

**An All Season  
Waterpark  
in  
Downtown Winnipeg**

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**D9 Thesis**  
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**R.A.I.C. Syllabus  
Design Thesis  
Design Level: D9**

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**An All Season  
Waterpark  
in  
Downtown Winnipeg**

**Thesis Report**

**Submitted to:  
Mr. R. Martin  
The R.A.I.C Syllabus  
Winnipeg Chapter  
May 30, 2002**

# TABLE OF CONTENTS

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## **PART 6 Thesis Report**

|                           |     |
|---------------------------|-----|
| <b>A. Acknowledgments</b> | 1.  |
| <b>B. Introduction</b>    | 2.  |
| <b>C. Abstract</b>        | 3.  |
| <b>D. Design Solution</b> |     |
| 1. Site / Landscaping     | 4.  |
| 2. Building Exterior      | 4.  |
| 3. Building Interior      | 5.  |
| 4. Structural             | 6.  |
| 5. Mechanical             | 6.  |
| 6. Electrical             | 8.  |
| <b>E. Area Analysis</b>   | 10. |
| <b>F. Code Analysis</b>   | 11. |

## **Appendices**

### Appendix A

- Presentation Drawing Index
- Drawings 1-14 Inclusive

### Appendix B

- Model Photograph Index
- Photographs 1-4 Inclusive

### Appendix C

- Letters of Certification Index
- Letters of Certification 1-4 Inclusive

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**PART 6  
Thesis Report**



## A. ACKNOWLEDGMENTS

1.

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In completing this thesis project I will forever be indebted and profoundly grateful to the numerous individuals who made it possible and who selflessly gave of themselves to make it an enjoyable and fulfilling experience.

So much is owed to Mr. Jacques Collin, Architect and educator (deceased), who served not only as my mentor during the proposal, research and program phases of the thesis, but as my design mentor for a number of the design problems/opportunities that preceded it. His unrelenting passion for, and dedication toward architecture and architectural education; and moreover, his unyielding quest to extract the best from his students, has and will forever serve to inspire me as I continue to pursue that "mile" long trek.

And to Mr. Giovanni Geremia, Architect and design mentor during design development of this thesis; Grazie così molto molto per i vostri suggerimenti insightful, le vostre sensibilità misurate e pragmatiche, la vostra eccellenza di comprensione, di sostegno e di consiglio questi molti anni. Were it not for "John", I'd have long ago drowned in the abyss.

My thanks too, to Ms. Catherine Green, Architect and my thesis adviser, for her encouragement, wonderfully wicked imagination, and her constant challenge to me throughout this thesis endeavor to both find, and follow, *"the water"*.

I need also extend my earnest appreciation to a number of thesis consultants who gave of their time, during design development, to provide direction and advice. These include; Mr. Blake Roberts, Landscape Architect, for his insight and receptivity to my own landscape ideas; Mr. Terry Collyer, Engineer and Principal, C.W. Engineering, for helping make what could have been a complex structural solution, relatively simple; Mr. Robin Sukhan, Engineer, for his input on the numerous mechanical systems involved and their design impacts; and Mr. Gilles Bazin, Engineer, for his guidance on matters concerning Part 3 of the code.

In addition, I wish to express my thanks to Mr. Ken Green, Principal, MCW/AGE Engineering; Mr. Ron Lausman, Architect, Amusement Leisure Worldwide; and Mr. Dave Alderson at Divers Den for their wealth of knowledge, their kind assistance and invaluable input provided during the development of the program.

Special thanks are extended to Mr. Grant Meder, Research and Information Manager, Tourism Winnipeg and Ms. Shirley Teranishi, Chief Administrative Officer, Strategic Initiatives, City of Winnipeg for information and data utilized in the preparation of the research report. In addition, much appreciation goes to Mr. Kent Smith of The Forks North Portage Partnership, for a vast quantity of documents and program material relating to a "Waterpark Development Proposal" undertaken for the Forks by Mr. Jack Harper, Recreational Studies, University of Manitoba.

At the conclusion of a dream that began in 1979, mere words are insufficient to express my gratitude to my wife Cathy and my two sons John and Chris for their enduring love and support. A great deal is known of the sacrifice required of a student participating in the RAIC Syllabus program; that my sacrifice pales in comparison to their own, I have no doubt.

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Since the birth of civilization, humankind has had strong emotional and physical attachments to water. A basic tenet of life, it not only nurtures our very existence, but challenges our sensibilities and mystifies our intellect. The intent of this thesis project is to examine these relationships and their related leisure potentialities; and create a water based leisure facility that celebrates these relationships and arouses a variety of personal affections.

The decision to locate an all season waterpark in downtown Winnipeg stems from the need to provide a context to the thesis project, and the desire to address three recurring themes that come to the fore in any discussion concerning the revitalization of Winnipeg's downtown area. These recurring themes are:

1. Downtown revitalization efforts need to focus on entertainment and cultural activities to attract both suburban residents and tourists to the downtown area.
2. Initiatives need to be undertaken to both sustain and increase existing downtown and surrounding neighbourhood residential populations.
3. More opportunities need be provided for inner city, winter season, leisure and recreational activities.

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Architecture, first and foremost, should be about the people it is intended to serve. It should reflect their wants, their beliefs, their consciousness and their dreams. With this principle in mind and water the subject, the goals and objectives for this thesis project are to create an environment that:

- Celebrates the emotional and physical relationships that exist between people and water.
- Responds to the diversity of desires inherent in people as individuals.
- Satisfies society's growing demand for leisure and Winnipeg's need for more winter season, leisure activity opportunities.
- Aids the revitalization efforts of downtown Winnipeg.

Amidst the linearity, right angle geometry, and multiple shades of grey, soars a shimmering swell cresting within a sea of green. An oasis, it beckons forth those emotions, with promises of soothing recompense.

Nestled inside its shores, one finds the sought respite, warmed by the sun's embrace or shaded by the canopy of a tree, all around ponds gently ripple, pools churn with laughter and splaying fountains dance. And strolling about in rapt repose one glimpses a world beneath, and is drawn by scenes of fun and frolic, and the fantasies that lie within.

For deep beneath the surface waits a nether world few have seen, a labyrinth of exotic and piquant delights, cloaked in a cavernous embrace. Vaulted rock faces, sinuous serpentine forms, winsome ponds, enchanting pools, and lush greenery of every kind, reward those who choose to seek diversions of intent. Encountering cascading fountains in resonant song and picturesque portals of strange undersea realms woven about the midst, one is stirred to new flights of fancy, captivated in awe of the vastness before, the colours, the sounds and the throng. And for those that covet a genteel tranquil peace, distant from the reveling din, lay for them tucked away hidden and scattered throughout, niches of more soothing embrace.

## D. DESIGN SOLUTION

4.

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### Site / Landscaping

Thrust in a barren landscape of little more than concrete and asphalt, the site has been developed to provide passersby an oasis of respite and a hint of what lies beyond the walls and towering glazed facade of the imposing structure that swells from its midst. Pedestrians directly access/egress the waterpark from/to either York Avenue or Carlton Street, or indirectly from/to Hargrave Street through the large open landscaped grounds that cover the east end of the site. Vehicle access and egress, on the other hand, is separate from the pedestrian and limited to Edmomton Street on the west.

The entire building is framed by an arrangement of grassed areas, canopied trees, meandering stone paths, fractured limestone lined ponds and splaying water fountains. The intent is to provide all passersby a stimulating array of visual delights, and pedestrians, a variety of visual and audible environments in which they might choose to enjoy the sun's embrace, the shade of a canopied tree, be soothed by a reflecting pond or entertained by a splaying fountain. The east end open grounds are divided into two distinct zones by a 28 meter high, glazed waterwall extension of the building. The waterwall, water cascading and splashing about between its panes and lit in a variety of colours from within, creates an active and constantly changing sculpture that further serves to identify the main pedestrian entrance to the building.

North of the waterwall, exists a more active and interactive environment. With open grassed areas, a gently rising berm and ponds featuring numerous water fountains, this area is intended to stimulate and entertain while masking the vehicular traffic noise that emanates from a bustling York Avenue. South of the waterwall, tied into the Elm tree shaded expanse of Broadway Avenue, lay tree clustered, shaded grassed areas and reflecting ponds intended to provide a more passive, soothing and relaxed environment removed from the throng of the street.

Trees throughout the landscaped site would be confined to a limited variety of deciduous and coniferous species, each clustered and repeated throughout the site to provide an element of continuity and create a sense of progression as one moves from cluster to cluster. The grounds and surrounding landscaped areas would, for the most part, be illuminated at night by the lighted waterwall and the backlit structural glazing that extends out and over.

### Building Exterior

Located in the middle of a downtown dominated chiefly by monolithic and monochromatic buildings designed to fulfill our livelihood and domestic needs, the waterpark building is intended to provide a strong contrasting visual statement celebrating our notions of leisure. With water the leisure subject, the building's form and finish is intended to capture the sense of power, movement and instability, characteristic of water and invoke in one an image of aquatic sensibility.

Swelling up from its water and fractured limestone bed and rolling across the skies, the gently curved and wrinkled aluminum roof skin is intended to capture and reflect the moods of a constantly changing sky. On bright, sunny, clear days the roof appears to dance, on cloudy days it ripples and undulates, and under overcast skies it solemnly broods. Beneath its leading edges that extend out far beyond its base, soar undulating sheets of glass, its natural reflective qualities adding movement to



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the whole as it mirrors the action below. Tinted in three varying shades of azure in three horizontally undulating bands; the lightest shade at the base, the darkest shade the upper reaches; adds movement and a sense of instability to the glazed facade, and the feeling that what lies above is about to come crashing down.

### **Building Interior**

The waterpark's interior is divided into two public access zones. The Water Garden and Trails and waterpark Offices located above grade, Parking, Aquatic and Grotto level activities located below grade.

#### **Water Garden and Trails**

With three separate street level access points, The Water Garden and Trails facilitate pedestrian access to the waterpark's Aquatic level. In addition, the main trails located within, maintain the traditional north/south pedestrian link that existed between Broadway and York Avenues before Carlton Street was closed to make way for the waterpark. The Water Garden and Trails provide year round green space in a controlled environment and are designed to both stimulate and soothe. Adjacent the main trails, pedestrians are treated to an extensive fish inhabited, rock pond system replete with numerous fountains. These main trails, as well, afford pedestrians an opportunity to glimpse and to experience, to different degrees, the various Aquatic leisure activities below. Off these main trails, secondary trails access a more tranquil environment, devoid of fountains, where tucked away seating nodes yield varying degrees of privacy and a variety of interior and/or exterior views.

Vegetation throughout the Water Garden and Trails would be confined to a limited variety of species, each clustered and repeated throughout the space to provide an element of continuity. Shades of green would predominate plant and tree selection with incidental colour provided by a few well placed flowering plant and shrubs.

#### **Aquatic and Grotto Levels**

The Aquatic and Grotto level interior have been crafted to evoke images of a lost undersea world. At the vaulted over Aquatic level, the perimeter elevations are vertically broken down into three distinct levels. Bold, rugged, fractured, the lower level is sculpted to replicate an open limestone cavern that offers a sense of solidity and serves to set up the cloistered caves that lay in the recesses beyond. At the mid level, textured concrete, tinted glass and coloured prefinished aluminum panels allude to man's incursions and stands in contrast to the levels below and above. Colourful, free flowing and sinuous, the upper level is molded in the fancy of shells in which immense portals are framed, through and beyond which lays the azure tinted structural glazing system, adding to the illusion of water above.

Both within and east of this cavernous open space lay a series of branching access tunnels and interconnected smaller chambers that harbor various other Aquatic activities, Service and support spaces. Fashioned in the tortured and free flowing manner reminiscent of limestone solution caves, this environment is replicated again in the Grotto spaces another level below.

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Accessed by a winding and descending tunnel, the Grotto consists of a number of smaller antechambers clustered about a larger central chamber. Each of these antechambers embrace an activity that, partaken of in counter clockwise succession, replicate the experience of a traditional Roman bathhouse. In addition, these darker recesses of the Aquatic and Grotto levels would be illuminated by the underwater lit ponds, pools, river run and back lit salt water aquariums that sit adjacent and within.

Vegetation at these levels would be limited largely to the vaulted ceiling area over the Aquatic level and would mirror in many respects the concept developed for the Water Garden and Trails. Species selection, however, would vary somewhat, and be placed to greater effect to provide contrast against constructed elements, define activity areas and establish cluster zones, and to reduce the volumetric scale of the space.

### **Structural**

The structural systems employed for the construction of the waterpark are generally straight forward in principle, but nonetheless monumental in scope and execution. The areas and volumes of excavation removed, concrete supplied and spaces spanned are, if not enormous, at least substantial. Rising from the bowels of the earth, the structure in essence consists of reinforced concrete, structural glazing and an aluminum and glass roof skin. Because of the depths of excavation involved, extensive use of sheet pile shoring and dewatering techniques would be undertaken during this operation. In addition, considerable subsurface drainage and waterproofing measures would be employed to overcome hydrostatic pressures. Otherwise the building would be supported by reinforced poured in place concrete piles founded on bedrock. All floors throughout the building would consist of reinforced concrete structural slabs, and all foundation walls, exterior and interior load bearing walls, columns and beams similarly constructed of reinforced concrete. The roof support system would consist of custom fabricated, hollow tube, aluminum joists and framing as required to support the structural glazing, skylight glazing and insulated aluminum panel skins.

### **Mechanical**

For operational and efficiency purposes, mechanical rooms are strategically located throughout the waterpark thereby reducing both the size and length of the various plumbing, HVAC and water treatment delivery systems necessary for the facility's operation. Mechanical spaces located at the Grotto and Aquarium levels would house the majority of plumbing and water treatment systems. The majority of HVAC systems would be located within the Ground and Office level Mechanical rooms. In an effort to minimize the visual impact of ventilation and air conditioning ductwork located within the vaulted over Water Garden and Trails and Aquatic level spaces, the hollow sections of the roof support joists would be utilized for these purposes.

Following is a brief outline of the waterpark facility's mechanical systems:

#### **Plumbing**

The sanitary waste system would utilize cast iron piping and would be connected to an available street service. Similarly, cast iron piping would be utilized for storm drainage; collected and

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routed to grade. Metered and connected to an available street service, domestic water would be supplied utilizing copper piping. Gas-fired heaters with storage tanks would be employed to provide domestic hot water.

### **Heating**

Gas-fired boilers would be employed to provide heat to a water/glycol solution which in turn would be pumped throughout the building through steel piping. A combination of horizontal and vertical fin tube radiation and cabinet type heaters would be located at above ground exterior walls and strategically sized and placed to minimize their visual impact. In-floor heating would be provided throughout the Grotto and Aquatic level floors.

### **Ventilation**

A number of air handling units would be employed to provide ventilation to suit various areas and occupancy requirements throughout the waterpark. Areas with similar occupancy requirements would be served by the same air handling unit. Each unit would consist of a fan, heating coil, cooling coil, mixing dampers, filters and if required, a humidifier. Air would be distributed throughout the space by galvanized ductwork. Corrosion resistant diffusers, grilles and ductwork would be utilized in exposed areas and selected to suit space aesthetics.

Outside air volumes would be provided to suit the maximum number of occupants, as dictated by code, as well as to control building humidity. To save energy, carbon dioxide sensors would be utilized to reduce required volumes when occupants are not present in the space/area. Outside air would also be called upon for cooling purposes when outside air temperature and conditions are appropriate.

The underground parking areas would be exhausted to the outside and supplied with heated make-up air. Carbon monoxide sensors would be employed to cycle the systems as required to save energy. Washroom spaces as well would be exhausted to the outside.

### **Air-Conditioning**

For cooling, an environmentally compatible refrigerant would be utilized and a chiller with an in-ground cooling tower employed to provide chilled water to the air handling units. The chilled water would be pumped throughout the building through steel piping.

### **Water Treatment**

To reduce the effects of corrosion, heating and cooling medium would be chemically treated. Fresh water pools, minerals pools and salt water aquariums would each be individually filtered, heated and chemically treated to suit their specific requirements. Although the Salt Water Room, located at the Grotto level, would handle the bulk storage and treatment of salt water, aquariums would be locally maintained and serviced within their respective service spaces.

### **Fire Protection**

With the possible exception of the Aquatic activity area located directly under the high vaulted ceiling/roof of the building, the entire facility will be sprinklered. Water would be provided from



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an available street service. The system would be zoned as required and sprinkler heads selected to suit space aesthetics. Fire extinguishers, in areas required by code, would be concealed in fully recessed cabinet enclosures.

### **Controls**

Located in the Engineer's Office, a direct digital (electronic) control, energy management system would be employed to control all equipment providing environmental requirements.

### **Electrical**

Lighting used to effect can have a tremendous and dramatic impact upon space quality and can be utilized to evoke a wide variety of emotions and moods. Six types of artificial lighting systems would be utilized for both the interior and exterior areas of the waterpark. Types would include emergency, general purpose, task, special purpose/feature, mood and underwater lighting. These systems would be used in both isolation and in combination with one another and employ a variety of lighting sources, diffusion classifications and veiling reflection techniques. This variety of systems, sources, classifications and techniques would be used to dramatic effect throughout the waterpark as appropriate, and would be controlled through the use of a theatrical and dimming intensity lighting control system located in the Office area's Communications Room.

Following is a brief description of the waterpark facility's other electrical systems:

### **Power**

Both normal and emergency/essential power would be provided for the waterpark facility. Service would consist of a 347/600 volt, 3 phase, 4 wire system to provide power for both high intensity discharge and fluorescent lighting systems, large HVAC loads, plumbing equipment and vertical transportation equipment. Dry type transformers would provide 120/208 volt, 3 phase, 4 wire service for lesser voltage equipment. Ground fault interceptor systems would also be provided for all water distribution equipment. In the event of power failure, an emergency generator would be provided to maintain emergency lighting and life safety systems, critical HVAC and aquarium support systems. The generator would be housed in a self contained fire rated enclosure located within the building's Electrical Room.

### **Communications**

One audio/visual and three audio communication systems would be employed in the waterpark facility. The audio/visual video system would be provided primarily for entertainment purposes and employ a number of viewing screens strategically located throughout the Grotto and Aquatic levels of the waterpark. Other audio systems include a telephone system for both Office area use and public convenience, a public address system for emergency purposes, and a computer/data generated audio system for pre-recorded music and background sounds. The control centre, for all but the telephone system, would be located in the Office area's Communications Room.

### **Security**

Two security systems would be provided for the waterpark facility. The first, a door alarm system, would be employed to activate at all exterior doors and interior doors deemed necessary



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to guard against unauthorized after hours access. The second, a closed circuit video surveillance system, would be employed to guard against unauthorized access to the waterpark and other restricted areas, and to monitor waterpark operations for safety and efficiency. The heart of this system and its CCTV screens would be located in the Office area's Communications Room.

**Life Safety**

For occupant life safety purposes, a zoned fire alarm and detection system complete with emergency and exit lighting would be provided in conformance with 1995 NBC, NFC and NFPA requirements. The annunciation panel would be mounted on the elevator shaft wall just inside the east entrance to the Water Garden and Trail area.

## E. AREA ANALYSIS

10.

All programmed net area space requirements have been achieved within the established acceptable range of +/- 10%; the majority provided on the plus side of the range. The total gross floor area requirement for Administration, Aquatic, Service and Support activities was programmed at 24,470 m<sup>2</sup> and an additional 18,587 m<sup>2</sup> programmed for Parking. The waterpark facility as designed; provides approximately 25,200 m<sup>2</sup> and 19,800 m<sup>2</sup> respectively, resulting in an increase of 3.0 % and 6.5 % over programmed requirements. Total gross building area for the waterpark as designed is 45,000 m<sup>2</sup>.

### Gross Area Summary

| <u>Space</u> | <u>Programmed</u>     | <u>Designed</u>       | <u>Variance</u> |
|--------------|-----------------------|-----------------------|-----------------|
| Activity     | 24,470 m <sup>2</sup> | 25,200 m <sup>2</sup> | 3.0 %           |
| Parking      | 18,587 m <sup>2</sup> | 19,800 m <sup>2</sup> | 6.5%            |
| Totals       | 43,057 m <sup>2</sup> | 45,000 m <sup>2</sup> | 4.5%            |

In such an unusual structure, it could be difficult to implement traditional building code measures. As a result, it is expected that equivalencies in a number of areas would need to be negotiated to meet the intent of the Code. Alternatives in such cases can provide an increased level of safety beyond that which might be achieved by meeting the letter of the code. Similarly large structures of an "Assembly" nature have been designed with three goals in achieving life safety; to detect fire conditions, to provide occupant notification followed by safe and efficient egress, and to contain and control fire and smoke.

### **Building Classification**

Under the requirements of the 1995 National Building Code, the project would be classified as a Group A, Division 3, Assembly occupancy. As stated under Article 3.2.2.29, this classification would permit a sprinklered, noncombustible constructed building of any height and any area. Floor assemblies would be required to be fire separations having a 2 hour fire resistance rating, and mezzanine and roof assemblies a 1 hour fire resistance rating. Load bearing devices would be required to have a fire resistance rating not less than the assembly they support.

### **Fire Separations / Compartmentation**

Although the project contains a number of different occupancies, all are provided to serve the waterpark and waterpark patrons. As a result, the code requirements for fire separations of "major occupancies" need not strictly apply. Nevertheless, in order to provide some level of compartmentation, the fire separation ratings could be used as guidelines for separating major components of the building. With these guidelines in mind and consideration given to the fact that a number of equivalencies would need to be negotiated with various jurisdictional authorities, the following separations could be proposed:

- Chemical Storage room, underground Parking garage including ramps, and all exit stairs would be fire separated from the remainder of the building with a fire resistance rating of not less than 2 hours.
- Ground level Water Garden and Trails, including the office level Office and Mechanical rooms, would be fire separated from the adjacent Aquatic area with a fire resistance rating of not less than 1 hour. The Office area, Mechanical and Garden Support rooms within the Water Garden and Trails area would similarly be fire separated with a fire resistance rating of not less than 1 hour.
- Grotto level Mechanical and Salt Water Storage rooms would be fire separated from adjacent spaces with a fire resistance rating of not less than 1 hour.
- The west end, Grotto and Ground level support room blocks would be fire separated from the adjacent Aquatic area with a fire resistance rating of not less than 2 hours. All support rooms located within these two blocks; excluding Washrooms, First Aid and Chemical Storage rooms, and Offices; would individually be fire separated with a fire resistance rating of not less than 1 hour.
- All other Aquatic level Mechanical, Storage and Aquarium rooms including the entire block of Staff rooms would be fire separated from adjacent spaces with a fire resistance rating of not less than 1 hour.

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Although the entire building is required to be sprinklered, it is recognized that sprinklering of the Aquatic activity area, located directly under the high vaulted ceiling/roof of the building, might be determined to be ineffective. In this event, other measures would need to be considered to provide equivalent fire detection and property protection.

**Exiting**

Travel distances, exit locations and widths have been provided to meet or exceed the exiting requirements of the Code according to the appropriate occupancy and its floor area. With respect to the Aquatic level, the program identifies a maximum occupant load for each aquatic and aquatic related activity based on a "high level quality" experience. Not including the programmed Deck Space occupant load of 480 patrons, the majority of whom would be engaged in various aquatic activities, the program identifies an occupant load of 2,130 patrons, excluding staff. Nevertheless, the total occupancy load for this level would be maximized based upon the exiting capacity provided for this floor area. As such, including patrons and staff, the Aquatic level of the project will accommodate a total maximum occupant load of 2,400.



**APPENDICES**

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## Appendix A

### - Presentation Drawing Index:

- 01 Introduction / Goals and Objectives
- 02 Image
- 03 Concept
- 04 Program
- 05 Roof Plan
- 06 Office Plan
- 07 Ground Plan
- 08 Parking Plan
- 09 Aquatic Plan
- 10 Grotto Plan
- 11 Elevations
- 12 Elevations
- 13 Building Sections
- 14 Building Sections and Detail

## INTRODUCTION

Since the birth of civilization, humankind has had strong emotional and physical attachments to water. A basic tenet of life, it not only nurtures our very existence, but challenges our sensibilities and mystifies our intellect. The intent of this thesis project is to examine these relationships and their related leisure potentialities; and create a water based leisure facility that celebrates these relationships and arouses a variety of personal affections.

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1. Downtown revitalization efforts need to focus on entertainment and cultural activities to attract both suburban residents and tourists to the downtown area.
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3. More opportunities need be provided for inner city, winter season, leisure and recreational activities.

## GOALS AND OBJECTIVES

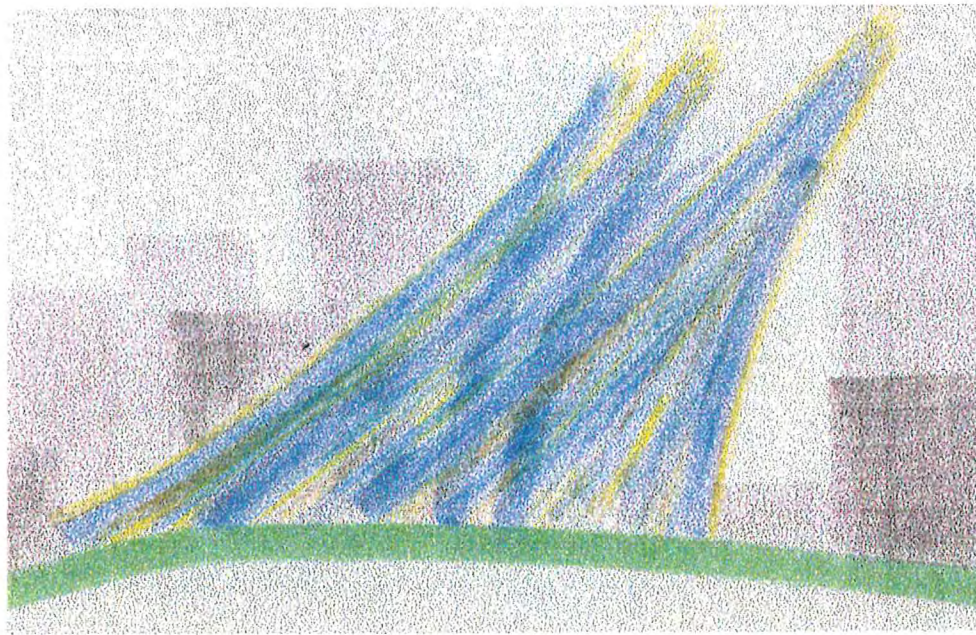
Architecture, first and foremost, should be about the people it is intended to serve. It should reflect their wants, their beliefs, their consciousness and their dreams. With this principle in mind and water the subject, the goals and objectives for this thesis project are to create an environment that:

- Celebrates the emotional and physical relationships that exist between people and water.
- Responds to the diversity of desires inherent in people as individuals.
- Satisfies society's growing demand for leisure and Winnipeg's need for more winter season, leisure activity opportunities.
- Aids the revitalization efforts of downtown Winnipeg.





## IMAGE



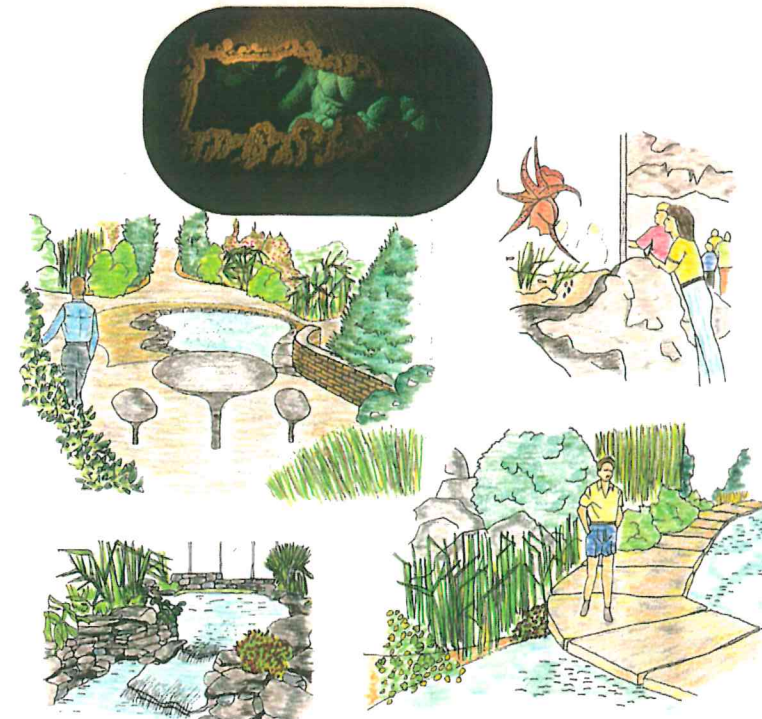
Amidst the linearity, right angle geometry, and multiple shades of grey, soars a shimmering swell cresting within a sea of green. An oasis, it beckons forth those emotions, with promises of soothing recompense.

Nestled inside its shores, one finds the sought respite, warmed by the sun's embrace or shaded by the canopy of a tree, all around ponds gently ripple, pools churn with laughter and splaying fountains dance. And strolling about in rapt repose one glimpses a world beneath, and is drawn by scenes of fun and frolic, and the fantasies that lie within.

For deep beneath the surface waits a nether world few have seen, a labyrinth of exotic and piquant delights, cloaked in a cavernous embrace. Vaulted rock faces, sinuous serpentine forms, winsome ponds, enchanting pools, and lush greenery of every kind, reward those who choose to seek diversions of intent. Encountering cascading fountains in resonant song and picturesque portals of strange undersea realms woven about the midst, one is stirred to new flights of fancy, captivated in awe of the vastness before, the colours, the sounds and the throng. And for those that covet a genteel tranquil peace, distant from the reveling din, lay for them tucked away hidden and scattered throughout, niches of more soothing embrace.



# CONCEPT



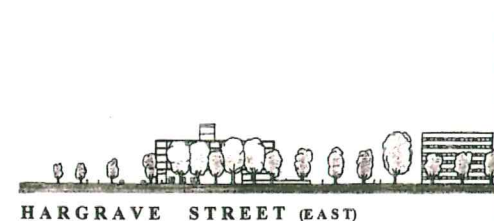
WATER GARDEN / TRAILS



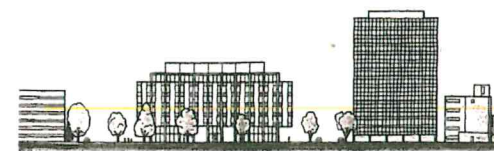
AQUATIC ACTIVITIES



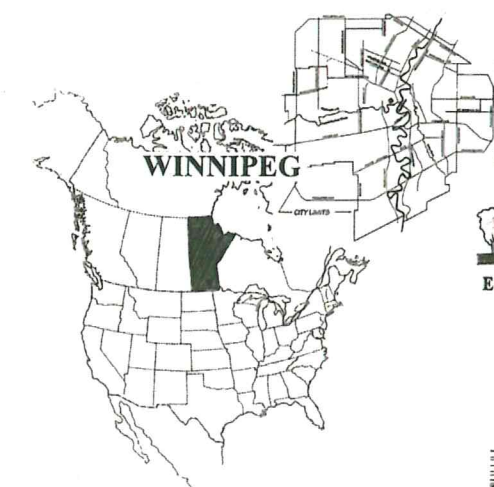
LEISURE



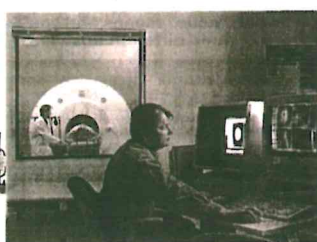
HARGRAVE STREET (EAST)



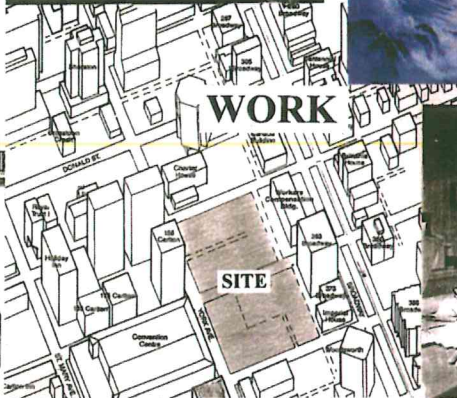
PUBLIC LANE (SOUTH)



WINNIPEG



EDMONTON STREET (WEST)

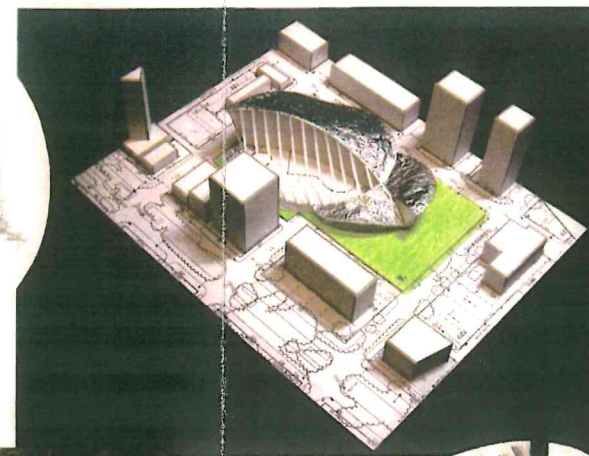
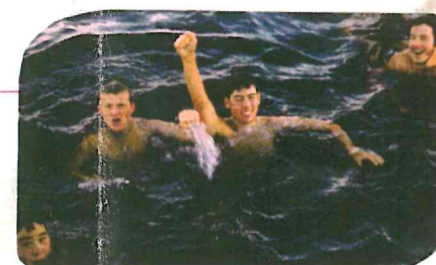


WORK

SITE

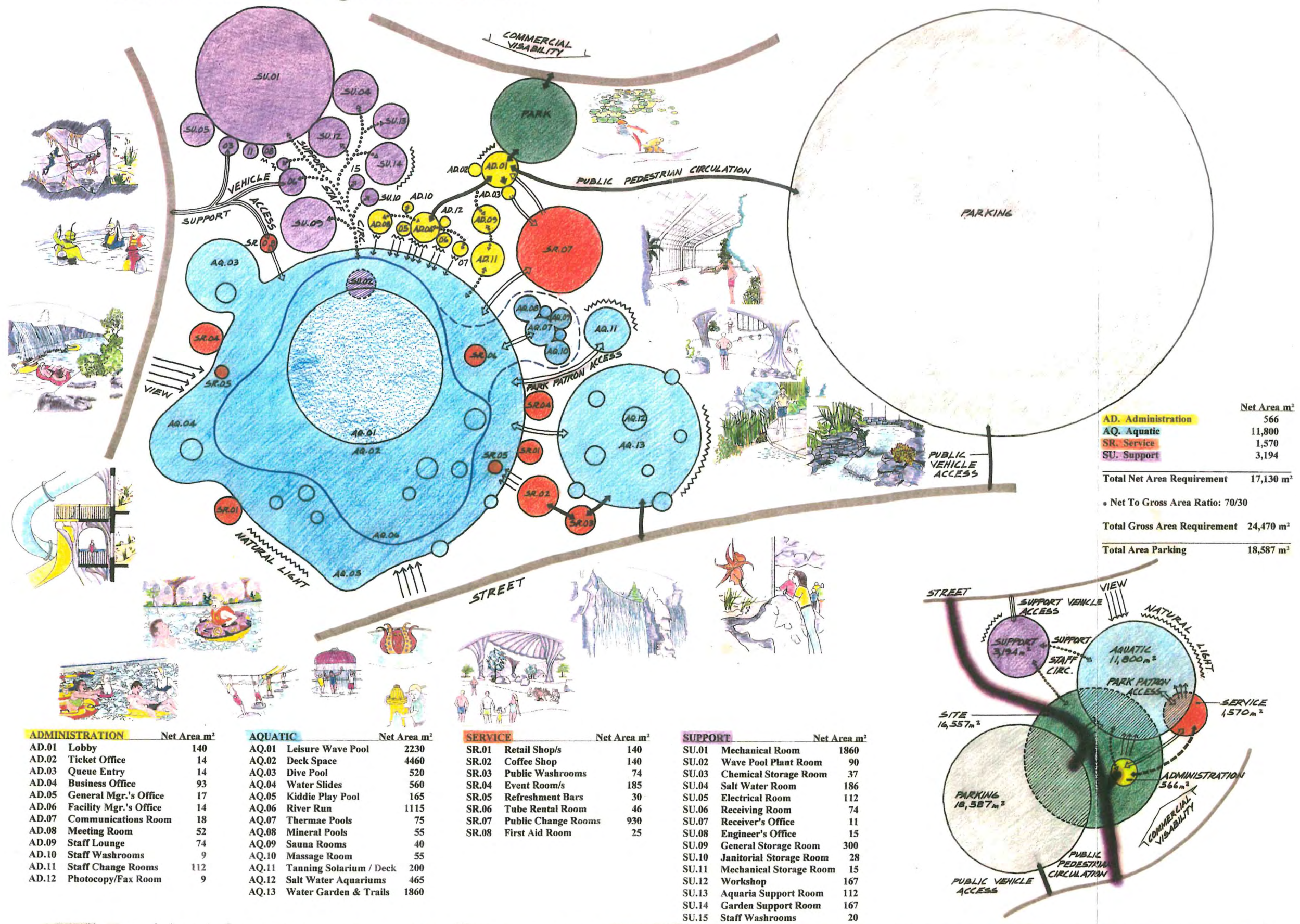


YORK AVENUE (NORTH)

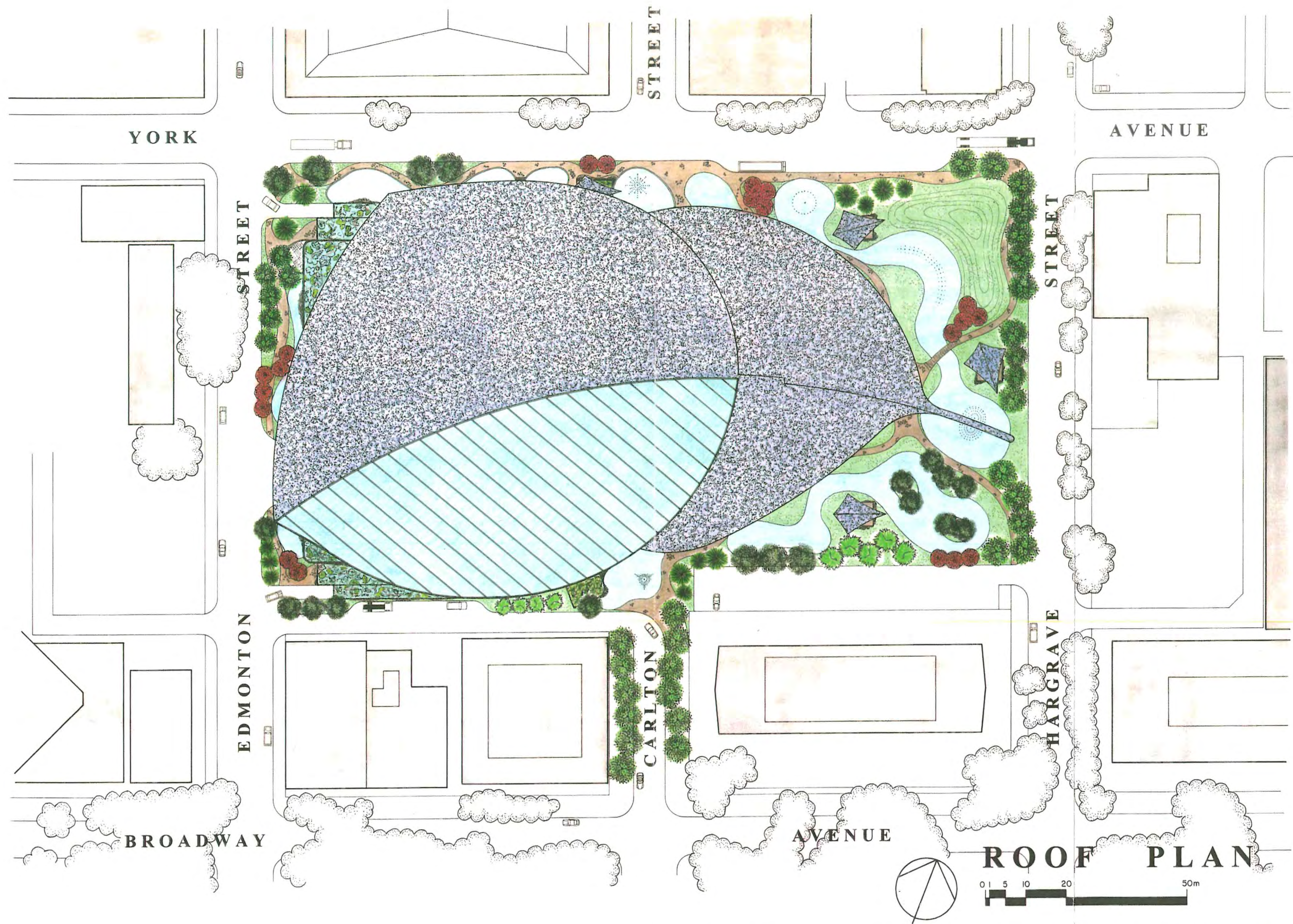




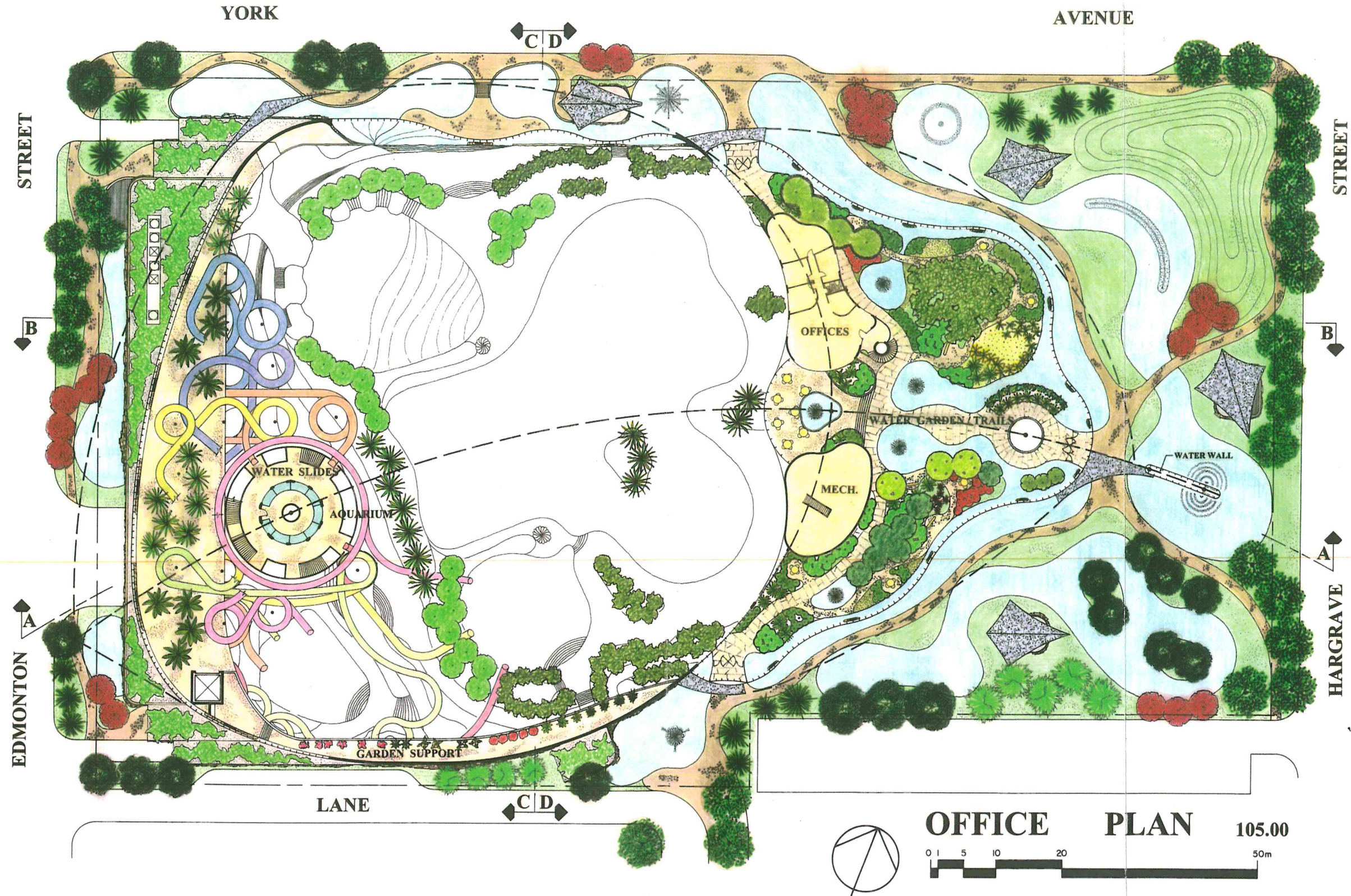
PROGRAM REQUIREMENTS







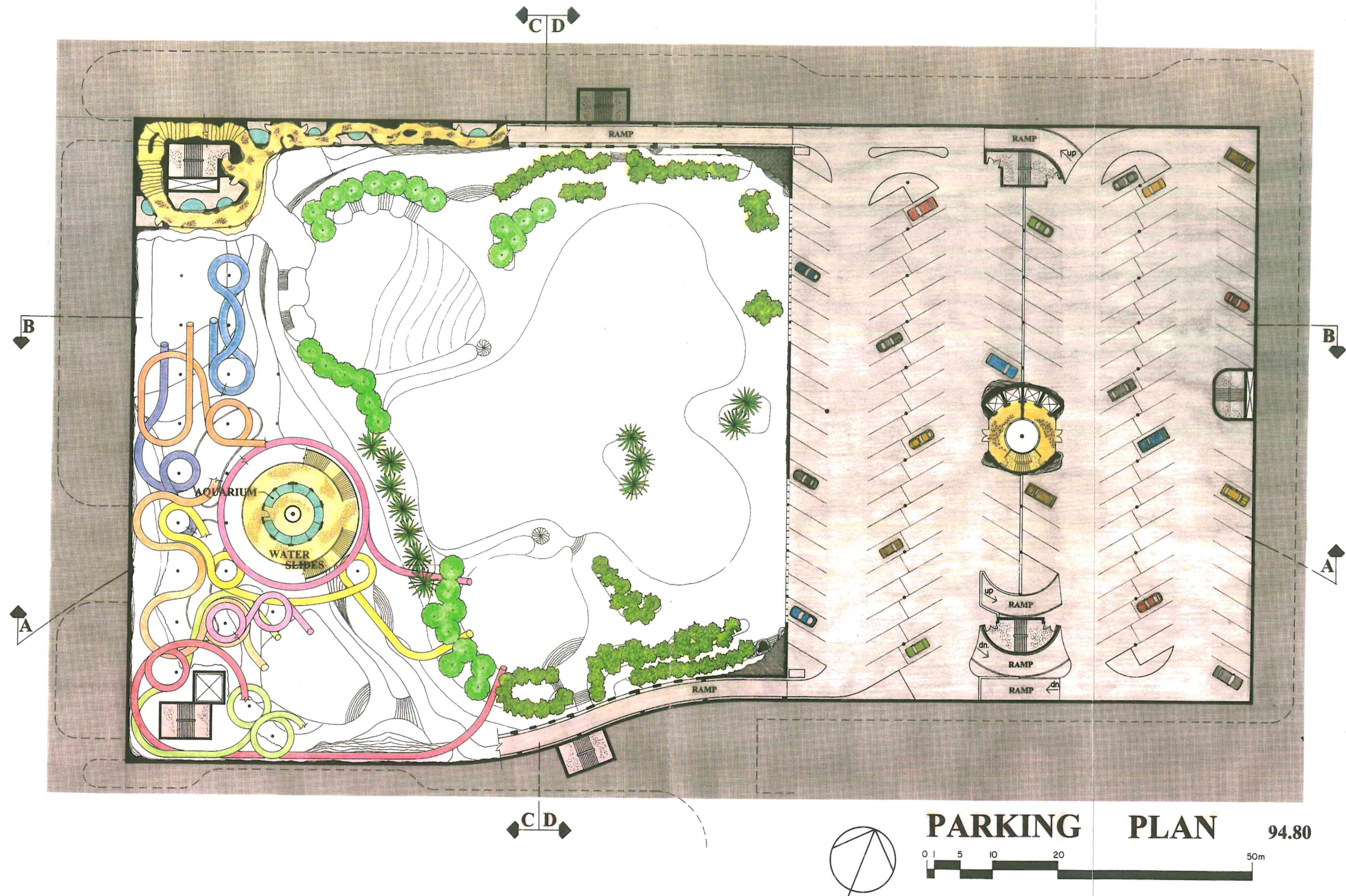








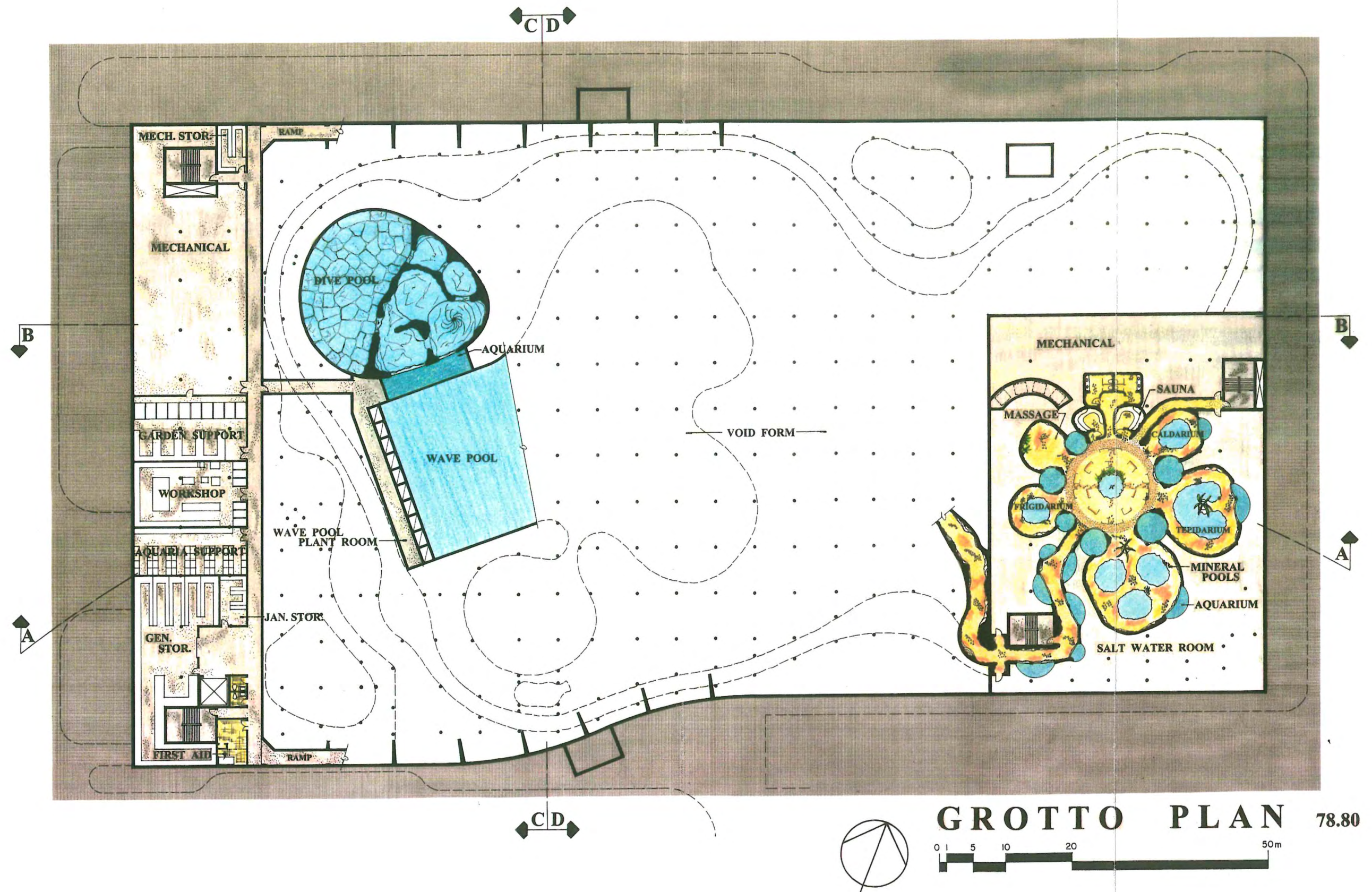




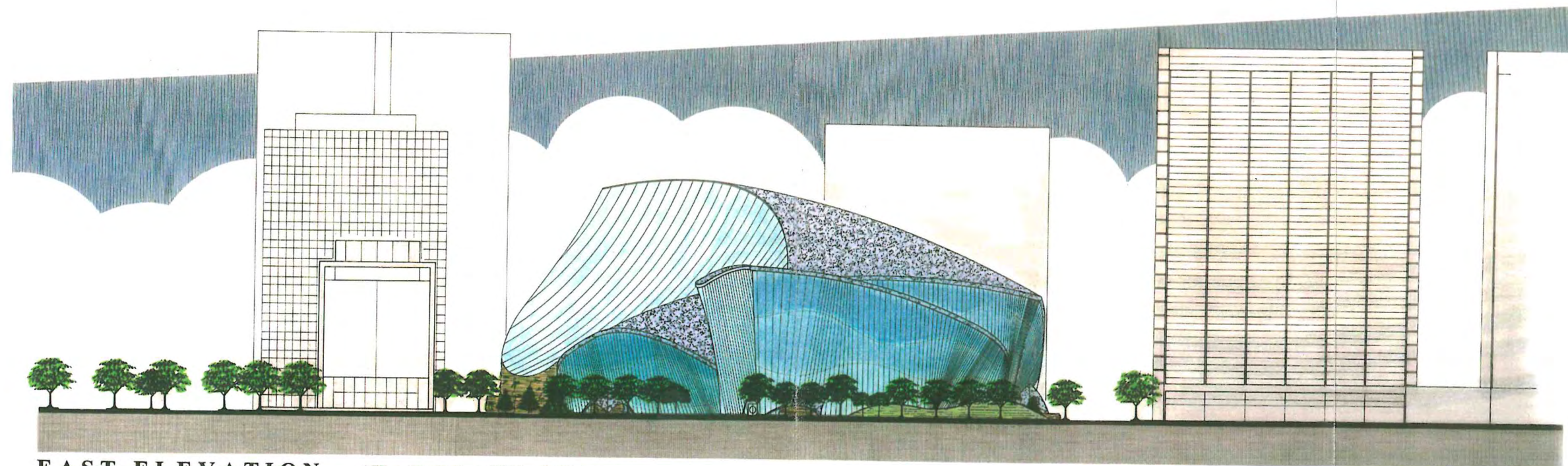




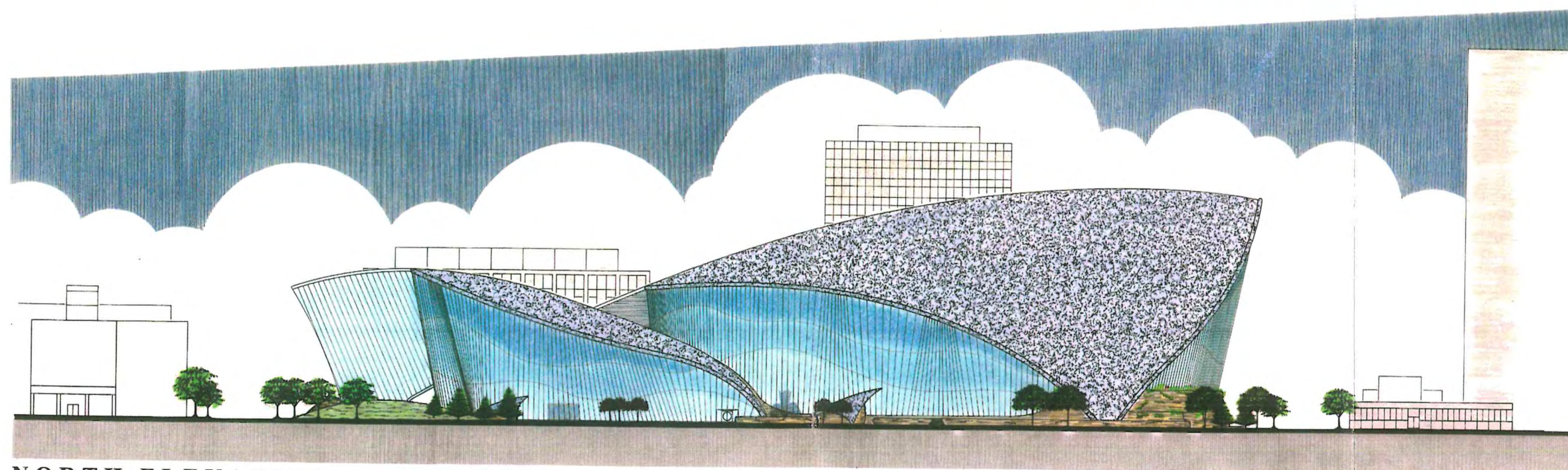






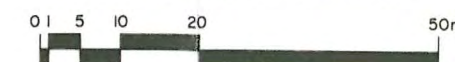


EAST ELEVATION (HARGRAVE ST.)

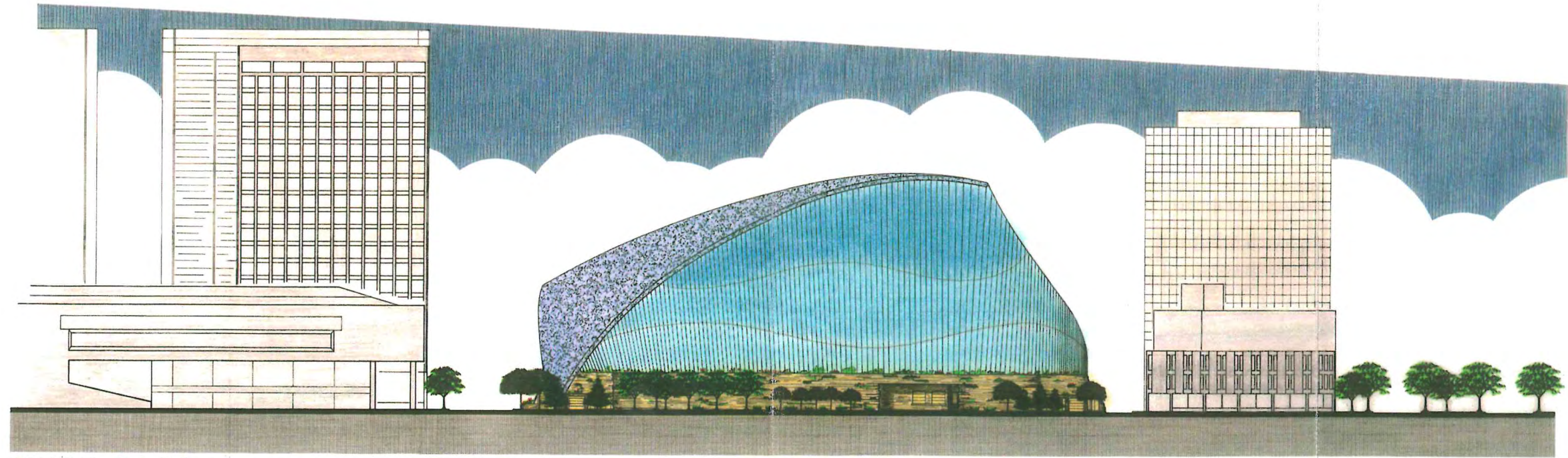


NORTH ELEVATION (YORK AVE.)

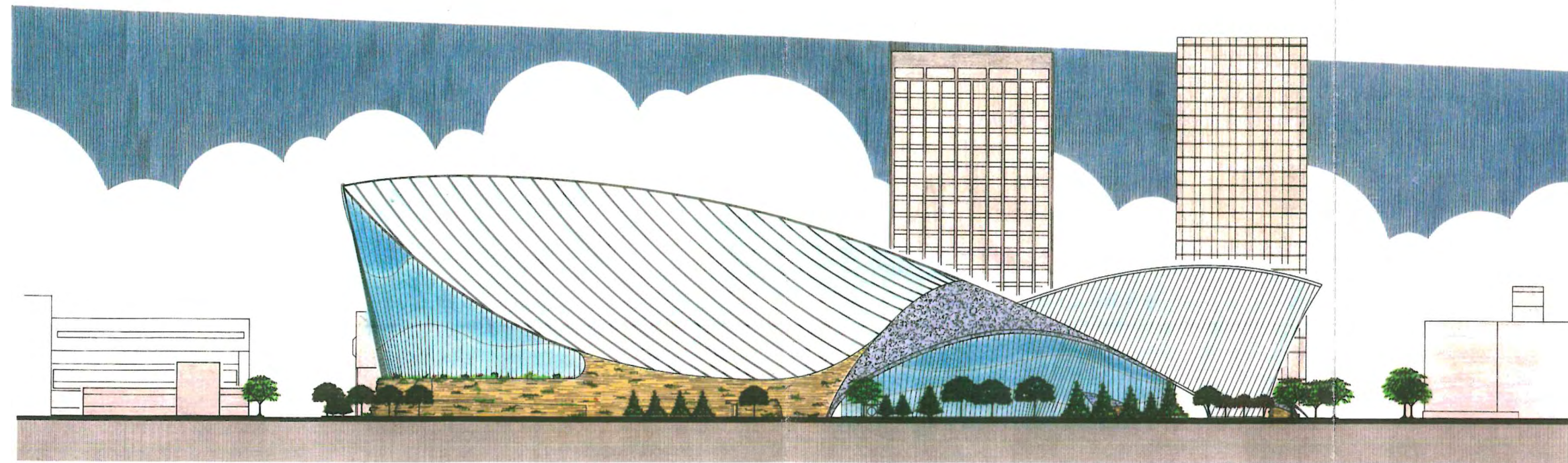
ELEVATIONS





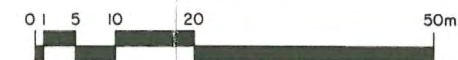


WEST ELEVATION (EDMONTON ST.)

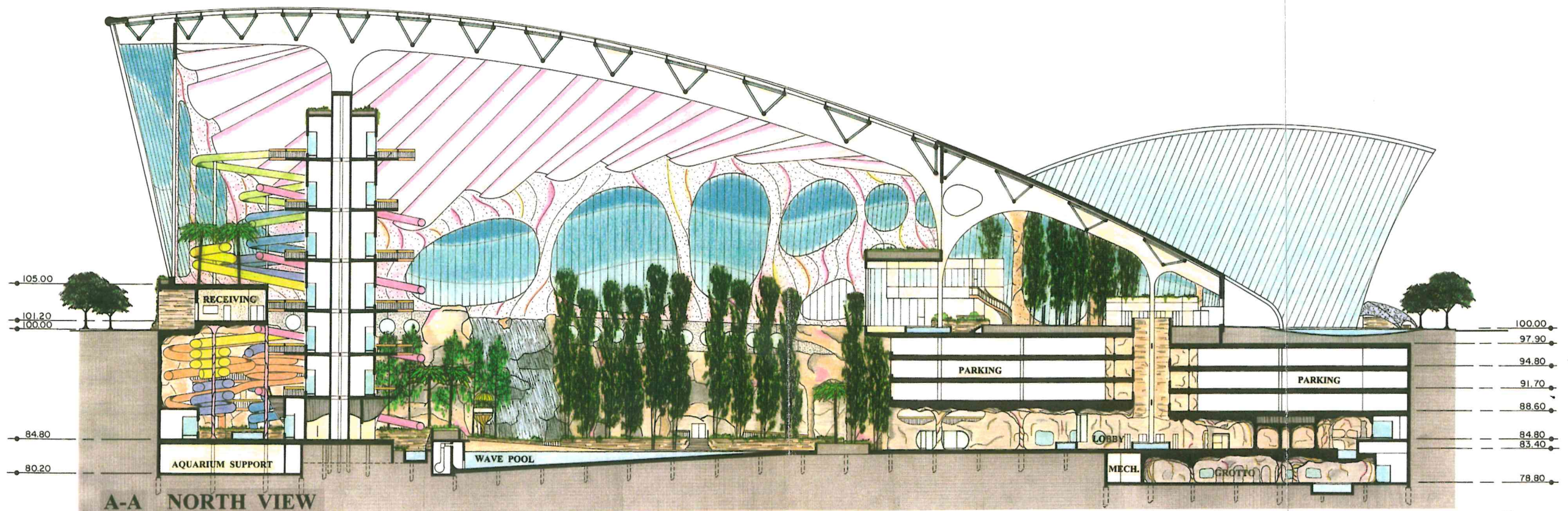
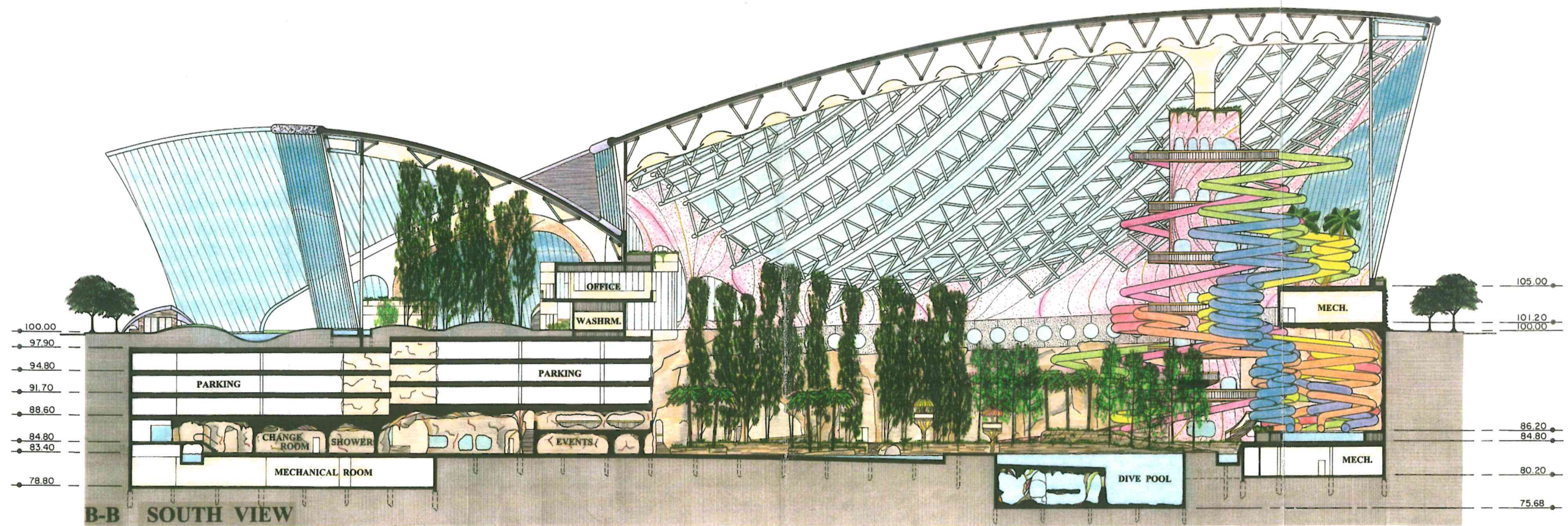


SOUTH ELEVATION (LANE)

ELEVATIONS



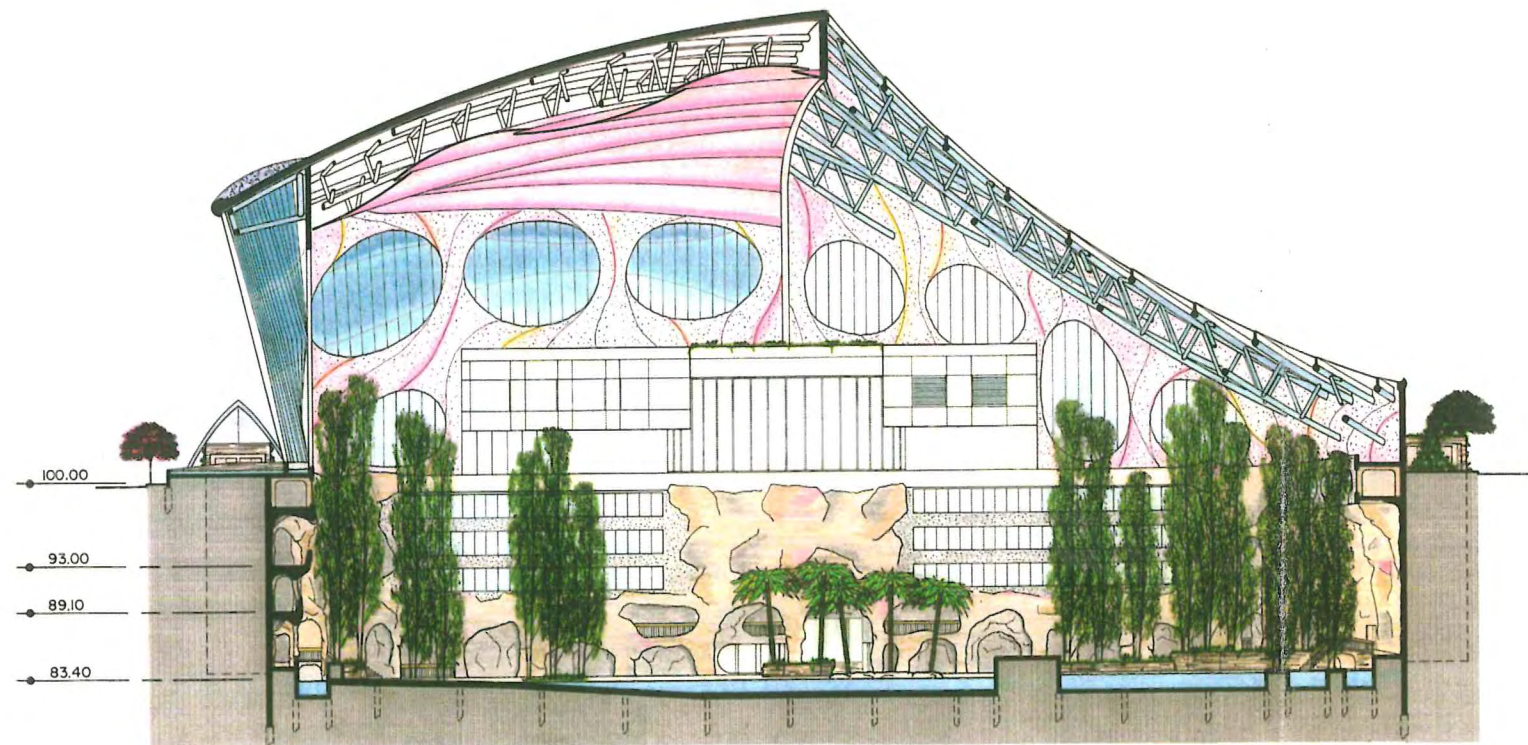




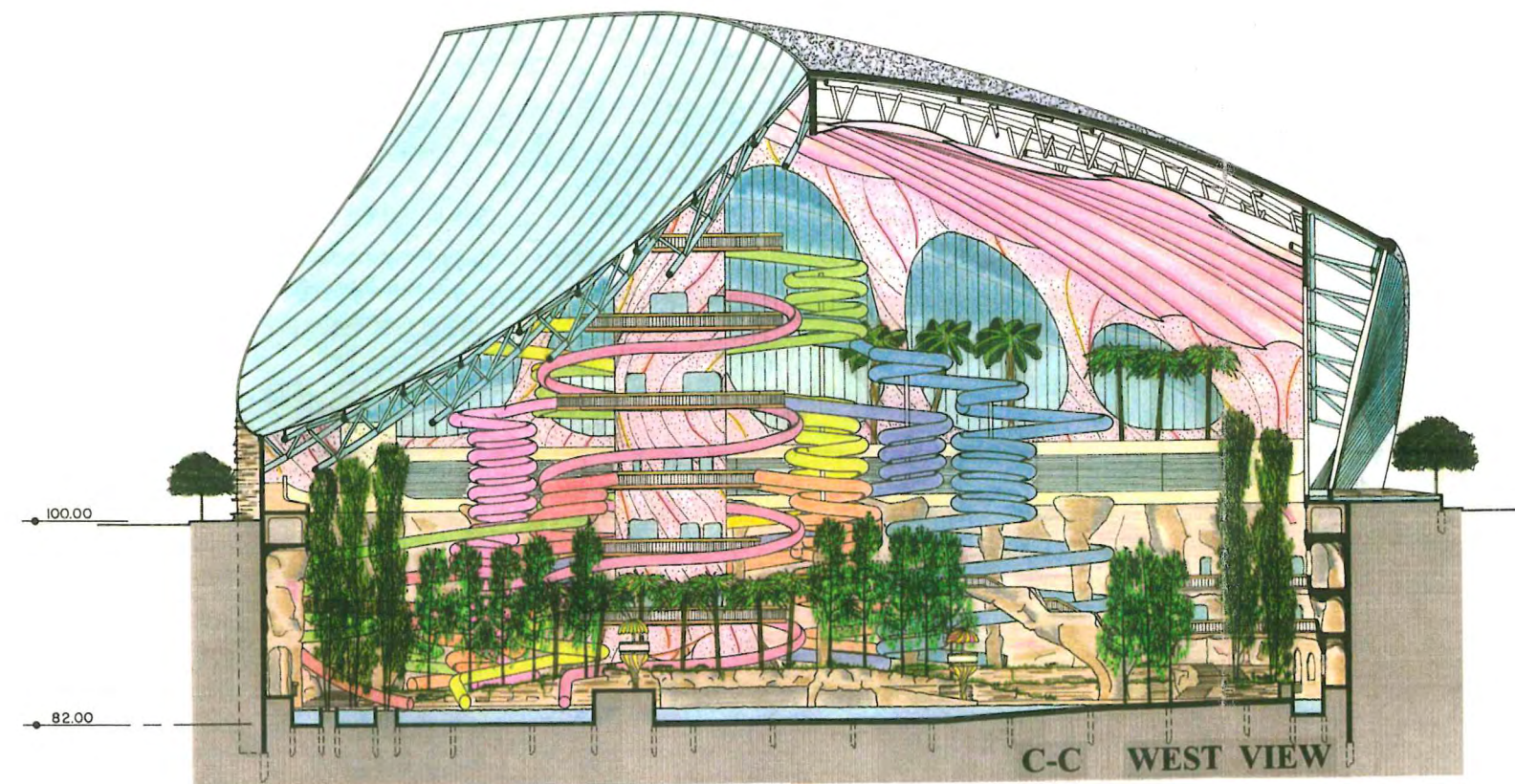
**BUILDING SECTIONS**





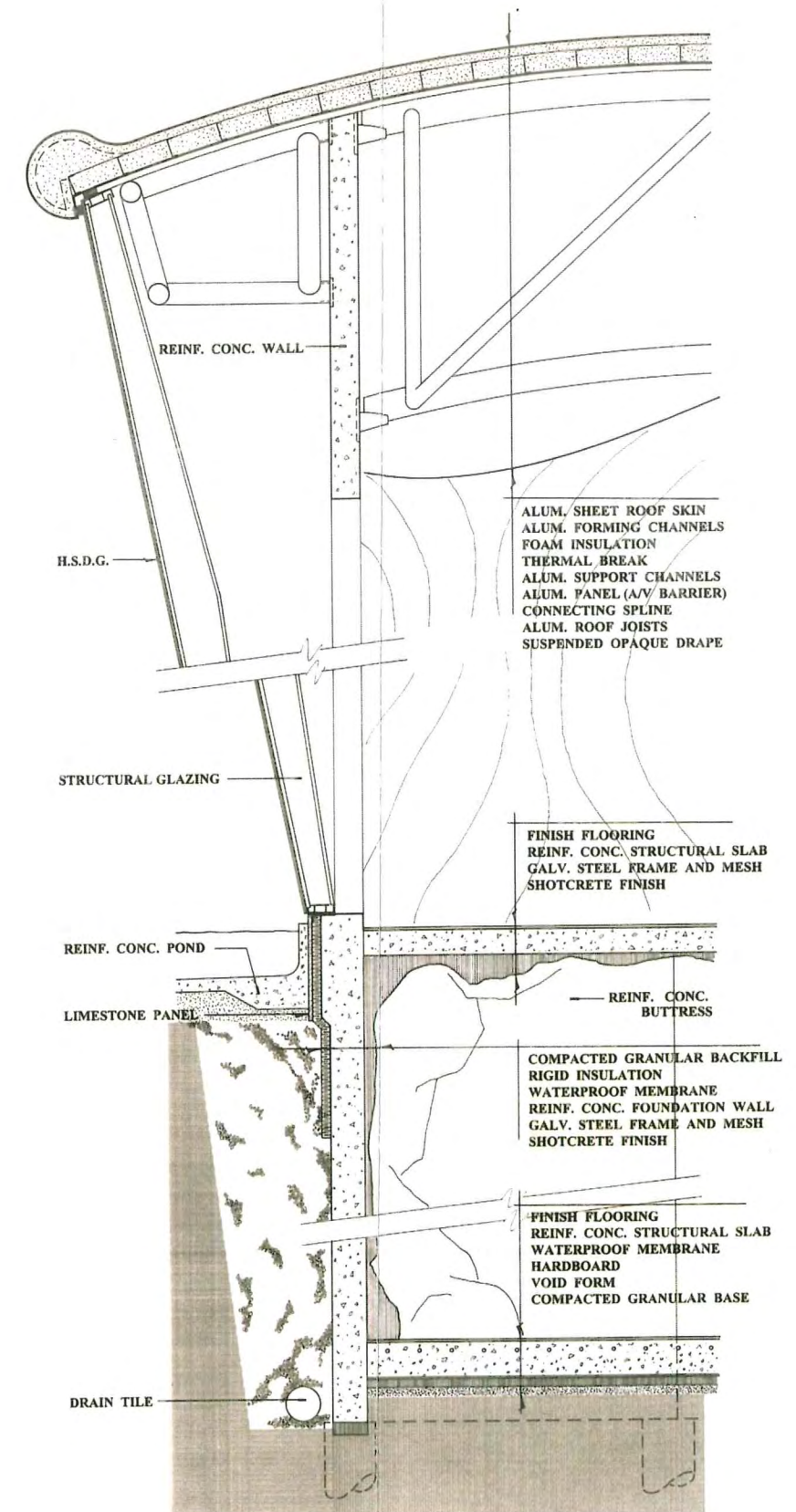
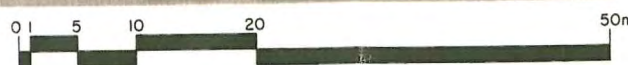


D-D EAST VIEW



C-C WEST VIEW

## BUILDING SECTIONS



DETAIL 1:250



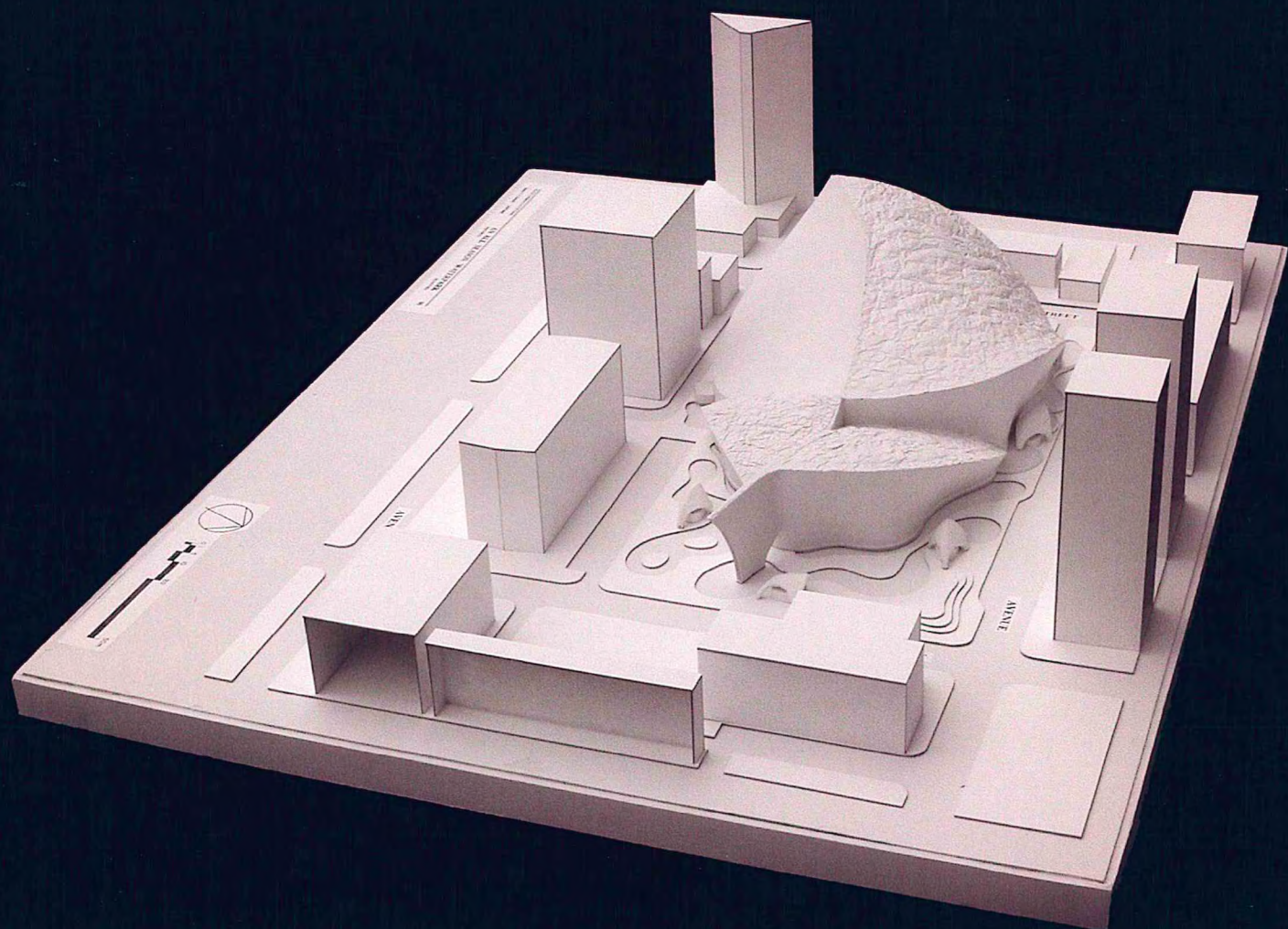
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# Appendix B

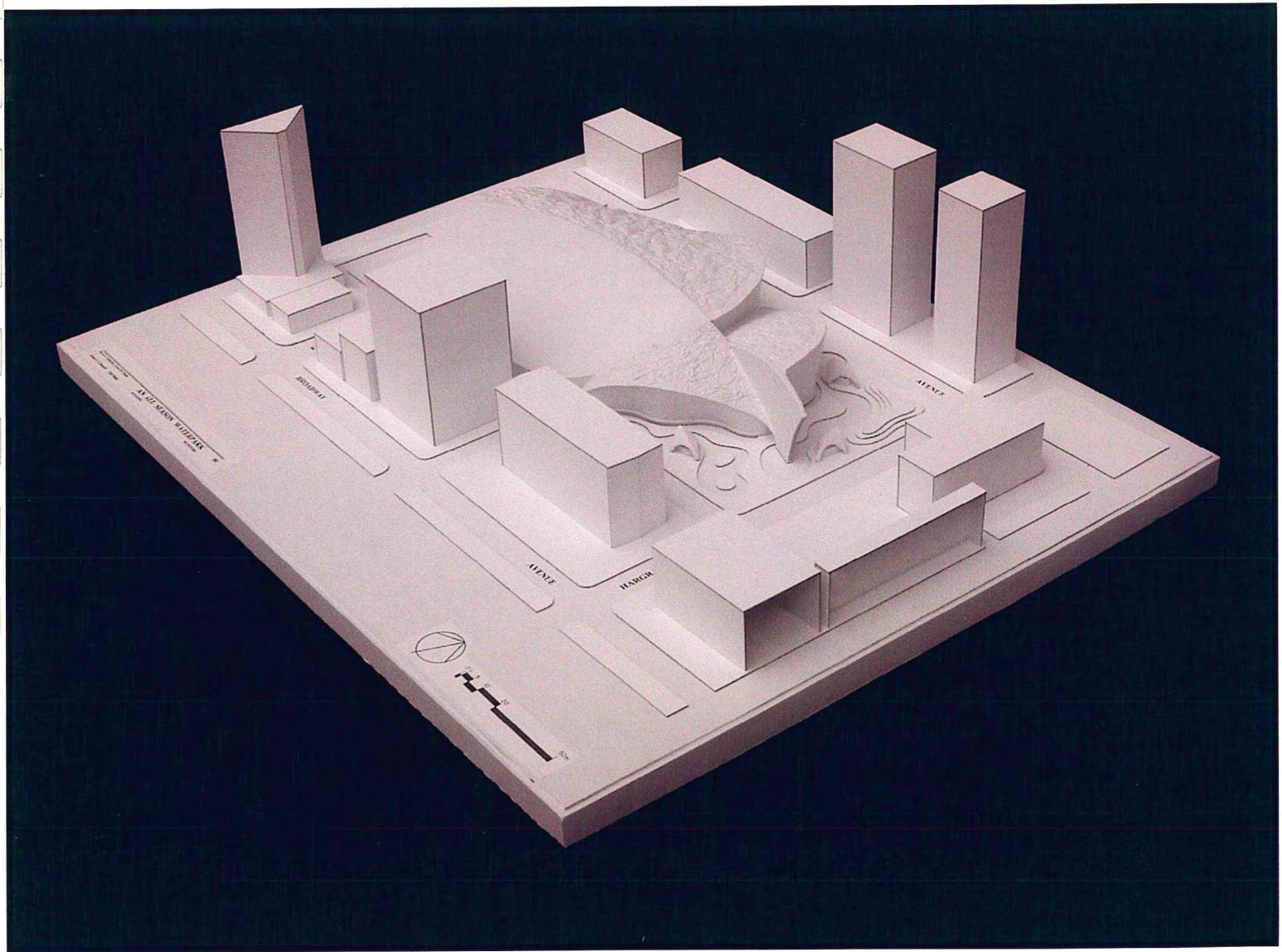
- **Model Photograph Index:**

- 01 North-east Corner
- 02 South-east Corner
- 03 South-west Corner
- 04 North-west Corner

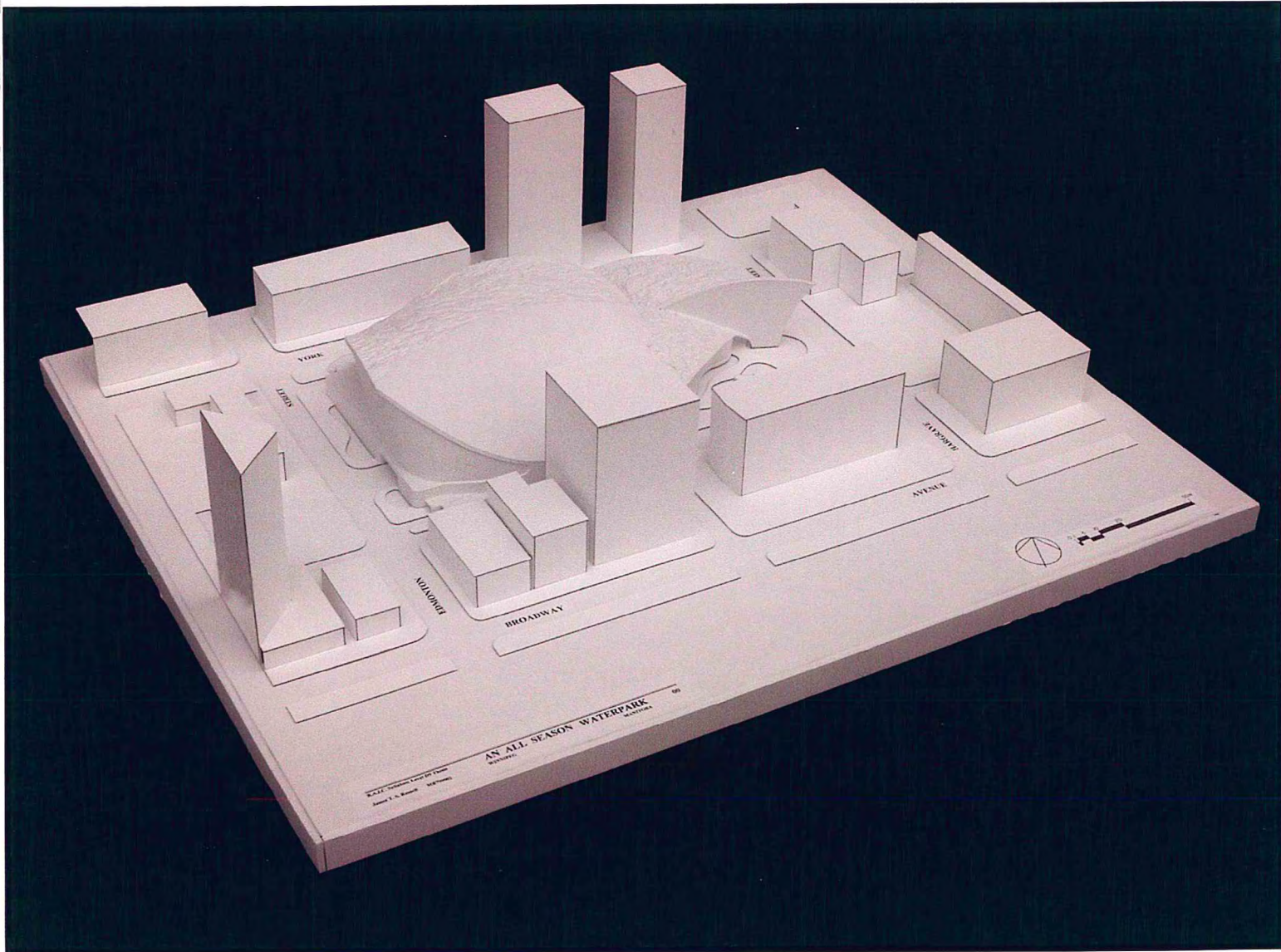




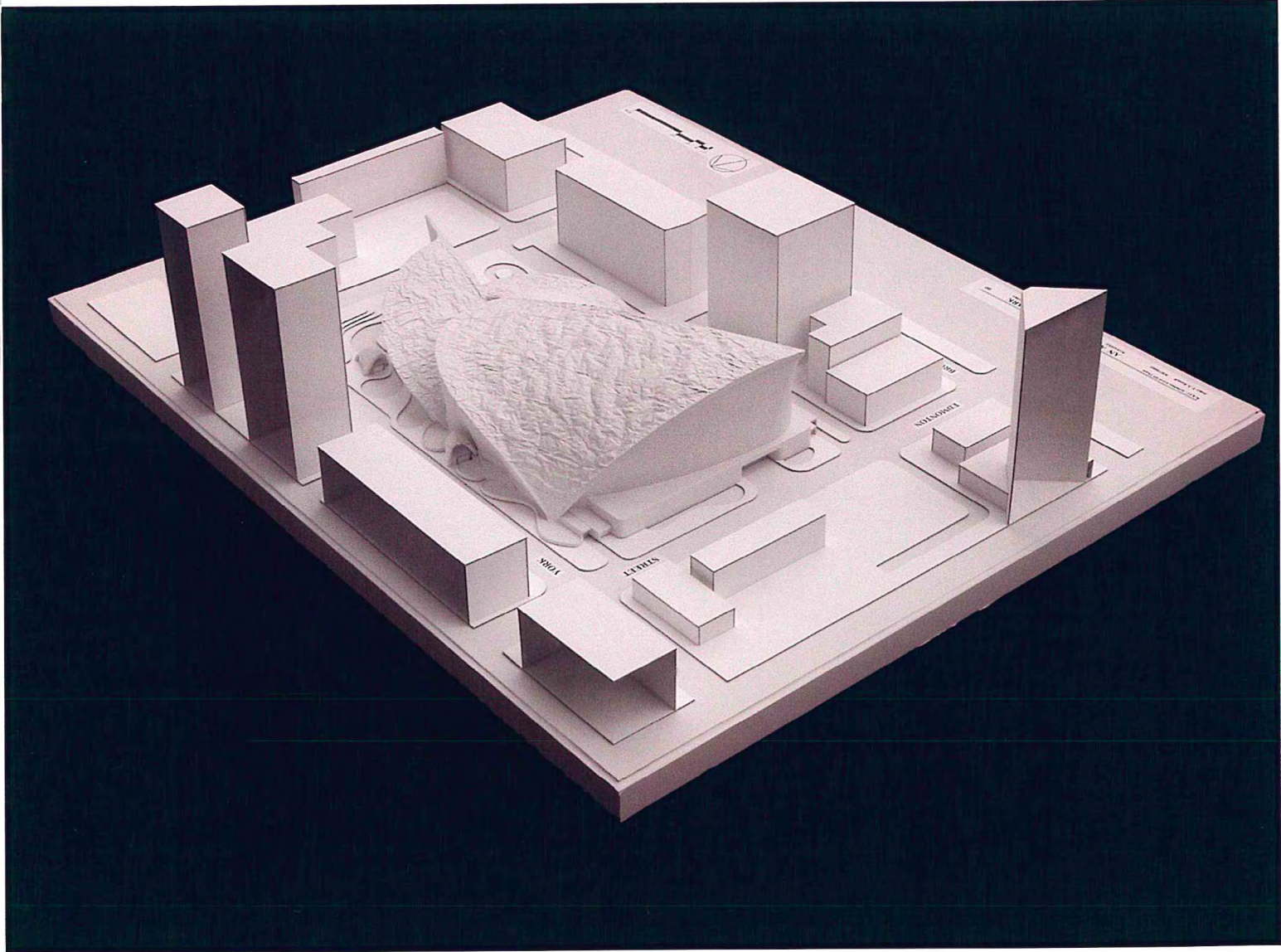














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# Appendix C

- Letters of Certification Index:
  1. Landscape Certification Letter
  2. Structural Certification Letter
  3. Mechanical Certification Letter
  4. Code Analysis Certification Letter





MEMORANDUM      NOTE DE SERVICE

TO  
A

FROM  
DE

SUBJECT  
OBJET

Giovanni Geremia  
Geremia Blackie Architecture  
351 Assiniboine Avenue  
Winnipeg, Manitoba  
R3C 0X9

Blake Roberts  
Public Works and Government Services Canada  
136 Market Avenue  
Winnipeg, Manitoba  
R3B 0P5

RAIC Syllabus Project - Mr. James Russell

|                                         |
|-----------------------------------------|
| SECURITY - CLASSIFICATION - DE SÉCURITÉ |
| OUR FILE - NOTRE RÉFÉRENCE              |
| YOUR FILE - VOTRE RÉFÉRENCE             |
| DATE<br>2002-06-03                      |

Dear Mr. Geremia,

I am pleased to have had the opportunity to serve as Mr. Russell's Landscape Architectural consultant on his *All Season Water Park in Downtown Winnipeg* project for the Royal Architectural Institute of Canada Syllabus Program. Over the course of the project Mr. Russell met with me to review and discuss site planning and landscape design issues as his design developed.

Throughout the process, Mr. Russell paid careful attention to how the proposed facility integrates with the surrounding urban landscape, and the use of interior and exterior landscape design to enhance the visitors experience.

It is my opinion that in his final design, Mr. Russell has achieved an excellent marriage between the architecture and it's site context, while providing an exciting range of outdoor spaces and landscape infrastructure which complement and support the building, and the spaces within.

I congratulate him on a job well done, wish him all the best in his future endeavors.

Sincerely,

Blake Roberts, M. Land. Arch.  
Landscape Architect  
Public Works and Government Services Canada



C. W. ENGINEERING LTD.  
CONSULTING STRUCTURAL ENGINEERS

May 30, 2002

RE: ALL SEASON WATERPARK  
IN DOWNTOWN WINNIPEG

D9 Thesis  
Research and Program  
James T. Russell

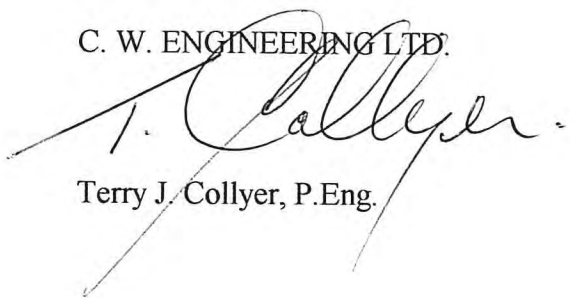
TO WHOM IT MAY CONCERN:

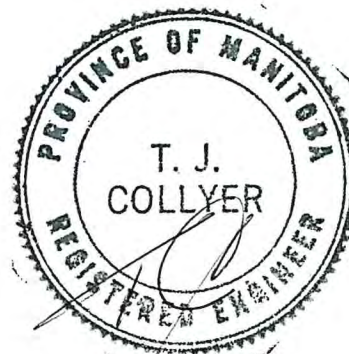
This is to confirm that I have provided general structural consultation to Jim Russell through the conceptual development, final design and completion of the All Season Waterpark project.

I met with Jim on several occasions to review and discuss basic structural systems. Primary structural elements for the substructure and superstructure were reviewed as well as the more conventional secondary framing systems.

Based on our progress reviews and a final review of the near complete drawings earlier this month, it is our opinion that all structural systems are feasible and could be constructed in Winnipeg.

C. W. ENGINEERING LTD.

  
Terry J. Collyer, P.Eng.





June 6, 2002

39 Eagleridge Court  
Winnipeg, Manitoba  
R3Y 1B1  
Res. Ph. No. 488-2628  
Bus. Ph. No. 983-5527

Mr. Giovanni Geremia, Architect  
351 Assiniboine, Manitoba  
R3C 0X9

Re: All Season Waterpark  
Winnipeg, Manitoba

Presented by: Mr. J.T.S. Russell

To Whom it may concern:

With regard to Mr. Russell's project, the proposed Winnipeg All Season Waterpark, I am pleased to have acted as his mechanical advisor. During the conceptual stages of the project, Mr. Russell consulted with me to develop feasible mechanical solutions. As the project advanced further, he again consulted with me to ensure that practical mechanical systems would be incorporated in the design.

Upon completion of the project, he returned for verification of the systems. In conclusion, it is my opinion that Mr. Russell has created a project which is unique in appearance and incorporated all mechanical systems into the structure.

I wish him the best of luck in his endeavors.

Yours truly



R. Sukhan, P. Eng.  
Mechanical Engineer





328 Barlow Crescent  
Winnipeg, Manitoba  
R2N 3W4

May 30, 2002

Mr. Giovanni Geremia Architect  
351 Assiniboine Avenue  
Winnipeg, Manitoba  
R3C 0X9

RE: ALL SEASON WATERPARK  
WINNIPEG, MANITOBA

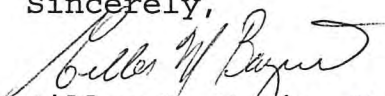
Presented by: Mr. James Russell

To Whom It May Concern:

With regard to Mr. Russell's project, the proposed All Season Waterpark, I am pleased to have acted as his Code Analysis/Fire Protection consultant. I met with Jim on three occasions to discuss the 1995 National Building Code requirements for building construction, interior fire separations and exiting for a facility of this type.

It is my opinion that the final code analysis and conceptual drawings that he has presented reflect a workable solution to the intent of the National Building Code requirements for fire protection and life safety.

Sincerely,

  
Gilles M. Bazin, P. Eng.  
Fire Protection Engineer

