station

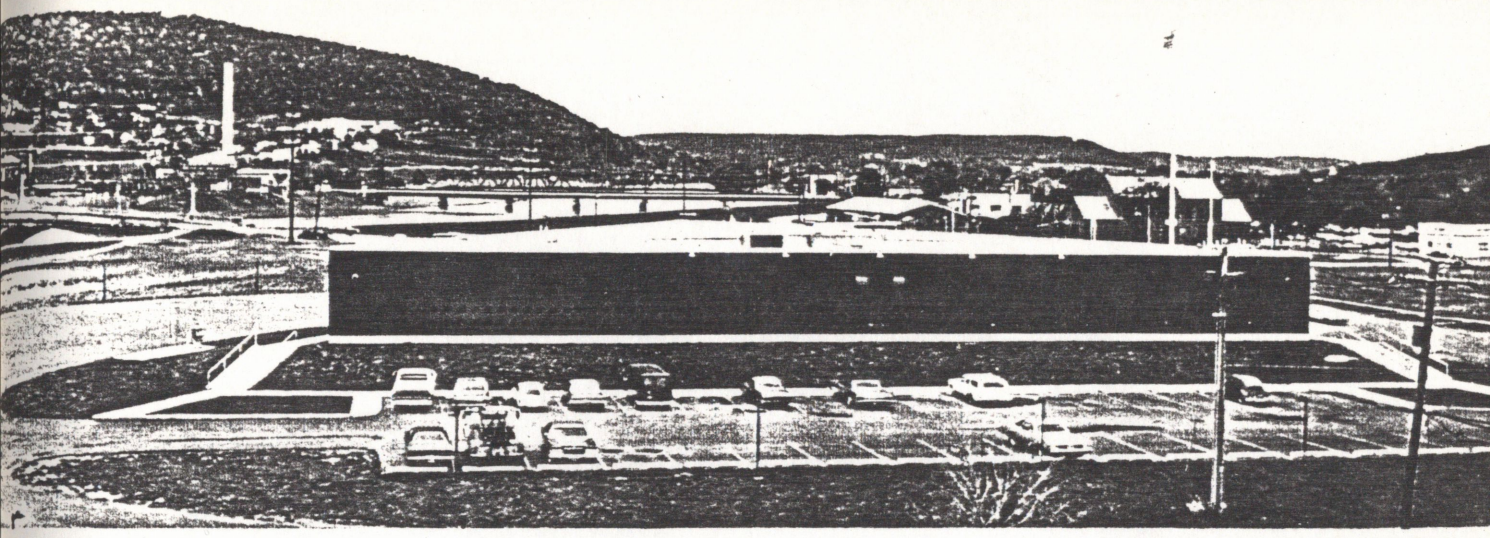
In discussing the fire station in Corning, Gunnar Birkerts states his belief that "symbols or metaphors don't have to be complex or even necessarily elevating; they can be obvious and, I hope, fun." In this building there are two major analogies evident. The most obvious is related to the image of the bright red fire truck with its shiny steel and chrome; the less obvious relates to images of space technology and, more specifically, to the systems of communication used in space exploration.

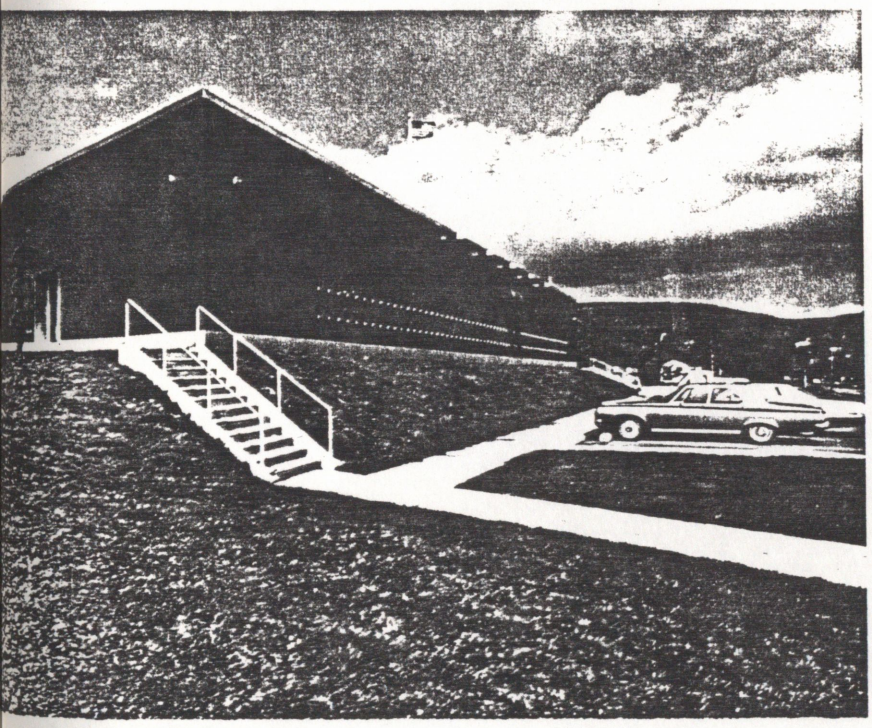
The exterior of the building is clad in fire-engine-red metal panels, with aluminum checkerplate used as the building base and at entrance landings. At the top of eac wall, polished stainless steel coping leads to a silver roof aluminum coating over a smooth surface of built-up aspl on rigid insulation, which is visible from much of the towr due to the building's valley location). Exterior glazing is s in round openings with neoprene gaskets. The mechanic system serves the building from rooftop units through ex posed metal ducts. Exhaust grilles are chrome, while exhaust hoods are painted red and strongly expressed on t exterior. To complete the image, red gyrolights that act a "silent alarms" to those nearby (the townspeople did no want sirens screeching at the station continually) are placed at the corners of the building.

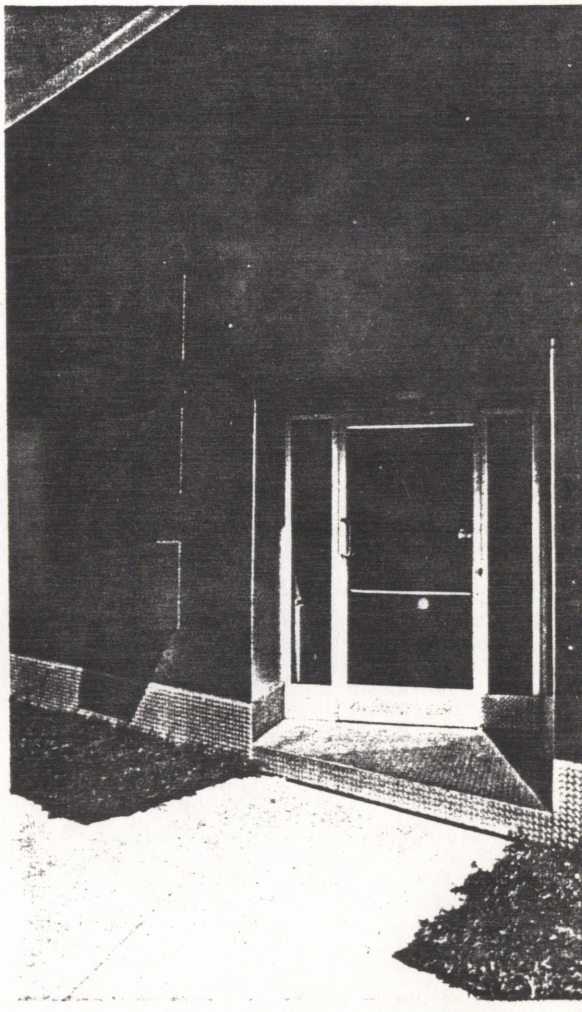
Inside, most of the ceilings are aluminum-colored, anc the apparatus room, the floors and walls are too. Elsewhere, floors are neutral and walls are navy gray or a col Translucent tubular lighting is used throughout, and fixtures and hardware, like those on a fire engine, are of pol ished chrome.

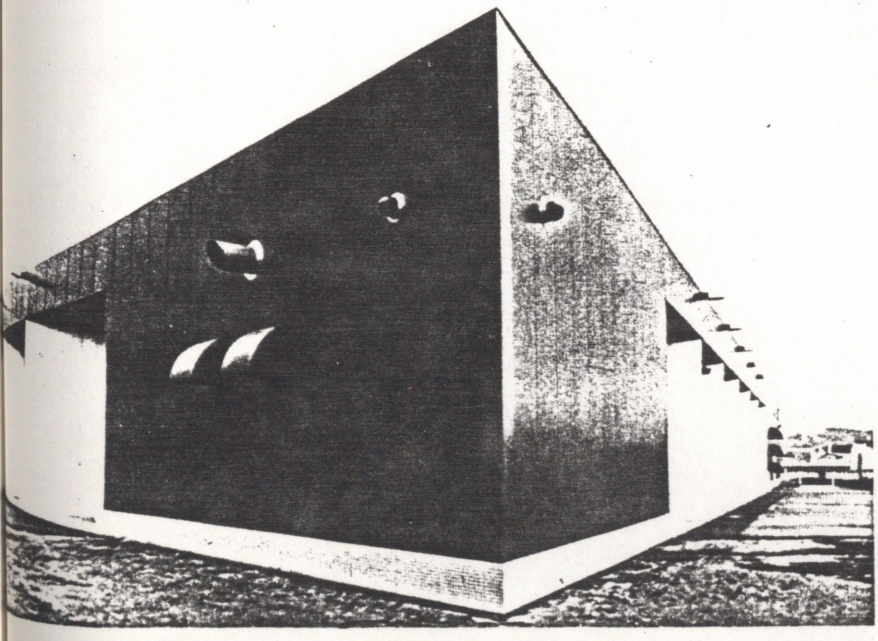
The other analogy the fire station acknowledges is that building type's "similarity," at least in terms of systems c communication, to space exploration. In this respect, the station can be seen as a command headquarters, or "ba ship," capable of dispatching satellite ships to particular destinations as required. As calls are received at the station, either by telephone or through the space-image-designed call boxes placed throughout Corning, their information is immediately fed into a computer. The compute can then project slides and plans of the building(s) involved, analyze the problem, determine the kind and amount of equipment needed, and alter city traffic flow to the convenience of the fire engines. In the clean, simple terior of the building, and certainly in the design of the pl itself, other references to the theme of space technology are readily apparent.

In addition to the analogies represented in the building another important aspect is its function as an art work—a a huge, monolithic piece of minimalist sculpture. After floods ravaged Corning a few years ago, most of the buil ings along the river bank were washed away, leaving a p of barren floodplain stretching through the center of the









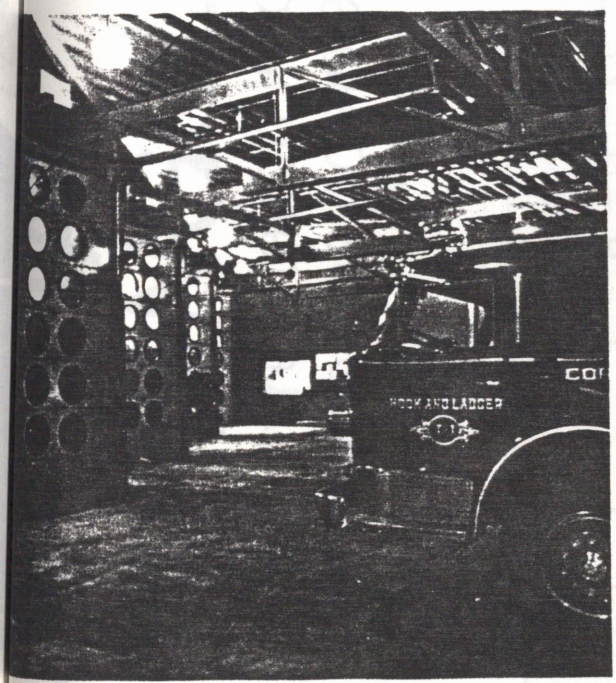
A U-shaped drive for fire trucks passes directly through two sides of the Corning fire station (left), but car parking is at the rear, east side of the building next to the offices and living spaces (top). The building is in a flood plain, but raised on earth dredged from the riverbed. Like a fire truck, red metal and aluminum checkerplate enclose the form, and red gyrolights flash at corners (left) in emergency.

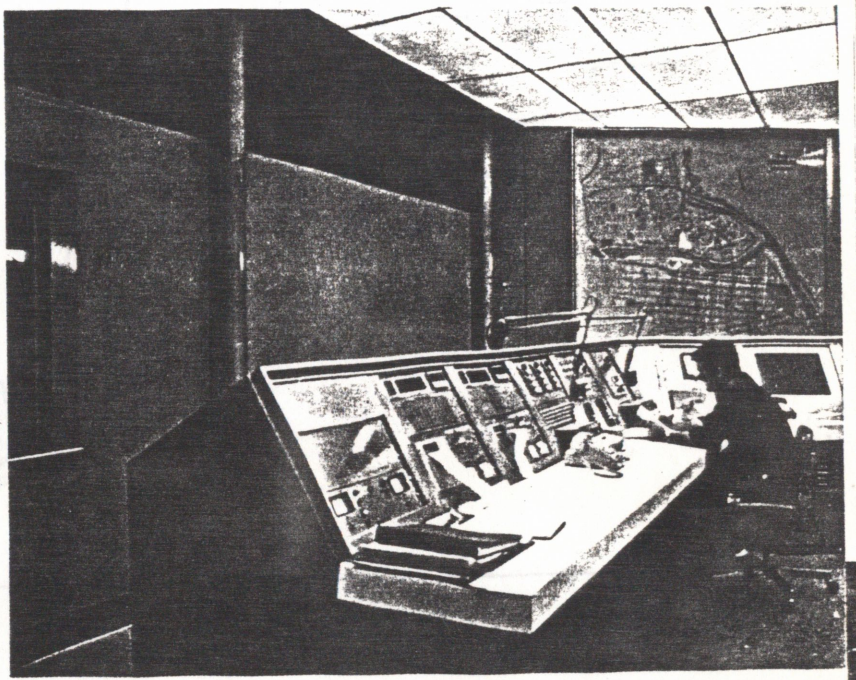


er in the landscape, one side of the station looks to downtown Corning (bottom of other side faces Corning Glass Exhibit and Administrative Center (middle of photo).



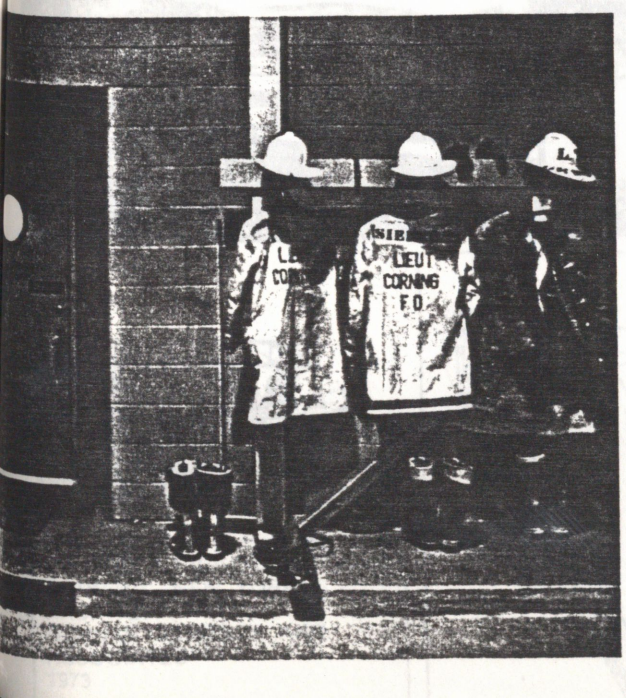

Space-age fire boxes (above) dot Corning's streets and reinforce fire station's image.

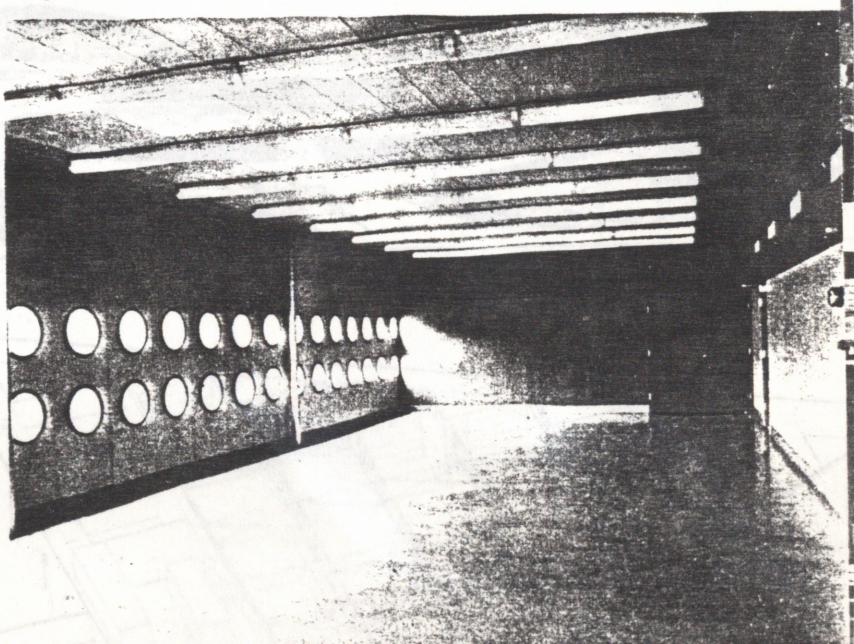


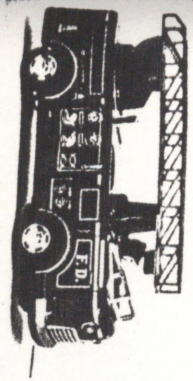
atus room (above and below) machine aesthetic is carried through gine imagery, where red and aluminum predominate as colors.

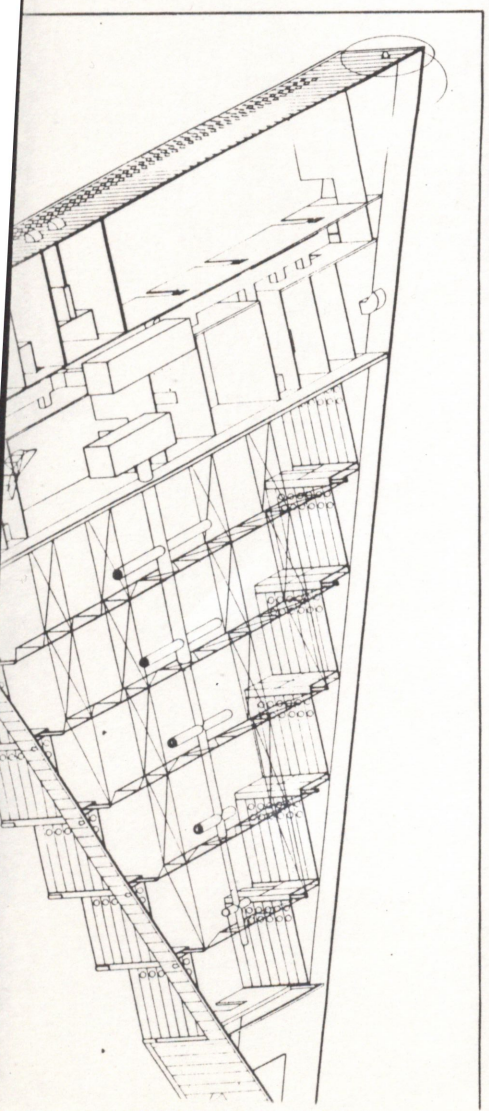
In living and working spaces, such as the watchman's station (above) and lounge (below), rich colors effectively compliment space-age imagery.

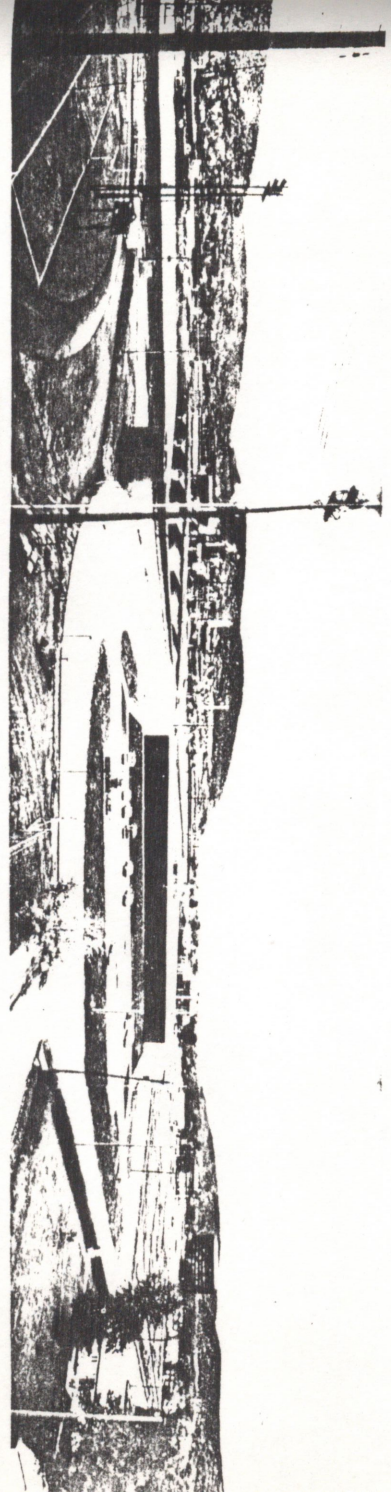


CENTRALE VIGILI DEL FUOCO
CORNING, NEW YORK
ARCHITETTI:
GUNNAR BIRKERTS AND
ASSOCIATES
1973



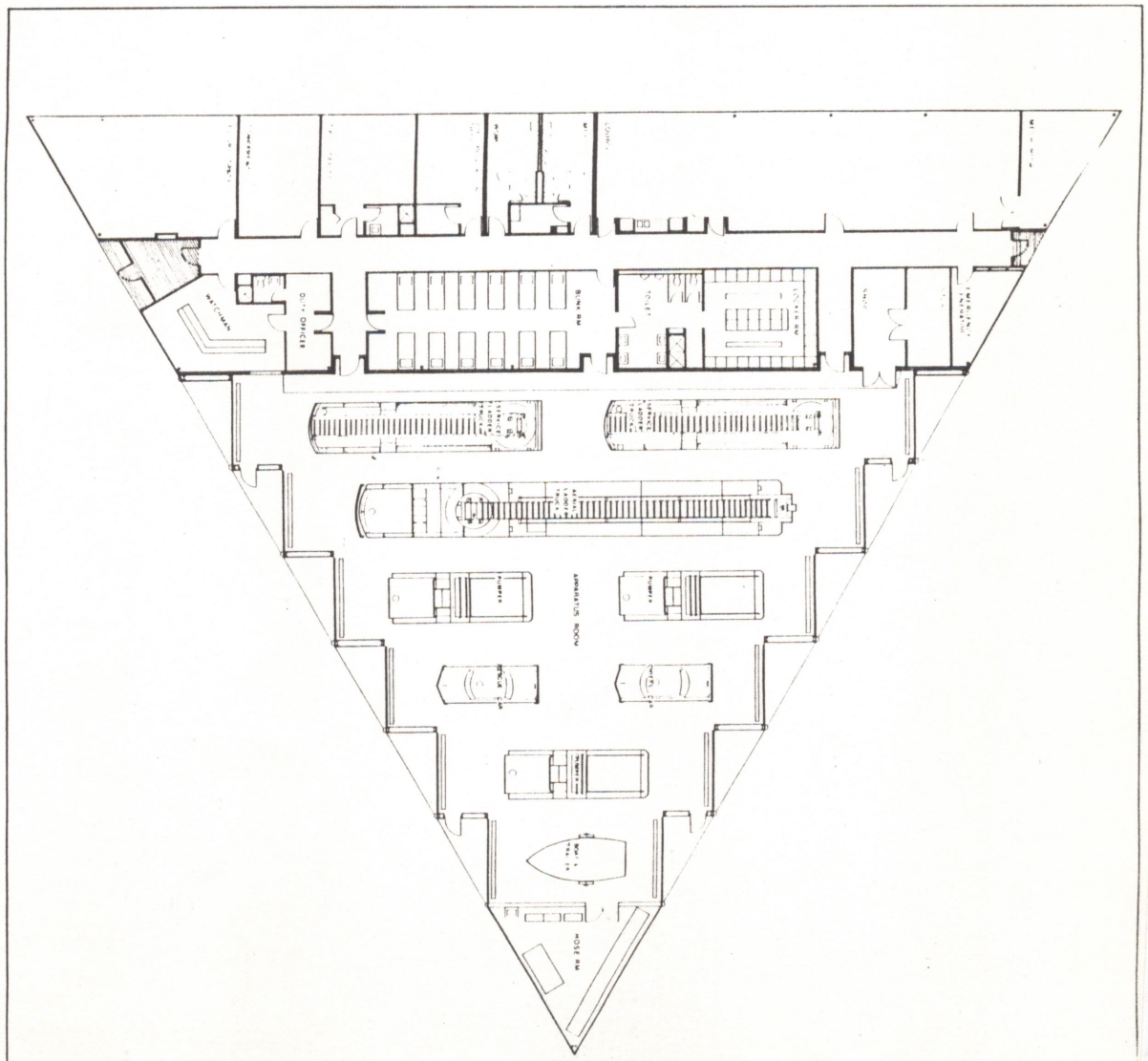




# PIANTA *TRIANGOLARE*

## for a fire station in corning

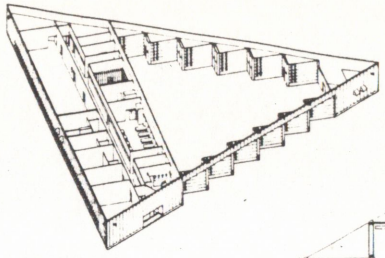
## *caserne des pompiers: triangle rouge*



nal rebuilding would have been un-
entral location offered an ideal place
ew fire station.
tances of this site, Gunnar Birkerts
ind of building that might do anything
undings—a large, monolithic form that,
es and "consumes" the space around
ous extension of this idea the fire sta-
om the hillside, functions as a pointer
ough which one plane of the triangular
eye toward the downtown and the glass
ver, while the other face responds to
urist and community attraction, the
bition and Administrative Center. The
sed high on a mound of soil removed
nd this in itself allowed the building to
he floodplain, and had the double ad-
ng the river floor.
t important aspect of this building is, of
s a fire station. If the building concerns
nages and presents itself as an art ob-
om the plan that it never does so at the
tion. Here, functions are not fitted into a
ich is then "decorated" with certain im-
e, the form and the images are sub-
ction. As Birkerts explains it, "everything
onally to make sense; I'm not imposing a
, but rather synthesizing functions into a
simplification; I'm not trying to establish
simplify it through finding relationships
ately, this building deals with the dif-
analysis and synthesis, between dogma
if it may not appear that way at first.

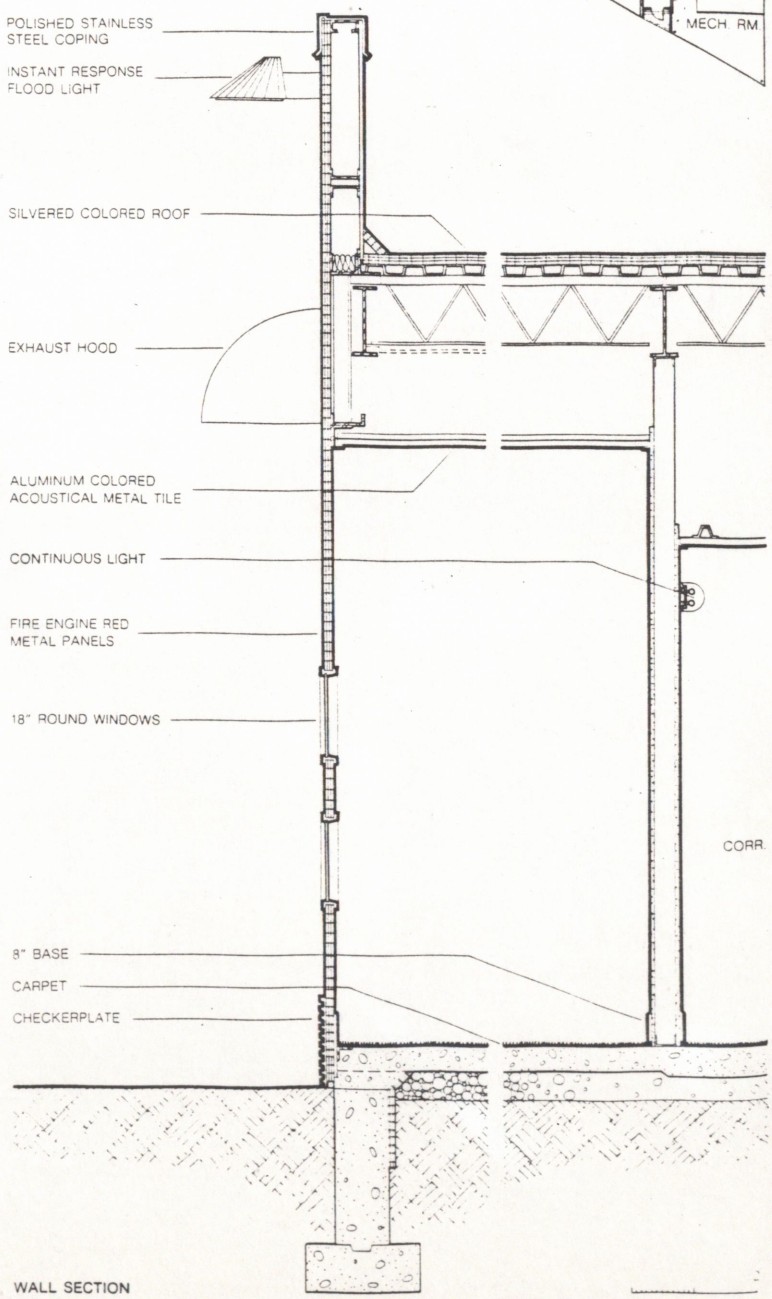
e Station, Corning, N.Y.
Birkerts & Associates; Paul Chu Lin, design
Bos, director, interior design; Gunars Ejups,
administration.
300 sq ft volunteer fire station to replace an

e site built up with river gravel which helped to
location visible from many points in the city.
ightweight economical steel structure; columns
of apparatus room (vehicle space) with steel trusses
low room to be column-free.
: heating and air-conditioning provided by rooftop
upplement at entries.
andard size metal-clad insulated wall panels;
ate used as trim and protecting surfaces; walls of
asonry on steel stud, drywall with vinyl covering. (See
p. 100.)
ar Birkerts & Associates, interior design; Hoyem-
nc., mechanical; Skilling, Helle, Christiansen,
al; Halpert, Neyer & Tiseo, soil and foundations; Ken
ing; Hogg-Nichols, Inc., HVAC; Box Electric Co.,
o., cost estimating.
r: Keuka Construction Corp.
**agement:** McKee-Berger-Mansueto, Inc.
ng, N.Y.
52/sq ft, including all site work.
ar Birkerts

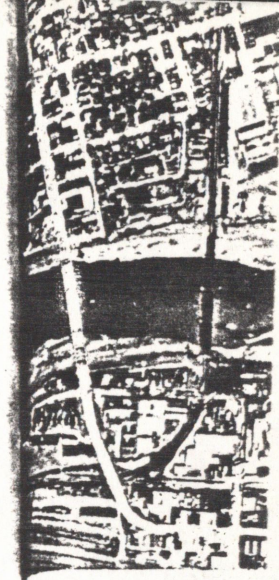

AXONOMETRIC

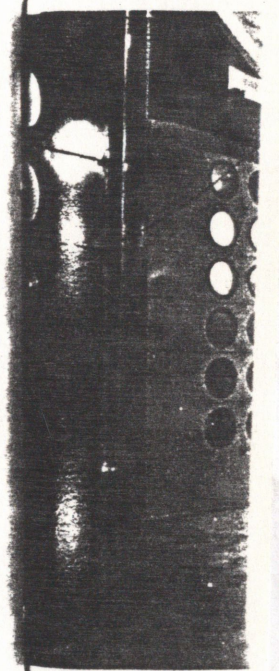


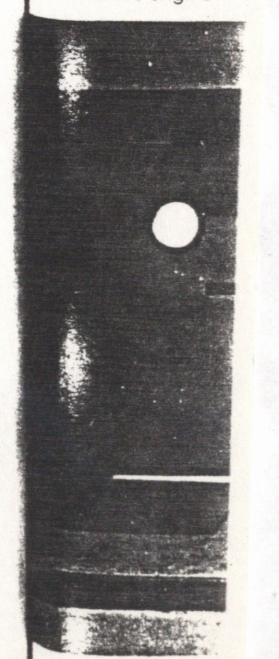
FLOOR PLAN N 0 10 20



WALL SECTION


As a pointer in th
photo), another s


In apparatus roo
in fire engine ima



CASE STUDY #2

- Building

Forest House

- Location

Central Florida

- Function

Solar function home
Built into the landscape

- Architect

William Morgan, Architect

- Similarities

Building and landscape
act as one.

# FOREST HOUSE

entral Florida

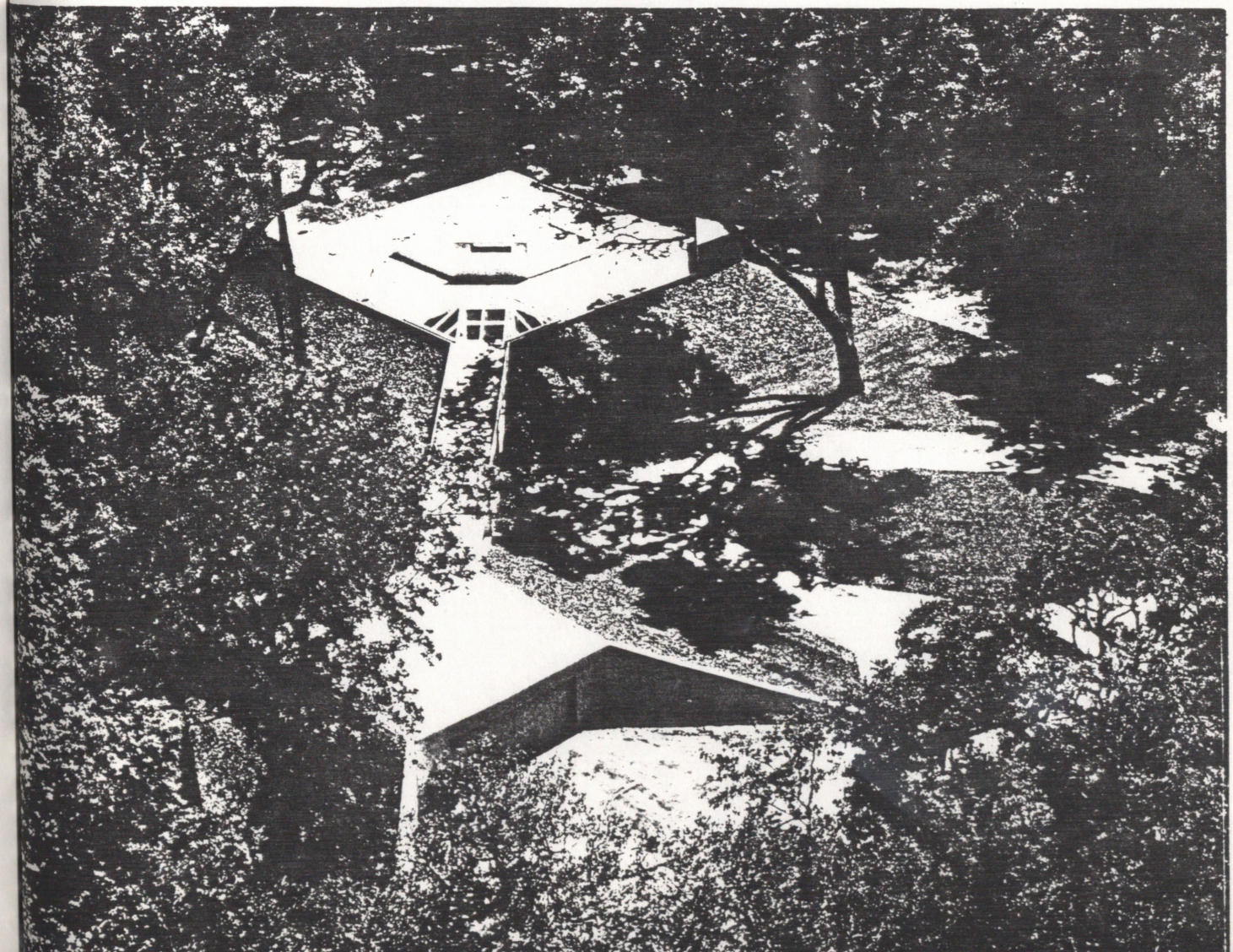
rchitects: William Morgan Architects

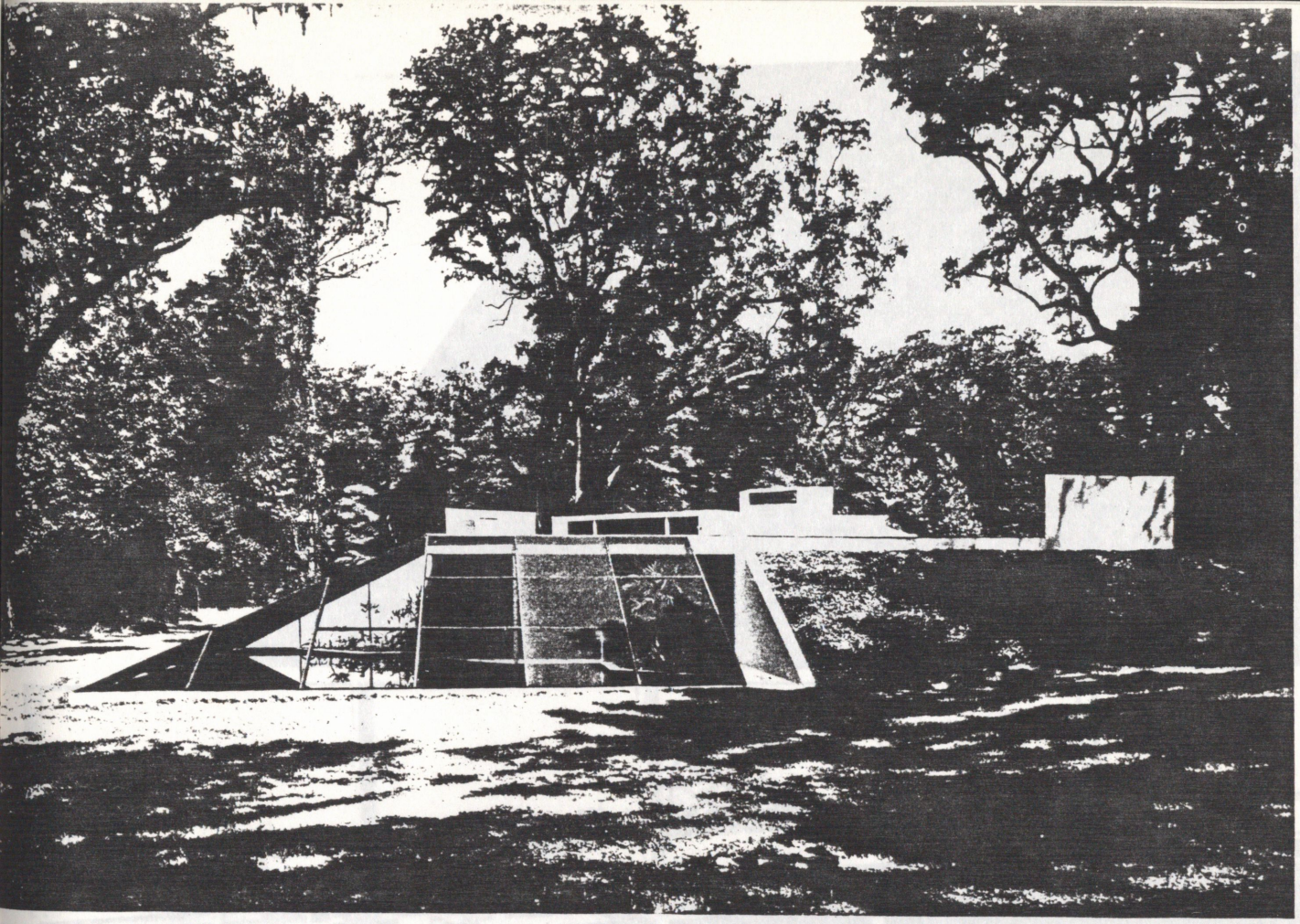
ォーレスト・ハウス　●設計：ウィリアム・モーガン・アーキテクツ

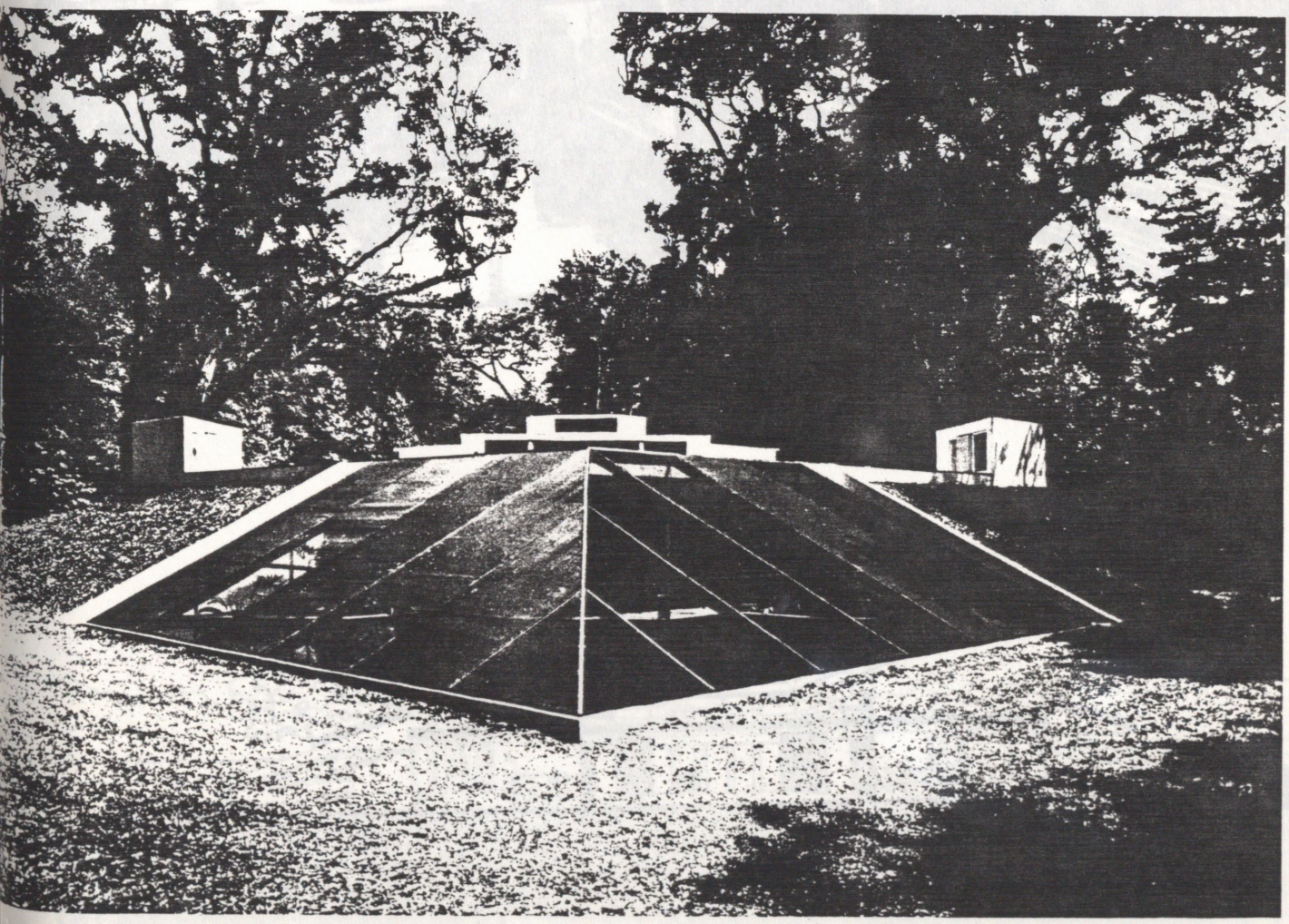
の家はフロリダの中北部，約60エーカーのオーク樹
でおおわれた敷地に建っている．樹林間を曲りくね
く走る未舗装道路を西からアプローチしていくと，
口キャノピーでつながれた切頭角錐型のアンダーグ
ウンド・ハウスが前面に現われる．秩序だった二つ
アンダーグラウンド部分は，敷地上に置かれた構造
というよりも，むしろ敷地の延長と言った方がよい
態をしている．

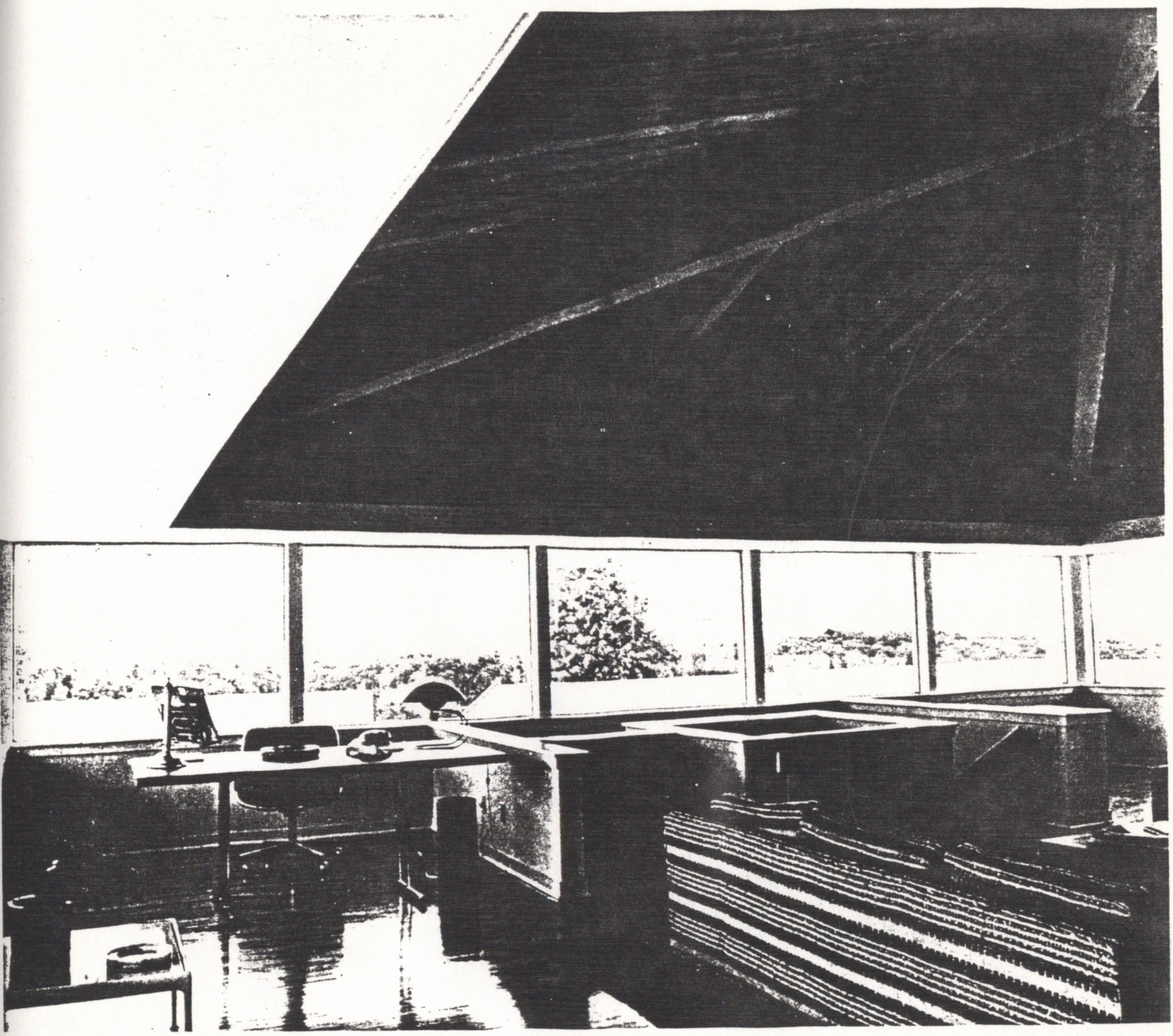
北側の切頭角錐部分には，ガレージと，隠居した施
がこれまでに収集した品々の保管庫とがある．入口
分は視覚的な連結翼であると同時に，南側の切頭角
部分（居室翼）にある居室への日除けと雨おおいを
た通路でもある．

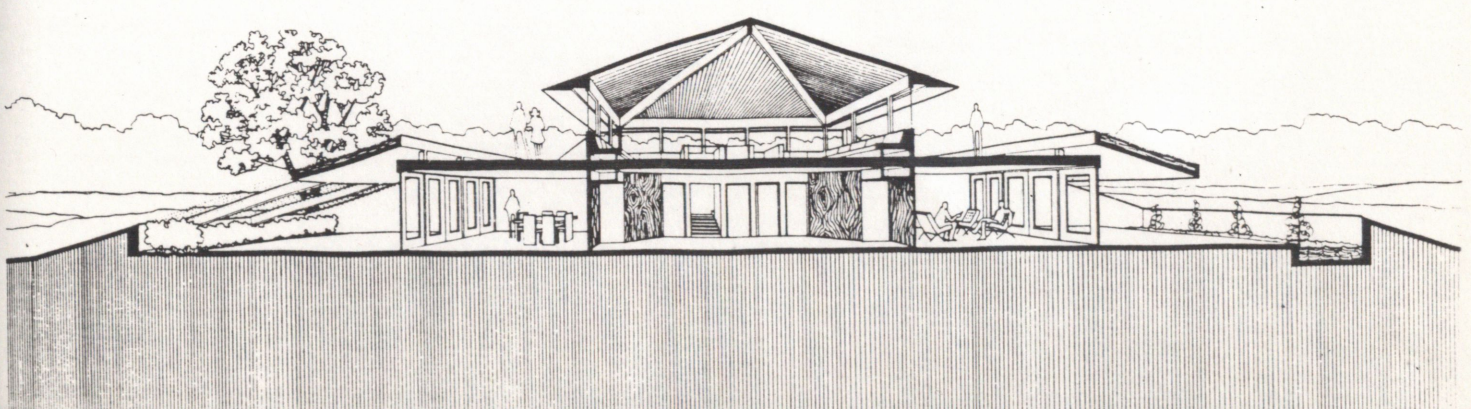
居室翼の東端および西端から地上に突出している二つの塔は，視覚的に内部空間の範囲を限定すると同時に，窓開口部のない隅部に対する光と空気の採り入れ口になっている．主要空間と連結要素のすべては，連続した空間の流れが確保できるように南北軸に沿って構成配置されている．線型の入口キャノピー部分は，天井が低く壁はひとつもない．方型の入口ガーデンには，透明な屋根，内部空間を仕切るガラス壁，それと土圧用の堅固な耐力壁がある．低天井のホワイエでは，構成軸線上の南方向に独立したマッシブな暖炉があり，それによって連続性が遮断されているのがわかる．この暖炉は居室翼中央スペースの北境界をかたちづくっている．南東方向もしくは南西方向に暖炉をぐるりと回ると，南面の高窓とガラス壁とからふり注ぐ光で満ちた，高天井の居間に到る．居間の西側には，低天井の台所と中央スペースに開かれた食堂とがあり，東側には主人寝室とその付属施設とがある．入口ガーデンの東側にはスタディが，西側には客用寝室が配置されている．居間のコーナーを形づくっている一対の柱には鏡張りの凹所があり，そこには施主のコレクションが飾られている．居間の南側に広がっているのが大きなポーチで，ここにはにわか雨とフロリダの過酷な太陽を考慮した大きな庇がついている．虫除けスクリーンでおおわれた水泳プールは傾斜地面の延長部分を形づくり，構成軸線上の南端となっている．しかしその軸はさらに水泳プールを越えて，敷地の南端にある樹林地帯へと視覚的に延長していく．



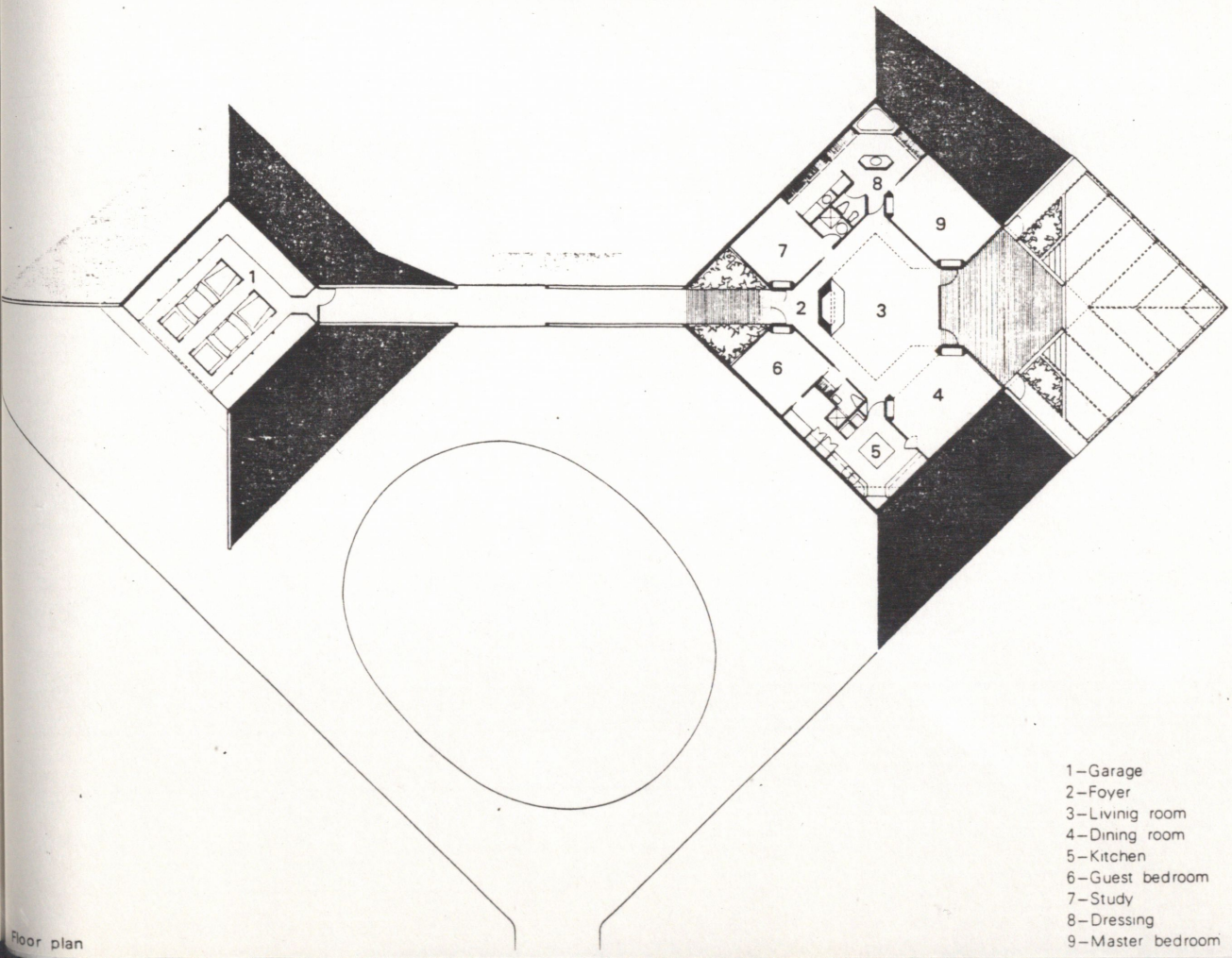













1—Garage
2—Foyer
3—Livinig room
4—Dining room
5—Kitchen
6—Guest bedroom
7—Study
8—Dressing
9—Master bedroom

Floor plan

CASE STUDY #3

- Building

Firestation

- Location

New Haven, Connecticut

- Function

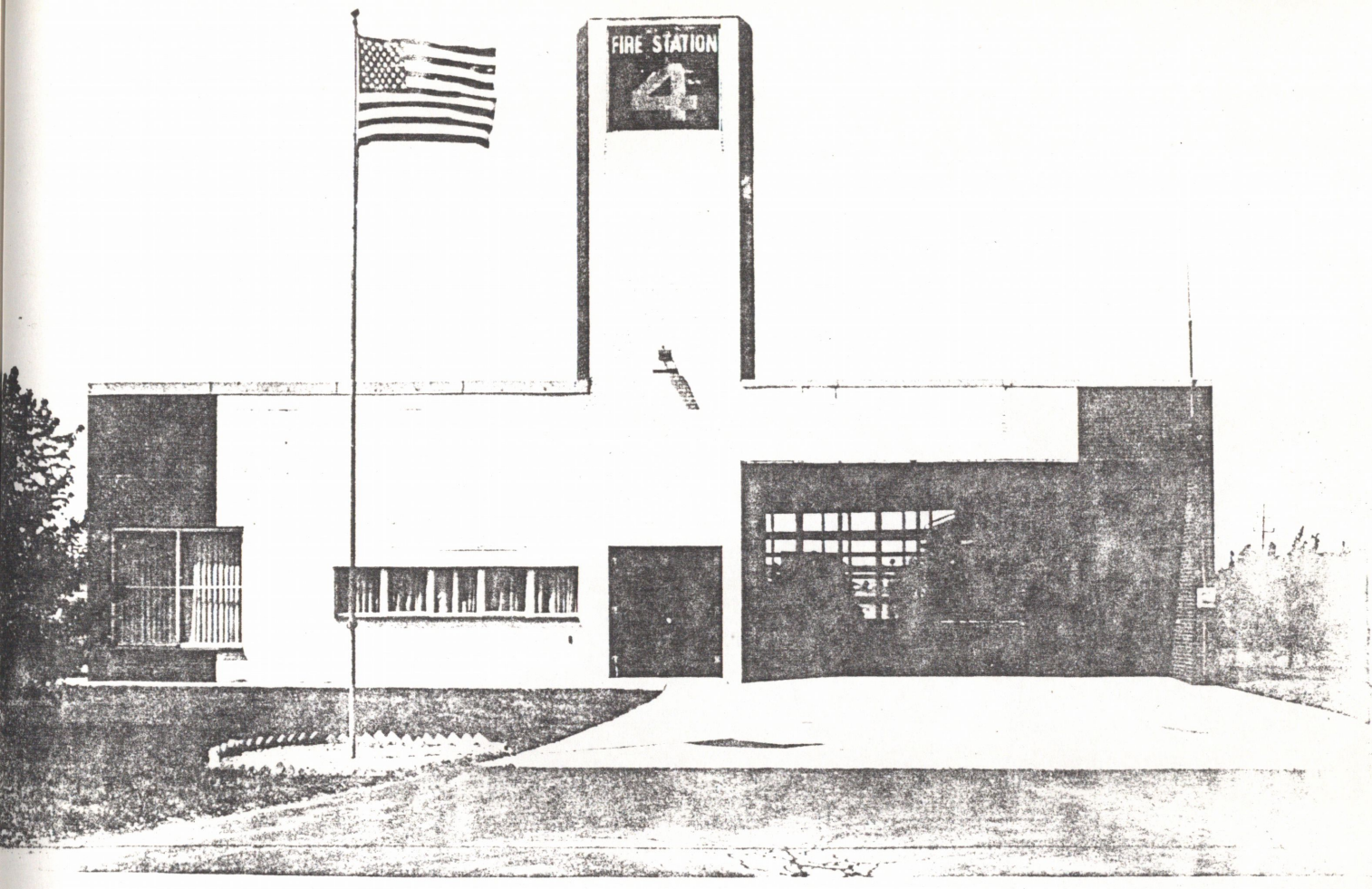
Firestation

- Architect

Robert Venturi, Architect.

- Similarities

- identifies the fire Station propotion - through balance of doors and windows


FIRE STATION
4

CASE STUDY #4

- Building

  Firestation

- Location

  Victoria, British Columbia.

- Function

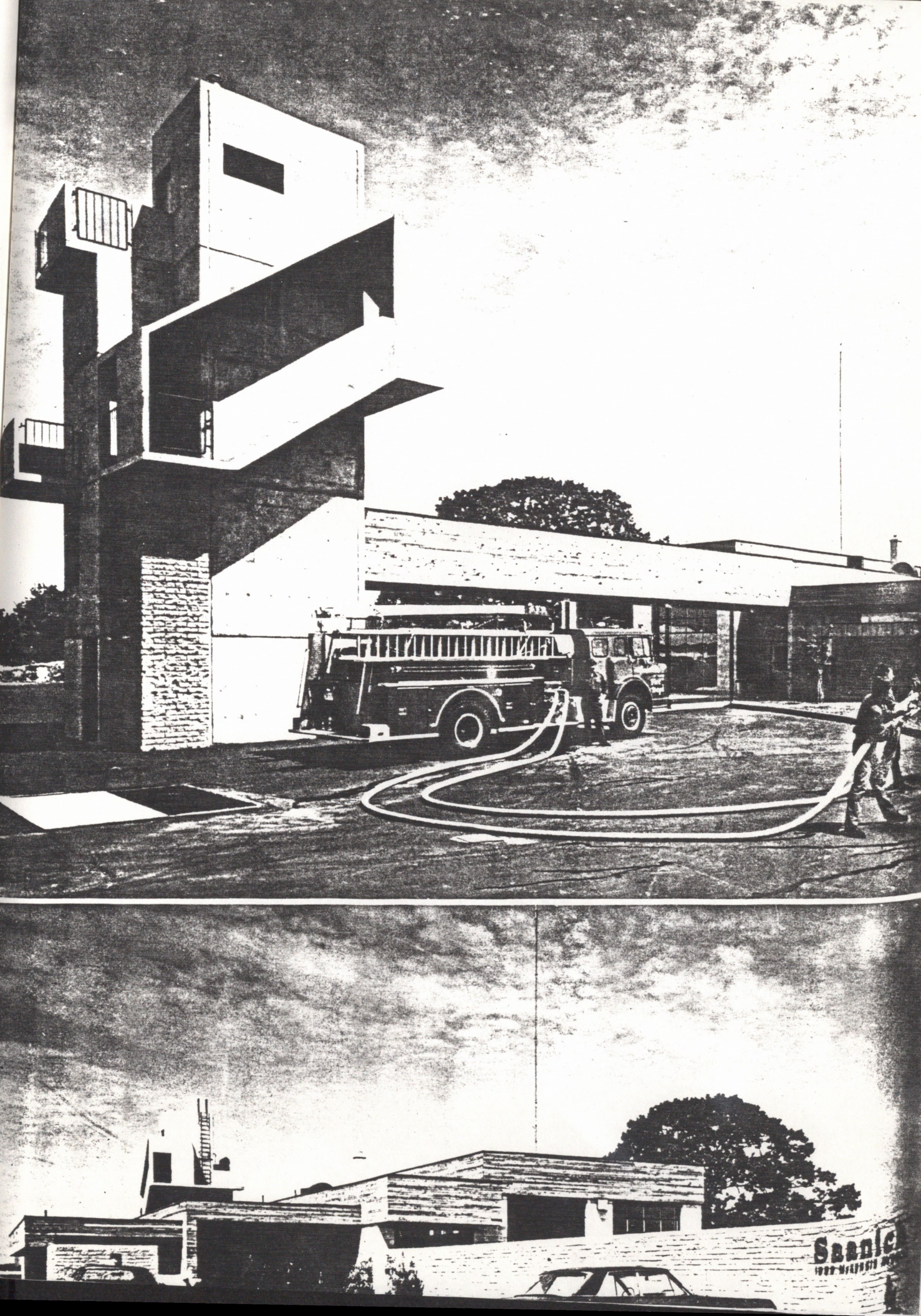
  fire station

- Architect

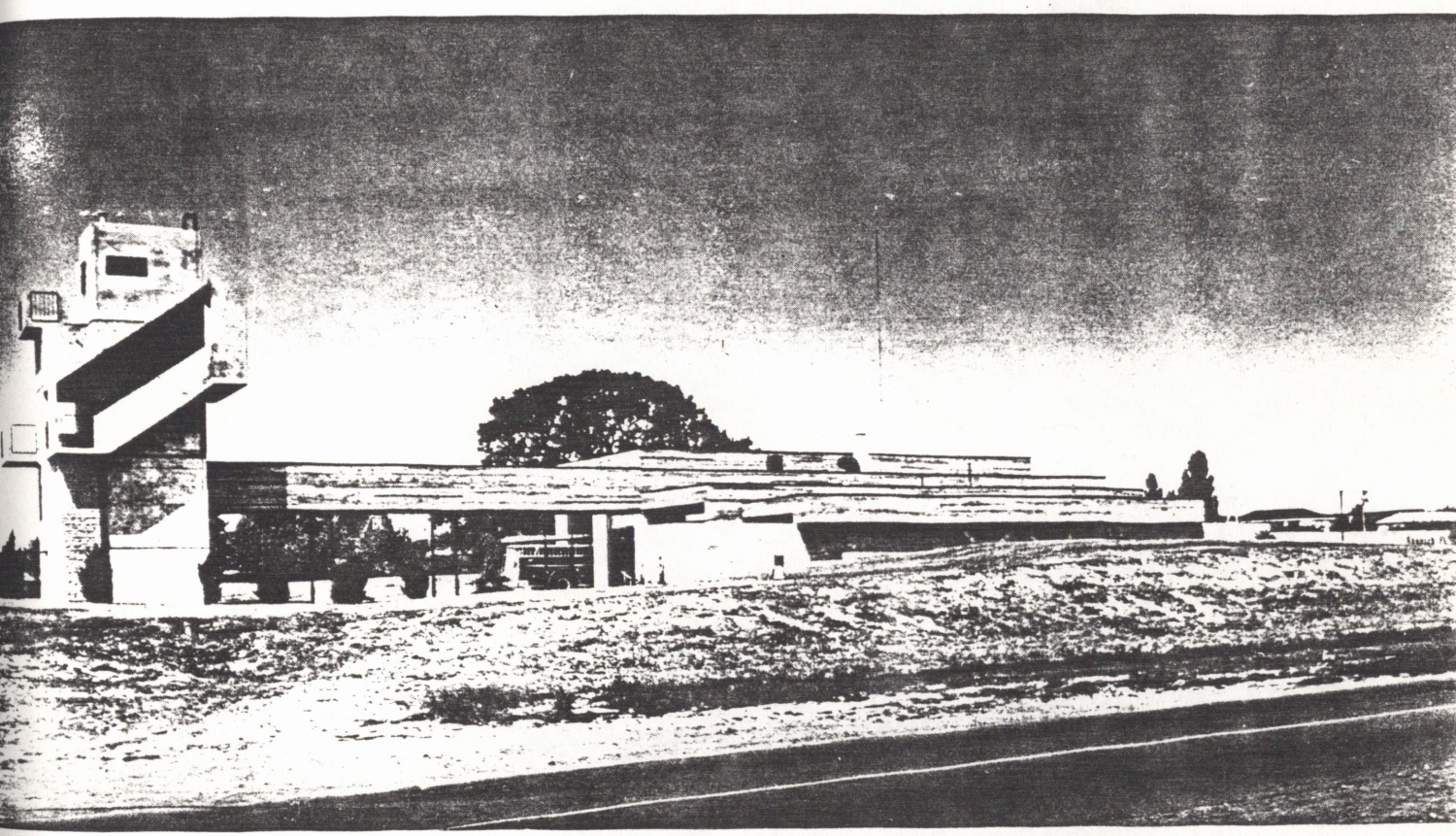
  Orme and Murray Consultants

- Similarities

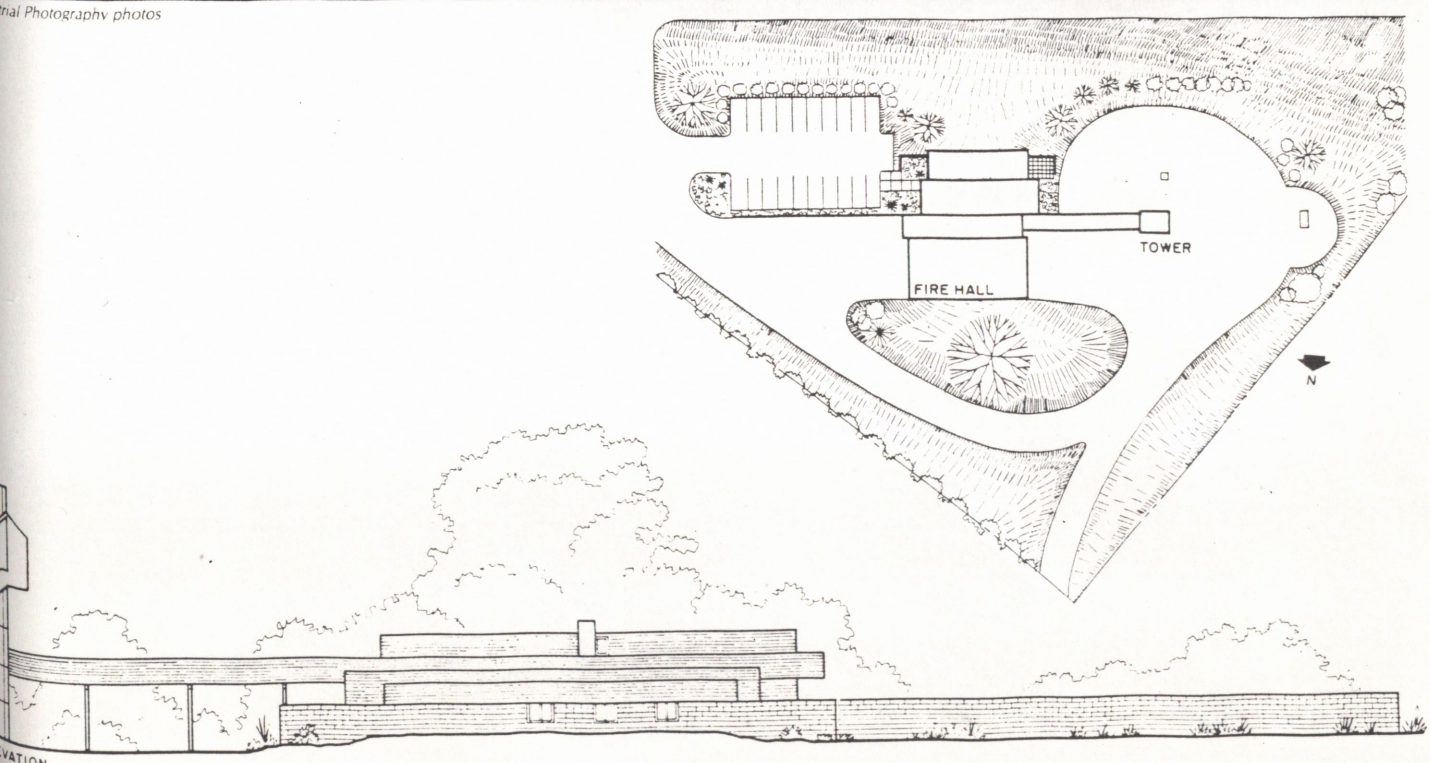
  - Use of a functional Tower.

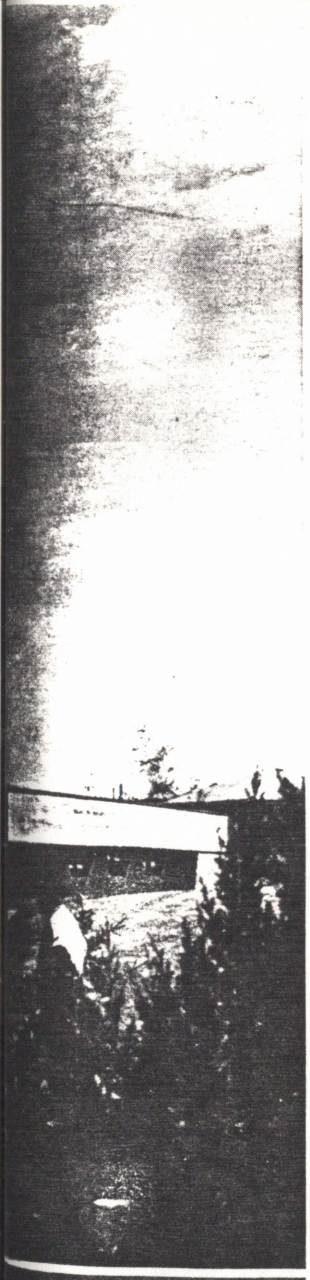


The prime concern of a fireman is to respond quickly to an alarm in order to save property and lives, and a well designed fire station is one in which the planning decisions are predicated on that function. This new station, located in a suburb of Victoria, British Columbia, was designed with that in mind—it is totally functional and efficient, and from that grows its design quality. The most dominant form on the site is a unique 45-foot-high concrete practice/training tower. By its nature, and the nature of the site, it could not be screened from view, so the architects made it an integral feature of the station and designed it to be sculptural as well as functional.—*Janet Nairn.*

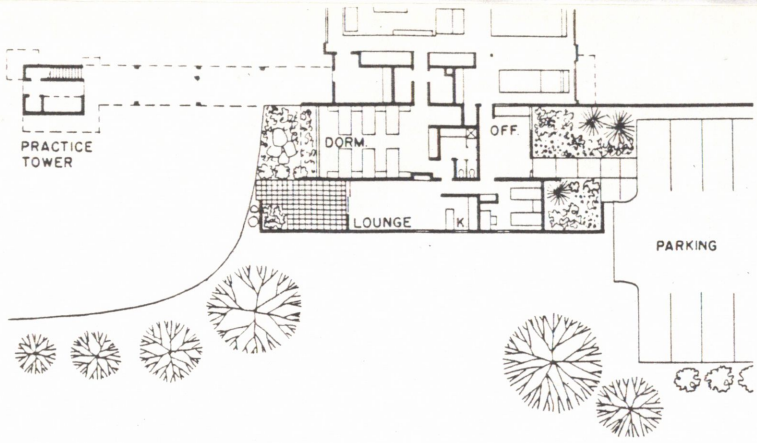


*rial Photography photos*

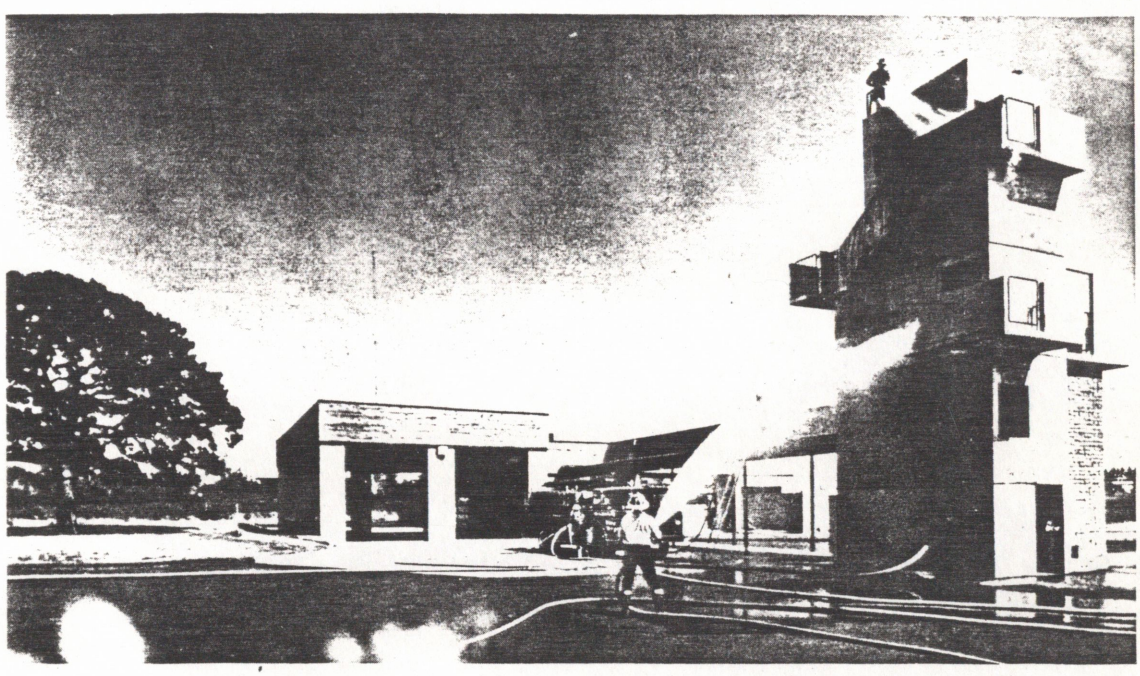




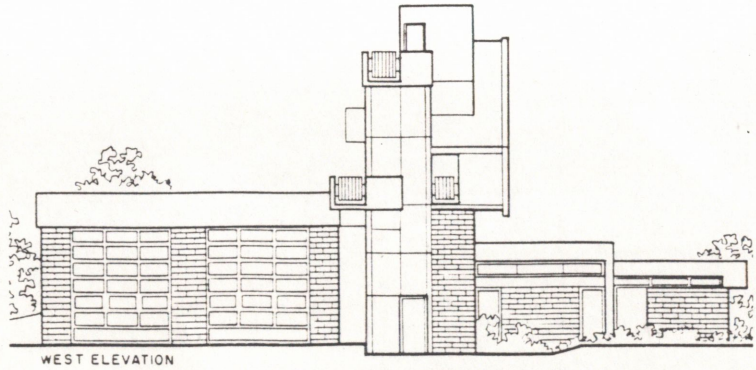




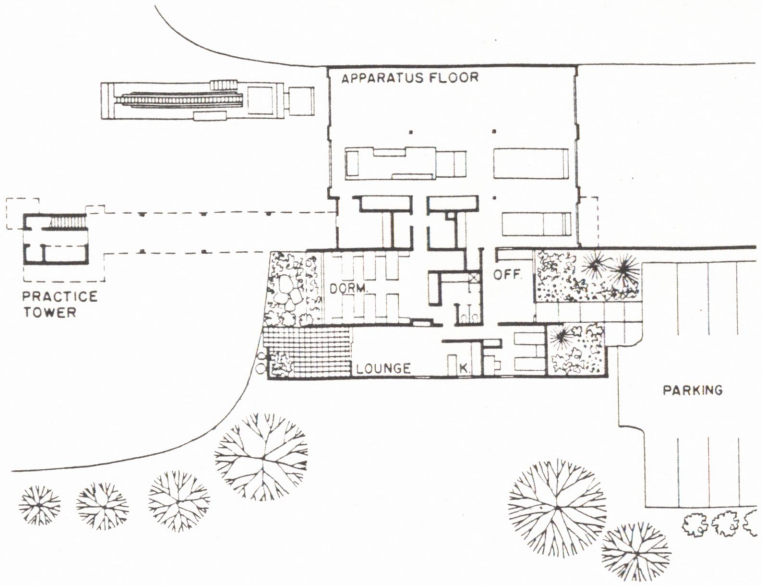

sloping roof, high parapets, open and enclosed stairways, balconies, a "break through" door, and an open shaft used to simulate elevator shaft fires and smoke inhalation escapes. A 60-foot covered walkway, connecting tower and station is not only an important visual element, but provides a protected place for rolling the 50-foot lengths of hose and—with its high parapet—is used for ladder practice. The area surrounding the tower drains to a sump pump which recycles water during practice sessions and times of community water rationing. The shape of the site, the desire to save the only tree on it, and the need for maneuvering room around the tower determined the linear nature of the station. While the extension wall (right in plan, photo lower left) visually reinforces this, it also separates the parking area, giving a clear path for fire engines responding to an alarm. Roof heights step down following the function of space, from the 16-foot-high drive-through apparatus bay, to 14-foot-high ambulance/workshop bay, to 11-foot-high dormitory/lecture hall, to 8-foot-high ceiling in lounge area. Two short perpendicular corridors connect lounge and all living quarters to the apparatus bay for efficient access to trucks.



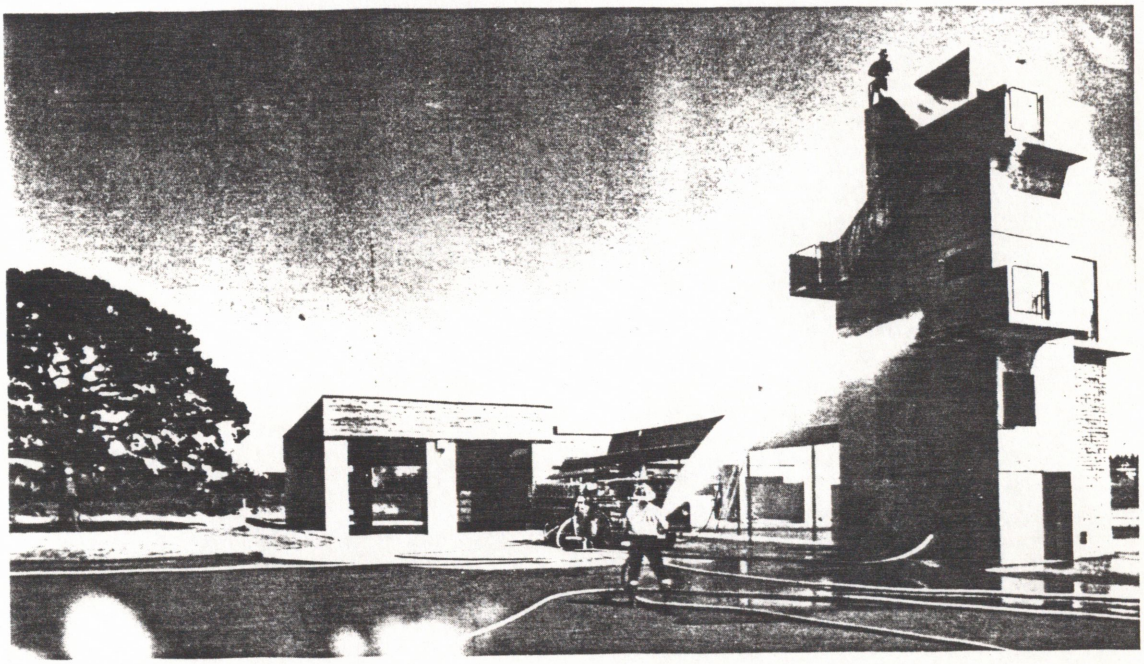





SAANICH FIRE HALL NO. 3, near Victoria, British Columbia. Architects: *Orme & Levinson.* Engineers: *Graeme & Murray Consultants Ltd.* (structural for tower); *B. W. Brooker Engineering Ltd.* (mechanical/plumbing); *Spratt & Associates Ltd.* (electrical). Contractor: *Dura Construction Ltd.*

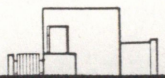



The practice/training tower simulates a multi-story building, with typical window openings, a sloping roof, high parapets, open and enclosed stairways, balconies, a "break through" door, and an open shaft used to simulate elevator shaft fires and smoke inhalation escapes. A 60-foot covered walkway, connecting tower and station is not only an important visual element, but provides a protected place for rolling the 50-foot lengths of hose and—with its high parapet—is used for ladder practice. The area surrounding the tower drains to a sump pump which recycles water during practice sessions and times of community water rationing. The shape of the site, the desire to save the only tree on it, and the need for maneuvering room around the tower determined the linear nature of the station. While the extension wall (right in plan, photo lower left) visually reinforces this, it also separates the parking area, giving a clear path for fire engines responding to an alarm. Roof heights step down following the function of space, from the 16-foot-high drive-through apparatus bay, to 14-foot-high ambulance/workshop bay, to 11-foot-high dormitory/lecture hall, to 8-foot-high ceiling in lounge area. Two short perpendicular corridors connect lounge and all living









CASE STUDY #5

- Building

Firestation.

- Location

Cortland, New York.

- Function

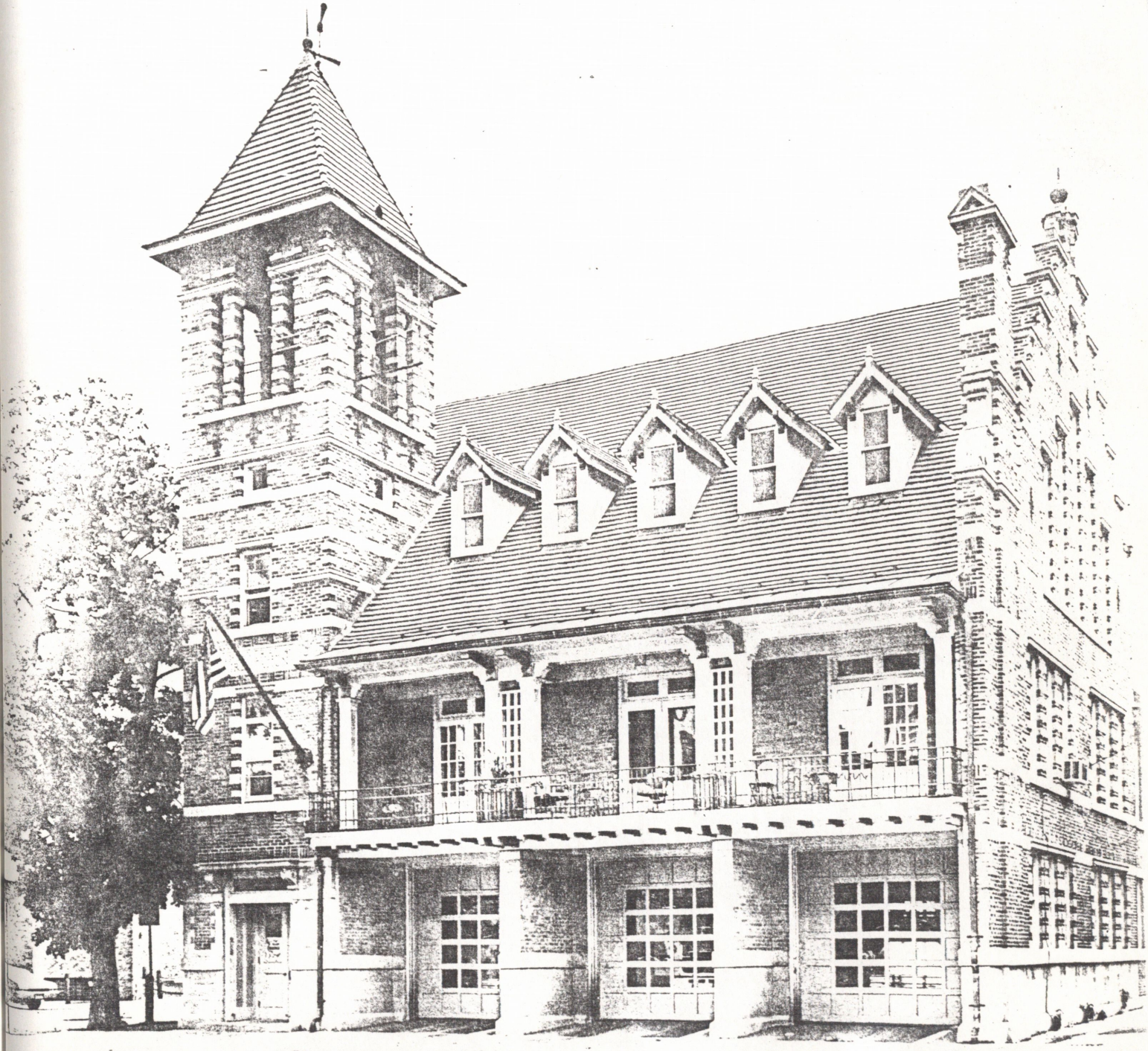
firestation

- Architect

Sacket and Parks, Architects

- Similarities

- Use of a second story reflectory space off of dorm area (outside)
- Overhang over A.R. possible sun angles and snow covering



236

CASE STUDY #6

- Building

N.A.

- Location

N.A.

- Function

Transrapid, (Train)

- Architect

N.A.

- Similarities

SLEEK, clean design giving us an image of quick.

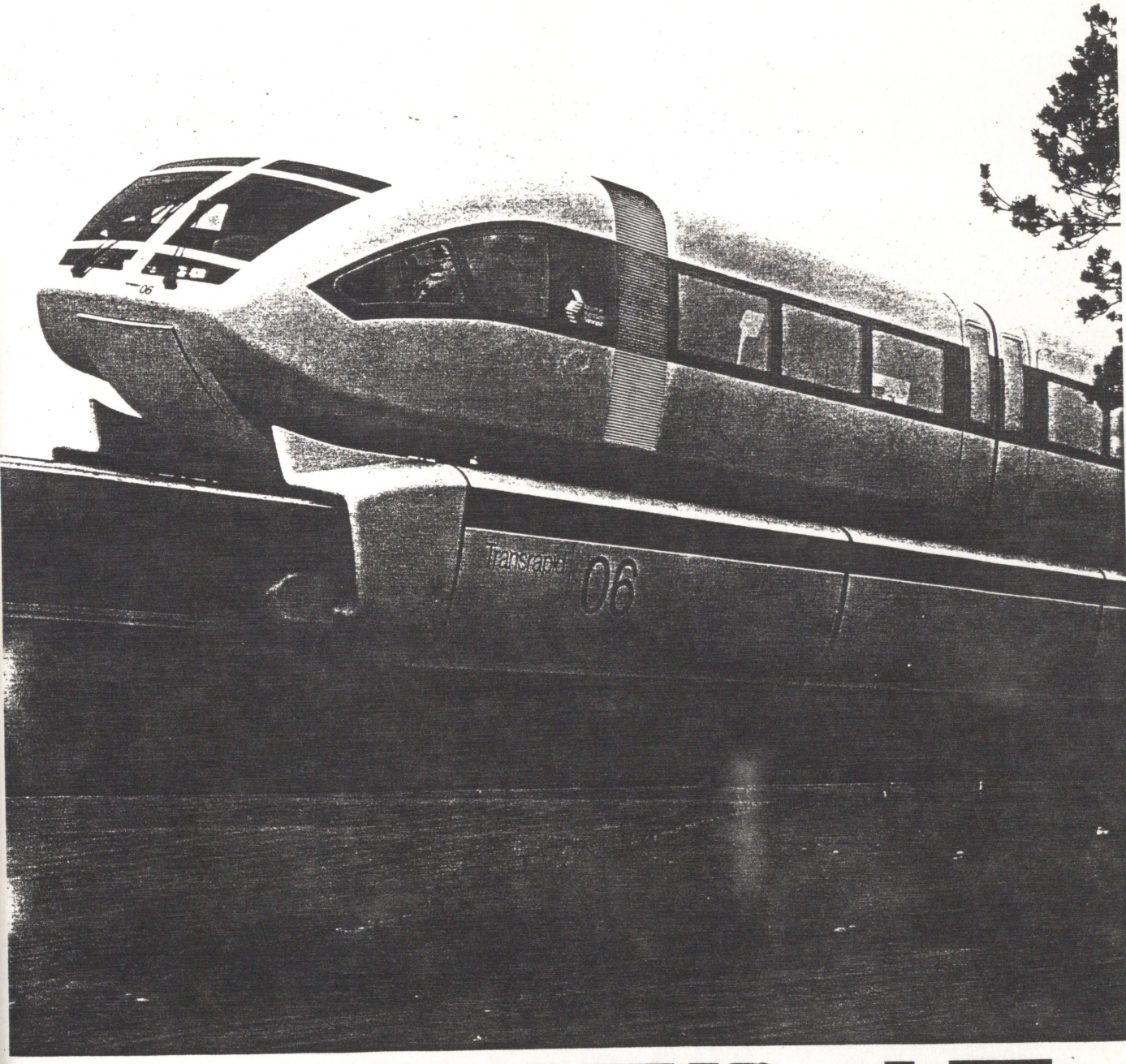
5

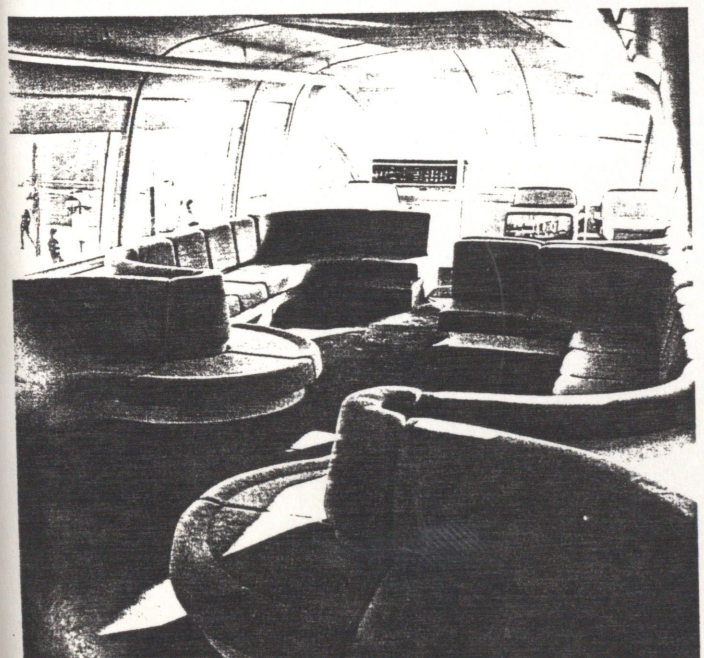


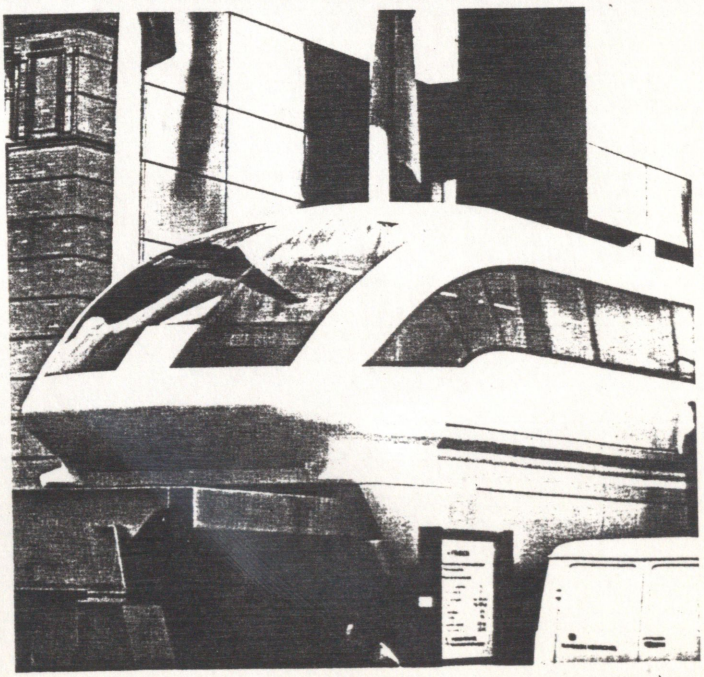

6



7


Transrapid
06





# CONCLUSION...

## CONCLUSION

Over the past six months I have researched and studied the wide variety of fire stations -- from the very first to the most modern -- across the continent. As I observed the great diversity in style from one era to the next, I came to the realization that a single "true" design for fire stations did not exist. While a number of designs incorporated such distinguishing features as large portal-type doors or majestic-looking towers, even these were inconsistent in their consistency, for rarely have I found two that are more than similar. Perhaps the only consistency among the various designs was not in the design itself, but in the material of which the fire station was built -- red brick.

In modern times, the fire station is almost impossible to identify as such and modern architecture is as much to blame as the inconsistent evolution of their designs. The fire station is rarely, if ever, noted for its beauty and the often banal exterior conceals the importance of its inhabitants.

However, it should be noted that the "plain" exterior of a fire station may come to be simply because of its functionality. If ever the functionality of a design is the supreme, unquestionably

primary consideration, it is here in this building. No concessions can be made; no interference in this functionality can be allowed.

The interior of the fire station demands this same functionality -- yet both the exterior and interior should be treated with care. The functionality I have until now been referring to has implied the smooth, efficient operation of a fire station, and I have meant it to be so. But I feel a fire station design has another obligation -- to that of its occupants and the community it serves. With this in mind, I derived my final design.

I stated in my introduction that I felt the exterior should energize and inspire, and I feel the sleek, futuristic lines of my model accomplish this as well as anticipate the future with their composed unity. I also tried to create an exterior design which commands attention, and requires a second (even a third) glance to get the full effect.

The fire station faces south in order to take full advantage of natural light both inside and outside. Inside the station, the necessary rooms have southern exposure -- the dormitory, the apparatus apron and offices in order to prevent a feeling of isolation from the outside world.

To the north, I have added burming and trees for protection from the cold northern winds.

Moving back to the interior design of my model, I kept to my initial desire to keep all areas within two levels for efficiency and speed. The apparatus bay is the center of my design; every other room radiates from this center of importance. The control room and offices are nearby, as are the sleeping quarters for trouble-free exits into this area.

The living quarters must also be properly done in order to lift the spirits of the fire fighters in times of stress. The southern exposure which I mentioned earlier should aid in this, as should the removal of the lockers from the sleeping area. Visitor traffic is also kept far from the living quarters, in order to provide privacy for the firemen.

To compensate for future growth and expansion, I also devised a three-base system on my site rather than the two-base originally desired by the city.

I believe I have met all the goals I desired to meet (to the best of my ability) in the design of my fire station.

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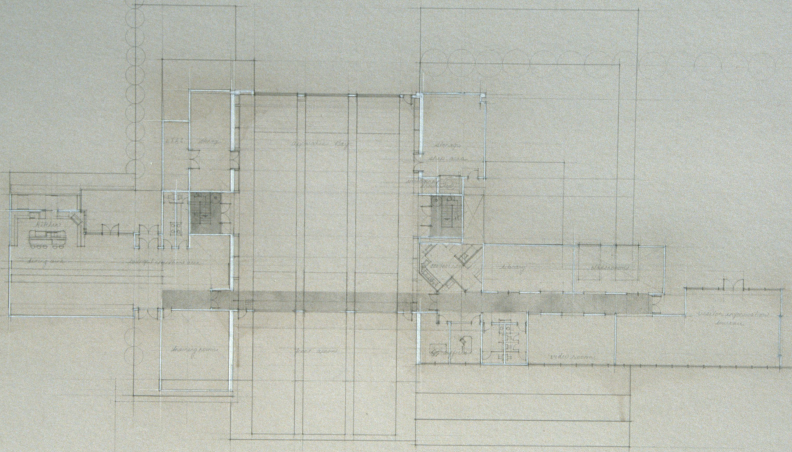
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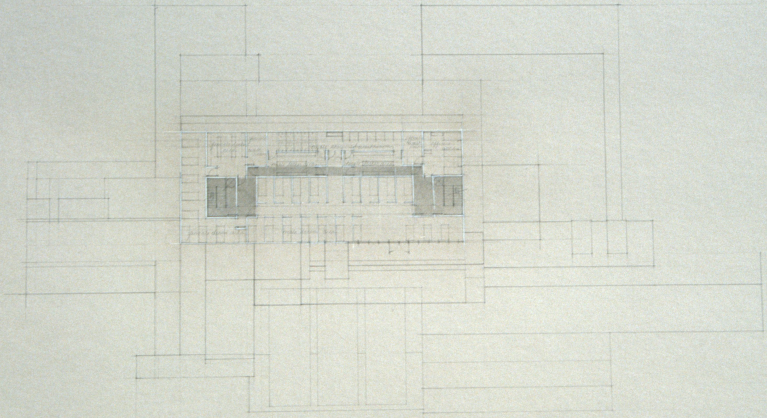
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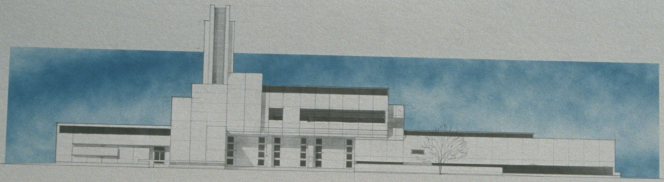

FIRE STATION 24
EDMONTON
ALBERTA
CANADA



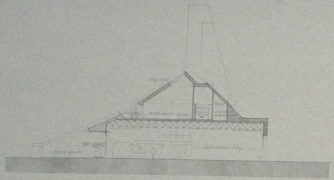
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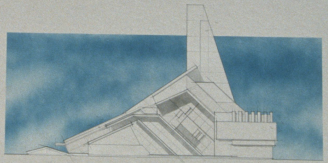


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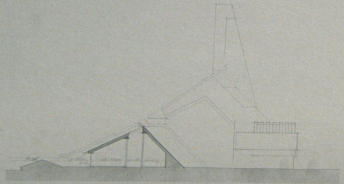


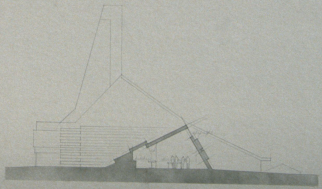
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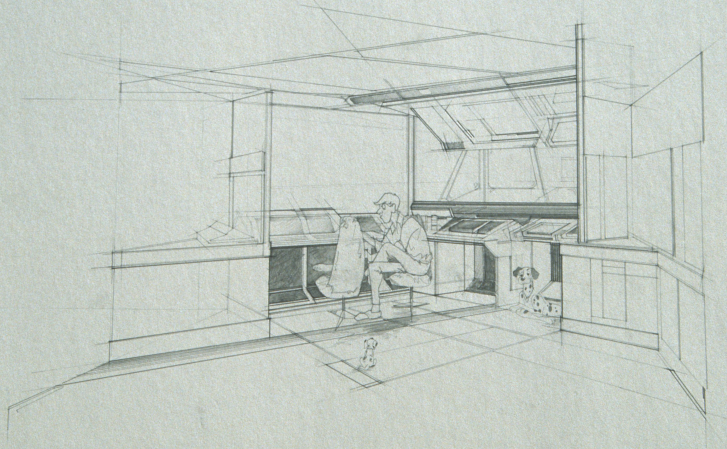




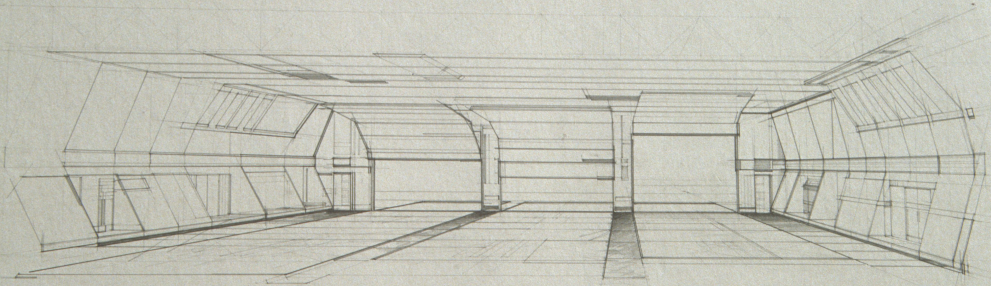
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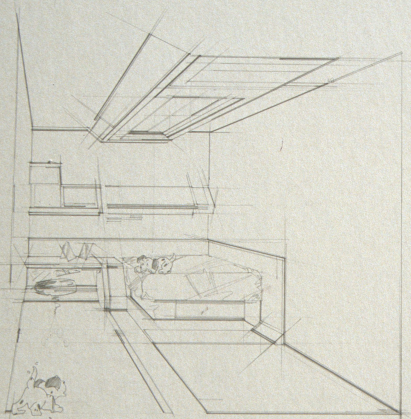




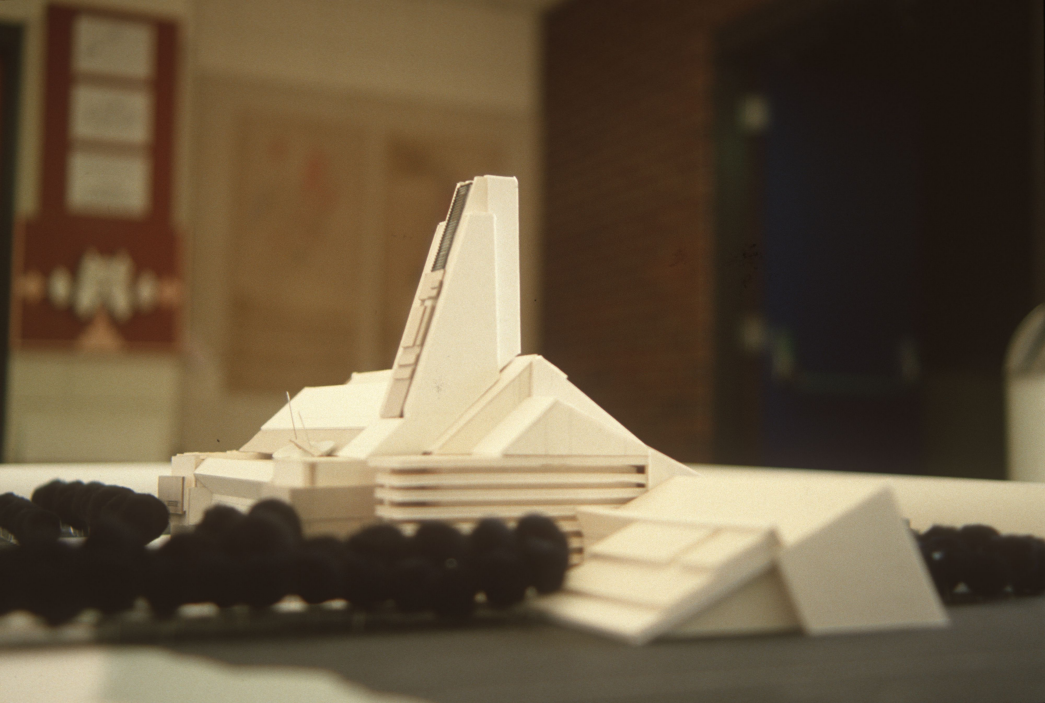
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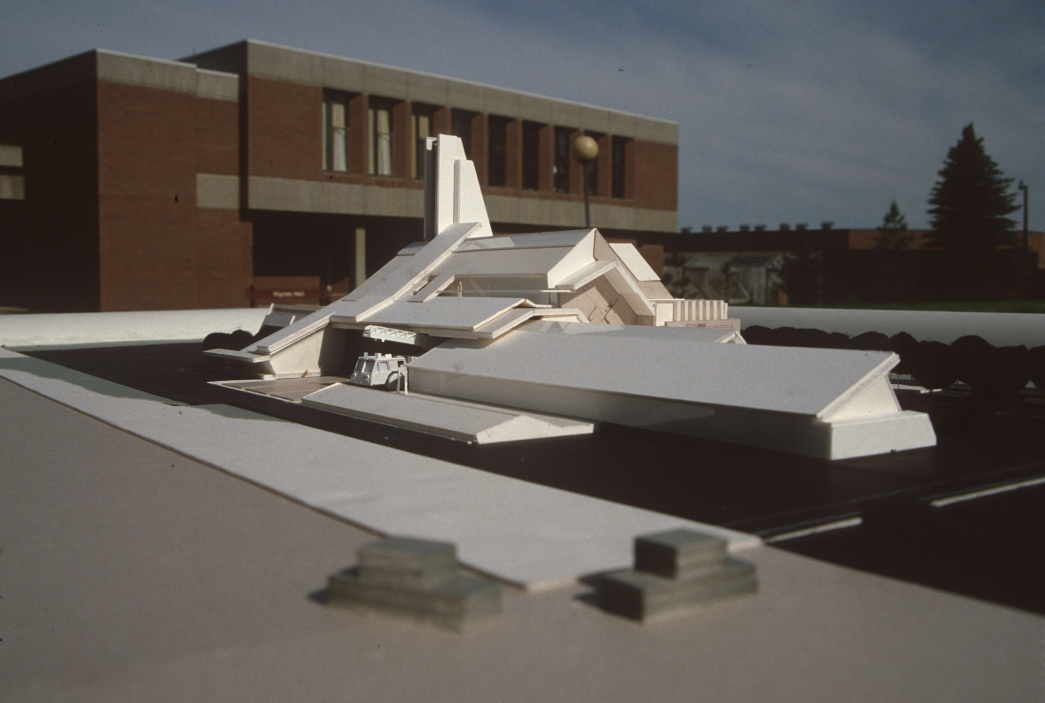
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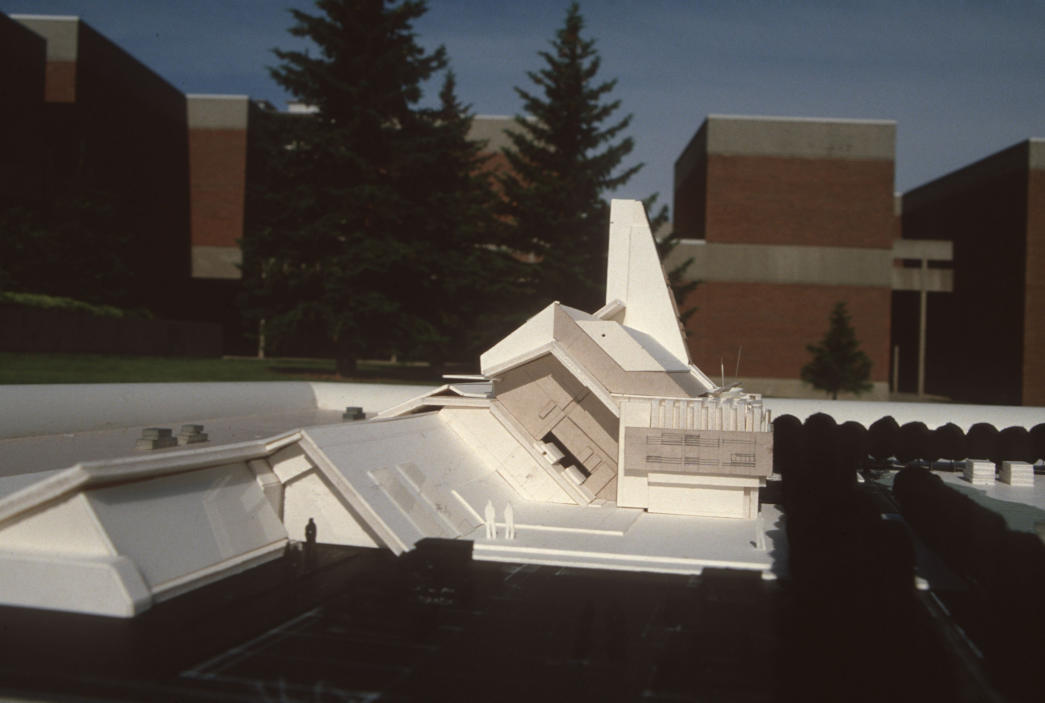


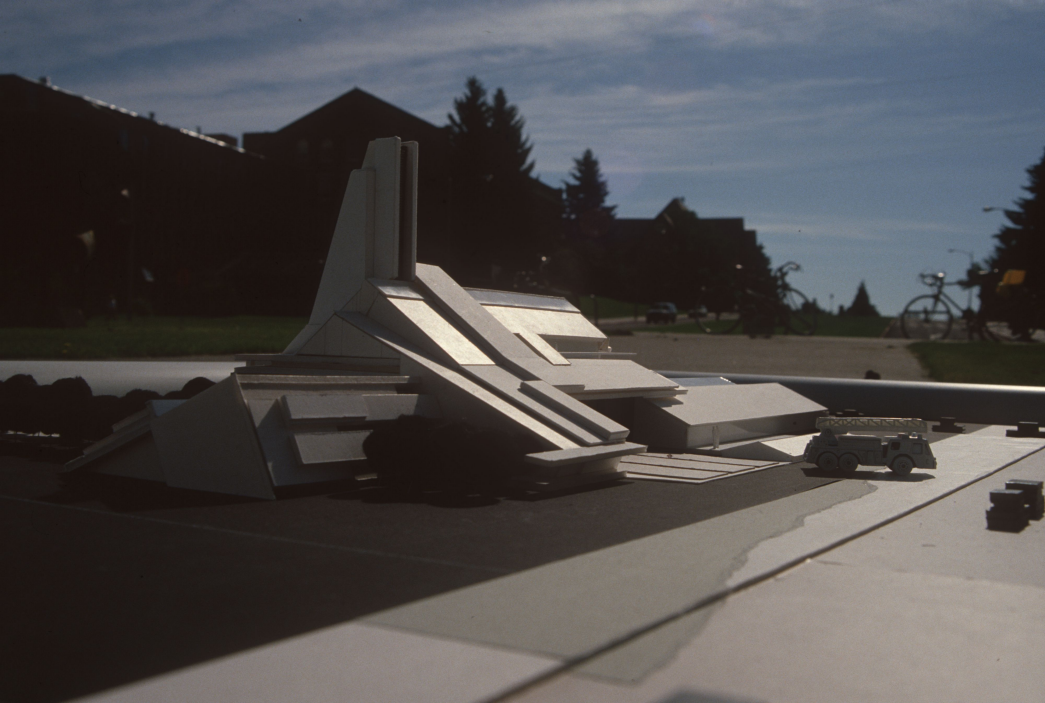
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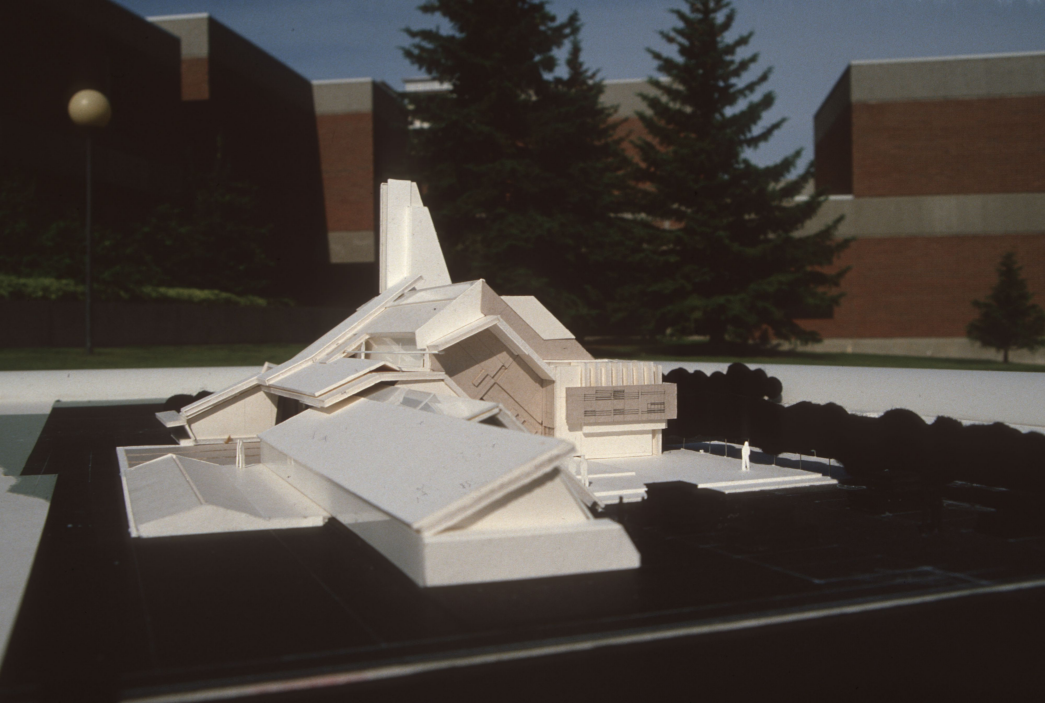




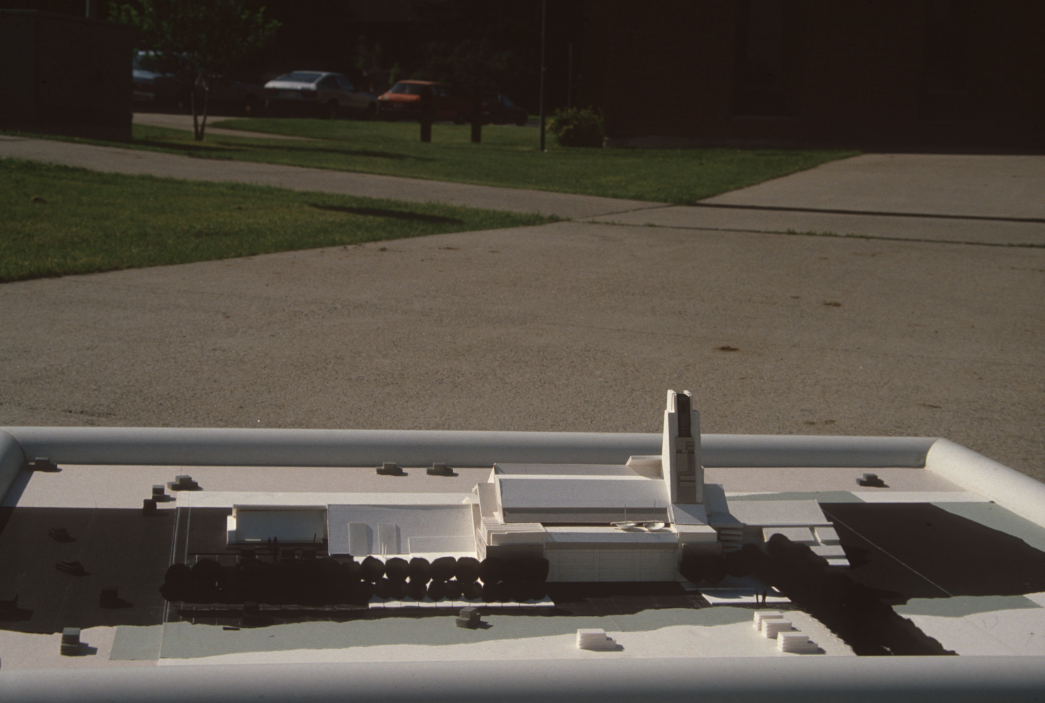









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