

The Master Plan Strategy for Manhattan Square Park

A strategy for community building & reinvestment in the Center City

Briefing Document Deliverable 4:

Core Principles of Revitalization
The Vision for the Park and Neighborhood
Detailed Design and Program
Recommendations
Phasing and Order of Magnitude Cost
Estimates
Implementation
Appendices



Prepared for:
The City of Rochester, New York
Department of Parks, Recreation and Human
Services

Prepared by:



URBAN STRATEGIES INC.
Dufresne Henry
Van Seters Company Ltd.
Vermeulens Cost Consultants

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1 Introduction

In 1999, Rochester City Council determined that a formal master plan was needed to guide the renewal and revitalization of Manhattan Square Park. It had become apparent that the park, now entering its fourth decade, was in need of repair. Physical deterioration, a lack of day-to-day use, a run-down appearance, a lack of infrastructure necessary to accommodate people, events and spectators, and issues related to safety have plagued the park. However, a greater understanding of constituent and community needs was required to effectively allocate and direct resources toward improvements that would have far reaching benefits to the local community and Center City area. The master plan process provided an opportunity to assess the performance of the park against the needs of the local constituency through a broad-based program of community consultation. This process has established a clear community based vision for the future of the park and a widely endorsed Master Plan Strategy.

To guide the master plan process, the City of Rochester established three broad planning objectives for the park:

That the park should serve as:

- An attraction within the Center City
- A neighborhood park for residents and employees within the Center City area, and
- As a performance space and entertainment destination within the East End Cultural District.

The master plan study was lead by the Toronto based planning and urban design firm of Urban Strategies Inc..

Working with Urban Strategies, the local Rochester firm of Dufresne Henry undertook the infrastructure and transportation analysis associated with the master plan exercise. Van Setters Fountain Consultants of Toronto completed an assessment and recommendations relative to the fountain, and Vermeulen Cost Consultants prepared order-of-magnitude cost estimates for three conceptual options to guide the formation of the final master plan.

This document is the culmination of the consultant team's work. It sets out the recommended Master Plan strategy for the revitalization of Manhattan Square Park. It is a strategy for community building and reinvestment in the Center City, a strategy that recognizes that the park has a tremendous role to play in the ongoing process of neighborhood and Center City renewal. The plan, in fact, supports nine of the eleven campaigns in the City of Rochester Renaissance 2010 Plan:

1. Involved Citizens
3. Health, Safety, and Responsibility
4. Environmental Stewardship
6. Economic Vitality
7. Quality Service
8. Tourism Destination

9. Healthy Urban Neighborhoods
10. Center City
11. Arts and Culture

The proposals and recommendations in this document will be used to guide the design team selected to undertake the detailed design and construction for the revitalization of the park.

The Master Plan Strategy is also intended to inform residents, City officials, developers, and landowners about the exciting opportunities that could be realized within the South East District, both now and in the years to come. In doing so, this document is intended to stimulate broad discussion about the future of the City Center and generate new ways of thinking about revitalization initiatives. The revitalization of Manhattan Square Park is not an end in and of itself. It has immense value as a process that brings people, energy and commitment together toward creatively enhancing the character and quality of life within the City of Rochester.

A poster which summarizes key components of the Master Plan Strategy for Manhattan Square Park is attached to the back of this document.

Part 1

Background to the Master Plan

The following four sections of this report constitute important background information to the Master Plan Strategy.

Section 2 discusses the rationale for a master plan. Section 3 outlines key steps within the master plan process. Section 4 provides a summary of existing conditions and presents recommendations arising through the Infrastructure Assessment completed by Dufresne Henry and Van Setters Fountain Consultants. Their complete reports are appended to this document. Section 5 outlines community objectives that have informed the design and master plan process. Together, these three sections set the stage for the Master Plan Strategy, which begins on page 31.

2 Why a Master Plan for Manhattan Square Park?

Manhattan Square Park was completed over 30 years ago in a different era and for a vastly different neighborhood and planned physical context. Today, changing community and municipal needs, as well as significant changes within the neighborhood and downtown contexts, have set the stage for a fundamental reconsideration of the park's role and performance as a public space, as well as its role, image, and relationships within the Center City.

Designed by Lawrence Halprin and completed in 1971, Manhattan Square Park was planned to be the centerpiece of the City's Downtown Southeast Loop Renewal Plan. The renewal plan was the necessary outcome of the development and completion of the Inner Loop in the late 1960's. This major highway infrastructure project, intended to deliver a growing employment sector to the Center City, severed approximately 70 homes from their traditional southeast neighborhood with devastating impacts. The Southeast Renewal plan would mediate this damage and re-image the area as a modern high-density complex of inter-connected commercial and residential towers framing a new park.

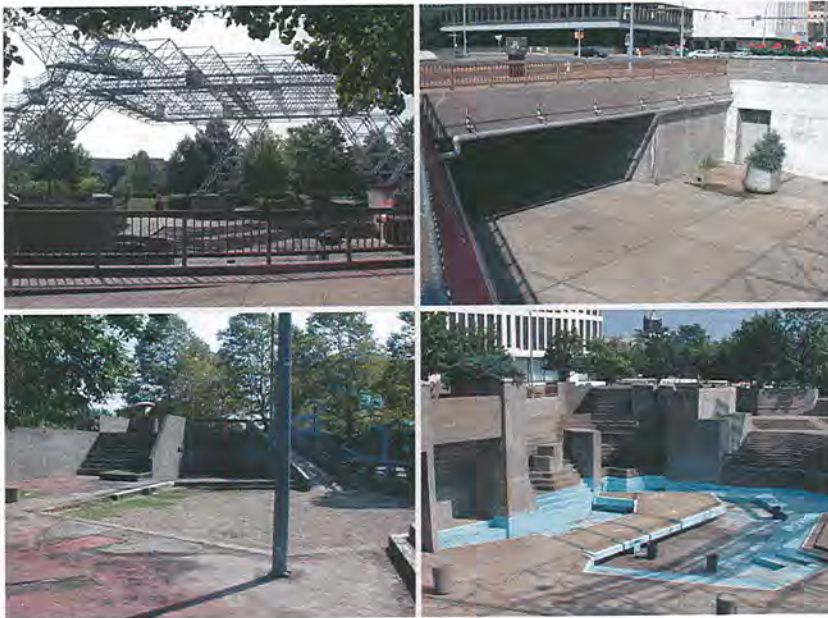
The park would be the focus of this modern addition to the downtown - a place of surprise and delight serving the needs of what was anticipated to be an intense new Downtown population. The park would express a new and progressive

image, characteristic of the time and changing attitudes, and employ new building technologies. Grade and level changes, formed concrete retaining walls, and earth mounds –became the building materials of this landscape lending a distinct image to the park and creating a series of 'rooms' offering retreat, refuge and celebration away from the hustle and bustle of modern urban living. Within this setting, theatrical and special events would be hosted in a central sunken plaza, while more quiet, introspective, day-to-day recreational uses would take place along the edges of the park.

As with many ambitious renewal projects of the '70, the Southeast Renewal Plan was largely unrealized—the planned context did not materialize and the expected population did not arrive to animate, inhabit and use the park on a day-to-day basis. Over the years, the park has existing in a relatively isolated state, on the edge of downtown, still framed by several undeveloped renewal parcels. It has been used largely as a venue for special events organized by the City of Rochester and as a venue for ice skating.

Today it is clear that the park is experiencing difficulties on several fronts. The park has suffered from physical deterioration, the rink foundation slab has failed, the fountain has not been operational in years, and the park exhibits a generally run-down appearance. While organized events are

well attended, the infrastructure necessary to accommodate performers and spectators during events is vastly inadequate by today's standards and presents significant operational challenges. And, most concerning, the park is underutilized on a day to day basis even though residents, businesses, office developments and a child development facility front the park, and the Strong Museum, a world class children's museum, brings over half a million visitors to the vicinity annually. It is clear that Manhattan Square Park, the largest and most recreationally diverse park in the Center City, is failing as a civic asset. Its value as a focus for community, cultural and neighborhood life is not being realized.



Against this backdrop of park decline, new and emerging community needs, municipal interests and important contextual changes have sparked renewed interest in the park and its future success, setting the stage for a significant reconsideration of the park's role, image and relationship within the Center City.

The success and revitalization of the Grove Street Neighborhood, renewed interest in downtown living, a growing trend occurring across North America expected to gain popularity, and the recent success of new residential and infill projects such as the East End housing developments, have focused attention on civic assets which can enhance the livability of the Center City. In particular, the City's ability to offer attractive neighborhood park space accessed by attractive, pedestrian oriented and well-maintained streets is critical to enhancing the livability of the East End and encouraging more people to live downtown.

The success and expansion of the adjacent Strong Children's Museum, an important regional tourism amenity, also requires an appropriate response. This response must seek to enhance the relationship between the park and the museum and strengthen the appearance, and the economic and tourism draw of the area.

The deterioration of park features together with changing community and recreational needs require an informed, directed strategy for capital improvements to best ensure long term municipal and community benefit. Finally, the park's potential as a catalyst for neighborhood and Center City renewal is clearly apparent, both with regard to short term opportunities immediately surrounding the park, and with regard to longer

term development and community repair opportunities associated with understanding the feasibility of dismantling portions of the Inner Loop.

Together, these significant change factors have lead the City of Rochester to initiate and complete a Master Plan to guide renewal and revitalization of the Park.

3 The Master Plan Process

While Manhattan Square Park is clearly in decline, it contains unique qualities and assets that can be strengthened and built upon to firmly anchor the past within the new vision for the park. Indeed, the most remarkable and memorable urban places often depict a complex layering of periods and styles, blending the best of the past, with that which new and able to respond to contemporary community needs and goals.

The primary challenge of the master plan exercise was to identify those attributes and characteristics that have value to the community, and which should be carried forward into a new vision for the park, while making informed decisions about modifications and additions aimed at reclaiming the park as an important civic asset within the Center City. This challenge was addressed through a comprehensive work program, which focused on two critical elements:

- **A comprehensive consultation program** throughout the study process which maintained an ongoing dialogue with community leaders, residents, key stakeholders and interest groups, to solicit broad-based input and perspective at each critical work stage.
- **A clear understanding of existing conditions and infrastructure needs and deterioration** to inform the master plan and design process.

The following will outline key steps in the master plan process.

Through an ongoing dialogue with

4.1 The Master Plan Process

Phase One: Background Investigation, Preliminary Analysis and Preliminary Infrastructure Assessment

Information exchange and work session, including the consultant team, the Advisory Committee and key City personnel involved in the ongoing maintenance and operations of the park.

A series of stakeholder interviews, February 20th and 21st, 2002, to gain a broad range of community input, ideas and perspectives concerning park renewal revitalization. A total of 47 stakeholders were interviewed, including local resident and community associations, local businesses, representative members of the cultural district, local members of the ASLA and AIA, the Strong Museum, building owners and tenants fronting the park, law enforcement, the RDDC, the East End Business Association, local artists, and community leaders, local councilors and interested members of the public.

Review of recent downtown studies and initiatives.

Preparation of a park and urban structure analysis examining the history and evolution of the park, the downtown

open space system, the urban design context, the transportation system, and issues related to park design, landscape quality, structure, use.

The results of this analysis are presented in Briefing Documents 1 and 2, Goals, Objectives and Preliminary Directions for the Park, April 2001

Preliminary assessment of existing infrastructure including the fountain, the space frame, the ice rink, and the general structural, mechanical and electrical systems.

The results of the preliminary Infrastructure Assessment by Dufresne Henry and Vermulens Fountain Consultant are appended to the end of this document and summarized in section 2.

Phase Two: Community Visioning

Community Workshop, held March 28, 2001. This workshop presented the preliminary design, infrastructure and urban structure analysis through a series of drawings and graphic illustrations followed by a community visioning charrette and group presentations.

The intent of the workshop was to examine the strengths and weaknesses of the park, its current and potential role within a changing downtown context, and explore opportunities for park improvements to better enable the park to meet changing community and downtown needs.

Preparation of Briefing Documents 1 and 2, Goals, Objectives and Preliminary Directions for the Park, April, 2001. This document summarized the results of the community workshop and provided a departure point for the development of Conceptual Options for the Park

Phase Three: Preparation of Conceptual Options & Order of Magnitude Cost Estimates

Design development and preparation of three conceptual options and corresponding order-of-magnitude cost estimates. Using information and feedback gained through the community workshop, the consultant team worked closely with City Staff and the Advisory Committee to design and refine three master plan options for the park and understand recreational, performance, contextual and cost implications.

Community Open House, February 27th, 2002. The Conceptual Options, Order of Magnitude Cost Estimates and a Recommended Master Plan for the Park were presented at a Community Open House, held February 27th, 2002 in Council Chambers at City Hall.

Preparation of Briefing Document 3, Principles and Conceptual Options for the Revitalization of the Park, February 2002, which presents the three Conceptual Options and associated Order of Magnitude Cost Estimates

Phase Four: Preparation of Final Master Plan Strategy

Development of detailed design and program recommendations for the recommended master plan.

Development of a phasing program and implementation strategies.

Preparation of a Master Plan Poster illustrating the recommended Master Plan and key findings of the study.

Preparation of Final Briefing Document 4, The Master Plan Strategy for Manhattan Square Park

4 Existing Conditions & Infrastructure Assessment

An understanding of existing conditions and the extent of park deterioration is essential in order to develop an informed and well grounded master plan strategy for the park.

The following will briefly describe the existing physical conditions within the park and present a summary of the findings of the Preliminary Infrastructure Assessment.

The Infrastructure Assessment has been instrumental in identifying areas and elements within the park that require immediate attention and maintenance to ensure public and operational safety. The Assessment has also provided a general understanding of those physical elements that can be reclaimed and carried forward into the future vision for the park. As discussed below, this may happen in different ways—through repair, restoration, retrofit, or combination of the above.

The complete Infrastructure Assessment compiled by Dufresne Henry and the Assessment of the Fountain by Van Setters Fountain Consultants are appended to this document.

General Conditions:

Physical Structure: The Park is organized into active and passive use areas dispersed along a central movement corridor. Grade and level changes characterize all areas of the park created by lowering certain areas below street level, and raising others above street level creating level plateaus or mounded earth berms. The central movement Corridor provides access and controlled views to each of the five primary use areas which are compartmentalized into a series of ‘rooms’, isolated from one another by walls, berms or by level changes. Visibility and orientation within the park are poor as is visibility from the public street.

Walls and Stairs: In general the extensive network of retaining walls and stairs, appear to be in good condition with minor cracking and few areas of minor deterioration. Alignment shifts are not visible. Many walls have been constructed with reinforcement on only one side which does not meet current building code requirements.

Recommendations: *Walls and stairs with areas of exposed rebar (few) and minor cracks should be repaired or removed in accordance the phased implementation of the Master plan.*

Electrical and Mechanical systems: In general, the electrical and mechanical equipment is original to the 1976 construction and at the end of its expected service life of approximately 30year. It has become difficult to find replacement parts and the damp/wet environments of many of the electrical and mechanical rooms have damaged much of the equipment. Corrosion is evident on exterior enclosures and on interior bus bars and terminals.

Recommendations: *The electrical and mechanical systems should be completely replaced and updated through implementation of the Master plan vision.*

Specific Conditions:

The Central Lower Plaza, conceived as the celebratory space, houses the fountain which is non operational, and the multi-use building. The concrete fountain structure is impressive in its mass and very steep by today's standards with many tiered basins. A narrow stair winds around the fountain and provides connection to Court Street and to the upper meadow/field. Views into the park from this stair are discontinuous and interrupted by level changes, raised fountain basins and the space frame footings. The lower fountain basin is used to accommodate the temporary performance stage for concerts and is erected annually by operations personnel.

The central plaza space is approximately 17 feet below street level and is often referred to as 'the pit'. To enliven this space a mural has been painted on the extensive west facing concrete retaining walls. The central plaza with its many terraces and

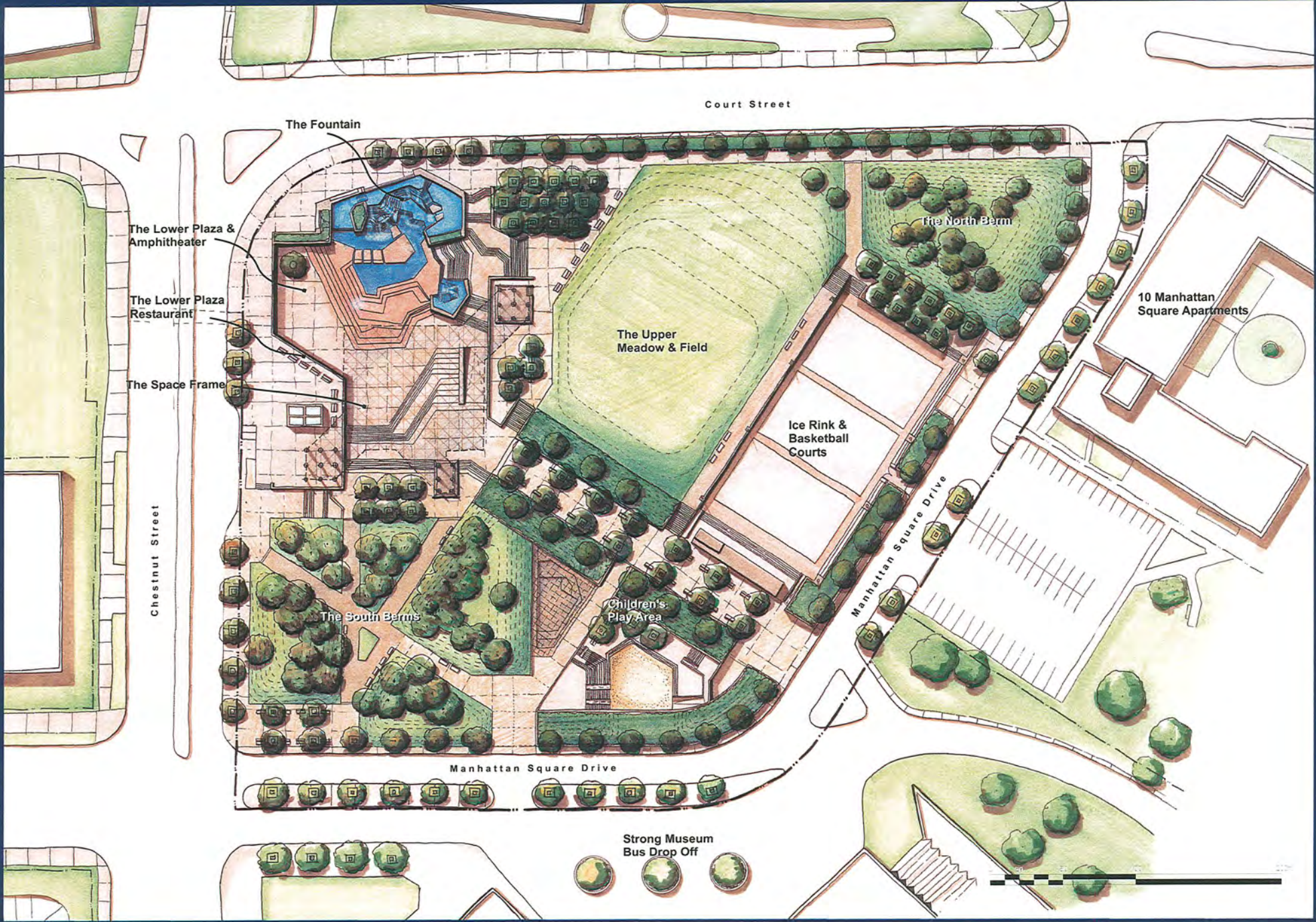


stairs functions as an outdoor amphitheater and accommodates City sponsored events including first night celebrations and summer concerts. The existing ramp does not comply with current ADA regulations and is primarily used for truck delivery access to the multi use building.

The Multi-use Building & RG&E Transformer Room

The Multi use building houses the main electrical service for the entire park and includes the RG&E transformer vault. The RG&E transformer vault is located underground and accessed through the restaurant of the multi-use building. Water infiltration from above is evident.

Commercial leasing within the multi-use building has been generally unsuccessful due to its lack of street frontage and 'below street' access from the central plaza. This facility is currently operated as a food preparation-training center. Public



Existing Park

City of Rochester
Departments of Parks,
Recreation and Human Services

Urban Strategies Inc.
Dufresne Henry
Vermeulens Cost Consultants
RJ Van Seters and Co. Ltd.



washrooms for the park are located within the multi use facility and are incapable of accommodating the number of persons attending performance events.

Recommendations: *Architectural, Structural and mechanical engineering services will be required to determine additions and retrofit of the multi-use building in accordance with the master plan. The entire electrical and wiring system within the multi-use building should be updated. The withstand rating of the switch board and over current devices should be verified as sufficient for the utilities available fault current. The air handling unit and compressor should be replaced and located to receive regular maintenance. The exhaust pipe material should be determined by camera inspection by an abatement specialist immediately. The fire inspector should inspect the range hood fire suppression equipment for compliance.*

The RG&E vault should be moved to a location that can provide 24 hour access to utility personnel. This could occur in conjunction with phase three of the master plan vision. In the interim, the water problem should be corrected and interior lighting should be made operational.

Immediate Action: *The main switchboard, panel boards, the transformer and all electrical equipment in the switchgear room should be replaced immediately. All ceiling and wall penetrations causing water infiltration should be sealed immediately.*

The Space Frame: The aluminum space frame creates an open canopy over the central celebratory performance plaza space and originally accommodated the color change lighting for the

fountain now used to light the temporary performance stage. Outfitted with stairs and viewing balconies, the structure provides high views of the surrounding neighborhood. The structure has been known to sway back and forth when loaded with pedestrians and has been closed to the public for many years. The massive concrete foundations, 12 by 12 feet, which in some cases rise some 15 feet above grade, appear in good condition. These are often cited as blocking views within the park and during performances.



Space Frame Footing

The tops of the upper members of the space frame are beginning to rust. Complete sanding of rusted areas, a more detailed inspection of the anchor bolts and bearings, and the priming and painting of the entire structure will be required in the near future to avoid further deterioration. The electrical panel boards of the space frame are in a serious state of disrepair and temporary wiring methods are visible. Lamp sockets of the Space Frame

are exposed and are a safety hazard to maintenance personnel and the public.

While the space frame introduces an interesting sculptural element within the park and could be retained, repaired, repainted, and possibly reopened to the public, retention has tremendous limiting implications to the re-design of the central plaza space due to the massive footings. These also limit design flexibility concerning an addition to the multi-use building. For these reasons, and due to community feedback on the three design interventions proposed within the central plaza, two of which retained the space frame, the long-term recommendation of the master plan strategy is removal of the space frame and footings.

Recommendations: *The space frame should remain closed to the public with clear-posted signage. Any plans for significant loading including the temporary re-opening the structure to the public or the addition of new stage lighting should be incorporated into a second stage evaluation to include an in depth structural investigation.*

The city should explore the possibility of having the aluminum portions of the space frame dismantled and removed free of charge by a reputable scrap metal contractor/dealer due to the value of the metal. This should occur in conjunction with the second phase implementation of the master plan to enable the structure to continue as a lighting gang for performances.

Immediate Action: *All distribution, dimmer boards and plug strips on the space frame as well as exposed lighting sockets and temporary wiring methods should be eliminated*

Interim electrical equipment: *should consist only of lighting and service receptacles located within locked weatherproof enclosures and branch circuits to service these items. Panel boards and over current devices servicing the branch circuits should be located in electrical rooms accessible only to authorized persons.*

The Tunnel: The tunnel beyond the recess, has been temporarily closed with concrete block walls and the full extent of the tunnel was not inspected.



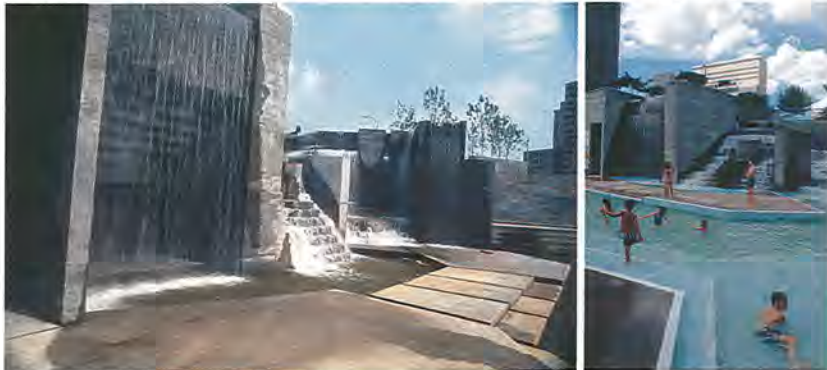
Recommendations: *The tunnel should be closed to the public for reasons of safety and could be utilized as a storage area for park furnishings, etc. In addition, the City may wish to pursue discussions with RG&E to relocate the utility electrical equipment to a secure and accessible area within the tunnel area.*

Immediate Action: *The electrical conduit feeding the lighting in the tunnel has disintegrated due to corrosion and requires immediate repair.*

The Fountain: The fountain was opened in 1975 and shutdown in 1995 due to operational difficulties, and liability concerns related to bathing and climbing during non-operational hours. The structure appears sound with visible cracks likely cause by uneven concrete thickness and water penetration.

The mechanical system is very complex incorporating a lot of motorized valves and automatic devices that required constant maintenance. The system was designed to function all winter originally incorporating a heating and ice-melting system that leaked, functioned improperly, and was shut down.

The fountain was never in use beyond November and the automatic timers to turn the fountain on during the day were not used in favor of manual activation to ensure problems associated with start up surge could be managed. The two main pumps could not be turned on at the same time due to surge and displaced water volumes leading to a significant drop in pool



water levels. This problem was caused by overnight water loss due to overflow and leakage. Surge was controlled by adding water at startup.

Many Components of the mechanical system have been replaced, repaired and/or modified. The two main 125hp pumps and the smaller sump pumps were repaired due to flooding of the pump room. The filtration system was inadequate and a large quantity of bromide chemical was added to maintain water quality. The system was flushed and refilled weekly requiring maintenance personnel to crawl into the wet suction chamber to remove and clean the filter screens.

Water leaked into the pump room from the basins above and overall water loss was quite high. Skimmers were frequently clogged by children placing objects in the skimmers and basin floor drains did not operate properly. Parts, particularly pump screens became difficult to acquire. Due to the very small size of the mechanical room, much of the existing mechanical equipment would need to be disassembled to allow clearance and removal of the two main pumps should these need to be replaced. Up lights under the main waterfall have been filled in with concrete and permanent electrical junction box covers have been replaced with temporary covers. The electrical distribution system was installed in 1972 and most components will not likely pass current standards for safety and efficiency.

Recommendations: *There are two approaches toward long-term rehabilitation of the fountain as well as an interim or start-up approach. These are presented below.*

Option1: Repair/Replacement of the existing system using a double or single pump system and maintaining the existing fountain exterior with channellization of the lower basin.

This option will achieve a similar flow rate and visual effect to that of the original system repairing the four pumps as possible, and/or replacing them and other existing equipment with modern technology requiring less maintenance to include an automated water treatment, heating and filtration system. The mechanical system for the lower pool basin will be entirely replaced in conjunction with the new structural lower pool profile that will result in French drain type channellization that does not require lifeguard supervision of the area reducing municipal liability. The pump room and water basins will require waterproofing.

Mechanical changes will involve the repair and/or replacement of one or both of the main waterfall pumps modified with two to four water inlets independent from each pump to allow single or double pump operation. This option will require disassembly, repair and or replacement of most of the equipment in the mechanical room in order to access the main pumps and overhaul remaining equipment including:

- Sump pumps
- Distribution header, valves, fittings pipe & pool waterfall inlets
- Waterfall control system
- Filtration system and filter pumps
- Chemical treatment
- Non Chemical purification
- Skimmers
- Freshwater supply system

- Overflow and drains, grates, grills, screens & hardware
- Replacement and downsizing of the of the electrical distribution transformer system

A new stationary Fountain lighting system can be included in this option which is independent of the space frame.

The feasibility of this option is dependent upon:

1. *An inspection of the four supply pipe systems from pump manifold to pool inlet using a video camera and pressure test, as well as a material longevity forecast concerning this supply piping and/or its suitability for reuse as a conduit for smaller supply tubing.*
2. *Professional assessment of the four pumps*
3. *A more comprehensive investigation of the structural integrity of the fountain given water loss, leakage and pump room flooding with particular attention to the practical feasibility of preserving the existing structure intact and/or its suitability for application of a modified new surface treatment, such as stone cladding, and the kind of bearing loads that can be supported.*
4. *A more comprehensive investigation of the drainage system from pump room sump to sewer.*

Option2: Modified Design Re-cladding and changing the profile of the Fountain using a single pump system and replacing the entire mechanical and electrical systems with channellization of the lower basin.

This option will achieve a modified fountain profile eliminating steep slopes and upper basins and introducing a more

graduated profile and smaller cascades with smaller intermediate pools achieved through the application of a modified surface application comprised of stone or stone composition material. This option will effectively re-profile, re-clad, re-image and naturalize the appearance of the fountain and result in a French drain type channellization of the lower basin reducing municipal liability. Plant materials can be integrated within the design to enhance the fountain and discourage access and climbing. The new mechanical supply systems can be installed on the super structure designed to support the surface application improving access for system maintenance.

This option can achieve a similar flow rate to that of the original system utilizing all modern technology requiring less maintenance and involving an automated water treatment, heating and filtration system and utilizing a smaller and more manageable physical plant. Mechanical equipment will be similar to that identified above for option 1, however, surface supply lines and the use of single pump will reduce overall mechanical costs. The mechanical system for the lower pool basin will replace in conjunction with the new structural lower pool profile that will result in a pool depth that does not require lifeguard supervision.

A new stationary Fountain lighting system can be included which is independent of the space frame.

The feasibility of this option is dependent upon:

1. *A more comprehensive investigation of the structural integrity of the fountain given water loss, leakage and*

pump room flooding with particular attention to the practical feasibility of the application of a modified new surface treatment, such as stone cladding, and the kind of bearing loads that can be supported.

2. *A more comprehensive investigation of the drainage system from pump room sump to sewer.*

Interim/Temporary Option: Fountain Start up. *Given that the two main waterfall pumps and one sump pump were operational at shutdown in 1995, it is believed that the system could be made partially operational as an interim or temporary solution prior to implementation of longer term rehabilitation of the fountain pursuing option 1 or 2. This temporary solution should minimize liability associated with swimming in the lower basin and maintain provision for construction and erecting of the temporary performance stage. Interim operation should focus on returning water to select portions of the fountain as opposed to restoration of original flow rates throughout. This will involve fountain downsizing focusing on a limited number of basins inlets and flow areas, and eliminating supply and flow lines to other areas to achieve a closed and more or less efficient system.*

The lower basin should be filled with large stones or river rock to eliminate the pool of water and the need of lifeguard supervision. The pump room and water basins to be utilized for water storage will require waterproofing.

Interim use will require:

- *Reactivation/ repair of one of the main pumps*
- *Reactivation/ repair to one or both sump pumps*

- *Maintenance/repair to distribution header, limited number of valves, reconfiguration of fittings pipes & pool waterfall inlets to selected basins.*
- *Reconfiguration of waterfall control system and distribution valves*
- *Reactivation/repair to filtration system and filter pumps*
- *Chemical treatment*
- *Repair/replacement of limited number of skimmers*
- *Maintenance to Freshwater supply system*
- *Reconfiguration and simplification of overflow and drainage system, limited number of grates, grills, screens & hardware*
- *Replacement and downsizing of the of the electrical distribution transformer system*

A new stationary Fountain lighting is not included within the interim/ temporary option.

The feasibility of this option is dependent upon:

1. *A professional inspection of the four pumps and four supply pipe systems from pump manifold to pool inlet using a video camera and pressure test, to determine fountain reactivation areas, as well as a material longevity forecast concerning supply piping and/or its suitability for reuse as a conduit for smaller supply tubing.*
2. *A more comprehensive investigation of the drainage system from pump room sump to sewer.*

The South Berm Garden is an introspective space comprised of a path system, berms, deciduous trees and landscaping and benches. Views to other use area are limited by the space frame footing and existing berms. The adjacent Children's play area has very poor visibility from the street, the south beam area and from the central movement corridor due to walls and earth berms. This area is seldom used. Play equipment has been removed and not been replaced. A water play area has been recently updated and improved with a rubber play surface and water play sculptures.



The Central Movement Corridor is defined by 6-foot berms on either side and the skating pavilion. The primary axis looking northeast provides a view to the space frame and downtown. The corridor also frames the view to the under street tunnel originally intended to provide a pedestrian connection to adjacent development sites. The tunnel is closed to the public, however, the recess is dark and presents a number of safety issues. Connections across the central movement corridor are narrow and do not provide clear or continuous views to other program areas.



The upper meadow or field accommodates a small baseball diamond and overlooks the rink and the central plaza, situated at significantly lower elevations. This open play area is isolated from other program areas, wind swept and rarely used except during performance events as spectator overflow.

The Ice Rink: The multi purpose ice rink and basket ball courts front Manhattan Square Drive and are defined on all sides by physical structures, berms, retaining walls and earth berms compartmentalizing and isolating this well used winter recreational space. The skating pavilion is open to the outdoors and has been unattractively modified. The North berm, a 17-foot earth mound prevents views into and out of the park and blocks the Broadway street view into the park.



Ice rink



Skating pavilion



Rink Wall

The Ice rink concrete slab has failed due to frost heave and drainage under the slab will likely need significant improvement. The mechanical system is comprised of original and new elements as older components fail. Motors to the compressor units are under five years old, the condenser is undersized, pumps are reciprocal instead of the newer screw type pumps designed for ice rinks, and the refrigerant is R-22 instead of the newer brine/saline system. The chiller distribution system was supported on oak boards during original construction and some leaks have developed at the interface between the steel pipes and the oak boards. This situation is likely to worsen with consecutive frost and ground movement associated with winter freezing and failure of the ground slab.

Recommendations: *The rink and mechanical system are failing and will become increasingly costly to maintain and should be*

replaced within the earliest phase of the master plan utilizing current rink technologies for mechanical and chiller systems. Existing electrical equipment within the ice rink vault is 30 years old, with the exception of the new hot water heater equipment, and should be completely updated during phase one of the master plan.

The Electrical equipment in the existing skating pavilion including lighting, floodlight controls, and heat should all be replaced and upgraded in accordance with the phased implementation of the master plan.

Streets: The following streets define the park.

Manhattan Square Drive is the primary delivery street bringing people and services to the park. This is a one way street built adjacent to the Strong Museum’s buss loading facility and the parallel public and private drives at Chestnut street present a confusion situation to visitors. The system is particularly confusing where it merges at the suburban style concrete island providing access to museum parking. The Plane trees along Manhattan Square Drive are amongst the park’s best landscape features.



Manhattan Square Drive

Chestnut Street is a four-lane cross-section with a wide concrete central median and suburban style turning islands at the Court/Chestnut intersection. This intersection has been designed for the efficient movement of cars and through flow turning movements that create a very unsafe situation for pedestrians wishing to use or access the park.

Court Street is a four lane cross-section with parking along both curb edges and provides one way movement east to the Broadway intersection where it joins the other one way pair at Broad street to provide access to and from the inner loop. The Broadway intersection at Manhattan Square Drive with its center-dividing median is very wide and formidable in terms of pedestrian use to and from the park.

Traffic modeling shows that all three signalized intersections operate at Peak use times at or above level C with the Court/Chestnut intersection performing at B throughout all peak hours of use.



Chestnut Street



Court Street

Recommendations: Streets surrounding the park have excess capacity and can be modified to create an improved, and more

safe and attractive environment for pedestrians enhancing use of the park. A streetscape Program aimed at creating improved pedestrian crossings, a return to a two-way street system on Court and Manhattan Square Drive, and significant sidewalk widening on Chestnut Street are recommended through the master plan strategy and presented in detailed Design and Program recommendations outlined in Section 7.

The Development Context: General use within the vicinity of the park includes office and institutional uses including the Strong Museum, parking garages, surface parking lots, the residential development at 10 Manhattan Drive, and smaller commercial uses and outlets. There are a significant number of underutilized sites which front the park, including a number within municipal ownership. The predominant institutional uses and the lack of a significant residential population make the area feel abandoned.

The presence of a number of large underutilized sites represents a significant opportunity to enhance the vitality of the park area while increasing the general population within the Center City. Specific recommendations related to these opportunities are presented in Detailed Design and Program recommendations outlined in Section 7.

5 Community Objectives

Manhattan Square Park and its neighborhood are of great interest to many people. Through key stakeholder meetings and interviews, community workshops, public presentations, open houses, and the commitment and involvement of the constituency, including local residents and resident groups, municipal staff, key stakeholders, business leaders, members of the cultural community and elected officials, the master plan exercise has forged a strong set of community endorsed objectives to guide the new vision and direction for the park.

The following community inputs, objectives and goals have been organized into three themes and have informed the preparation of conceptual options for the park and the final Master Plan Strategy presented in Part 2 of this document.

1) The Park as a Catalyst for Change

- **The Park should become a catalyst for growth in the City Center** – a focal place or centerpiece within the City and a “hub” for downtown housing development and neighborhood renewal
- **Re-image both the park and its context to foster downtown living and continued renewal of the Center City.** Bring more people to the Park - Pursue development partnerships on City owned property to transform the neighborhood
- **Establish a streetscape program** to create green, pedestrian-friendly streetscapes and narrowed roadway cross-sections with wider sidewalks to better link neighborhoods and bring people to the park; enhance the public realm and improve neighborhood connections – Chestnut and Court Streets, and Manhattan Square Drive
- **Develop a new parking strategy** for the area that focuses on additional parking garages and shared-use agreements as opposed to increased surface parking;
- **Expand the Boundaries or the Park** to consolidate available open space resources and create a big park space for large events – temporary street closures can make this possible
- **Sustain political and financial support** needed for park redevelopment and maintenance and neighborhood renewal;
- **Garner support and encouragement from the private sector and cultural organizations** to achieve renewal of the park and neighborhood

2) Park Features and Design

- **The park should be simplified** and designed for people so that they will use it. The existing park design is non-flexible, too complex, has not been well maintained, and is a detriment to the area.
- **There is too much concrete**, especially around the fountain, and the park is harsh looking and needs to be made softer, friendlier and more inviting.
- **The amphitheatre or main plaza and its programs are a very important draw for the park** and yet the sunken amphitheater plaza is not friendly. Redesign of this space is possible if the Space Frame were removed
- **The Space Frame- do not save and do not paint!**
- **Expand the Main Plaza – make it more surprising and flexible** and improve connections and site-lines to the plaza
- **A water feature is a very important element within the future vision of the park** and could include the rehabilitation of the existing fountain and/or perhaps one that can be converted to a skating rink in winter;
- **Improve the Edges of the Park**– Establish active uses along its edges to address and animate the park. Active use pavilions within the park will strengthen its use and appeal
- **Expand the range of programs offered at the park** and strengthen the infrastructure necessary to accommodate spectators and performers during events;
- **Open the park visually and physically** by removing walls and perimeter berms and barriers to create a safe, welcoming and inviting environment for park users;
- **Create enduring, timeless, and attractive multi-purpose spaces** that can accommodate both programmed and non-programmed uses;
- **Animate the park daily, weekly, and seasonally** by strengthening existing assets and adding new temporary and permanent elements that make the park an attractive destination year-round;
- **Develop a long term operations and maintenance program** as part of the design process;
- **Enhance the physical relationship between the park and the Strong Museum**, improving the “back door” appearance of the museum and the walled edges of the park.
- **Strengthen the Main Park Connection** - Strengthen the terminus of the primary axis in both directions and improve connections to adjacent neighborhoods

- **Address the Corners** - Create points of arrival for the park by defining gateways into the park and creating a continuous plaza around the park
- **Utilize Water as a Unifying Theme**
- **Develop or redevelop the Children's Play Area** - in partnership with the Strong Museum as an Educational and Interpretive Experience
- **Rethink the Landscape Characteristics of the Park** to make it more green, interesting and educational all year.

3) Park Connections and Visibility

- **The park is unsafe and this is more than a perception.** A new design for the park should consider safety site lines throughout the park to correct the problems of visual isolation within the park and from the street
- **Improve pedestrian connections and visibility** at street level to improve the psychological comfort of being in the park
- **The park lacks attractive connections to its surroundings** and should be designed to connect to existing neighbors and provide for future connections.

Part 2

The Master Plan Strategy

The Master Plan Strategy for Manhattan Square Park is a strategy for community building and reinvestment in the Center City. It not only presents a clear vision for the future of the park, but also outlines a clear approach toward leveraging the value of park revitalization as a catalyst for neighbourhood and civic renewal.

The Master Plan Strategy presents a set of core revitalization principles distilled through the master plan process and establishes a defined vision for the park. The vision is supported by detailed design and programmatic recommendations, which reinforce contemporary goals and build on the park's existing assets and strengths.

The master plan strategy will guide the City, and the final design team selected to undertake the detailed design development and reconstruction of the park, toward a remarkable community based transformation of Manhattan Square Park, cognizant of the past yet responsive to new and emerging community needs. It will enable the park to fully participate in the economic, social and cultural renewal of the Center City creating a vital focus for civic urban life.

The Master Plan Strategy for Manhattan Square Park is composed of five integrated components:

Core Principles of Revitalization outline the theory and approach to the renewal of the park, and clearly define the park's role and function within the Center City and Region, its physical relationships internally and with the community, and its program and amenity offering to the community.

The Master Plan Vision presents a long-term vision for the park illustrating how the revitalization principles can be applied to bring about the renewal and revitalization of the park and its neighborhood.

Detailed Design and Program Recommendations for 6 Park Program Areas outline specifics including design intent, detailed programmatic and functional requirements, grade relationships, materials and finish quality.

3 Phases of Park Renewal outline a phasing strategy for the reconstruction of the park, identifying the extent of redevelopment and streetscape improvements to be undertaken in each phase, with associated order-of-magnitude cost estimates.

11 Implementation Strategies identify short and long term public and private sector actions and initiatives to achieve the revitalization of the park and its neighborhood.

6 Core Principles of Revitalization

The following four core principles have been distilled through the master plan process. These principles outline the theory and approach toward achieving the renewal of the park and its context and are intended to guide future decision-making by the community, the City and the design team selected to execute the Master Plan Strategy.

Principle One: Position the park as a catalyst for Center City & neighborhood renewal

The revitalization of Manhattan Square Park has a tremendous role to play in supporting the broader goal of neighborhood and community revitalization. The Master Plan seeks to re-image the park as a significant cultural, tourism and recreational amenity for the region within the heart of the Center City. The park should contribute as a vital and active component within the Cultural District, adding to the amenity draw of the Center City and providing a venue for many of the City's existing cultural agencies. Yet it should also function as a neighborhood park – a day-to-day gathering place for people of all ages providing active and passive areas for a variety of leisure activities throughout the year.

For the park to be a success and become a focus for community, cultural and recreational life within the City, it is

important assess and harness opportunities within the neighborhood context, which can bring greater economic and community vitality to the area.

The Master Plan Strategy for Manhattan Square Park looks beyond the boundaries of the park. It identifies logical opportunities and initiatives continued positive change and growth within the entire southeast district to create a vital 'urban neighborhood', implementing the goals and campaigns of the City's Renaissance Plan.

Indeed, there are many vacant and underutilized development sites that front the park. Some of these are privately held, others are City-owned. The Master Plan identifies these parcels as future commercial and residential building sites that promote downtown living and neighbourhood development. Over the long term, the partial dismantling of the Inner Loop and its replacement and redevelopment as new urban housing, parks and commercial uses will reconnect the re-imaged park district to its historic neighborhoods to the southeast, completing the revitalization of area of the South East Center City.

As a catalyst for broader neighborhood renewal, the revitalization of Manhattan Square Park must demonstrate a commitment to design excellence within the park, and it must pursue a program of ongoing capital improvements, including

street and public realm improvements, streetscape initiatives, improvements to parkettes, and other proactive municipal actions aimed at attracting private sector redevelopment within the area. The issuance of an RFQ to undertake a mixed commercial/residential demonstration project on City-owned lands would be an important step toward encouraging and educating developers and the public about the many opportunities around the park. A coordinated and sustained program of municipal actions will complement and leverage the initial investment in the park toward attracting and direct appropriate private sector interest, development and activities that can bring about desired long term change.

Principle Two: Accommodate a broad range of cultural and community events in the park

The program of events and festivals hosted at Manhattan Square Park is the park's strongest asset. Strengthening the park's programming to include a more diverse range of cultural and community events and enhancing the park's physical structure and infrastructure necessary to accommodate events, spectators and performers will encourage more people to use the park and visit the Center City daily, weekly, and seasonally. This focus on program content and program structure will make the park a more vibrant focus for cultural and community life and help reinforce the park as an important regional amenity draw with many tourism and economic benefits to the Center City.

The park program should be expanded to include high quality events and concerts showcasing Rochester's diverse cultural offerings. The program should include special holiday and civic celebrations, art events, flower and garden shows, family-

oriented events, children's festivals held in conjunction with the Strong Museum, weekend markets, and professional 'marquee' performers brought in for special concerts. Special receptions, school band concerts, guest lectures, luncheons, and corporate events should also take place in the park. Some of these events may be ticketed or accommodated through rental fee providing a revenue stream to support program operation.

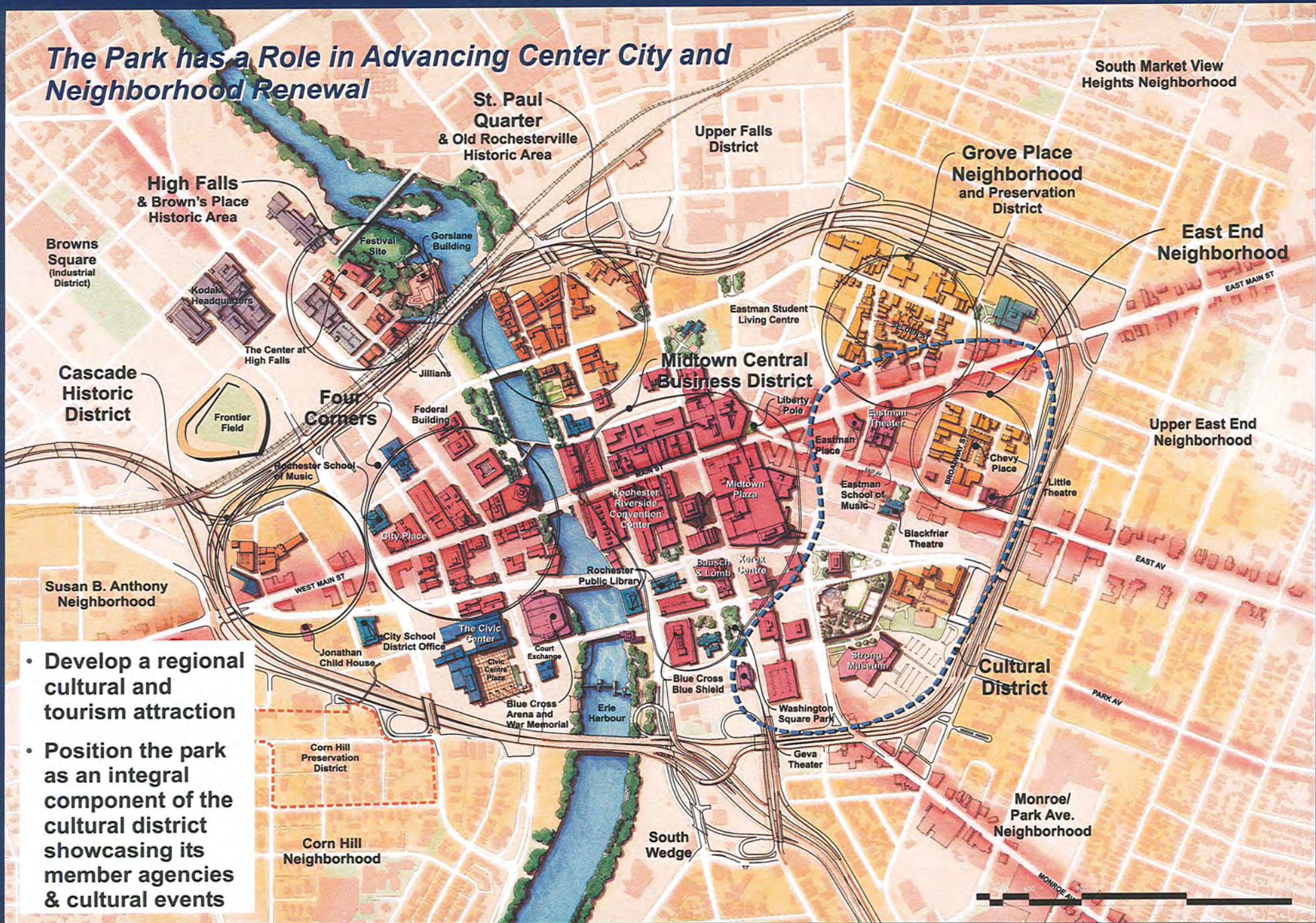
The Existing Park Program includes:

- Party in the Park – 8 Concerts
- Rhythm Nights – 4 Rhythm and Blues Concerts
- July 4th Celebrations
- Bluegrass Festival – August
- First Night

The Master Plan Park Program should be capable of accommodating the following additional events:

- Farmers Market
- Art Exhibits / Sculpture in the Park
- Theatre in the Park
- Book Sales & Readings in the Park
- Christmas Market
- Children's Festival with the Strong Museum
- Classical music in the park
- Dance in the park
- Food, restaurant and café events
- Specialty markets & Events for kids and families
- School band concerts
- University of Rochester events and lectures
- Special receptions & Special luncheons
- Special cultural events

The Park has a Role in Advancing Center City and Neighborhood Renewal

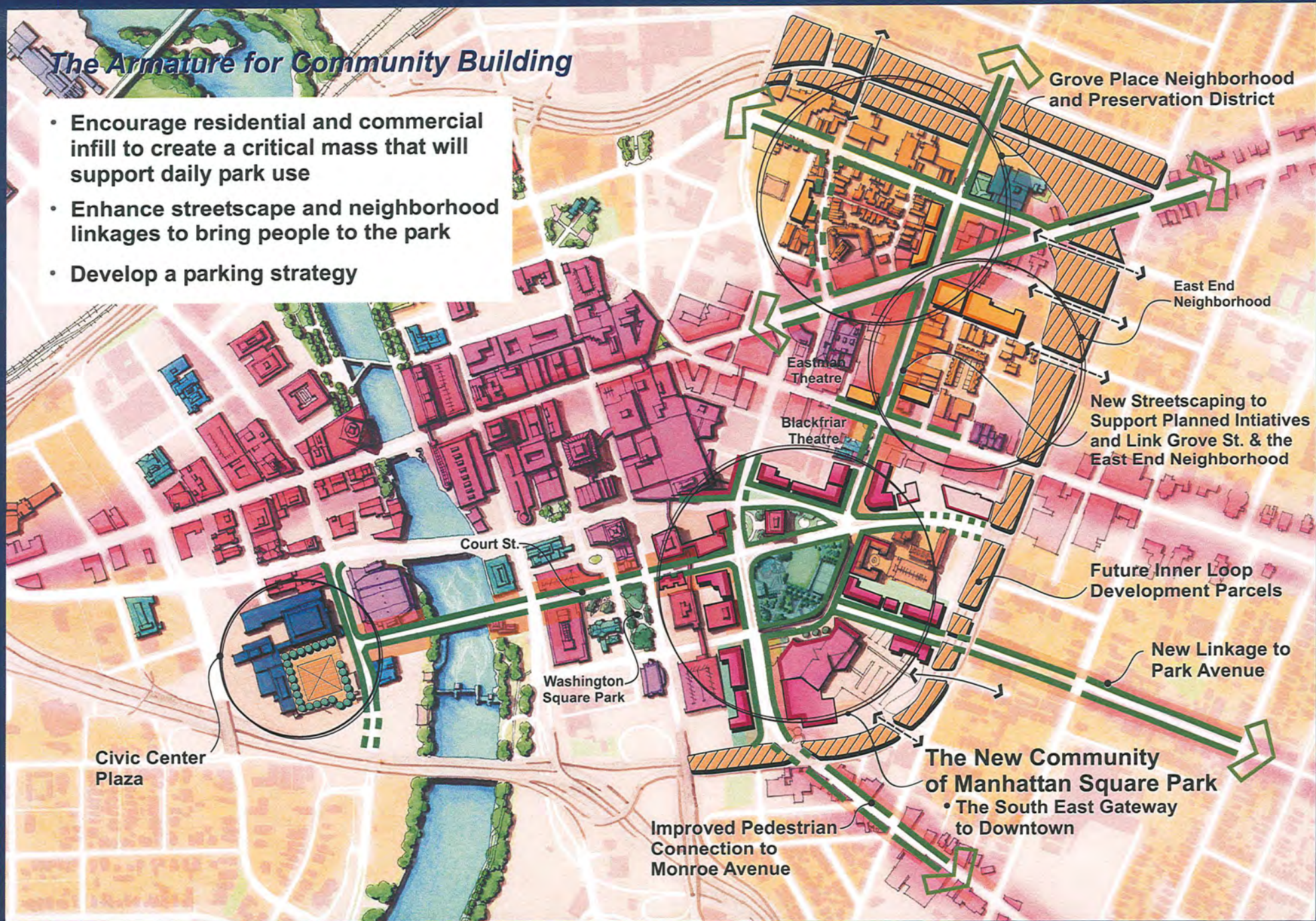


- Develop a regional cultural and tourism attraction
- Position the park as an integral component of the cultural district showcasing its member agencies & cultural events

Principle 1: Position the Park as a Catalyst for Center City Renewal

The Armature for Community Building

- Encourage residential and commercial infill to create a critical mass that will support daily park use
- Enhance streetscape and neighborhood linkages to bring people to the park
- Develop a parking strategy



Principle 1: Position the Park as a Catalyst for Center City Renewal

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Strategies which support Community Building will have far reaching benefits

**The New Community of
Manhattan Square Park**

**Commercial / Residential
Development**

**Commercial / Residential
Development**

**Urban Infill
6 to 8 Storeys**

Strong Museum

**Proposed Canfield Ave.
Extension**

Principle 1: Position the Park as a Catalyst for Center City Renewal

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The Program is the Park's Strongest Asset



The 'Program Concept'

- Pursue design strategies which enable the park to function as a significant venue for Arts/Cultural events considering:

a performance pavilion
a permanent stage
an amphitheater
a greenroom
support facilities
lighting/acoustics

- Create flexible multi-use spaces capable of accommodating a diverse range of programmed events and passive activities

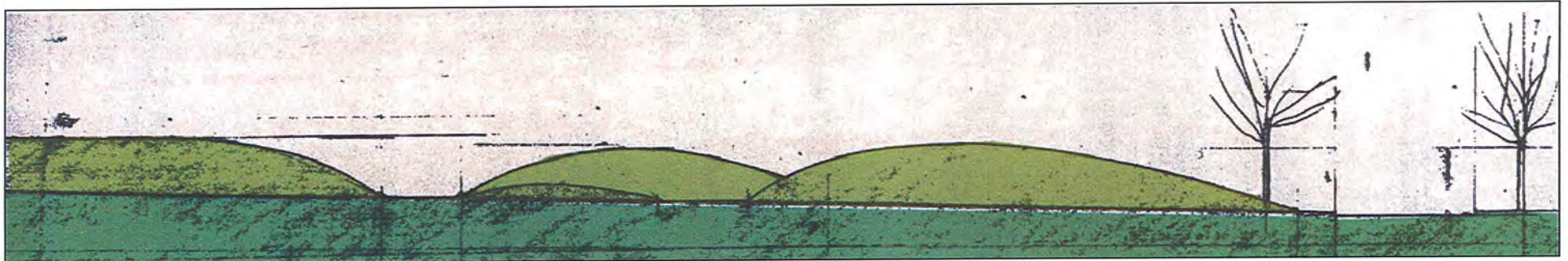
Existing Events

- Party in the Park - 8 Concerts
- Rhythm Nights - 4 Rhythm and Blues Concerts
- July 4th Celebrations
- Bluegrass Festival - August
- First Night

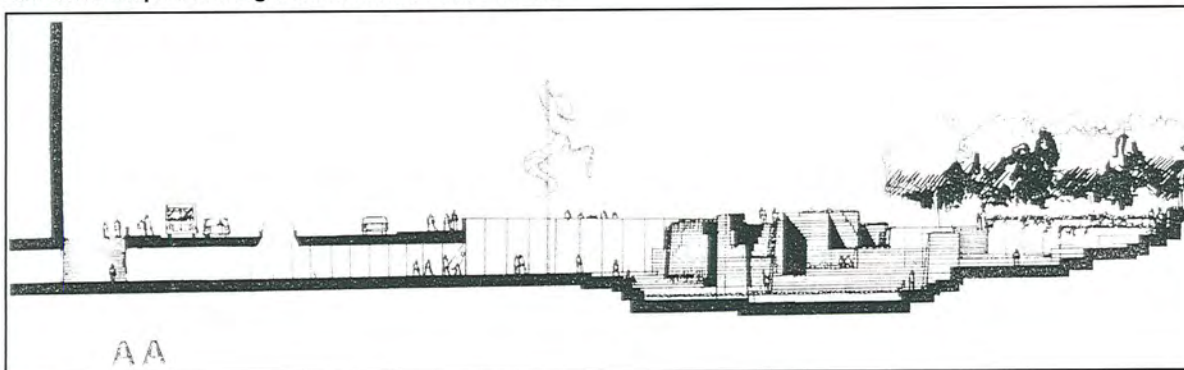
Expanding the Program

- Ice Skating
- Safe Children's playground
- Farmer's and Speciality Market
- Public Art Exhibits
- Sculpture in the Park
- Theatre in the Park
- An Amphitheater
- Restaurant & Café venues
- Cultural Events
- School Band Concerts
- Places for informal recreation
- U of Rochester Events
- Special Receptions
- A Taste of Rochester
- Book Sale
- Readings in the Park
- Christmas Market
- A Children's Festival
- Classical Music
- Gardens
- Dance in the Park

The park is isolated from its context by grade changes and physical barriers



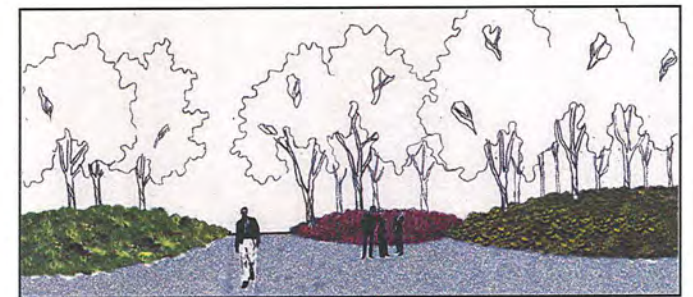
Lawrence Halprin's Design Sketch of the Berm Garden



Section through Chestnut showing elevational separations



Section through South Berm illustrating visual and physical barriers

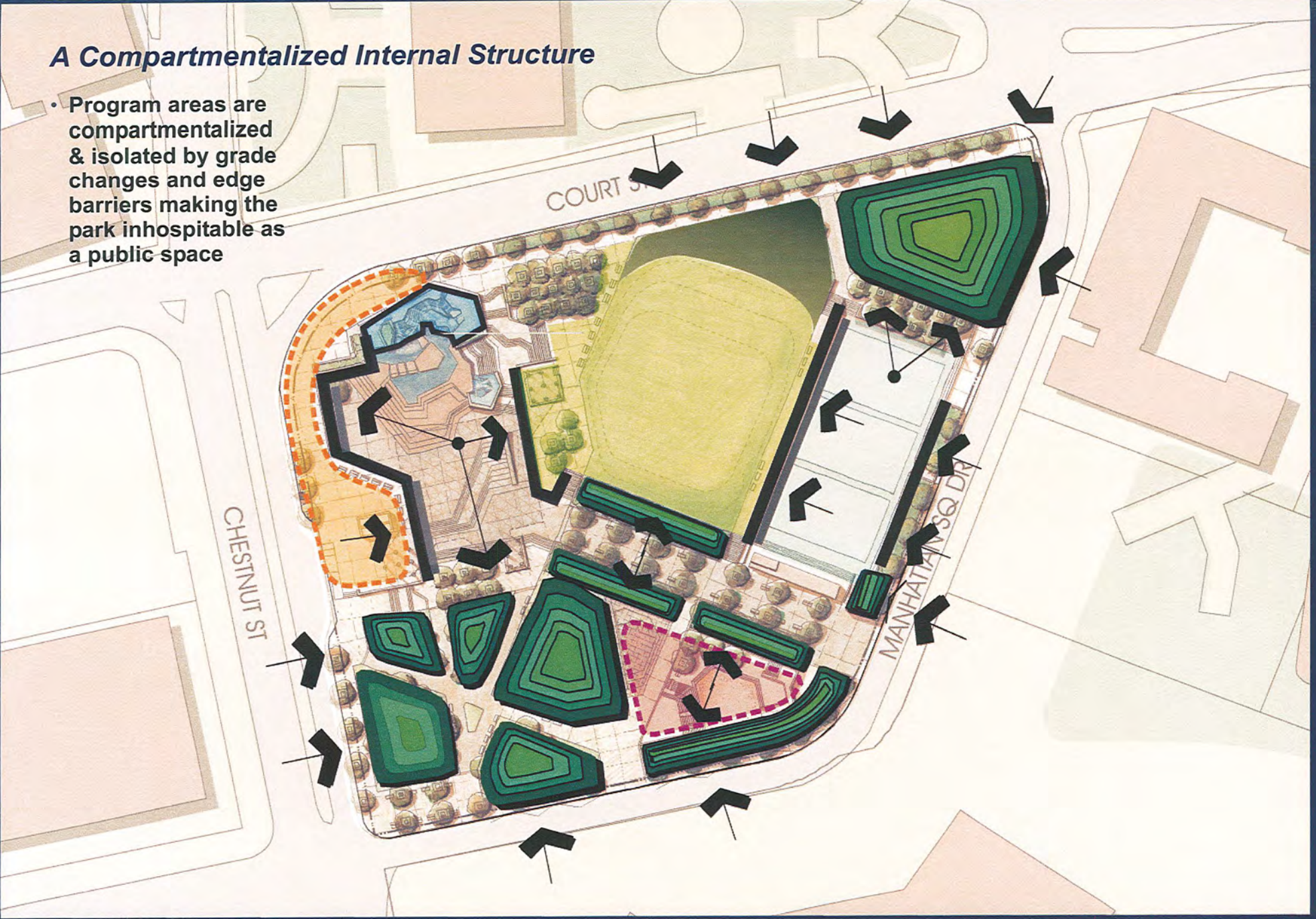


The original design intent - a place of retreat and repose in the heart of the city needs to be reconsidered.

Principle 3: Repair the Park

A Compartmentalized Internal Structure

- Program areas are compartmentalized & isolated by grade changes and edge barriers making the park inhospitable as a public space

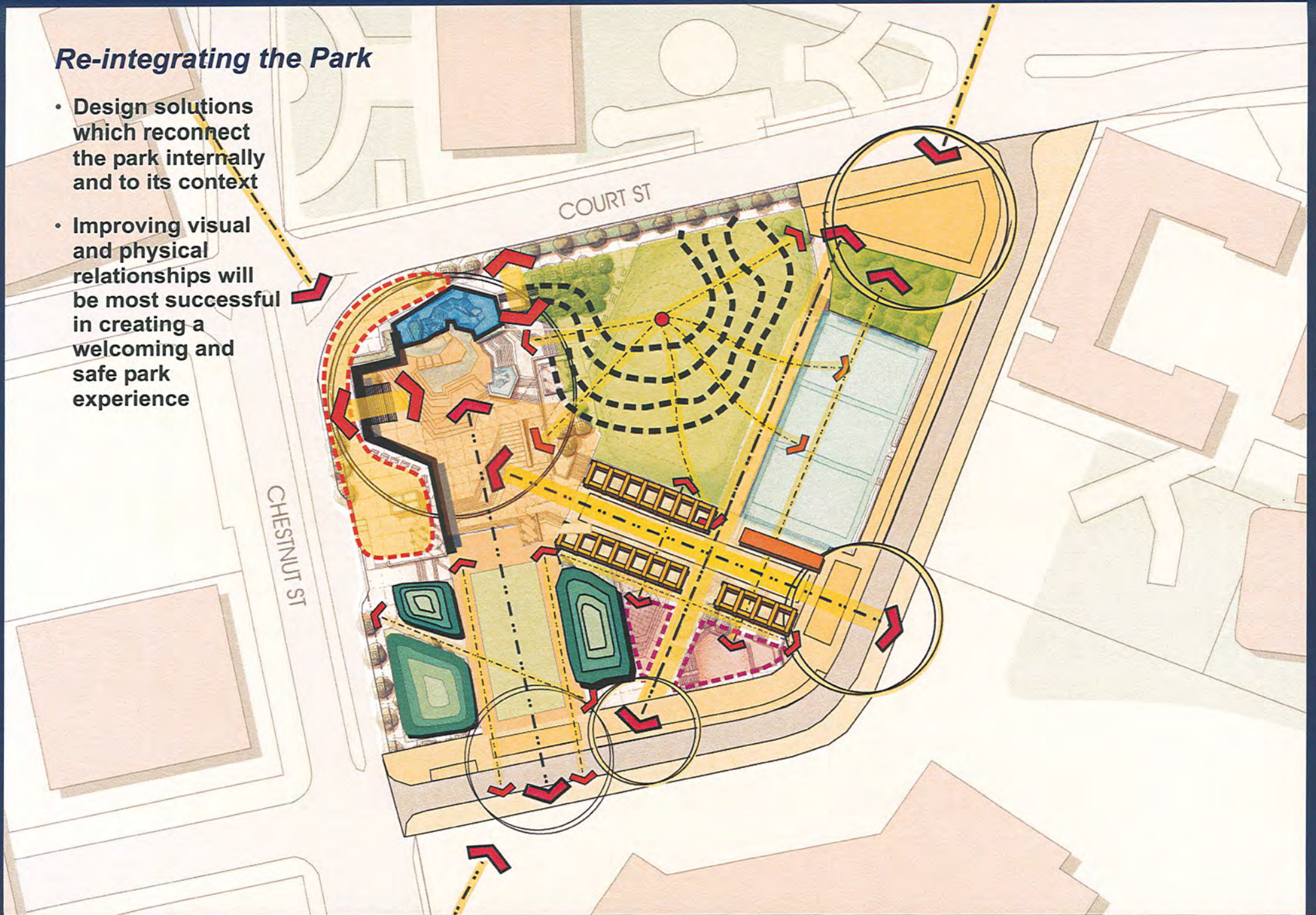


Principle 3: Repair the Park



Re-integrating the Park

- Design solutions which reconnect the park internally and to its context
- Improving visual and physical relationships will be most successful in creating a welcoming and safe park experience



Principle 3: Re-integrate the Park

- Marquee and special out-of-town performances
- Temporary street closures on Manhattan Square Drive to accommodate street markets and fairs

To accommodate this expanded program for the park, the infrastructure to accommodate events, people, spectators and performers should be improved. The Master Plan places a strong emphasis on the creation of simple, elegant multi-use spaces that can accommodate a range of community and programmed events, yet can also function as attractive, safe and inviting places during non-programmed use.

Principle Three: Open and reintegrate the park internally and to its context to make it safe, inviting and welcoming

Abrupt, extreme grade changes, concrete walls, earth mounds and perimeter berms compartmentalize the park internally and isolate the park and its users from the surrounding public streets and the broader park context. While these elements were originally intended to make the park a unique retreat within the heart of the City, they present visual and physical barriers which make the park uncomfortable, uninviting and, at times, unsafe to use. The strategic removal of some of these barriers and the modification of others to improve sightlines and pedestrian connections, will make the park more accessible, friendly and inviting to park users. It will re-integrate and open the park internally and firmly reconnect the park to its context.

The edges of the park should become transparent, allowing for people and views to easily filter in and out of the park. Key points of arrival should be strengthened to provide immediate visual orientation to vast areas of the park, lending the park

users with a greater sense of comfort and security. The repair of the park should be complemented with improved pedestrian-scale and feature lighting.

Principle Four: Animate the park with a range of permanent and temporary elements to make the park an attractive year-round destination

The master plan strategy proposes a range of new elements and features as well as enhancements to existing amenities to create an enjoyable recreational experience for park users and an attractive park and civic destination within the Center City.

The Halprin Fountain should once again bring water to the park, and it should be set within a beautiful landscape capable of showcasing the City's growing public art collection. A multi-season rink and pond should replace the derelict skating rink creating a lovely summer amenity while offering recreational skating in the colder months. New fountains should enhance and announce key entry points to the park and new landscape elements including the development of a landscaped terraced hill and a new public garden and lawns will create a significantly more green and seasonally interesting park. New amenities including a flexible-use Amphitheater, a colonnaded arbor, and recreational and performance program centers will enhance and define the physical structure of the park providing essential program facilities capable of accommodating a range of cultural and community events as well as providing places for people to meet, have lunch, enjoy receptions, banquets and concerts.

A state of the art interactive children's play area will become a significant local and regional attraction complementing the programming of the Strong Museum and attract a new generation of children back to the park. Movable tables and chairs, kiosks and street closures will help accommodate special events year-round and will enliven the park during celebrations bringing the community together.

A Diverse Range of Program Elements

Permanent and temporary amenities will:

- Define special use and character areas
- Animate the park throughout the year
- Support a range of recreational activities



Principle 4: Animate the Park

7 The Vision

Core principles of revitalization have been brought together through the design and master plan process to define a clear vision for the future of Manhattan Square Park.

The vision seeks to create a remarkable and regionally significant destination venue for recreational, cultural and community activities within the Center City. The spaces of the park will be attractive, memorable and enduring. The park will play host to a range of community and cultural events contributing to the vitality and quality of life in the East End district. Streetscape, public realm improvements and residential developments around the park, supported by new cafés, restaurants, and shops at street level, will create a vibrant, populated district strengthening the quality of life within the Center City.

The vision builds carefully on the strengths of the Halprin scheme, retaining the basic physical layout of the park, as well as key program elements such as the fountain, and many original program ideas such as a rink for skating and a place to gather and view performances. It also makes some changes and additions in response to community objectives. Many of the retained amenities will be repaired or made operational and recast within an enhanced physical setting. New program elements will help animate the park daily, weekly and seasonally and increase its value as an amenity within the community. The park will be opened internally and externally

to its context offering a safe and enjoyable experience to park users. Reconfigured spaces and views will flow outward and sequentially to draw people into the park reconnect the park to its neighbourhood.

The vision is based on the development of two primary programmatic centers intended to anchor the park's cultural and recreational role within the City. These are:

- *the Howard Hanson Performance Pavilion and Amphitheater,*
- *the Park Lodge and Multi-seasonal rink and pond*

The development of the **Howard Hanson Performance Pavilion** and outdoor amphitheater will establish a high-quality focus for cultural and community events within the Center City. The Performance Pavilion will transform the existing multi-use facility into a two story architectural jewel strategically set within the park to terminate the view corridor and axis of the central movement corridor. It will house gallery, civic and reception areas, a visitor information center, a restaurant with outdoor seating areas, commercial space and public facilities, and it will give the park a strong new address and presence on Chestnut Street.

The Performance pavilion will create a backdrop and setting for the re-working of the lower plaza to create a stepped **Amphitheater** for 4,000 spectators. This simple, elegant space

will become the focus of the park's cultural program made possible by the removal of the space frame, supporting footings, and the lowering of concrete walls to open the space to other program areas. A '**Water stage**' will create a permanent performance area, and elegant stone terraces, pathways and grassed areas will define the amphitheater space, improve the grade transition to Court Street, and provide defined seating areas for performances. A new open tread stair will connect the amphitheater and the Court/Chestnut Street intersection and an overhead bridge structure will provide a unique experience and viewing point to the amphitheater plaza below. The amphitheater plaza will contain movable terrace-style tables and chairs for informal gatherings, meetings and lunching.

The park lodge, developed on Manhattan Square Drive will establish a center for recreational and community programming within the park. It will service program needs associated with the development of a new **Interactive Children's Playground** located on city property adjacent to the Strong Museum, as well as provide a program center for the new multi-season rink and pond, nestled within the terraced landscape of the hill. Built on a wide terrace overlooking the rink and pond, the Lodge will function as a secondary venue for events, with spectator seating provided on the terraces of The Hill and the landscaped island. The Park Lodge will provide skate rentals, community meeting rooms, Zamboni storage, food concessions and a banquet hall with a fireplace.

The **Multi- season Rink and Pond** will become an attractive year-round recreational focus within the park. During summer months, a fountain within the pond, on axis with the new Canfield/Park Avenue street extension, will draw visitors to the

area and announce the reconnection of the Park Avenue neighborhood to the park and the downtown area. This new street will provide an address for the Children's Playground complementing the Strong Museum's unique programming and strengthen the amenity draw of the district.

The central movement corridor will be re-defined as the **Arbor Alle**, a colonnaded promenade offering open views and access to all areas of the park. The arbor alle will become the park's "main street" and signature meeting place and the arbour will accommodate booth stalls during community events. It can also be designed with gates to create a controlled venue for ticketed events or receptions within the park. The existing skating pavilion will be retained and incorporated in the design of the Arbor Alle, providing an open, shaded pavilion overlooking the Rink and Pond.

The former open playing field will be transformed as a **Terraced Landscaped hill** providing a lovely landscape setting for the rink and pond. Reworking and softening the abrupt grade transitions in this area will result in stronger visual and physical connections between recreational and cultural program areas. The hill will be developed as a tree arboretum, and shallow stone and grassed terraces will provide additional event seating overlooking the amphitheater space.

The Halprin Fountain will once again bring water into the lower plaza area, helping to animate the space and creating a stunning setting for the development of a sculpture court featuring the City's growing collection of public art.



Recommended Master Plan

City of Rochester
 Departments of Parks,
 Recreation and Human Services

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A new **Garden** and picnic area with lawns and a special landscaped parterre will dramatically improve the interface between the park and the Strong Museum, while providing clear views to the amphitheater and Halprin Fountain. In contrast to the amphitheater plaza, the garden will provide a cool, refreshing and more intimate yet open place for receptions, picnics and informal recreational activities. A **landscape Foley**, set atop the high point on The Hill, will provide a place to sit and take in the view of the entire park area. New landscaping and the use of a broad range of paving and surface materials will enrich the landscape quality of the park through all seasons.

A wide tree-lined **Promenade** will be developed along Manhattan Square Drive, linking all program areas within the park and providing flexible program space for temporary display booths and kiosks during special festivals. Temporary street closures will permit larger street fairs and ‘tail gate’ markets.

Over time, Manhattan Square Drive will be re-imaged as a two-way street, with parallel parking adjacent to the park to support visitor pick-up and drop-off. This is an important amenity needed to support the expanded role of the park and ensure the safe delivery of adults and children to the area. Parking areas will be visually integrated within the design of the promenade through flush or rolled curb treatment and the similar use of paving materials to those of the promenade.

A **mist fountain** will mark the gateway “entry lobby” at the important Court Broadway intersection and permit clear and open views to the pond, its water fountain and the Arbor Alle. During summer, a set of movable bridge structures will convey

pedestrians from the Court/Broadway entry lobby to the islands in the pond and to the arboretum of The Hill. This unique sequence illustrates the importance of water and the bridge, key unifying themes throughout the vision concept.

New street trees, narrowed roadways and widened sidewalks will redefine the edges of the park and enhance the pedestrian environment. Over time, **New Streetscapes** will be developed on Court, Chestnut, Broadway, Manhattan Square Drive, and along the proposed Canfield Extension to Park Avenue, to reinforce linkages and enhance the image of the district.

Investment in the park and in the public realm will create a setting to encourage continued renewal and reinvestment in the Center City. Through public and private sector initiatives, vacant sites and surface parking will be redeveloped as **new office, commercial and housing developments**, completing the transformation of the area as a dynamic, mixed-use district in the heart of the Center City.

8 Detailed Design and Program Recommendations

The following section will elaborate on the vision for the park presenting detailed design and program recommendations for 6 park program areas and the park context.

This documentation will assist the City and the design team selected to undertake detailed design and reconstruction of the park with specific programmatic, physical, functional and aesthetic components of the master plan concept.

Detailed design and programmatic recommendations have provided the basis for the completion of the Order of Magnitude Cost Estimate, summarized in section 9 of this document.

Detail design and programmatic recommendations are presented for the following areas:

Area 1 - The Howard Hanson Performance Pavilion, Amphitheater and Fountain Areas

Area 2 - The Garden, Picnic and Play area

Area 3 - The multi-seasonal Rink/pond, Park Lodge, Broadway Entry Plaza and Landscaped Hill

Area 4 - The Arbor Alle

Area 5 - The Promenade

Area 6 - The Future Children's Play Area.

The Park Context

Area 1:**The Howard Hanson Performance Pavilion,
Amphitheater and Fountain Areas****Howard Hanson Performance Pavilion:**

Design Intent: The multi-use building should be retrofitted as the Howard Hanson Performance Pavilion, a 2-story structure rising from the lower plaza to one story above street level, providing a strong cultural focus for the delivery and operation of special programs and events within the park. This facility will terminate the alle view replacing the space frame and footings, which will be removed. The pavilion will provide a visual backdrop, lighting and stage gang for the performance and stage area.

The Program: the performance pavilion will include:

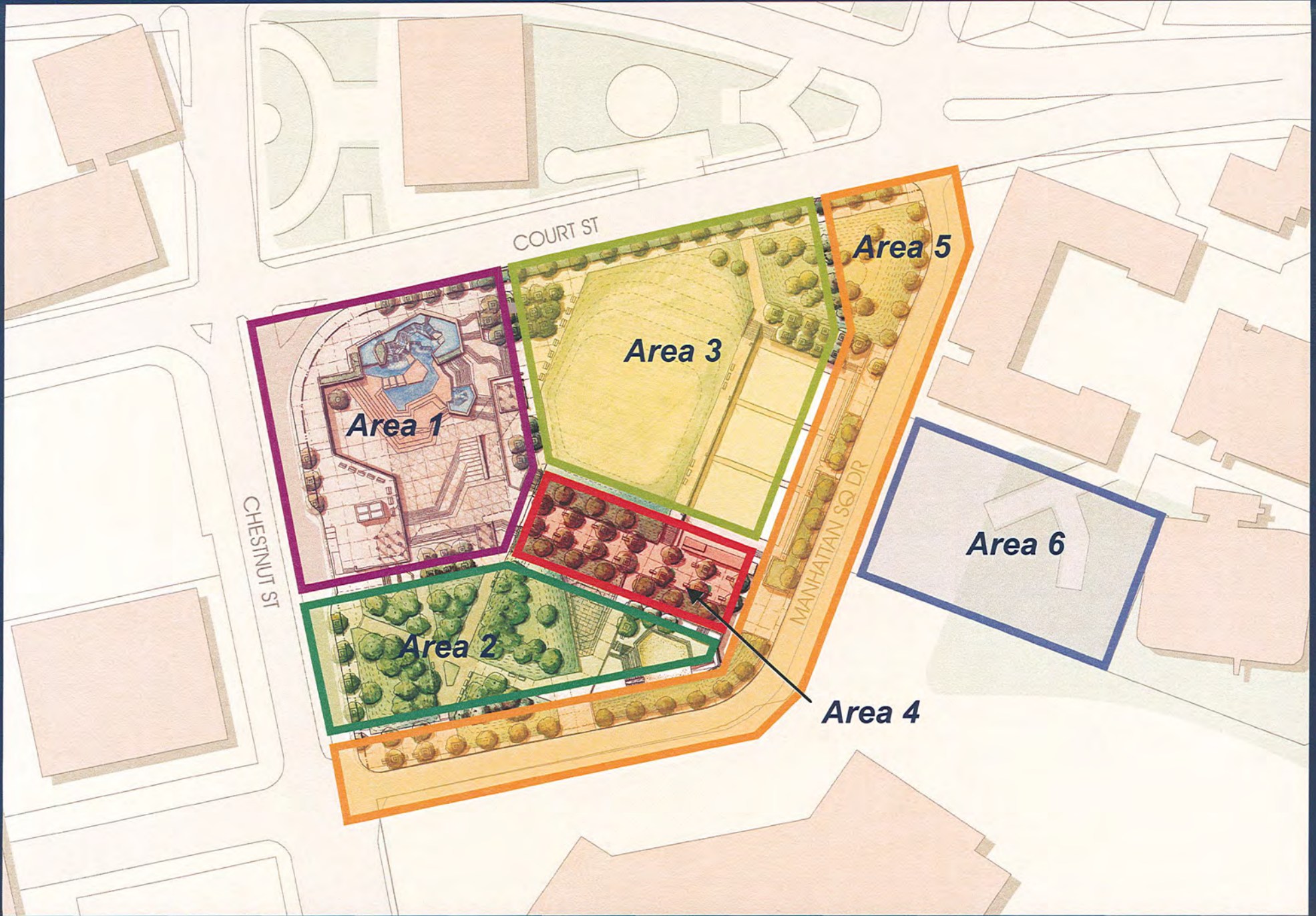
- Gallery and reception space
- A visitor information center at street level,
- A multi level restaurant with outdoor seating and café space opening onto the lower plaza during non performance events, leasable retail space, event or management related office space,
- A green room, public washrooms, storage areas on the lower level,
- An elevator capable of linking the street level with the lower plaza for use by persons with special needs, and for secondary loading and delivery.
- An audio /acoustical and lighting control center should be housed within the pavilion capable of remote operation from atop the hill or the garden folly located at the high point on the hill.

Architectural, material and functional characteristics:

Envisioned as a modern, steel, stone and glass structure, the design of the pavilion should exhibit design and architectural excellence clearly integrated within its surrounding context. The design of the pavilion should complement and frame the amphitheater space forming the backdrop for the performance stage.

The pavilion will integrate:

- A tower component intended to terminate the alle view and supporting a performance and stage lighting canopy positioned over the performance stage.
- Stage lighting integrated into to the canopy design eliminating the need to remove and remount lighting fixtures seasonally.
- The use of glazing along much of the building to showcase reception and gallery spaces during the day and permit illumination of the lower plaza level and amphitheater space prior to and after performances.
- Glazed windows that open onto the stage area to facilitate stage setup, the installation of back stage set design, and the arrival and departure of performers.
- A mezzanine or balcony at street level intended to project and overlook the amphitheater space. This will provide outdoor seating, and an outdoor open tread stair connecting the balcony to the lower stage area. The stair should be gated to prevent access up or down during performance events.



6 Areas of Potential Park Reinvestment

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Departments of Parks,
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Chestnut Street Stair and Tunnel. A new wide tread stair with 2 wide transitions or seating platforms will connect Chestnut Street to the amphitheater below. A bridge will be developed over the stairs providing a connection between the Pavilion and the reconfigured Court/Chestnut Street entry plaza. This element will create an exciting viewing platform overlooking large areas of the park. The tunnel behind the open stair should be closed off to the public and outfitted with an attractive grilled or opaque wall and door combination to accommodate storage of outdoor park furnishings and providing access to the RG&E future utility location.

Balconies, mezzanines, bridge and ramps should be consistent, and the use of clear Plexiglas safety panels is recommended to permit clear spectator views especially for children.

The Court and Chestnut Street intersection: should be reconfigured to create a generous entry plaza to the performance pavilion and to the amphitheater below. A water feature will enhance this entry lobby to the park.

Chestnut Streetscape: A generous public realm should be developed on Chestnut Street framing the street entrance to the Howard Hanson Performance Pavilion. This should be achieved by narrowing Chestnut Street to a four-lane cross-section and removing the center median to gain a minimum 20-foot sidewalk widening along the street frontage. A double row of street trees will create an enhanced pedestrian environment along

this frontage and a suitable setting for the performance pavilion.

Grading and elevations: The lower Pavilion floor entry elevation is established at 520.0 with the lowest level of the amphitheater established at 518.5. A walkway established at elevation 520 will surround the lower structure of the performance pavilion and connect to the lowest stair transition platform of the new Chestnut stair and provide consistent grade access to the performance stage, the pavilion entrance locations, the ADA access ramps discussed below. Modestly raising both the pavilion floor elevation and the lower plaza elevation will:

- Improve the physical connection between the upper and lower levels,
- Enable the development of the amphitheater to acknowledge standards while retaining key grade elevations in adjacent program areas,
- Facilitate the development of ADA ramps without the need of switchbacks,
- And permit the development of a new wide tread new stair connecting the amphitheater to the Chestnut street level without the stair interfering or extending into the re-imaged fountain area.

ADA access Ramps - 2 New ADA compliant ramps should be located on the east wall of the performance pavilion to mediate the grade transition from the garden and alle levels maintained at their current elevations of 524 and 522 respectively, to a walkway at 520 surrounding the lower structure and providing

access to the performance stage and lower pavilion entrance locations. A third ramp adjacent to the performance stage and perpendicular to the building and surrounding walkway will transition to the lower amphitheater level at 518.5, placing persons with special needs directly at the front of amphitheater seating adjacent to the performance stage.

The Amphitheater

Design Intent: The Lower plaza will be reconfigured as a simple, elegant, multiuse space accommodating a stepped performance amphitheater constructed to acknowledged outdoor theatre standards. The amphitheater should accommodate 4000-seated persons, with additional viewing and seating areas established on the stone and grass terraces of the landscaped hill above. The space frame and footings will be removed to permit development of the amphitheater and afford clear views to the performance area and other program areas.

A permanent performance stage called the 'Water Stage' will be the focus of the amphitheater space. When not in use as a performance venue, the amphitheater should be outfitted with movable tables and chairs to create a welcoming civic place accommodating informal gatherings.

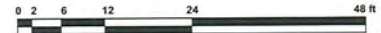
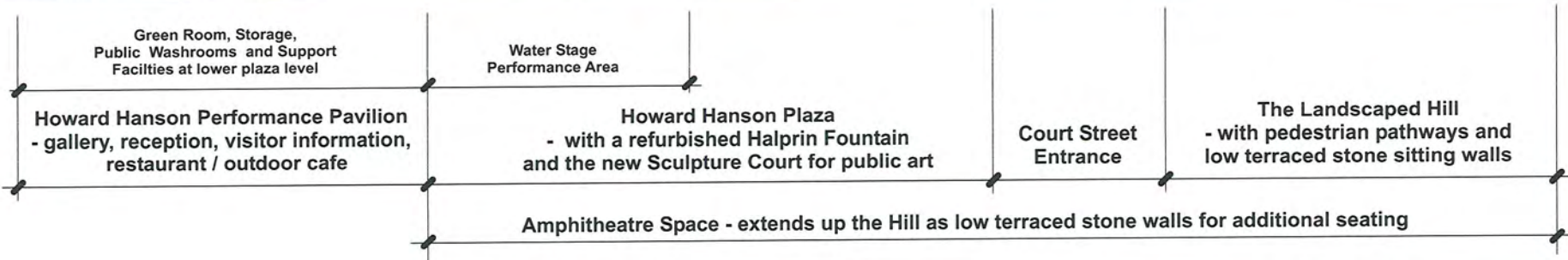
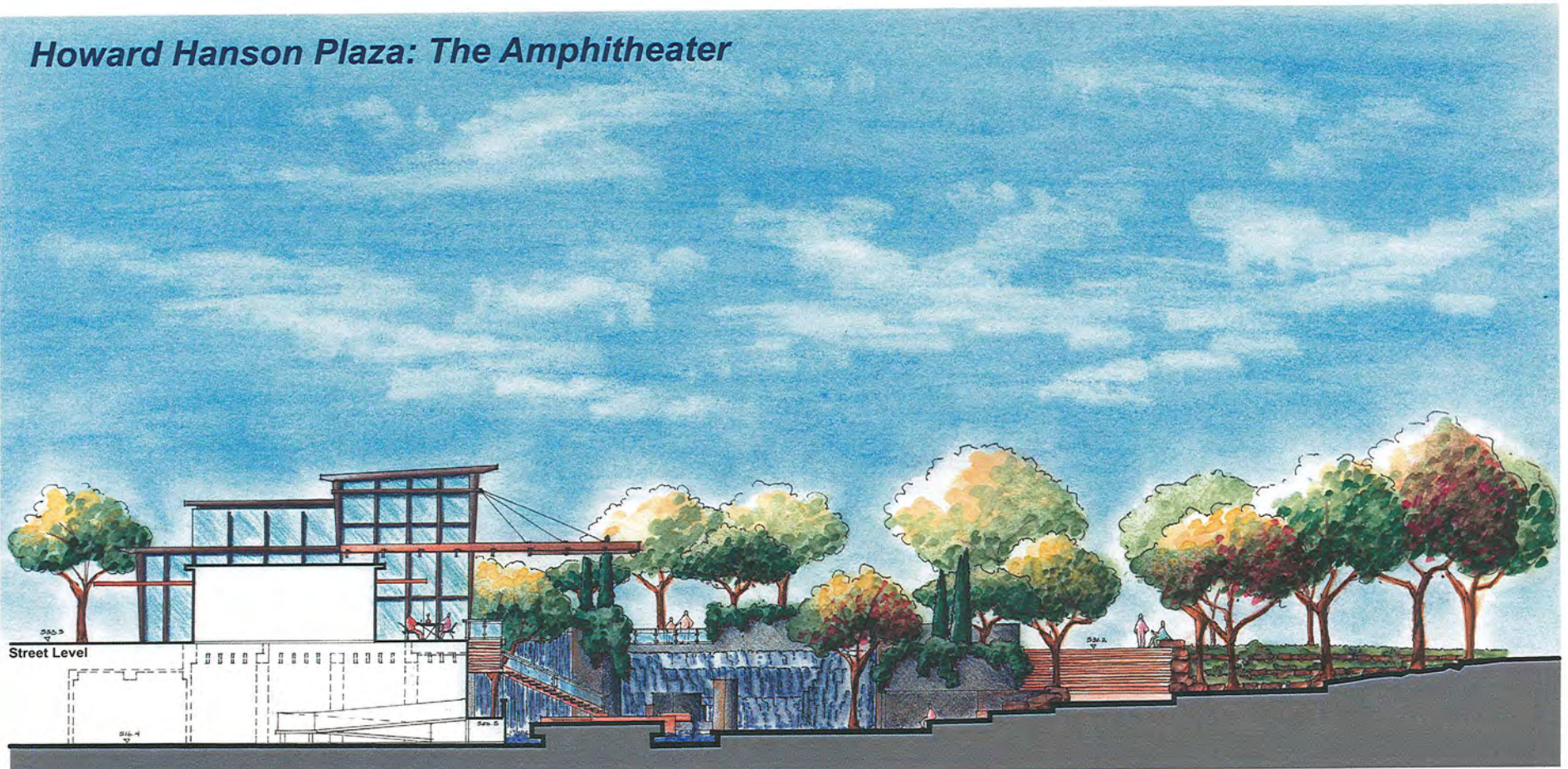
Landscape, material and functional characteristics: The amphitheater should be surfaced in a high quality paving material, stone or aggregate composition with inlaid stone paving details. Amphitheater paving materials should be reflected in the Court/Chestnut entry plaza and along the Chestnut street frontage to help unify these grade separated areas. The amphitheater will be stepped at seating wall height,

or 1.5 feet vertical feet with stairs integrated within the terraces at key points to accommodate pedestrian movement. The elevation of the lowest level of the amphitheatre is set at 518.5 to establish proper amphitheater grading and site lines in relation to existing alle elevation of 522, and garden elevation of 524, to remain unchanged.

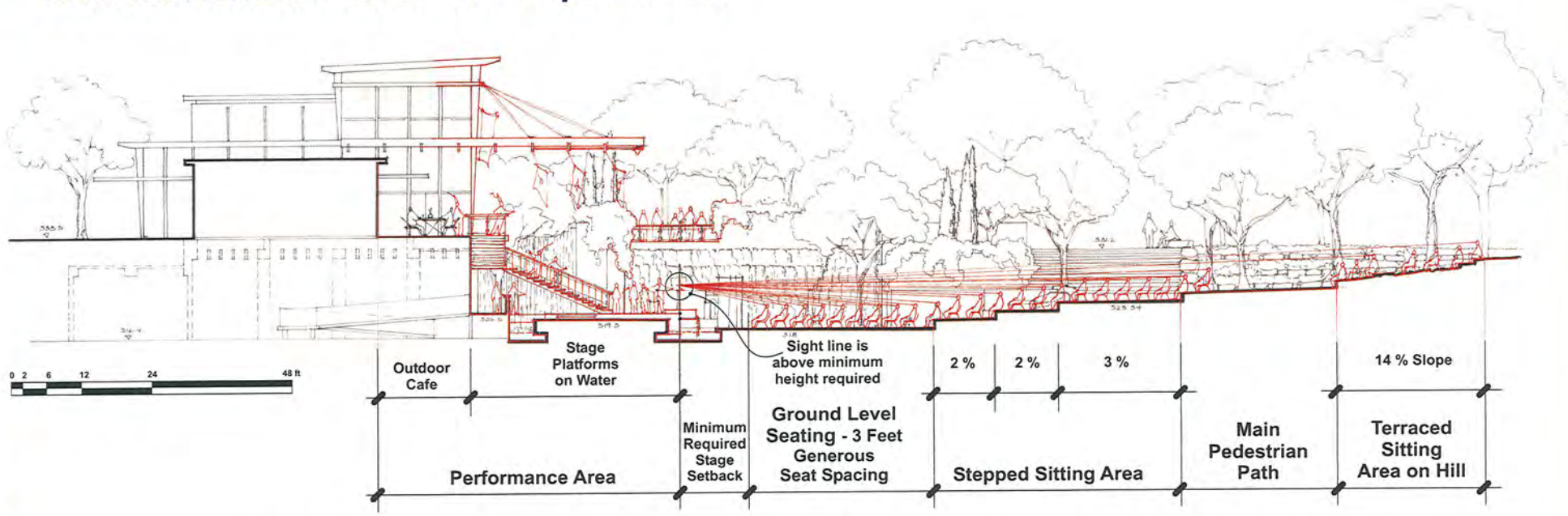
The terraces of the amphitheater have been configured to allow ADA access from Manhattan Square Drive along the arbor alle maintained at elevation 522 and connecting with the second terrace of the amphitheater also maintained at elevation 522. From this point, ADA access ramps connect down to the lowest terrace of the amphitheatre to up to the garden as described above and integrated within the design of the pavilion.

The former 11 foot vertical east wall may be saw cut and integrated within the amphitheater design as the third stepped terrace above the amphitheater's lowest level. The existing narrow Court Street stair should be retained, widened by 12 feet and re-clad or re-surfaced to unify this element within material palette selected for the park. Selected large caliper specimen trees will be located around the perimeter of the amphitheater space and to the back of the water stage to provide interest and shade while ensuring clear views to the performance area. Feature lighting highlighting the performance pavilion, stage and water fountain as well as and general night lighting must be carefully integrated within the amphitheater space and enhance the theatrical experience.

Howard Hanson Plaza: The Amphitheater

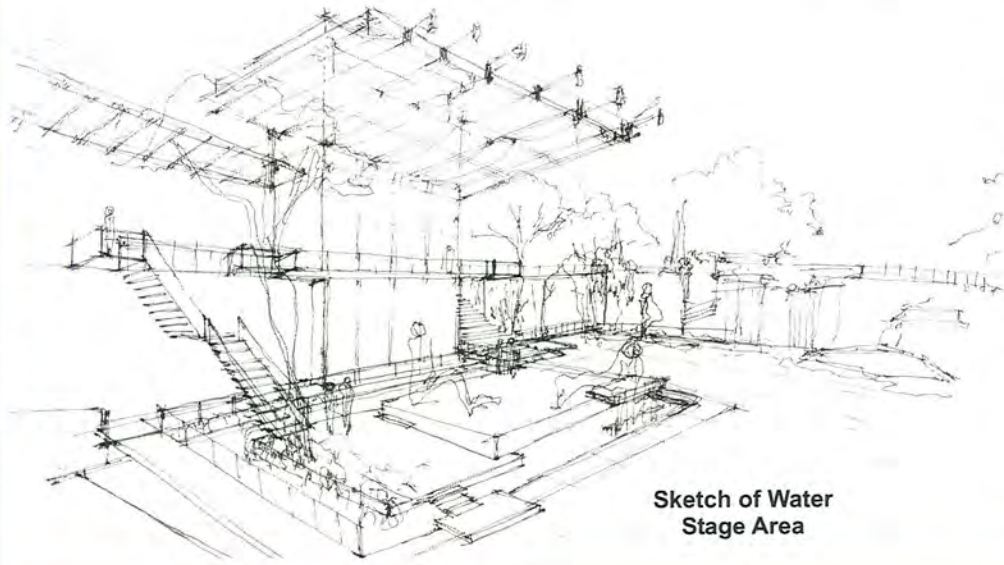


Howard Hanson Plaza: The Amphitheater



Amphitheater Sight-line and Seating Capacity

- The stage space occupies the Pavilion Building edge, the stairs and the Lower Plaza Water Stage
- The stage is integrated with the building form, which extends the stage space and can support the lighting, sound system, green room, washrooms, and other support facilities required for performance venues.
- The Outdoor Amphitheater Seating is measured at a comfortable and generous back to back spacing of 36 inches, and is measured using the "preliminary planning rule of thumb for Seating Capacity" of 7.5 square feet per seat, which includes Aisles and Cross-overs.
- The Lower Plaza and Terraced Hill provides a sitting area of approximately 26,000 square feet, which allows for an approximate seating capacity of 3500 - 4000 people.
- The sight-lines for viewing the stage at the ground level is above the minimum height requirement, to allow for clear views from the Stepped Sitting Area and the Terraced Hill
- Additional viewing areas around the park, such as the park edges, streets, and adjacent internal park spaces, are not calculated as part of the 26,000 square feet area.



Sketch of Water Stage Area



The performance stage: A permanent water performance stage will be the focus of the amphitheater space situated adjacent to the Howard Hanson Performance Pavilion. This feature will consist of multi-level platforms elevated above the lowest level of the amphitheater approximately 1.5 feet and appearing to float over a shallow water basin or runnel. The surface of the basin or runnel should be dark, appropriate to water features in northern climates and will integrate colored lights fountain jets and bubblers to enhance the theatrical experience during performances. The water stage will function as:

- A stage during special events
- An elevated display platform for temporary installations including art and sculptural exhibits.
- A reception area, outdoor restaurant seating area and/or informal seating area with movable chairs and furnishings when not in use as a stage.

The Fountain

Design Intent: The fountain is an important original design element, which is to be carried forward within the new vision for the park. The Master Plan Strategy has identified two approaches toward reclamation the fountain to be determined by the design team selected to undertake the detailed design and preparation of construction documents for the park.

Option 1 – Restoration though repair/replacement. See Section 4 Existing Conditions and Infrastructure Assessment for a detailed discussion of mechanical components, flow rates and feasibility.

This option will repair/replace the existing mechanical and electrical system using a double or single pump system. The general physical appearance of the fountain will be maintained with the exception of modifications to the lower basin, which will be "channelized" as discussed below. This option retains all basins and steep drops and may pose difficulty in terms of municipal liability. This should be examined during detailed preliminary design. The possibility of restoration of the existing colored lighting system is not known at this time, however a replacement cost estimate as well as costs associated with a new stationary lighting system have been included in the order of magnitude cost estimate. The concrete structure may be stained to enhance the appearance of the fountain.

Option 2 – Modified Fountain design Re-cladding and changing the profile of the Fountain. See Section 4, Existing Conditions and Infrastructure Assessment for a detailed discussion of mechanical components, flow rates and feasibility.

This option will replace the entire mechanical and electrical systems using a single pump system. The existing fountain will provide structural support for the application of a new super structure and surface profile with much of the new water supply system situated over top of the exterior of the existing fountain. This option re-profiles the fountain, eliminating steep slopes and upper basins and introducing a more graduated profile with smaller cascades and smaller intermediate pools. The new surface application comprised of a stone or stone composition material will re-image, naturalize and soften the appearance of the fountain. This approach is aimed at enhancing the material quality of the fountain while removing steep vertical drops and potentially dangerous upper level water basins and may be

preferred in terms of municipal liability. Plant materials can be integrated within the design to enhance the fountain and discourage climbing. It is not possible to restore the existing colored lighting system with this option due to the application of the new profile, however a replacement cost estimate as well as costs associated with a new stationary lighting system have been included in the order of magnitude cost estimate.

Channellization of the Lower Fountain Basin: For reasons of safety, liability and maintenance, the lower basin will be removed and flow directed to a covered channel or French drain type application located at the base of the fountain situated approximately at elevation 514. Channellization will occur for both options one and two presented above.

Signature Stepped walkway & Grade Differential to Fountain Drainage Channel. The former signature stepped walkway set within the lower basin will be re-created at elevation 520 providing consistent grade access connecting to:

- the walkway surrounding the lower structure of the performance pavilion and providing access to the performance pavilion and performance stage,
- the lowest stair platform of the new Chestnut stair,
- and the ADA access ramps discussed above.

The new signature stepped walkway will form the northern seating terrace of the amphitheater space and will be outfitted with a railing and clear Plexiglas safety panels on the fountain side only to prevent visitors and individuals from directly accessing and climbing on the fountain. The grade differential from the walkway to the fountain base will be mediated by a

sloped landscape consisting of river stone, moss and vines to create a lush setting framing the fountain. The signature stepped walkway should exhibit a unique, high quality finish material such as stone, colored aggregate cast in place concrete, metal, or a combination of materials.

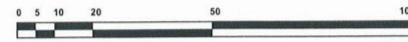
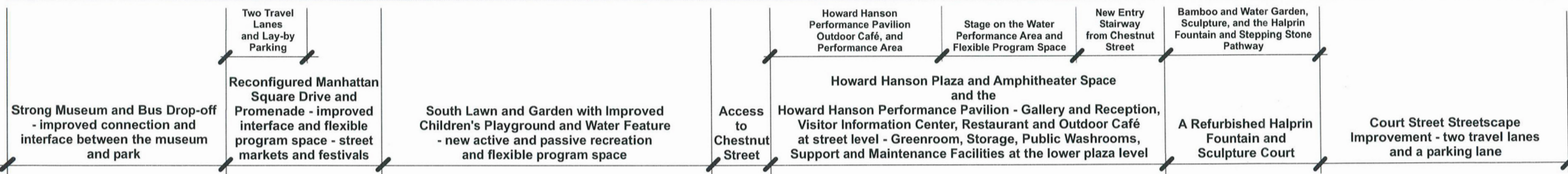
Fountain Landscaping & Sculpture Court The upper and lower areas of the fountain deserve a special landscape to frame the fountain and create an appropriate setting for the development of a sculpture court showcasing the city's growing public art collection. Specimen plantings, vines, weeping and upright plantings are appropriate for this landscape. All balconies and railings should be consistent with those developed for the Howard Hanson Performance Pavilion.

Area 2: The Garden, Picnic and Play area.

The Garden and Picnic Area:

Design Intent: The former South berm garden will be redesigned as a simple, elegant open landscape and lawn defined by wide sidewalks, tree plantings, benches and /or seating walls and permitting clear, open and expansive views from Manhattan Square Drive to the amphitheater space framing the fountain view from Manhattan Square Drive. The re-design of this program area will enhance the interface between the park and the Strong Museum, and provide flexible, multi-use space for passive leisure activities, outdoor receptions and exhibits, and picnicking. As a successive improvement phase, the central lawn can be replaced with a

North-South Park Section





landscape parterre or special garden feature framed by rock faced seating walls and special night lighting to create an attractive and interesting special landscape destination within the park.



Landscape, material & functional characteristics:

The garden and picnic area should contain:

- A rich mixture of specimen and deciduous shade trees under planted with vines and low growing shrubs and conifers maintaining street visibility.
- A grass central lawn, is recommended as part of the first phase of park renewal,
- A signature landscape parterre, may be added during subsequent phases. The parterre should establish an interesting visual and textural pattern using low plant material, colored stones, gravel, hard surface materials and selected specimen trees.
- An irrigation system, included in phase one, and maintained through subsequent phase modifications

- Walkways at a minimum of 10 feet wide and comprised of unit pavers or aggregate surface with special paving bands.
- Existing steps and landings to Chestnut Street will be resurfaced and all paving materials should complement the material used for the amphitheater space.
- Future retaining /seating walls will be articulated with an applied rock or stone face.
- Pedestrian scale lighting will be located in the soft landscaping beyond the walkways on either side of the central lawn leading to the amphitheater.
- Elevated landscape or special parterre lighting to enliven the park at night.

The Play Area

Design Intent: The existing children's play area will be improved with new visual and physical connections to other program areas, new play equipment, improvements to the water play area, new safety fencing, and seating areas to create a safe, interesting and highly visible play area for children and parents.

Landscape, material and functional characteristics:

- The South West building/climbing stair, the retaining walls and berms of the Central movement corridor, and the berms flanking the water play area will be removed and replaced with hard and soft landscaping. This will open and front the play area to adjacent program areas and improve play ground visibility and connection.
- A new wide walkway outfitted with pedestrian scale lighting, landscaping, benches, and special surface and/or sculptural play equipment will separate the water play

area from the hard surface play area and provide a connection to the rink and pond and Manhattan Square Park Drive.

- The Street edges of the hard surface play area should be attractively and unobtrusively fenced to enhance safety. Black metal fencing to a height of 3 feet should be used.
- Concrete structures and surfaces should be repaired, smoothed and stained a light color to match that color of the Arbor Alle.
- Safety railings should be installed as necessary on all parapets and stairs.
- New play equipment should be carefully selected and placed atop a fine sand bed. Wood equipment is not permitted. Play equipment should be interesting providing a variety of play opportunities, but should not appear garish.
- The water play area should be improved with new paving materials. Paving materials may be rubber or hard surface.
- Vines should be used to enhance concrete play structures to remain.

Area 3:

The multi-seasonal Rink and pond, Park Lodge and The Landscaped Hill

The Rink and Pond

Design Intent: The existing hockey rink, mechanical room and rink wall will be removed and replaced with a new state of the art rink and pond and new Park Lodge to create – a strong multi-seasonal recreational focus for the park. These amenities

will permit winter recreational skating as well as a diverse array of summer events and special programming opportunities to create a unique destination amenity within the park.



Landscape, material and functional characteristics:

- The Rink and Pond will be developed in the location of the existing rink with an urban edge on Manhattan Square Drive, and a more naturalistic edge abutting the landscape of the hill.
- A generous pedestrian realm will be developed around this amenity punctuated with large boulders and specimen trees providing informal seating and shade.
- An aggregate surface treatment inlaid with special paving materials is most appropriate for this ‘wet’ area.
- The rink pond basin will be shallow, not more than 1 foot in depth, and dark in appearance, suitable for water features in northern climates.
- River rock or river stone may be laid over or integrated within the surface of the basin design to provide a naturalistic summer appearance.

- A landscaped island will be situated on the rink/pond to make a diagonal pedestrian connection from the Broadway entry plaza to the landscape hill and walkways. The island will provide viewing areas focused on the park lodge. The island should appear as a natural outcropping of landscape and rock and should employ predominantly soft landscaping with specimen tree planting.
- Metal pedestrian bridges will link the island to other program areas and will be removed and stored during winter months to permit recreational skating.
- The configuration of the island and the park lodge will create skating pockets appropriate for parents with young children learning to skate.
- A large Fountain will animate the pond in summer months situated at the terminus of the future Canefield/Park Avenue extension.

The Park Lodge

Design Intent: A multi-purpose Park Lodge and will be developed on Manhattan Square drive to provide a highly visible central location for the delivery of recreational and community programs servicing the rink and pond area and the Interactive Children's Play area to be located on the east side of Manhattan Square Drive. The lodge will also serve as a secondary venue focus within the park and can accommodate special events and concerts hosted within the lodge or on the lodge terrace with spectators situated on the terraces of the hill, the island, and/or situated about the rink and pond.

The Program. The park lodge will be configured as a multi-use structure including:

- an area for skate rental,
- zamboni storage,
- a concession or food and beverage service area,
- a large community meeting room or Banquette hall with a fireplace overlooking the pond and rink,
- associated kitchen and food preparation area,
- washroom facilities,
- storage, and management/ operational office space.
- a large outdoor terrace outfitted with movable tables, chairs and umbrellas to provide outdoor seating and gathering areas. The terrace should extend the public promenade on Manhattan Square Drive out over the water and rink and should employ the use of similar surface treatment.

Architectural, material and functional characteristics:

Envisioned as a modern, steel, stone and glass structure, lodge design should exhibit architectural excellence and should complement the design of the Howard Hanson Performance Pavilion. The lodge should integrate:

- large windows or garage style windows, which can be opened on all sides of the building and facilitate special events and concerts.
- clear Plexiglas safety railing is recommended on the terrace to ensure safe pedestrian use and consistency with railing used within the Howard Hanson Performance area.

The Broadway Entry Plaza: The north berm will be removed and the area redeveloped as a hard surface forecourt with summer/winter steam/mist fountain to create a welcoming entry to the park providing visual orientation and physical connection to the park lodge, public promenade and alle. Large seating boulders positioned in this space will repeat the landscape vocabulary used around the rink and pond, and a similar surface treatment should be utilized.



The Landscaped Hill:

Design Intent: The development of the terraced landscaped hill in the location of the former open playing field will mediate the abrupt grade change between Howard Hanson Plaza and the Rink, establishing a subtle terraced transition reconnecting and reintegrating these program areas through improved visual and physical connections. A landscape arboretum, terraces, lawns, low plantings, vines and walkways incorporated within the landscape of the hill will add to the seasonal interest and landscape quality of the park and provide many educational opportunities for visitors, school children, special groups, and local residents.

Landscape, material and functional characteristics

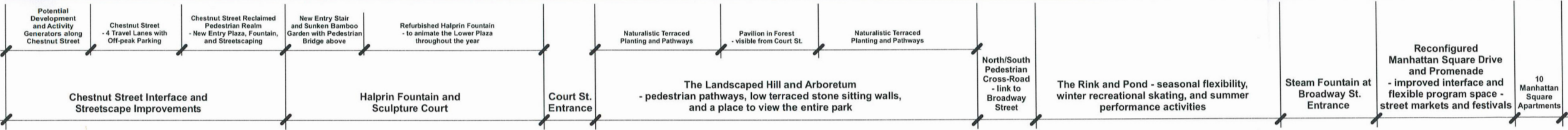
- The Space frame and footings will be removed and the former 11 foot vertical east wall of the central plaza will be saw cut and integrated within the amphitheater design as the third stepped terrace above the amphitheater's lowest level.
- The terraces of the hill will accommodate spectator viewing of all areas of the park and expand the park's ability to accommodate large events both within Howard Hanson Plaza, and within the pond and rink area.
- The terraces will function an extension of the amphitheater utilizing large boulders and rocks to create a series of retaining walls supporting sloped paths, wide steps and terrace areas.
- The landscape of the hill will be developed as an arboretum featuring indigenous as well as unique hardy

East-West Park Section



The Upper Court Street Plaza
- a generous meeting place
announcing water as a special
element of the park

Pedestrian Bridge
- overlooking the
Bamboo garden



Chestnut Street Interface and Streetscape Improvements

Halprin Fountain and Sculpture Court

Court St. Entrance

The Landscaped Hill and Arboretum
- pedestrian pathways, low terraced stone sitting walls,
and a place to view the entire park

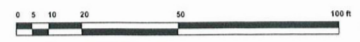
North/South Pedestrian Cross-Road
- link to Broadway Street

The Rink and Pond - seasonal flexibility,
winter recreational skating, and summer
performance activities

Steam Fountain at Broadway St. Entrance

Reconfigured Manhattan Square Drive and Promenade
- improved interface and flexible program space -
street markets and festivals

10 Manhattan Square Apartments



City of Rochester
Departments of Parks,
Recreation and Human Services

Urban Strategies Inc.
Dufresne Henry
Vermeulens Cost Consultants
RJ Van Seters and Co. Ltd.



tree plantings employing botanical labels and other educational information.

- A landscape Foley with seating area and night and feature lighting will be developed on the High Point of the Hill, approximately elevation 532, and provide viewing of remaining program areas. The Foley will be developed on the visual axis bisecting the west stair access of the Arbor Alle and continuing across the central lawn/parterre. The Foley should utilize a similar architectural vocabulary to that of the Arbor Alle and may include a metal grill dome open to the sky.

ADA Ramp: The path system of the hill should accommodate ADA access from Court Street, utilizing the path east of the Court Street Stair, proceeding to the Landscape Folly viewing area, and proceed down the eastern slope of the hill to the wide path system surrounding the rink and pond area at a point just opposite the island and pedestrian bridge area.

Area 4: The Arbor Alle

Design Intent: The Arbor Alle will establish an elegant open walkway and meeting place defined by an architectural colonnade, vines, special plantings and built in raised wall seating areas. The alle will replace the linear berm contained central movement corridor, providing open views and physical connections to all other program areas of the park.

The alle will reinforce and enhance this important diagonal connection through the park strengthening the linkage between the future Canfield/Park Avenue Extension and the

Amphitheatre space and Howard Hanson Pavilion. It will suitably frame the view corridor terminating at the Howard Hanson Performance Pavilion, while maintaining visual or physical cross movement and connections. The colonnades of the alle can be utilized as community booth or display area stalls outfitted with tables and movable seating during special events. The 4 primary entry points to the alle can be gated to provide a controlled venue for ticketed events within the park.

Grading and Elevations: Existing grades at the entry to the alle at Manhattan Square Drive and at the Amphitheater will be maintained at approximately elevation 522. This will provide access for physically challenged persons from Manhattan Square Drive, along the length of the alle to the second terrace of the amphitheater wherein ADA compliant ramps will permit access to the lower levels of the amphitheater and/or up to the garden elevation.

Both the Garden elevation and the upper most seating terrace of the amphitheater are situated at elevation 524 approximately 18 inches above the western entrance to the alle. This change in grade is mediated by a set of stairs at the western entrance to the Colonnade providing access up from the arbor to the garden and upper amphitheatre terrace. An 18 inch retaining wall system, seating height, will be developed to negotiate this grade differential which occurs to the pedestrian crossing providing access to the rink and pond and children's play area, at which point grades on either side of the arbor are uniform. The retaining wall should be developed as a foundation for the colonnade along the outer colonnade line to the pedestrian crossing. The retaining wall will be rock faced.

The southeast section of the Colonnade, opposite the skating pavilion and east of the pedestrian crossing, should incorporate an 18-inch seating wall as described above. This element is not needed to mediate grade differential, but it will unify the colonnades structures and form a low seating wall framing the children's play area while permitting clear visibility

Landscape, Material and Functional Characteristics

- The alle should be developed on a square grid on either 10 or 12-foot centers. This will allow sufficient room between columns for display tables and chairs during community events.
- The colonnade may be a concrete or metal structure and must incorporate a trellis roof system to support climbing vines.
- Vines should be planted at the base of each or the inner columns and trained to grow over the roof trellis.
- Climbing Hydrangea, wisteria or other hardy species will create a spectacular landscape feature.
- Protection for vine stems or trunks should be considered to a height of 6 feet.
- Seasonal or permanent planning in large non-movable pots should be considered for the outer colonnade fronting the garden and play area, and the landscape of the hill, respectively.
- The north ends of the colonnade should be designed as two small pavilions creating a gateway feature to the amphitheater area set on a base or plinth at elevation 524 matching the garden elevation and upper amphitheater terrace elevation.
- A Ticket kiosk with integrated seating area should be established at the southern end of the colonnade located

opposite and complementing the design of the refurbished skating pavilion.

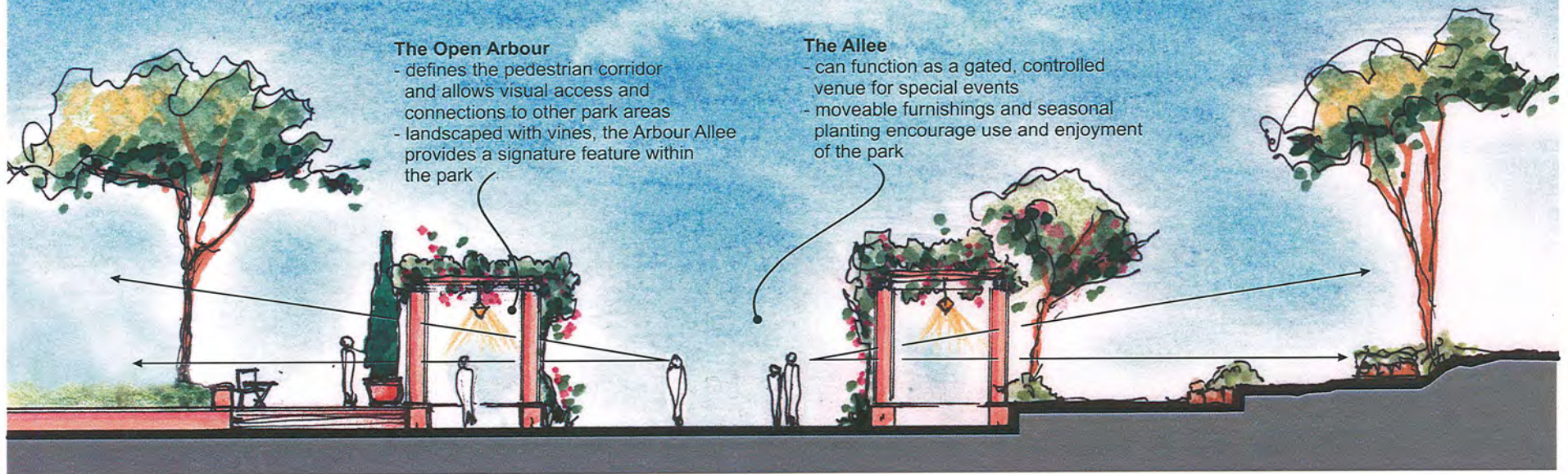
- Lighting should be integrated within the design of the colonnade structure.
- A high quality surface material such as stone, or combination of pored aggregate with stone detailing is recommended for the alle.
- A system of gates at the four main entry points to the arbor alle will permit controlled venues within the park.
- Movable benches may be situated against the retaining wall/outer colonnade looking into the alle space to provide seating for park users.

The former Skating Pavilion will be refurbished and partially opened to provide a sheltered area in which to sit and view the pond and Skating areas. The refurbished skating pavilion will define the alle and should be designed to appear consistent with the colonnade structure and outfitted with columns and a trellis roof system. Storage areas and restrooms should be updated, and the structure should be outfitted to function as a service area for special ticketed events including receptions and 'beer gardens'. Water and electrical will be required.

Area 5: The Promenade

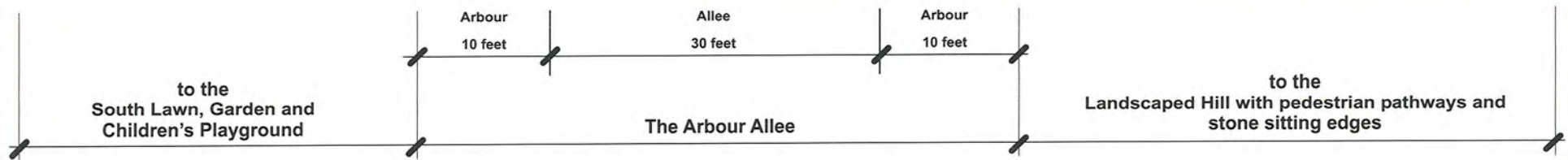
Design Intent: The Promenade will establish an elegant, tree lined public walkway along the Manhattan Square Drive Park, providing views, access and linkage to all other areas of the park. Barrier Berms, the existing rink boards, and the North Berm will be removed to improve visibility and access to the park and enable the development of a 20 foot wide public Promenade creating a welcoming place for strolling, visitor pick

A Cross Section of the Arbour Allée



The Open Arbour
 - defines the pedestrian corridor and allows visual access and connections to other park areas
 - landscaped with vines, the Arbour Allée provides a signature feature within the park

The Allee
 - can function as a gated, controlled venue for special events
 - moveable furnishings and seasonal planting encourage use and enjoyment of the park



up and visitor arrival, which can also be utilized to accommodate street fairs or tailgate markets in conjunction with temporary street closures. Key entry points into the park will be developed as public lobbies outfitted with benches, seating and pedestrian scale lighting providing places for people to meet or await vehicular pick-up.

Landscape, Material and Functional Characteristics:

- A high quality surface material such as stone and a detailed paving pattern will be developed on the Promenade.
- A double row of Specimen street trees, pedestrian scale lighting & benches, will define the promenade. Specimen trees may include the reuse and transplantation of existing Plane Trees.
- Lay-by parallel parking will be integrated within the design of the Promenade to facilitate visitor drop-off and pick-up. The existing curb will be moved out into the street and replaced with a rolled or mountable curb in conjunction with the redesign of Manhattan Square Drive. This street will be reconfigured to a 2 lane, 2 way public street to improve the delivery of people and cars to the park.
- lay-by parking will be integrated and treated as an extension of the promenade, thus surface materials should be consistent with those of public walkway portions of the promenade.

The Broadway entry Plaza will establish a feature entry plaza at this important entryway to the park. The north berm garden will be removed and a multi-season mist/water vapor fountain surrounded by seating boulders will provide a welcoming entry

with clear views to the Park Lodge, the multi-purpose rink/Pond, and the Landscaped Hill.

Area 6: The Future Children's Play Area

Design Intent: A new state of the art, interactive Children's play area should be developed on the City Owned property fronting Manhattan Square Drive and the proposed Canfield/Park Avenue Extension. Utilizing approximately .9 acres for the playground, the remaining site should be developed as a four to eight story multi use building integrating commercial, residential and structured parking uses. This will establish additional 'eyes' on the street, enhancing playground safety and increase activity in the area. The playground will complement programming offered by the Strong Museum and may be created through a partnership agreement related to joint programming, etc.



Landscape, Material and Functional Characteristics

The playground should include:

- interactive water play facilities, activated by movement or sounds

- a sloped water play area articulated with non slip surface mural or mosaic
- a playhouse with play equipment, hard and soft landscape areas
- Special educational play installations
- Low scale metal perimeter fencing
- Specimen trees and landscaping.

The Park context

There are many development opportunities and potential improvement projects within area immediately surrounding the park. Given the extent of reinvestment in the park and its anticipated and desired public use, opportunities to enhance the context of the park, its appearance, vitality and public use should be ardently pursued. The following will provide and overview of development and improvement opportunities within the area.

Urban Infill Projects: There are many underutilized sites that immediately front the park. These should all be considered future mixed-use development sites, with an emphasis on residential development with active commercial uses at grade for all buildings having direct frontage on the park.

At a height of six to eight stories, preliminary development potential in the area could yield 800 to 1200 new residential units or a new residential population of 2000 to 3000 within the district. Single use or single purpose buildings such as a parking garages, or apartment building should not be permitted.

Building heights of 4 to 8 story are generally appropriate and corner buildings with special architectural or silhouette treatment may be appropriate for 10 to 12 story developments. Park frontage buildings should exhibit a two story commercial podium with a modest upper story setback. Special roof and cornice details should be required for all buildings. 75 % of the ground floor fronting the park should be windows for retail/commercial display. Restaurants and café's are encouraged, and the insertion of new amenities and commercial uses at grade within existing buildings including parking decks, will help to create a vibrant public interface surrounding the park.

Future Development opportunities should support the active use of the park and increase the residential population of the area. Servicing or loading which may conflict with immediate public access to the park and the creation of an active public realm around the park should be discouraged or relocated to other less public and less valuable frontages.

The Strong Museum site at the South end of the Arbor Alle: This open space or undeveloped property on Strong Museum site is considered an excellent expansion site for the Museum and worthy of a 'signature' design response. Due to the importance of this site as the terminus of the alle – a very high quality of building design and execution should be pursued for this site. Architectural peer review is recommended to ensure high quality design.

*More people need to live
in the Center City.
Use development sites to
bring more people to the park*



Position the Park as a Catalyst for Center City Renewal

City of Rochester
Departments of Parks,
Recreation and Human Services

Urban Strategies Inc.
Dufresne Henry
Vermeulens Cost Consultants
RJ Van Seters and Co. Ltd.



Streetscape Enhancements: Streets are a vital component of the Public realm and should provide attractive, safe environments for the movement of people, cars, cycles and blades. The streets surrounding the park have been designed for the efficient movement of cars and create a harsh environment for people.

Addressing this imbalance through a sustained program of streetscape enhancements surrounding the park will:

- better link people and neighborhoods to the park,
- promote increased use of the park
- improve pedestrian safety
- establish an improved physical setting encouraging additional private sector reinvestment within the area.

The following Streetscape Improvements should be considered within the City's long-term capital budget and implemented in accordance the phased implementation of the Master plan for Manhattan Square Park. At a minimum, improvements should include new street trees, pedestrian scale lighting and improved walking surfaces utilizing new sidewalks and/or special paving materials

Chestnut Street: Chestnut Street is an important entry way to the Center City and should exhibit a high quality streetscape that reinforces its gateway function. The Streetscape should include:

- The removal of the central concrete median and the narrowing of the overall roadway to add at least 20 feet to the pedestrian environment along the park.

- The development of a four-lane cross-section with off peak parking on both sides of the street
- a double row of significant street trees, and overhead and pedestrian scale lighting
- improved pedestrian crossings at intersections to include removal of right hand turning lanes and islands, reduced curb radii, 10 feet recommended, and the extension of the pedestrian environment across the roadway through appropriately marked pedestrian crossings.
- Improved pedestrian signal timing

Court Street: This street and streetscape should be redesigned to establish a more urban and crossable environment for people. The Streetscape should include:

- A return to two way movement maintaining a four lane cross section with parking on both sides of the street
- Removal of the central concrete median at Broadway to significantly reduce the overall roadway width between Broadway and the inner loop and significantly increase the pedestrian environment on the north side of the street
- Reconfiguration of the Broadway/Manhattan Square Drive intersection to create shorter pedestrian crossings with ample pedestrian 'lobbies' on each of the four corners using reduced curb radii and incorporating small parkettes and hard surface areas.
- Public art at the Broadway/Manhattan Square Drive Intersection marking this downtown threshold
- A double row of street trees from the Broadway Manhattan Square Drive intersection to the Inner Loop

Broad Street: This narrow street will provide the primary address for future development sites fronting the street and should be configured to create a desirable setting to encourage private sector redevelopment. This street may remain one way and may incorporate a wedge or triangularly shaped parkette adding to the amenity of the area.

Broadway Street: This important north south Street provides a key linkage to the East End district emerging as a unique destination district within the Center City. Improvements to this streetscape will better connect the park to commercial and residential uses within the East End and improve linkage to Rochester's largest core city neighborhood - the Grove Street neighborhood.

Streetscape improvements should include new street trees, overhead and pedestrian scale lighting, enhancements to the linear parquets at Broad Street and Broadway, and areas of special paving to add interest to the street.

Manhattan Square Drive: The streetscape for this primary delivery route to the park should include:

- A return to two way movement maintaining a two lane cross section with lay by parking integrated within the design of the Promenade, appearing as an extension of promenade through the use of mountable curb and similar paving materials used on the pedestrian portions of the walkway.
- A double row of specimen trees, potentially re-using and transplanting existing plane trees on the park side of the street and utilizing a constant single row street tree treatment on the opposite side of the street.

Due to the significance of this street as a primary pedestrian route and primary connection between the Park Lodge and Future Children's playground, the integration of a traffic table within the roadway is recommended between the entrance to the arbor alle and the Broadway intersection. The traffic table will signify to motorists through visual and audio cues that the area is a pedestrian priority zone.



Canfield/Park Avenue Extension: Reconnecting Manhattan Square Park to the Park Avenue Neighborhood severed by the development of the Inner Loop is considered a longer-term initiative with many positive benefits. This additional street will improve access to the park and create new frontage and development opportunities framing the park and Strong Museum facilities. Portions of this extension in the vicinity of the park could be developed in the short term, the segment from Manhattan Square Drive to existing Savanna Street, with the final link, savanna to union, completed once the feasibility of dismantling portions the inner loop is clearly understood.

This streetscape should:

- Occupy a 60-foot right of way built entirely on City owned property from Manhattan Square Drive to Savannah Street, and requiring transfer to public ownership the portion from Savanna Street to union
- Include sidewalks, street trees and lighting
- Include 2 travel lanes and parallel street parking on one side of the street and accommodate two-way movement.
- Replace the private access drive from Manhattan Square Drive to Strong Museum property with a public street resulting in an urban, publicly accessible street and block configuration.
- Provide a 40-foot laneway or muse street access to the rear of 10 Manhattan Square Drive between the future Children's Playground and the mixed-use development site located on city owned property. This muse type street should appear unique, could be developed using pavers, and must include street trees and pedestrian scale lighting. The future development site will front onto the muse and overlook the Children's playground.

9 Three Phases of Park Renewal

The transformation of Manhattan Square Park is an important undertaking with many positive benefits to the people who live within or choose to visit the Center City, as well as to those who will consciously choose to make it their home in the future. The renewal of the Park will bring economic, cultural, recreational and tourism benefits enhancing the vitality of the core and establishing a renewed setting for community and neighborhood development.

Renewal of the Park will require sustained political and financial support as well as the coordination of many municipal actions and private sector activities to realize the vision for the park and neighbourhood. Clearly, an exercise of this magnitude will not take place all at once. Rather, it will take place incrementally, over time, as resources, municipal and private sectors activities and contributions are mobilized and organized toward coordinated implementation of the master plan.

The Master Plan Strategy has established a three-phased program for renewal of park to:

- Establish a logical framework of park and contextual activities or improvements which can be co-coordinated through the municipal capital budgeting process
- Determine the extent of construction for each phase and associated order of magnitude cost estimates
- Preserve the continued use of unimproved areas of the park throughout the duration of master plan implementation.
- Bring about a dramatic change in the appearance and recreational performance of the park within the first phase of park improvement.
- Position the most capital intensive program to the final phase of park improvement to allow for the development of public private sector partnerships or donor/ sponsorship arrangements aimed at attracting active participation in making the master plan strategy a success

A general description of the three phases of Park renewal follows indicating the timing of implementation of Detailed Design and Program Recommendations presented in section 8.

Phase one: Strengthening the Recreational Program of the Park and establishing a renewed image along Manhattan Square Drive.

The first phase of Park renewal will transform approximately 60% of the park with a focus on enhancing the recreational performance and physical image of the park. This phase will create a multi-seasonal recreational amenity and a new venue or performance location associated with the development of the pond and rink, the pond terrace and portions of the Park Lodge.

Phase one will dramatically change the Manhattan Square Drive frontage removing the berms and walls and opening the park internally and to its context resulting in a much improved interface and connection between the park and the residences at 10 Manhattan Square Drive and the Strong Museum. Skating, picnicking and Children's play opportunities are the recreational components to be strengthened in this phase. The following park improvements, fully described in section 8 of this document, will be undertaken as full or interim construction components of phase one:

- **Full development and completion of the Multi seasonal rink and pond** requiring full demolition of the former site and portions of the open playing field and resulting in the interim grading and temporary sodding of the eastern portions of the playing field to meet

differential grades. This phase will replace the failing rink mechanicals and slab with a state of the art saline/brine system avoiding future repair and maintenance costs associated with the failing existing system. The configuration of the Rink and island will promote recreational skating and the pond will become a major summer attraction. The pond fountain and edge condition walkways and landscaping will be installed in this phase, with the exception of the Promenade paving and streetscape.

- **Full development and completion of the pond Terrace and partial development of the Park lodge** to include including public washrooms, concession areas, zambonie storage and rink mechanicals.
- **Interim/partial development of the Garden and Picnic Area** involving the removal of existing berms and hard surface areas (steps to remain) replaced with flat lawns, walkways and new landscaping permitting open views to the fountain area below and to the Strong Museum building.
- **Full development and completion of improvements to the existing Children's Play Area** to include demolition of select concrete structures and berms, new fencing, new play equipment, and improvements to the water court.
- **Interim Fountain Start up.** While the Fountain will not be restored or re-profiled in this phase, an allocation has been established to make operational portions of the fountain and to prevent swimming and eliminate concerns over liability by filling the lower basin with boulders and river rock. This interim condition will restore water to the fountain during the summer months



Fountain Start-Up
 - restore water to the plaza

The Garden / Picnic Area
 - flexible program space, receptions active & passive recreation

Demolition & Interim Construction of Promenade

Children's Play Area
 - enhanced water play & new play equipment

Interim Development of the Allée
 - provides improved visual and physical connection to all areas of the park

Broadway Entry Plaza
 - long views to the park & improved visual connection to Broadway Street

Performance Terrace & Park Lodge
 - accommodating Zamboni House, winter skate rental & basic performance needs

The Rink and Pond
 - seasonal flexibility
 - winter recreational skating & summer performance venue. The 'Big Fountain' surprise & delight

New & Refurbished Pavilions
 - provide information, vending and ticket Kiosks during events

Recommended Master Plan Strategy - Phase One



and enhance the interest of the central plaza area. Additional detail is provided in sections 4 and 8 of this document

- **Interim/partial development of the Broadway Entry Plaza**, excluding the summer/Winter mist Fountain
- **Interim/partial development of the Arbor Alle** to include removal of the berms and walls lining the central movement corridor opening this area to the pond area and to the children's play area. Interim development will include construction of the low retaining walls, development of the ticket kiosk, and full refurbishment of the Skating pavilion, with Arbor front, roof trellis, new mechanical and electrical systems and the installation of temporary trees in planters along both sides of the arbor. A temporary surface treatment such as lime stone fines, or asphalt will be installed in the former berm locations.
- **Interim /Partial development of the Promenade** to include demolition of existing walls and berms along the Manhattan Square Drive frontage and the development of a temporary sod surface area which to be removed and replaced with special paving, trees, and tree grates in association with the reconstruction of Manhattan Square Drive in Phase Two.

Phase Two: Strengthening the landscape quality of the park and completing the public interface along the Promenade

The second phase of park renewal will result in the completion of approximately 80% of the Master plan Vision. This phase will establish a much stronger visual and physical connection between the lower Central plaza and the multi seasonal rink by contouring and terracing landforms to reintegrate and connect these isolated areas of the park and complete the physical setting of the multi-purpose rink and pond. This phase will significantly enhance the landscape quality of the park and complete the Promenade on Manhattan Square Drive establishing a strong public edge and interface on three sides of the park. The following park improvements, described in detail in section 8 of this document, will be undertaken as the second stage of park renewal as full, interim or second phase projects.

- **Full development and completion of the Promenade:** to include the development of a 20 foot walkway along the Manhattan Square Drive park frontage integrating a rolled curb edge or mountable curb with lay-by parallel parking adjacent to the park. Manhattan Square Drive will remain one way until development of the Manhattan Square Drive Streetscape in Phase three. Enhancements within the park will include a double row of specimen street trees and streetscape furnishings along the promenade. This phase will include repair of the roadway bed associated with construction of the new mountable curb.

- **Full removal of the Space Frame and Footings:** to permit development of the Landscape Hill. A temporary solution to lighting the temporary stage is necessary in this phase to continue to effectively utilize the lower plaza for performance events.
- **Full development and completion of the landscape Hill:** to include removal of the upper portions of the lower plaza east mural wall to elevation 524 establishing the height of the upper terrace of the future amphitheater to be developed in Phase Three. Development will also include Regardings and terracing of the playing field area, full landscape development, widening and facing the Court Street Steps, and the development of a wide public walkway and double row of street trees along portions of the Court Street frontage.

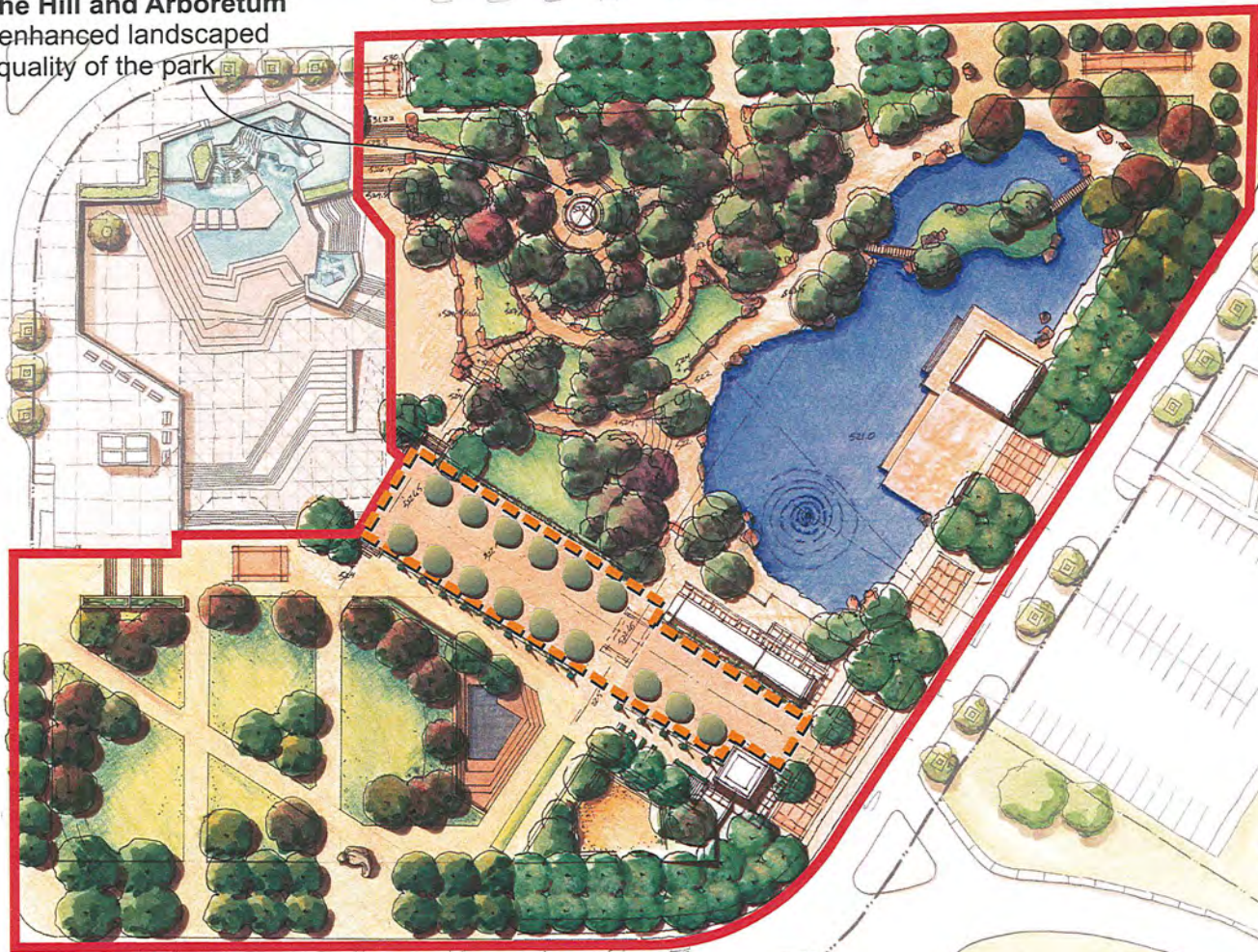
Phase Three: Establishing a regional performance destination and enhancing the context of the park.

The final phase of park renewal will complete the park as a regional cultural destination and establish an improved contextual setting for neighborhood and Center City Development. This is the most intensive capital phase of park renewal involving a specialized building program including architectural development of the Howard Hanson Performance Pavilion, completion of the Arbor Alle, full restoration or retrofit of the fountain, development of the Interactive Children's play ground across from the completed Park lodge, and significant streetscape works aimed at enhancing linkages to the park. This phase will firmly establish the park as a high quality performance venue and significant cultural,

neighborhood and tourism destination within the City and region. The following park and contextual improvements, described in detail in section 8 of this document, will be undertaken in the final stage of park.

- **Full development and completion of the Howard Hanson Performance Pavilion and Chestnut Street Stair:** to include structural modifications and a second story addition to the multi use building, expanded physical program, new electrical and mechanical systems, and audio and performance lighting control system and operations room
- **Full development and completion of the Chestnut/Court Entry Plaza**
- **Full development and completion of the Water Stage and Amphitheater**
- **Closure of the Chestnut Street Tunnel and relocation of the RG& E vault:** to include outfitting the tunnel entrance with metal grill doors to be used for storage of park equipment and furnishings and discussions with the utility to determine a suitable vault location which can provide direct 24 access to utility personnel.
- **Full development of the Fountain with Channellized lower basin** pursuing Option 1, Repair/Restoration, or Option 2, Modified Design re-profiling and recladding the fountain as described in Sections 2 and 6.
- **Full Development of the Sculpture court** at the base of the fountain to showcase public Art.
- **Final Stage completion of the Park Lodge:** to include the addition of a large community meeting room or Banquette hall with fireplace overlooking the pond, rink and landscape of the hill.

The Hill and Arboretum
- enhanced landscaped
quality of the park



**Full Development
of The Promenade**
- improved public
interface & flexible
Program space -
street markets &
festivals

Recommended Master Plan Strategy - Phase Two

City of Rochester
Departments of Parks,
Recreation and Human Services

Urban Strategies Inc.
Dufresne Henry
Vermeulens Cost Consultants
RJ Van Seters and Co. Ltd.



- **Final Stage completion of the Garden**, adding the landscape parterre and garden siting walls
- **Final Stage completion of the Broadway entry court**, adding the multi-season mist fountain.
- **Final Stage Completion of the Arbor Alle:** to include construction of the arbor and roof trellis, and the addition of a permanent high quality surface paving material and gates at the four primary entry points.
- **Full development and completion of the Interactive Children's Play Ground** across from the Park Lodge
- **Full development and completion of the Chestnut Street Streetscape:** to include removal the concrete central median, and reconfiguration of the roadway to accommodate four travel lanes with off peak parking and the widening of the Chestnut Street park frontage by approximately 20 ft. This will permit development of the Court and Chestnut entry Plaza and a more suitable and attractive public walkway along Chestnut Street framing the Performance Pavilion. Streetscaping will include a double row of street trees, furnishings and lighting. *(Contextual element not included in Order of Magnitude Cost Estimate)*
- **Full development of the Manhattan Square Drive Streetscape** to include permanent repairs as necessary to the roadway bed associated with installation of the mountable curb in phase two, development of the Canfield/Park Avenue intersection, reconfiguration of the Chestnut/ Manhattan Square Drive Intersection, a return to two way street movement along the length of Manhattan Square Drive and streetscape improvements opposite the park frontage including street trees, lighting and furnishings. It is recommended that the Strong Museum Buss Loading facility be relocated from the primary park frontage during this phase. *(Contextual element not included in Order of Magnitude Cost Estimate)*
- **Full Development of the 60 foot roadway allowance for the Park/Park Avenue Extension** to Savannah Street to include development of the roadway bed, curbs, sidewalks, street trees, lighting, and curb cuts providing access to Strong Museum Property. *(Contextual element not included in Order of Magnitude Cost Estimate)*
- **Full Development of the Court Street Streetscape, Broadway Streetscape** and reconfiguration of the Court/Broadway Intersection *(Contextual element not included in Order of Magnitude Cost Estimate)*

The Chestnut / Court Street Plaza

- a generous meeting place announcing water as a special element of the park

New Streetscape Enhancements

- to improve neighborhood linkages

The Completed Fountain & Sculpture Court

- to animate the lower plaza daily, weekly & seasonally
- the water stage

The Amphitheater

- a flexible, multi purpose space for performances, gatherings & festivals.
- movable chairs & furnishings focused on the water stage

Howard Hanson Performance Pavilion

- a regional attraction within the Center City
- concerts and performances galleries, special reception areas, a restaurant/outdoor cafe, and greenroom/performance support

The Park Lodge

- views to pond & skating, concession areas, public facilities and a venue for special events
- addition of large community meeting room/ banquet hall

Future Children's Play Area

- complementing Strong Museum programming and within proximity of the park lodge

Completion of the Allée

- a unique place
- controlled venue for special events
- vending, ticketing & information Kiosks
- a 'mainstreet' within the park

The Chestnut Streetscape

- a strengthened public realm emphasizing the presence of the park in the Center City

Manhattan Square Drive

- streetscape improvements
- 2 way movement

Confield Drive Extension

Recommended Master Plan Strategy - Final Phase



10 Summary of Order of Magnitude Cost Estimate

The following will present a summary of Order of Magnitude Cost estimates for each phase by major park element. Cost estimates, prepared by Vermeulen Cost Consulting, are based on prevailing rates for construction in the Rochester area for the year ending 2002 and an escalation factor of 3% should be applied to phased construction anticipated in 2003, and an escalation factor of 3% per year for subsequent phases. For purposes of this study, phase one is assumed to occur in 2003, with subsequent phases occurring in 2004 and 2005.

The Cost Estimate represents a reasonable opinion of cost relative to the vision and detail recommendations presented as part of the Master Plan Strategy. Direct Construction Estimates as well as overall Project Cost Estimates are represented using the City of Rochester's budgeting process which allocate costs to Resident Project Representation, Design and Construction Contingencies, escalation, etc.

Order of Magnitude Cost Estimates are not based on detailed design development or detailed construction documentation and as such, represent an expert opinion of anticipated costs excluding unknown items such as hazardous waste removal, loose furnishings, utility repairs/relocations, engineering fees,

moving and administrative fees or any costs associated with immediate infrastructure repairs and maintenance outlined in section 4.

The Order of Magnitude Cost estimate provides a guide or benchmark that will assist the City and the design team selected to undertake the final design and construction of the park in making informed decisions about the design and cost of specific park elements, construction materials and the timed implementation of the master plan. The order of magnitude cost estimate can assist the City in identifying logical capital allocations to revitalize the Park.

The following will present a summary of Order of Magnitude Costs by phase followed by discussion. A detailed breakdown of elemental costs identifying quantity, rates and construction allocations is attached as Appendix A

Summary of Order-of-Magnitude Cost Estimate (Master Plan Concept - 2001 costs)

Program	Phase One	Phase Two	Phase Three	Total
Multi Seasonal Rink/Pond	\$1,735,994			\$1,735,994
Park Lodge	\$428,450		\$300,000	\$728,450
Garden	\$697,258		\$516,800	\$1,214,058
Broadway Entry Plaza	\$143,504		\$250,000	\$393,504
Arbour Allée:				\$1,342,900
South Side	\$137,195		\$508,085	\$645,280
North Side	\$203,780		\$315,340	\$519,120
Central Paving	\$17,850		\$160,650	\$178,500
Promenade	\$213,283	\$646,959		\$860,242
Fountain / Sculpture Court	\$100,000		\$1,848,570	\$1,948,570
Space Frame		\$80,000		\$80,000
Hill		\$1,188,288		\$1,188,288
Howard Hanson Performance Pavilion			\$4,985,640	\$4,985,640
Amphitheater			\$1,364,840	\$1,364,840
Court/Chestnut Street Entry plaza			\$425,889	\$425,889
Interactive Children's Playground/ Canfield Site			\$982,890	\$982,890
Direct Construction Costs	\$3,677,314	\$1,915,247	\$11,658,704	\$17,251,265
Contingencies:				
Design @ 10%	\$367,731	\$191,525	\$1,165,870	\$1,725,127
Construction @ 15%	\$551,597	\$287,287	\$1,748,806	\$2,587,690
Escalation @ 3% per year	\$110,319 (3%)	\$114,915 (6%)	\$1,049,283 (9%)	\$1,274,517
Sub-Total Construction Costs	\$4,706,961	\$2,508,974	\$15,622,663	\$22,838,599
Design Fee @ 10% of Sub-total	\$470,696	\$250,897	\$1,562,266	\$2,283,860
RPR @ 10% of Sub-total	\$470,696	\$250,897	\$1,562,266	\$2,283,860
Total Project Cost	\$5,648,353	\$3,010,768	\$18,747,195	\$27,406,319

Discussion: Cost Estimates and Phasing

The Order of Magnitude cost estimate outlines anticipated costs associated with implementation of the Master Plan over three phases of construction presumed to occur in 2003, 2004 and 2005 respectively. Direct Construction Costs, are as follows:

Direct Construction Cost Phase One:	3.7 million
Direct Construction Cost Phase Two:	2.0 million
Direct Construction Cost Phase Three:	11.6 million

Total Phased Direct Construction Cost:

The cost estimate includes interim installations and temporary construction elements associated with phased implementation of the master plan. For this reason, overall projected costs are higher than would be expected in the case in single-phase renewal of the park. The cost estimate does not include streetscape costs but does include work within the right-of-way to curb edge within the park including execution of the mountable curb on Manhattan Square Drive.

The most capital-intensive expenditures are associated with development of the building program and the renewal of the fountain. Landscape costs, which represent approximately 80% of the park program are low in comparison and have been structured to occur in the earliest phases of park renewal. Direct construction costs for these programs follow:

- Landscape 9.5 million
- Fountain 2.0 million
- Building 5.7 million

The Building and Fountain programs are specialized, unique and complex elements within the master plan for the park and represent excellent candidate projects for public/private partnerships or for corporate funding and sponsorship programs to facilitate their completion. Such programs may involve naming rights. Capital intensive elements have been positioned within the final phase of park renewal to allow for co-ordination of public/private sector partnerships, fundraising events and sponsorship activities while the vast extent of the park's new landscape is executed and put in place through phases one and two.

It is worth noting that the phasing strategy presented within the master plan is intended as a guide, and certain elements may be advanced to earlier phases or held to subsequent construction periods. For example, the full development of the Promenade and the construction of the Manhattan Square Drive Streetscape can be advanced to Phase one. This would result in the full completion of the primary public interface to the park at a much earlier date and permit the retention and transplantation of the existing mature plane trees along the 20-foot walkway proposed to front the park. Advancing the streetscape and right of way work and the completion of the promenade will require additional capital allocations for phase one construction and the benefits and cost implications of doing so must be carefully reviewed and weighed by the City.

The following will provide additional details concerning the fountain:

The Fountain

Item: Water feature
Allocation: \$1,100,000

This item is a maximum allocation to undertake Option 1 or Option 2 below. Both options will result in channellization of the lower basin as described in Section 6.

Option1: Restoration through Repair/Replacement of the existing system using a double or single pump system and maintaining the existing fountain exterior with channellized lower basin. There are several possible costing scenarios associated with this option and these are presented below. While it is unlikely that the complete repair of all existing equipment will be possible, this estimate has been included to demonstrate the range of costs that may be expected.

Complete repair of existing equipment:	\$550,000
or	
Double Pump system supplied & installed new	\$900,000
or	
Single Pump system supplied & installed new	\$750,000
and	
Channelization of lower basin	\$200,000
 Option 1 Cost range:	 \$750,000 – \$1,100,000

A new stationary lighting system is included in the elemental summary for the fountain estimated at \$150,000. Replacement of the original color change lighting system for the fountain is estimated at \$350,000-\$500,000. This estimate is provided for

information only and has not been included in the order of magnitude cost estimate and is only appropriate for option 1

Option2: Modified Design Re-cladding and changing the profile of the Fountain using a single pump system and replacing the entire mechanical and electrical systems.

Single Pump system supplied and installed new	\$550,000
and	
Modified design using rock surfaces including channellization of the lower basin	\$550,000
 Option2 Cost	 \$1,100,000

Item: Fountain Start up.
Allocation: \$100,000

Given that the two main waterfall pumps and one sump pump were operational at shutdown in 1995, it is believed that the system could be made partially operational as described in section 4 and 8. This is an interim or temporary solution prior to implementation of longer-term rehabilitation of the fountain utilizing options 1 or 2.

11 Implementation

The previous sections have outlined the vision for the park, details concerning specific programmatic and contextual relationships, and a phasing strategy for the incremental enhancement of the park supported by Order of Magnitude Costing. This framework responds to ideas expressed through an extensive community engagement process and articulates all of the components that need to be considered and incorporated to revitalize the park to meet contemporary goals.

The following implementation strategies are intended to help guide the City toward realizing the new vision for the park.

1) Establish a selection process to determine the lead designer and design team for the revitalization of the park.

While the master plan has established a clear community endorsed vision for the future of the park, bringing the vision to reality to create a timeless and lasting urban space will require a lead designer and design team of considerable talent and experience. The program and design elements identified for Manhattan Square Park are themselves a complex interweaving of function, form and design characteristics and must be resolved against the complexity of an array of events, and uses anticipated to change throughout the year.

To achieve an enduring and memorable resolution of the master plan, one which show cases design excellence without ‘stealing’

the show, and which can become a source of pride for Rochester’s citizens, will require a highly experienced lead designer and talented design team with a proven track record in the creation of successful urban landscapes.

To this end, we recommend a Request for Qualifications (RFQ) process involving:

Phase One: Issuance and promotion of the RFQ

Phase Two: Evaluation and selection of the Design Team

The following will outline the steps, which may be involved in each phase of RFQ:

Phase One: Issuance and promotion of the RFQ

The RFQ will be structured to solicit experienced design team with demonstrated expertise in undertaking and implementing complex urban landscapes of a similar nature.

The RFQ will outline the scope of work, project intent, qualifications and experience required of the lead designer(s) with an emphasis on architectural and landscape architectural qualifications. There are also many technical and specialized design issues that need to be managed and resolved requiring expertise in the fields of engineering, transportation planning, fountain design, and specialized lighting, audiovisual,

mechanical and electrical construction. Lead designer firms as well as technical advisors and specialists will be invited to submit team qualifications relevant to their fields of expertise which will allow many local and non local firms to participate in the revitalization of the park.

The RFQ should receive significant media coverage as a major 'catalyst initiative' for community building within the Center City. The process is envisioned to engage the broader community and build momentum and interest in the transformation of the park and its context.

Phase Two: Evaluation and selection of Design Team

The responses to the RFQ will be reviewed by the client group and a selection committee. This group will identify a short list of four to five teams identified to proceed to an evaluation interview. The finalists will be invited to an information session hosted by the client to provide each of the short listed designers with a greater understanding of technical and design issues as well as community and client goals associated with the project. This will include a review of key components of the Master Plan Strategy for the park.

To complete the evaluation process, finalists will be interviewed by the client group and selection committee with a focus on comparable built work. The intent here is to evaluate built work 'in action' considering the quality and character of the spaces, the choice of materials, how space is defined and articulated to encourage activity and use, and to evaluate the performance level of details and finishes. This final step in the evaluation process will lead to the selection of a design team capable of

realizing the master plan and community goals established for the park.

This will be a long term relationship between the lead design firm, design team and the City, management personnel and the broader community. It is essential that the design team demonstrate technical and professional experience, as well as a clear understanding of the Master Plan Strategy and a commitment to collaborative team work with all internal members of the design team and with the broader community which has demonstrated extensive interest and commitment toward successful implementation of the Master Plan Strategy.

The Final Selection of the Design Team for the park should be announced by the Mayor or his designate, and highly publicized through the media.

To facilitate the FRQ process, the following items will need to be addressed.

- The Management structure for the RFQ process must be formalized and a Project Manager should be appointed to oversee and coordinate all aspects of the project through completion of construction
- The logistics and timing of the RFQ must be confirmed, including criteria for evaluation, key dates and deadlines.
- The RFQ brief must be prepared based on the principles, vision, and design parameters articulated in this document
- The client group should assemble a selection committee to assist in the evaluation and selection of the lead

designer to include representatives from the Cultural District, residents and key stakeholders familiar with the Master plan process and vision for the park.

2) The city should adapt, ‘in principle,’ the Master Plan Strategy for the Revitalization of the Manhattan Square Park with the ultimate construction process, phasing and timeschedule for the completion of the park determined at the end of the schematic design phase for the entire park, and integrated within the City’s long term capital budget program.

The detailed design development or ‘schematic’ design for the entire park is necessary to gain a more complete or accurate determination of cost and possible phasing alternatives for the park. Phase one of the project should undertake schematic design for the entire park, confirm or alter the phasing strategy contained within this document and determine detailed costing based on preliminary design, as well as result in the construction and implementation of a first phase of park renewal. This will likely increase first phase project design costs, yet provide a more accurate depiction of project costs, scheduling and phasing to assist the city in the preparation of its long-term capital budget.

3) Establish a ‘Cultural Program Committee’ to assist the Design team with the refinement of programmatic elements associated with the operation of Manhattan Square Park as a major regional cultural venue and to refine details associated with expansion of the program offering of the park.

There are many cultural agencies and institutions with an active interest in the use of the park as a venue to showcase performances, cultural events and achievements. This is beneficial to the city, its residents, cultural agencies, local and regional tourism, and is in keeping with the goals and campaigns of the renaissance plan.

The creation of a ‘cultural program committee’ with a mandate to provide technical advice and guidance concerning the refinement and development of the park’s performance venues and support facilities will ensure that the future park can meet the many needs it is intended to serve. This group can also liaise with the Director of Community Affairs to refine details of operation and management and facilitate the expanded program for the park. Committee members should include representatives from the cultural district involved in theater, music and dance, as well as stage and set design, acoustical and lighting technicians.

4) Establish a daily, seasonal and annual maintenance and operational procedural manual for all components of the park as part of the revitalization effort and establish a long term maintenance and operational capital budget for the park

The phased construction of the master plan will involve many specialized technical components including fountain design, specialized lighting, audiovisual, mechanical and electrical construction, as well as landscape and architectural elements. As part of the design assignment, a maintenance and operational manual should be prepared to assist operations, maintenance and management personnel in protecting and servicing the

capital investment in the park and maintaining a high level of park performance over the years to come. This will require an ongoing commitment to maintaining an adequate operational budget particularly as the park ages and infrastructure is in need of repair/replacement.

5) Establish a Task Force aimed at determining public/private sector partnerships and/or a donor/ sponsorship program to facilitate development of the Howard Hanson Performance Pavilion and rehabilitation of the fountain.

The master Plan strategy has identified two high profile programmatic elements as appropriate candidates for public private sector partnerships and/or targeted private sector donor of sponsorship programs involving corporate citizenry in making the master plan a success. A task force, led by the Mayor or Deputy Mayor should be established to explore potential partnership opportunities with significant contributions acknowledged through plaques, naming opportunities, and public receptions held to acknowledge significant benefactors and/or inaugurate the completion of major park assets.

6) Establish and ongoing program of public realm or Streetscape Improvements tied to the phased completion of the Park.

Getting the most from Municipal projects requires co-coordinated downtown improvement programs. The City of Rochester should coordinate the phased completion of the park with an ongoing streetscape improvement program aimed at changing the image, safety and pedestrian amenity of the district

making a big impact within the East End District. This will require a holistic approach to downtown public works combining the skills and perspectives of engineers, landscape architects, and artists to achieve a high quality public realm which balances the needs of cars, buses, pedestrians, cyclists and blades.

7) A priority should be placed on returning valuable land currently used for surface parking within the area into product use.

The city should develop incentives and an action plan to encourage the redevelopment of surface parking lots within the park vicinity. While this may not be possible for all surface lots or all users within the area, many techniques are available.

An action plan may provide provisions for density bonusing and reduced parking standards. The Economic Development Department and the Rochester Downtown Development Corporation can take an active role in marketing these potential redevelopment sites and contact local land owners and residential property developers to educate and encourage them to take advantage of downtown development opportunities. Existing parking lots may also be considered as an opportunity for a joint public/private sector partnership integrating structured shared use parking carefully tucked away or behind new mixed use developments.

The City should determine parking supply in the area and identify, if needed, locations for new parking structures to replace all, part, or add to the parking supply within the district. These locations can assist the city in achieving an annual target

of City –owned public parking spaces to provide a flexible and accessible pool of parking for shared use within the area, while providing a valuable revenue stream for the future.

8) The City owned blocks adjacent to the park should be used to create new mixed-use residential projects to serve as catalyst projects for redevelopment of the surrounding area.

The Master plan Strategy has identified many locations adjacent to the park that are appropriate for future mixed use and residential development making a major contribution to the amenity and livability of the Center City. City owned parcels adjacent to the park should be solicited through an RFQ process aimed at creating a joint public/private sector development partnership to demonstrate a high quality mixed use residential project, appropriate to the area and complementing the amenity planned for the park.

9) The City should promote public and developer awareness of all the activities and initiatives proposed in and around Manhattan Square Park as a ‘model’ for implementing the goals and campaigns of the Renaissance Plan.

Public awareness and support for Center City renewal must be carefully fostered. Many techniques are available. News paper articles, the announcement of special projects or initiatives, their completion, and enhanced marketing efforts can play a significant role in generating public support and interest in downtown revitalization. Clearly, tying many municipal actions together through coordinated efforts in a focused area can have a substantial impact in changing the nature and perception of a district. It can also ignite private sector interest needed to

continue the process of renewal and revitalization within the Center City. Co-ordination with the Rochester Downtown Development Corporation in the form of workshops and forums focused on the area around the park can also serve a valuable role in educating landowners, developers and the public about the opportunities and potential within the district. The combination of all these activities, both public and private, represent a model for implementing the goals and campaigns of the Renaissance plan and can bring about long term, positive change.

10) The completed park, as well as other municipal initiatives in the area should demonstrate the City’s commitment to design excellence.

The design and development of the park should clearly articulate the City’s commitment to excellence in design and the delivery of high quality community amenities for recreation and enjoyment. To ensure that future development within the area contributes positively and supports municipal goals, a design review process, in addition to official plan and zoning regulation can address the more qualitative aspects of urban design and architectural/landscape integration. The City of Rochester should create a process of architectural/landscape architectural peer review of major redevelopment projects, in conjunction with the AIA and ASLA, to ensure that projects within the area result in a high quality of design that will complement and strengthen the park and its environs.

11) The City should explore the possibility of a Joint Venture/Partnership with the Strong Museum in developing the program for the Future Interactive Children's Play Ground.

The development of the interactive Children's Play Ground presents a tremendous opportunity to actively involve the Strong Museum, a recognized leader in the development of interactive and educational children's programming, in the program development for this amenity. There are many possibilities that could be explored. The playground could be used as an extension of museum programming out of doors offering an opportunity for environmental education within a play setting. Interactive water play fountains, play equipment, and wading pools can complement museum programming and add to the family draw of the area. These and other opportunities should be discussed with the institution to the benefit of the city, the museum and the broader community.

Appendix

- A** – Vermeulen Cost Consultants Summary
*Revised by Urban Strategies Inc. to accommodate
changes in phasing structure*

- B** – Dufresne Henry
Manhattan Square Park Infrastructure Report

- C** – R. J. Van Seters Co. Ltd.
Fountain Consultant Report

Elemental Order-of-Magnitude Cost Estimate (Master Plan Concept - 2001 costs) *Vermeulens Cost Consultants Summary - revised by Urban Strategies to accommodate changes in phasing structure

Elemental Estimate			Total	Phase One		Phase Two		Phase Three	
Description	Quantity	Rate	Cost	Quantity	\$	Quantity	\$	Quantity	\$
Multi-Seasonal Rink/Pond									
clear, grade	30,110 sf	5.00	150,550	30,110	150,550				
pond, rink	20,358 sf	65.00	1,323,270	20,358	1,323,270				
walkway paving	7,707 sf	7.00	53,949	7,707	53,949				
lawn, planting	2,045 sf	5.00	10,225	2,045	10,225				
trees	18	1,000.00	18,000	18	18,000				
water feature	1	Allocation	50,000	1	50,000				
bridges	2	40,000.00	80,000	2	80,000				
drainage, lighting	50,000 ls	1.00	50,000	50,000	50,000				
Subtotal Pond	30,110 sf	57.66	1,735,994	30,110	1,735,994				
Park Lodge									
Phase 1									
site allocation, terrace	4,569 sf	50.00	228,450	4,569	228,450				
gross area	1,000 sf	200.00	200,000	1,000	200,000				
Phase 3									
gross area	1,500 sf	200.00	300,000					1,500	300,000
Subtotal Park Center	4,569 sf	159.43	728,450	4,569 sf	428,450			4,569	300,000
Garden									
Phase 1									
clear, grade	44,427 sf	2.00	88,854	44,427	88,854				
paving	15,900 sf	10.00	159,000	15,900	159,000				
sod, top soil, irrigation	28,527 sf	2.00	57,054	28,527	57,054				
steps	425 lf	150.00	63,750	425	63,750				
trees	60	1,000.00	60,000	30	30,000			30	30,000
trees, pits, grates	12	1,800.00	21,600	12	21,600				
play equipment	150,000 ls	1.00	150,000	150,000	150,000				
drainage, lighting	75,000 ls	1.00	75,000	75,000	75,000				
Phase 3									
low walls	1,694 lf	200.00	338,800	260 lf	52,000			1,434 lf	286,800
parterre - materials, planting	1	Allocation	200,000					1	200,000
Subtotal Garden	44,427 sf	27.32	1,214,058	44,427	697,258			44,427	516,800

Elemental Estimate			Total	Phase One		Phase Two		Phase Three	
Description	Quantity	Rate	Cost	Quantity	\$	Quantity	\$	Quantity	\$
Broadway Entry Plaza									
Phase 1									
clear, grade	7,696 sf	3.00	23,088	7,696	23,088				
paving	3,848 sf	15.00	57,720	3,848	57,720				
Sod	3,848 sf	2.00	7,696	3,848	7,696				
trees, landscaping	25,000 ls	1.00	25,000	25,000	25,000				
drainage, lights	30,000 ls	1.00	30,000	30,000	30,000s				
Phase 3									
steam fountain	1	Allocation	250,000					1	250,000
Subtotal Entry Plaza	7,696sf	51.13	393,504	7,696	143,504			7696sf	250,000
Arbour Allée: South Side									
Phase 1									
clear, grade	8,289 sf	3.00	24,867	8,289	24,867				
concrete retaining walls	225 lf	150.00	33,750	225	33,750				
interim planters/landscape	10	1200.00	12,000	10	12,000				
kiosk	1	Allocation	50,000	1	50,000				
interim surface treatment	8,289 sf	2.00	16,578	8,289	16,578				
Phase 3									
paving	8,289 sf	15.00	124,335					8,289	124,335
about/trellis	3,000 sf	50.00	150,000					3,000	150,000
improvements, planting, kiosks, stairs	100,000 ls	1.00	100,000					100,000	100,000
drainage, lighting	100,000 ls	1.00	100,000					100,000	100,000
facing of retaining walls	225 lf	150.00	33,750					150	33,750
Subtotal Arbour Allée	8,289 sf	77.85	645,280	8,289	137,195			8,289	508,085
Arbour Allée: North Side									
Phase 1									
clear, grade	5,356 sf	3.00	16,068	5,356	16,068				
refurbish skating pavilion	1,500 sf	100.00	150,000	1,500	150,000				
interim planters/landscape	10	1200.00	12,000	10	12,000				
concrete retaining walls	100 lf	150.00	15,000	100	15,000				
interim surface treatment	5,356 sf	2.00	10,712	5,356	10,712				
Phase 3									
paving	5,356 sf	15.00	80,340					5,356	80,340
improvements, plantings, kiosks, stairs	100,000 ls	1.00	100,000					100,000	100,000
arbour, trellis - phase three	1,500 sf	50.00	75,000					1,500	75,000
facing of retaining walls	100 lf	150.00	15,000					100	15,000
drainage, lighting	45,000 ls	1.00	45,000					45,000	45,000
Subtotal Arbour Allée	5,356 sf	96.92	519,120	5,356	203,780			5,356	315,340

Elemental Estimate			Total	Phase One		Phase Two		Phase Three	
Description	Quantity	Rate	Cost	Quantity	\$	Quantity	\$	Quantity	\$
Arbour Allée: Central Paving									
Phase 1 repair/patch existing concrete paving	8,925 sf	2.00	17,850	8,925	17,850				
Phase 3 clear, grade paving	8,925 sf 8,925 sf	3.00 15.00	26,775 133,875					8,925 8,925	26,775 133,875
Subtotal Arbour Allée	8,925 sf	19.00	178,500	8,925	17,850			8,925	160,650
Promenade									
Phase 1 clear, grade Interim sod/paving repair	30,469 sf 30,469 sf	3.00 4.00	91,407 121,876	30,469 30,469	91,407 121,876				
Phase 2 clear, grade paving/flush curb trees, pits, grates - allow improvements, benches drainage, lighting	1 30,469 sf 51 no 100,000 ls 90,000 ls	Allocation 15.00 1,800.00 1.00 1.00	30,000 457,035 91,800 100,000 90,000			1 30,469 51 100,000 90,000	30,000 457,035 91,800 100,000 90,000		
Subtotal Promenade	30,469 sf	27.25	860,242	30,469	213,283	30,469	646,959		
Fountain / Sculpture Court									
Phase 1 fountain start-up	1	Allocation	100,000	1	100,000				
Phase 3 clear, grade paving water feature trees, pits, grates re-face steps, terraces Landscaping drainage, lighting permanent stage lighting	10,002 sf 4,194 sf 1 20 1,497.6 sf 1 75,000 ls 1	10.00 15.00 Allocation 1,800.00 150.00 Allocation 1.00 Allocation	100,020 62,910 1,100,000 36,000 224,640 100,000 75,000 150,000					10,002 4,194 1 20 1,497.6 1 75,000 1	100,020 62,910 1,100,000 36,000 224,640 100,000 75,000 150,000
Subtotal Fountain/Sculpture Court	10,002 sf	194.82	1,948,570	2,977	100,000			10,002	1,848,570
Space Frame									
removal of frame and footings	1	Allocation	80,000				80,000		
Subtotal Space Frame		0.00	80,000				80,000		

Elemental Estimate			Total	Phase One		Phase Two		Phase Three	
Description	Quantity	Rate	Cost	Quantity	\$	Quantity	\$	Quantity	\$
Hill									
clear, grade	49,796 sf	5.00	248,980			49,796	248,980		
steetside paving	16,043 sf	15.00	240,645			16,043	240,645		
walkway paving - concrete	6,999 sf	7.00	48,993			6,999	48,993		
boulders, low walls, benches	1,900 lf	75.00	142,500			1,900	142,500		
landscape folly/center feature	1	Allocation	50,000			1	50,000		
trees, pits, grates	38	1,800.00	68,400			38	68,400		
trees in the hill	55	1,000.00	55,000			55	55,000		
planting, lawn, irrigation	26,754 sf	5.00	133,770			26,754	133,770		
Re-face steps / terrace	1,333.33 sf	75.00	100,000			1,333.33	100,000		
drainage, lighting	100,000 ls	1.00	100,000			100,000	100,000		
Subtotal Hill	49,796 sf	23.86	1,188,288			49,796	1,188,288		
Howard Hanson Performance Pavilion									
gross area - galleries, theatre, retail	11,860 sf	350.00	4,151,000					11,860	4,151,000
site allocation	11,441sf	40.00	457,640					11,441	457,640
trees, pits, grates	15 no	1,800.00	27,000					15	27,000
a/v control center	1	Allocation	350,000					1	350,000
Subtotal Art Center	11,441 sf	435.77	4,985,640					11,441	4,985,640
Amphitheater									
clear, grade	14,460 sf	7.00	101,220					14,460	101,220
paving	9,103 sf	15.00	136,545					9,103	136,545
water stage	2,595 sf	125.00	324,375					2,595	324,375
Chestnut Street stair /bridge	2,763 sf	150.00	414,450					2,763	414,450
terraces, walls	553 lf	250.00	138,250					553	138,250
plantings, improvements	1	Allocation	100,000					1	100,000
decorative tunnel closure	1	Allocation	150,000					1	150,000
Subtotal Amphitheater	14,461 sf	94.38	1,364,840					14,461	1,364,840
Court/Chestnut Street Entry Plaza									
clear, grade	11,113 sf	3.00	33,339					11,113	33,339
paving	9,960 sf	15.00	149,400					9,960	149,400
water feature	1,153 sf	150.00	172,950					1,153	172,950
trees, pits, grates	14 no	1,800.00	25,200					14	25,200
drainage and lighting	45,000 ls	1.00	45,000					45,000	45,000
Subtotal Park Center	11,113 sf	38.32	425,889					11,113	425,889

Elemental Estimate			Total	Phase One		Phase Two		Phase Three	
Description	Quantity	Rate	Cost	Quantity	\$	Quantity	\$	Quantity	\$
Interactive Children's Playground/Canfield Site									
clear, grade	22,926 sf	5.00	114,630			22,926	114,630		
lawn, plantings	11,463 sf	5.00	57,315			11,463	57,315		
sand, play area	11,463 sf	15.00	171,945			11,463	171,945		
water features, play equip., benches	500,000 ls	1.00	500,000			500,000	500,000		
trees	39 no	1,000.00	39,000			39	39,000		
drainage, lighting	100,000 ls	1.00	100,000			100,000	100,000		
Subtotal Children's Playground	22,926 sf	42.87	982,890			22,926	982,890		

MANHATTAN SQUARE PARK
INFRASTRUCTURE REPORT

FINAL

INTRODUCTION

A site visit of the park and its several facilities was performed on February 21, 2001. The items reported on include the structural, mechanical and electrical elements of the park, the spaceframe, the multi-use (restaurant) building, the ice rink and shelter facility, the fountain pump facility, pedestrian and vehicular circulation and other miscellaneous items. Structural, mechanical and electrical items were visually inspected and interviews were conducted of maintenance personnel who are familiar with the facilities. The following report indicates the initial findings and presents recommendations for future service of the facilities including several items requiring immediate attention to address public safety issues for the safety of the public.

Note that the design drawings were obtained and reviewed; several differences between design drawings and actual facility constructed is evident.

In general, the electrical and mechanical equipment is original to the 1976 construction (with a very few exceptions) and therefore at the end of its expected service life of approximately 30 years. At this age equipment becomes very difficult to maintain as replacement parts are no longer available. The damp/wet environments of many of the electrical and mechanical rooms has damaged much of the equipment; both corrosion on the exterior enclosures is evident and the maintenance personnel have reported that there is corrosion on interior bus bars and terminals.

The electrical system originally included a snow melting system and electric heat for the multi-use building (restaurant). This was never installed though the capacity of the electrical system is built to accommodate such loads.

STRUCTURAL ELEMENTS OF PARK (Walls, stairs)

Structural Findings:

The park contains a number of retaining walls and other structures. The walls that were observed did not display visible alignment shifts. In general, the retaining walls appear to be in good condition with minor cracking and a few areas of minor deterioration. A review of the wall sections on the design drawings indicated that many of the walls were

constructed with reinforcement on only one side as opposed to two sides, which is standard practice now. This has probably contributed to surface cracking on some walls.

The high wall with the mural and the wall between the fountain and the steps have minor cracking and a few areas of deterioration. No settlement or outward movement was observed. Other walls in that area had only minor cracking and occasional loss of cover over rebar in very limited areas.

Structural Recommendations:

Some cracks in concrete will require minor treatment.

If the fountains were to be recreated, the concrete walls holding water would need to be checked for water tightness.

The cracks would need to be sealed or liner may need to be installed. Exposed rebar should be repaired.

TUNNEL

The tunnel which leads west under Chestnut Street has been temporarily terminated with concrete block walls. The upper concrete appears in reasonable condition. Minor concrete spalling was observed. The extent of the tunnel was not determined nor inspected. It is understood that the tunnel once terminated across the street in a lot (currently being used as a surface parking lot) with a set of stairs. The electrical conduit feeding the lighting in the tunnel has disintegrated due to corrosion leaving conductors exposed.

Immediate Action Recommended: Repair damaged conduit.

PARK LIGHTING

The walkway lighting in the park has recently been changed to high pressure sodium type lighting. The fixtures are in fair condition with some damage and corrosion evident.

SPACEFRAME

General:

The stairs to the observation deck(s), though closed to the public, are quite exciting and intimidating and therefore invite the daring to trespass. The spacing and height of the existing railings do not meet current safety codes. Some of the

steps do not have backs, which could also present safety concerns. There are reports that the stairs and frame have been known to slightly sway back and forth when loaded down with pedestrians.

Structural Findings:

A visual inspection of the space frame, from readily accessible locations, showed that the tops of the upper members were starting to rust. This indicates that the bearing plates may have rusted somewhat.

Structural Recommendation:

Rusting should be addressed with sanding and repainting in the near future before serious rusting occurs. The covers of the bearing plates should be removed for a more detailed inspection of the anchor bolts and bearing plates. The entire space frame could use a coat of paint. This paint would need to have a primer to allow it to adhere over the prior galvanized surface.

Any significant loading planned on the space frame should be incorporated into a second stage evaluation which should include an in depth structural investigation.

Electrical Findings:

Two electrical feeder conduits serve the spaceframe distribution and dimmer panelboards at the southwest spaceframe footing. An additional conduit runs down to the northeast spaceframe footing and underground to the main dimmerboard control panel in the pumproom. All panelboards on the spaceframe are in a serious state of disrepair. The panelboard covers are off or are only held by a single fastener. There have been some modifications to the original installation to provide a few floodlights and power to receptacles at the northeast base of the spaceframe. The wiring method to these items is temporary and is accomplished by means of SO type cable. This cable is not approved for exposure to sunlight and is unprotected from abrasion (or rodent damage) which is occurring in several locations. The electrical service to the spaceframe is still energized to maintain these items. The lighting original to the spaceframe is no longer intact; all lamps and globes have been removed, leaving the sockets exposed. The plugstrips located all around the main catwalk are

missing all of their weatherproof protective covers. It is apparent that the electrical equipment has been in this state of disrepair for several (if not many) years.

Electrical Recommendations:

Eliminate all distribution, dimmerboards, and plugstrips on the spaceframe. Eliminate the exposed lighting sockets.

Eliminate the temporary wiring methods.

Electrical equipment on the spaceframe should consist only of lighting and perhaps service receptacles (located within locked weatherproof enclosures) and the branch circuits to serve these items. Panelboards and the overcurrent devices serving the branch circuits should be located in electrical rooms accessible only to authorized persons.

Electrical Immediate Action Recommended:

Replace/repair damaged cables. Eliminate and/or de-energize and secure all exposed or accessible live parts of electrical equipment.

ICE RINK FACILITIES

Structural Findings:

The high wall adjacent to the skating rink has several minor cracks and a few square feet of deterioration. The wall appears to be in good condition with only minor repairs necessary. The concrete slab between this wall and the ice rink lifts approximately 5" every winter due to frost heave. The drainage under that slab might need to be improved.

The low wall adjacent to the skating area, the walls in the play area, and the walls in the spray pool are in good condition with only minor cracking. Only a few areas of deterioration were noted, but no settlement or movement was observed.

Structural Recommendations:

Repair cracks in concrete.

Mechanical Findings:

The ice rink chiller system was originally a total package provided by Holmster Inc. It consists of Two (2) - 100 Ton Compressor Units with 100 HP motors. One motor is 3 years old and the other is 1 year old. According to maintenance staff, the condenser is undersized but functional when other components are throttled back. The pumps are of the older reciprocal type instead of better screw type for ice rinks. The refrigerant is R -22 instead of the newer brine / saline systems.

The system involves "flood and evaporation" across the rink. The distribution system includes 2" diameter steel header pipes extending around the perimeter of the rink. They were supported on oak boards during construction. Some leaks have developed at the interface between the oak boards and the steel pipes. Each year, they pressure test the header and try to remove enough holes to keep the system running. There are ½" steel pipes across the rink spaced at 4" that were supported by steel supports. In general, they have not leaked as much as the 2" headers.

Mechanical Recommendation:

The system has an unknown expected life but is being maintained well. If a new ice rink were to be built, the entire system, including distribution, compressors etc. should be replaced at one time. If major expenditures occur in the mean time, a decision will have to be made about how much of the system to replace. Newer systems are more efficient and easier to maintain.

Electrical Findings (Ice-rink Vault):

Distribution panelboard, MDR, is 30 years old. One set of feeders is removed from the main breaker terminals. One terminal shows signs of overheating, likely due to a loose connection. MDR is rated 1200 amp, 480Y/277 volts, 22,000 r.m.s.ampere interrupting current. This panelboard is oversized for its load. Originally, snowmelt equipment was to be included as a load on this panelboard; this equipment was never installed. Trench-melt equipment was installed but has not been used in at least 11 years according to maintenance personnel.

Other electrical equipment consists of three panelboards and a control board. In the zamboni storage room, there are electric water heaters. This is a new installation and all associated electrical equipment, beyond the original 200 amp disconnect, is new and in very good condition.

Recommendations (Ice-rink Vault)

Replace all electrical equipment other than the new hot water heater equipment.

Electrical Findings (Ice-rink Shelter):

This building's branch circuits are served from the electrical panels in the ice-rink vault. The loads in the shelter consist of two electric radiant heaters in the warm-up area, and electric fan forced heaters in the office and toilets. The original duct mounted electric heat coil system located above the office ceiling was removed due to vandalism. Lighting in the shelter is old and inefficient. Controls (old) for floodlights are located in the office area. Two of the floodlights serving the ice-rink are currently supplied with a temporarily installed overhead cable (type UF?) due to a damaged underground branch circuit.

Recommendations (Ice-rink Shelter):

Upgrade all electrical equipment including lighting, floodlight controls, heat (other than new radiant heat).

MULTI-USE BUILDING (including Restaurant)

General:

The multi-use building houses the main electrical service for the entire park and includes a transformer vault in which the city utility's transformers are located.

The lighting for the restaurant is not energy-efficient type. Lighting and wiring should be upgraded.

Mechanical Findings:

The heating system for the building is a ducted (supply and return) forced air system. Heat to the air-handling unit is supplied by steam from the Rochester District Heating Cooperative. The condensate produced by this system is not

presently being returned to the city system. The flashtanks where the condensate should be collected and cooled (pressure lowered), have entirely corroded and have been removed. The condensate is currently being drained directly into the city sewer. There was no pressure reducing valve evident on the incoming steam service. Generally, municipal steam service is provided at approximately 100 psi at which level the steam is difficult to control. Domestic hot water is provided by two electric hot water heating tanks. Most of the equipment in the mechanical room is rusted due to the damp conditions from steam and condensate.

The air conditioning is provided by a 20 ton compressor located in a mechanical space above the structure adjacent to Chestnut Street. The compressor should be adequate for the restaurant space and capacity, however maintenance personnel report that it does not provide adequate cooling. Further investigation of the condition of the compressor may reveal the reason for the inadequate performance. The location of the compressor does not allow for good maintenance procedures. The location is very difficult to access (requiring a 16 foot ladder), the working clearances are extremely inadequate, and the location accumulates water because it is open to the environment.

The ventilation system design plans for the kitchen indicate an underground transite exhaust (and possibly intake) pipe. It is unclear whether this pipe was actually installed as designed (it was not located per the site investigation) or whether this material was actually used.

Mechanical Recommendations:

The air-handling unit should be replaced and the steam system upgraded per current and Rochester District Heating Cooperative standards. More efficient domestic hot water heating should be employed (from steam system).

The compressor should be located so as to receive routine maintenance. The compressor should be replaced due to its age. Existing ductwork may remain and should be cleaned.

The exhaust (and intake) pipe material should be determined by a camera type inspection by an abatement specialist. If determined to be asbestos, it may be able to be coated or lined if desired to be put back into service.

The local fire inspector should inspect the range hood fire suppression equipment for current compliance.

Electrical motor control center, MCC-B, located in the mechanical room is old and corroded due to humid environment and to condensation dripping directly on it.

Electrical Findings (Transformer Vault)

The transformer vault is located underground at the level of the restaurant and has access through the restaurant. The vault has water infiltration from above. A makeshift gutter was installed at the ceiling around the vault roof access to divert the water from the electrical equipment. There is evidence of water on the floor of the vault and the transformers are corroded due to their environment. The utility voltage level is (unknown at this time) likely 5000 volts or 12,470 volts. In either case, the wet conditions in the vault are not safe for electrical personnel nor do they protect the electrical equipment.

There is evidence that the vault has not received any maintenance in some time as none of the incandescent lighting was operating.

The equipment in the vault, two transformers, is owned and maintained by the utility, RG&E. The location of the vault requires that utility personnel enter the restaurant to gain access to the vault. The utility must have access to their equipment at all times. The egress doors to the vault do not meet current code for personnel safety.

Recommendation (Transformer Vault):

The utility electrical equipment should be relocated to a location which is directly accessible to the utility. The location must provide adequate protection for electrical equipment and a safe environment for electrical personnel.

Immediate action recommended:

The water infiltration problem should be attended to and corrected. The vault and the transformers should be regularly inspected. The lighting should be made operational.

Findings (Main Switchboard (MSB) and Electrical Switchgear Room):

The switchboard MSB serves the entire park facility. The switchboard is located in the electrical switchgear room at the rear of the restaurant. Additional electrical equipment occupying this room includes a transformer and several panelboards. Though it appears that the switchgear room is locked and therefore inaccessible to unauthorized persons, there are items stored in this room which violate clearance requirements in front of electrical equipment. There is only

one entrance to the electric room which is in violation of current National Electric Code. This configuration may have been acceptable by the NEC in effect when the project was constructed. Lighting is minimal.

The switchboard is rated 4000 amps, 480Y/277 volts, and from design document inspection, appears to have a withstand rating of 30,000 r.m.s. amperes interrupting current (i.e., available fault current). This is a very low withstand rating in view of the very near proximity and size of the utility transformers.

There is water infiltration occurring above the switchboard through conduits which penetrate the ceiling. There has been some attempt made to divert the water flow (with plastic hoses attached to electrical box) so that it does not enter the switchboard itself.

Information from maintenance personnel includes the following:

1. "Tracking" and corrosion was found within the switchboard. Sanding and cleaning of contact parts within the switchgear has been performed within the last two (?) years.
2. The main disconnect, a 4000 ampere bolted pressure switch broke when it was last used, two years ago. At that time, it was replaced along with the 1200 ampere circuit breaker feeding ice-rink vault distribution board, "MDR".
3. Two feeders (of four) to the ice-rink vault distribution board, "MDR", shorted two years ago. One was successfully replaced, the other was not.

The above information indicates the following:

1. The water damage is creating corrosion damage to the electrical equipment.
2. The equipment may not be regularly serviced (disconnect devices should be exercised and serviced on an annual basis to maintain operation).
3. Underground conduits (to ice-rink vault distribution board, "MDR") may be collapsed.

Recommendations (Main Switchboard (MSB) and Electrical Switchgear Room)::

Replace the main switchboard, MSB. Replace all the panelboards, the transformer, and other associated electrical equipment in the electrical switchgear room. Eliminate or seal correctly all ceiling and/or wall penetrations causing water infiltration. Upgrade other electrical equipment as required.

Immediate action recommended (Main Switchboard (MSB) and Electrical Switchgear Room):

Verify that the withstand rating of the switchboard and overcurrent devices is sufficient for the utility's available fault current.

Continue to monitor and maintain the electrical equipment particularly in regards to the water problems.

Remove all items not belonging in the electrical switchgear room to maintain NEC clearance requirements.

PUMP ROOM

Mechanical Findings:

All equipment is original. All equipment is currently de-energized.

Mechanical Recommendations:

Replace equipment as recommended by fountain/pump engineer.

Electrical Findings:

Motor control center, MCC-A, does not show signs of corrosion, but is 30 years old. MCC-A is rated 600 amp, 480Y/277 volts, 22,000 r.m.s.ampere interrupting current. This size and rating appears adequate for the loads served.

The main dimmerboard control panel is also 30 years old and is likely damaged due to the damp environment. It is certainly not compatible with contemporary lighting control equipment. The dimmerboard is however currently being used to provide power to portable stage equipment via 150 ampere single cable outlets and portable cables. Wall mounted HID lighting has been recently installed (existing ceiling mounted florescent lighting is located so that maintenance is extremely difficult).

Electrical Recommendations:

Replace the motor control center and the transformer in this room. Eliminate the dimmerboard control panel. Provide outlets and overcurrent protection for stage equipment. Upgrade other electrical equipment as required*.

VEHICULAR AND PEDESTRIAN CIRCULATION

PEDESTRIAN ACCESS

The entire park is surrounded by concrete sidewalks of varying widths. Connections to adjacent areas are made via pedestrian crosswalks which exist at all three of the surrounding signalized intersections. However, Chestnut Street is a fairly wide street and crossing this street can be an intimidating and lengthy process. A high speed turning lane at the intersection of Chestnut Street and Court Street also promotes high vehicular velocities in the right hand turning movement. This is potentially dangerous to pedestrians attempting to use the cross walks at that location. The removal of this lane (sometimes called a "pork chop") should be considered.

The internal sidewalk / circulation pattern was designed as branches from the main promenade. This promenade was designed to replicate the former alignment of George Street and terminates at the edge of the fountain / amphitheater area.

A number of areas of the site do not meet current standards as defined by the American with Disabilities Act. For example, some ramps are too steep and do not have railings or intermediate landings at 30 foot maximum spacings. Depending on the options that are eventually considered for site reuse, ADA routes will need to be established. In addition, ADA parking spaces to promote accessibility will need to be incorporated during the site design.

Other pedestrian routes within the site have varying levels of safety due to mounds and secluded areas. Consideration to removing some or all these secluded areas would be beneficial.

A number of the existing structures have geometries that are not ADA compliant. For example, the restrooms in the restaurant would need to be modified to meet ADA clearances. Internal ramps may also be beneficial within the restaurant dining area to compensate for a raised center area.

VEHICULAR / ROADWAY ELEMENTS

The Site is bounded by the following roadways: Chestnut Street, Court Street and Manhattan Square Park Drive.

CHESTNUT STREET

Chestnut Street is designated as two way and has four/ five travel lanes with a hardscape median (in the segment adjacent to the park). According to traffic counts taken in June of 1997, Chestnut Street has a combined direction peak AM Peak of approximately 900 Vehicles Per Hour (VPH) between 7:45 and 8:45 am. The combined direction PM Peak of 1450 VPH between 4:30 and 5:30 pm. The predominate movements are southbound during both periods. On-street parallel parking exists along the west perimeter of the park on Chestnut Street for deliveries only. It is currently limited to 2 or 3 spaces.

COURT STREET

Court Street is designated as a One-Way street in the east direction. Court Street has two travel lanes with parallel on-street parking on both sides of the street. According to traffic counts taken in June of 1997, Court Street has an AM Peak of 305 VPH between 7:30 and 8:30 am. The PM Peak counts were shown to be 394 VPH between 4:30 and 5:30 pm.

MANHATTAN SQUARE PARK DRIVE

This street begins as One Way at its intersection with Court Street. Parallel on-street parking exists along the first portion of the street adjacent to the skating rink. The second portion of the street aligns with the private section of roadway in front of the Strong Museum. This portion currently does not have parallel on-street parking.

Intersection Modeling with Synchro Model.

The County of Monroe maintains a traffic simulation model for the downtown area. The data shows that the following signalized intersections are operating as noted below:

Intersection:	Level of Service:			
	AM	NOONPM		
Chestnut Street / Court Street	B	B	B	
Court Street / Manhattan SP Drive		C	B	B
Chestnut Street / MSP Drive		A	A	C

This indicates that with the existing traffic flows and street geometry, two intersections are operating at “Uninterrupted” condition and the other is operating at “Acceptable”.

RELATED STUDIES

The City of Rochester commissioned study relating to potential roadway improvements. The Inner Loop Improvement Study (Draft Jan. 2001) studied a number of alternatives relating to raising portions of the inner loop up to grade. The goal of the study was to improve connections between the City and the neighborhoods. In addition, consideration to reduce the number of lanes in some areas while allowing some areas to be used for development. One of the possible outcomes of road realignment could include providing a new central entrance to the Strong Museum. The timing or extent of any modifications to the Inner Loop is unknown at the present time.

MANHATTAN SQUARE PARK

ROCHESTER, NEW YORK

WATER FEATURES

FOUNTAIN CONSULTANT REPORT



PREPARED ON BEHALF OF URBAN STRATEGIES BY:

R.J. Van Seters Company Limited

International Fountain Specialists

P.O. Box 64505, Unionville, ON Canada L3R 0M9

Tel: (905) 477-2266 Fax: (905) 477-2268

Designing Landmark Waterfeatures Worldwide for Over 35 Years

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Waterfeature Images & Descriptions (hard copy only)

R.J. Van Seters Company Limited
International Fountain Designers & Consultants
P.O. Box 64505, Unionville, Ontario, Canada L3R 0M9
Phone: 905-477-2266 Fax: 905-477-2268
E-mail: fountains@rjvanseters.com Website: www.rjvanseters.com

MANHATTAN SQUARE – ROCHESTER – WATER FEATURE SUMMARY

Consultant's Report – March 20th, 2001

INTRODUCTION

The Manhattan Square Waterfeature and Space Frame were undoubtedly a bold and remarkable combination of artistic expression, futuristic design, and engineering skills of landmark proportions. They presented not only challenges for the designers, but for those who constructed them and subsequent operators, and much has been learned from the experience.

Our purpose in presenting this report is not to act as a critic or advocate of the complex design and operation, but rather to point out some of the issues which hindsight always produces for any project of this scope or size, and what can be learned from the experience. We also wish to highlight the assets and possible opportunities that the site presents, and ways these might be built upon.

Through our examination of the documents, the site, and our discussions with City personnel and consultants related to the project, we obtained a sketch of past events, an understanding of the system's function, the current status and apparent condition (so far as preliminary means permitted) of the mechanical and electrical facilities and the structural elements related to the waterfeature. This has been sufficient at least for the purpose of this report, which is the feasibility of future renovation and retrofitting or modification in some form, so that practical utilization of the project may be possible. The preservation of architecture that represented a particular era in American urban parks and landscape history by one of the nation's leading Landscape Architects, is also a worthy objective. Last but not least, the future enjoyment of the space for inner City residents and visitors alike is of prime importance to Rochester inhabitants as well as the City's administrators.

OBSERVATIONS AND SUGGESTIONS

The waterfeature concrete structures are massive and appear relatively sound. Visible cracks appear to be caused by water penetration and uneven stresses where the concrete thickness changes. Expansion and freezing may be other factors. No evidence of settling or movement of the foundations was evident. Further tests are required to determine if levels have changed with equipment suited for this purpose, under the supervision of structural engineers.

It is our view that remedial treatment is possible to restore, improve, or change the structures – particularly if stone cladding is used after repair.

The major questions which determine mechanical feasibility still remain to be answered because the interior of the four supply systems needs to be thoroughly checked from connection of pump manifold to pool inlet. The lines also require pressure testing to make sure the pipes do not leak. A concern, of course, is the steel material and the staining that rust produces as well as the continual corrosion of the pipe.

An assessment as to the potential longevity of the pipe is critical to its suitability for further use. The visual check will also tell the examiner if it is possible to use the vacant pipe as a conduit for smaller flexible pipe or hose, or seek a new course for water supply and distribution, using more up-to-date non-corrosive materials. There certainly are opportunities for placement and concealment.

The grates, sumps and drains can be replaced and are not essential to a revitalized and modified waterfall system.

The lighting in the pools can be modified to produce a pleasing effect from the street level, and the waterfalls can be fitted with a different type of lighting, adopting a different approach if the Space Frame is removed.

The mechanical system for the lower pool area can be replaced and included in the new structural profile, which is designed to reduce pool depths and create a safer and more attractive environment. Supervised bathing is costly, high risk, and compromises the design for this type of application. A separate safe children's waterplay area is recommended.

The pump room location and size and the soundness of the structure are real assets. The current seepage from the pools above should be repairable by waterproofing the basins before cladding with stone or more concrete.

The equipment in the pump room is discussed in considerable detail. It is our view that high volume, low head pumps feeding into a common manifold with check valves on each pump and checks on all discharge outlets configured the way these pumps are, does not allow full capacity and efficiency of each pump to be realized. The backpressure caused by a pressured manifold on the check valve of the second pump on the same manifold reduces its efficiency. We have noticed this time and time again. Pumps in parallel supplying a common discharge tend to oppose each other. This may account for the apparent view that although flow increased when the second pump was applied, it did not double the output. We believe that it would be wiser to supply two inlets independently from each pump, or four inlets from each pump so that single or double pump operation is still possible.

With a modified system using a rock-clad waterfall, it may be possible to use a single pump with a variable speed drive if variation is required. Our view is that one pump, one flow rate, and a skillfully applied rock treatment can create sufficient interest and activity with a smaller or more manageable physical plant. Sanitation can be vastly increased and maintenance vastly reduced.

The steepness of the slopes, the relatively easy access from both above and below, and the danger of falling or slipping with or without the force of water, are the main risk factors and threaten public safety. We believe that substantial improvements can be made to reduce hazards to an acceptable level by creating rock and planting barriers and water activity at the street level so that the feature is two-sided. The buildup of rock can create larger stepped layers that remove the steep profiles altogether, adding additional intermediate pools and planting pockets. To reduce weight, light-weight fill concrete and styrene can be used to create bulk and backfill. Half of the lower pool area could be engaged in the waterfall slope to reduce the angle. The outer face of the pump room could also be clad with weathered ledge rock with a rough-hewn quarry face.

Another alternative is the use of rockscaping, which is the authentic reproduction of real rock using rubber molds to produce the detail. This system is difficult to distinguish from a natural rock formation and is suitable for outdoor use in cold climates.

We have worked with these very skilled tradesmen and artists on several theme parks and entertainment facilities. The system is light-weight, durable, authentic and waterproof. It is also easy to facelift a large area at lower cost and with greater effect and adaptability than natural rock. Many types of rock faces are available. Split granite or granite boulders, lime stone, ledge rock, fossilized

stone, conglomerates, cliff and quarry faces, etc. Ontario Place on Toronto's waterfront has large flume rides where the process was applied with great success. Disney and Universal Studios have also made extensive use of this material and method. Several images are available in landscape magazines and on the Internet.

A legitimate concern is the canyon-like geography of the park and the internalizing of its features so that it appears separated from its surroundings and lacks both appeal and involvement at its boundaries. Insofar as the waterfeature is concerned, we believe that it is possible to treat the street level area and areas adjacent to the street in a way that part of the feature can be observed and safely enjoyed at that level as well as appear inviting so that the viewer will want to engage the park for the complete experience.

The possibility of sidewalk cafés and picnic facilities, as well as a setting for local events, outdoor exhibitions and passive enjoyment, should make it more tourist and family-friendly.

The latest craze in public art and waterfeatures during winter is the ice sculpture or ice fountain. We are currently designing water and ice walls of rock for Battery Park's Tear Drop Park in lower Manhattan. It would not be difficult to have a continuous reduced rockery waterfall with interesting natural-looking ice sculpture created by special misters that operate at night during winter to build up beautifully-lit ice forms on the rocks. In summer, cascading water and the use of mist or fog at night can create an enchanting naturalistic environment.

Many of the landmark waterfeatures in urban parks and centers are sponsored by local corporations and civic groups - some as memorials or centennial/millennial projects. Given the added cultural and commercial benefits, business and cultural communities often become involved.

OPERATION QUESTIONS & ANSWERS

1. *Official Startup Date: 1975 Shutdown Date: 1995*

2. *Are there specifications available?*

John Noble of Rochester is believed to have archives of site. Phone 716-428-7331
Fax 716-428-6092.

3. *Was there a log kept – Operations? And Maintenance? And Repairs Diary?*

It is believed that the log has been lost for operations and maintenance, but there may be some record of some repairs like the large waterfall pumps and large sump pumps. Contact may be John Noble and John McFadden Phone 716-428-6793.

4. *Was any equipment replaced, and which equipment?*

A 20hp sump pump was replaced or at least the motor portion. Both 125hp pumps were repaired due to flooded pump room but the extent is unknown. Filter system was replaced with several smaller cartridge-type filters (Swimquip) and booster pump. Drains and skimmers were replaced with makeshift plastic pipe, fittings and drains. Waterfall supply grates (4) in upper pools were replaced with FRP grate and some remnant of expanded metal grate. Original grates are gone. The lower pool suction grate was replaced with FRP grate. Surface screen on top of grate is gone.

5. *Was there a winterizing procedure written? And followed?*

Yes. But it appeared to be inadequate. Originally the system was to be heated using City steam plant and heat from the ice rink exchange. This system was inadequate and only allowed operation until late November. It did not operate during the colder months – at least in the later years of its operation. The grates were not covered, lights were exposed, the skimmers were damaged, and there was no evidence of a structured procedure.

6. *Were any staff that worked on the fountain available for interview?*

Staff that worked on the waterfall prior to shutdown and at shutdown were interviewed. There were a number of staff changes. People we interviewed worked for about 3 years on the fountain just prior to shutdown.

7. *What were the hours of operation and the weeks/months of operation?*

8 AM to 9PM daily from May to September, and longer during special events like concerts, etc.

8. *Was there an operating budget and are any figures available – utilities/labor?*

We were not able to ascertain if there was a specific budget for the feature or the park. We do know that utilities costs must have been high because water consumption was very high as well as power.

9. *Was the system of filtration, chemical treatment and fresh water makeup able to maintain water quality? Are there any figures on chemical consumption? Water consumption?*

No. The staff had to drain the pool frequently, flush and refill. The filter was inadequate.

Consumption of chemical was said to be 30 lbs bromine tablets per week. To clean the large pump screens the pool had to be drained so that men could crawl into the suction chamber and remove the screens.

10. *Were the skimmers, pump screens, grates, able to control surface debris?*

No. There was frequent clogging and children jammed objects in the skimmers so that they became inoperable. Prior to this, the pool circulation and wave action did not allow efficient removal of surface dust and debris.

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11. *Did the maintenance staff find it difficult to control floating and floor debris?*

Yes. They used hand skimmers daily. There were two lifeguards who partly serviced the system. There was no built-in vacuum system as used in swimming pools.

12. *Were there any accidents of a serious nature in the fountain's history? Staff? Public?*

A boy climbed the water steps while the pump was running and fell, injuring his head. Amazingly there were not many incidents of a serious nature. A person attempted suicide on the Space Frame but was talked down by local police. Access to the frame was limited and security was beefed up. There were personnel available full-time to watch the feature every day and at special events. Evening security and police patrols were increased because of unauthorized nighttime activity.

13. *Did the heating system work adequately?*

No. As reported above, the system had to be shut down early in November, although it was supposed to run all winter. The ice heat transfer also malfunctioned and was shut down due to leaks and breakdown in transfer piping.

14. *Were both 125hp pumps running full-time, and was any water bypassed?*

No. One pump ran most of the time. There was no system to share hours of operation between the two pumps and there was no hour meter to measure duty performed by each pump. No one recalls the bypass valve ever being used. During special events, both pumps were occasionally turned on.

15. Were all the pumps, motorized valves, level controls, switchgear and lighting operating at the time of shutdown? Which items were not functioning?

No. The two large 125hp pumps were running at shutdown. At least one of the two 20hp pumps was running. We're not sure about the filter system. It was in bad shape when we saw it and quite likely it had started to go before shutdown. Lighting was and is still being used for special events – at least the switchgear portion. The fixtures are brought in by lighting crews for the events. Many of the motorized valves had to be operated manually. Originally, most were opened and closed by flicking a switch at the panel. The pool light niches in the upper pools had lights in them and two or three had been stolen. Several niches were filled with concrete in the lower pool areas and below the vertical single waterfall. The pump room was flooded, indicating that the two 20hp pump system was not functioning the way it should have been. This appears to be a design problem rather than a maintenance problem.

16. Were there any ground-faults on the lighting?

Yes. Several lights were removed. The condition of the wiring is unknown but likely in need of replacement. The junction box covers were gone and temporary covers installed. Condition of the conduit is unknown but could possibly be reusable.

17. Was there any vandalism? Was there any security and how was it managed?

Yes. Hardware and screen/grates were gone. Since they were made of brass they had high scrap value. Skimmers were destroyed and drains plugged. PVC pipe to replace these facilities was damaged. Some graffiti was evident. There was security during the day and police patrol at night and at special events.

18. Were there any safety issues and how were they addressed?

The Space Frame was fenced off. Light fixtures on the space frame were removed. Two lifeguards were assigned to the pool during the swimming season. Security was added to patrol the premises. The waterfall and children's water play areas were shut down because of the fear of liability for the City.

19. Percentage of age groups that utilized the bathing and water play?

Mostly pre-teens used the area, but age ranged from 2 to 80 years of age.

20. Were there any leaks in the structure? In the plumbing? In the lighting/niches/conduits?

Water leaked into the pump room ceiling and walls from the waterfall and pool above and adjacent. Water loss was quite high. Lines to the ice rink leaked and were shut down. The walls behind the light niches show evidence of cracking and seepage through the walls in places as a result. Pressure sealing with epoxy would be required.

21. Was there any part of the system that did not function properly as a result of design? As a result of installation? As a result of maintenance?

There were several items. Pump screens were difficult to access. The skimmers and pool drains. The inlet grates. The sump pumps. The heat exchange. The filter system. These were as a result of poor design; installation seems to be as drawn and specified, and maintenance appears to have been adequate in terms of cleaning the pools and screens. The lower pool skimmers never functioned properly, nor the floor drains. The children's play area was changed as well.

22. What basic recommendations would Parks Management and personnel like to see implemented if renovations and/or changes are contemplated?

Removal of the bathing facilities and a safer environment. Reduction in size. Improvements to screens and mechanical room layout and access. Superior heating systems and filter system. Greater safety at the street level. Improved lighting system. Automated water treatment system. Flood proofing of the pump room. The pumps had "I" beams overhead for hoisting but no way to clear piping and equipment for removal or replacement. A lot of mechanical equipment would have to be disassembled to allow clearance for removal of the two 125hp pumps and the two 20hp pumps or their motors.

23. The old system seemed to employ a lot of motorized valves and automatic devices, which require maintenance and can malfunction. Would staff prefer to see a somewhat simplified system with fewer manually operated devices as opposed to automatic devices? eg. drain valves, bypass valve, filter backwash, etc.

Yes. The system could be simplified. Check valves did not function properly either. Draining could also be simplified.

24. How are the large pump screens accessed? And how often were they accessed?

The system must be drained, the grate removed, men must crawl into the suction chamber, undo the bolts and screens, remove, flush and replace. A difficult and time-consuming as well as waterwasting task. The screens were usually heavily clogged. However, we were told the pumps did not

trip out on low flow or overload. The screens were cleaned weekly.

25. Was the fountain shut off at night? Totally? Partially? What about the filter pump? What were the hours of operation for each pump?

Yes. Totally. The filter ran all night. The system was manually turned on and off daily even though there are automatic timers. Staff reported that they could not rely on the automatic devices and they had to make sure conditions were safe enough to turn on. The sequence of turning on the pumps was critical because of initial surge. Two pumps could never be turned on at once. There was a problem with displaced volume and a drop in lower pool water levels. It had to be restored by adding water at each startup. This was due in part to overnight water loss (overflow and leakage) as a result of failed check valves. This daily addition of fresh chlorinated City water would account for the better water quality because turnover of fresh water was so high.

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26. Did the concrete waterfall steps and risers ever get slippery? Were there ever any algae?

Apparently the step risers and treads were relatively slime and algae free. There was little evidence of staining. This was likely due in part to wetting and drying of the steps, full exposure to sunlight and heat, high fresh water addition, the scouring action of falling water, aeration of the water, and the addition of 30 lbs bromine weekly. It also was affected by the limited hours of operation and seasonal use. There were algae formations in the lower pool, but since it was drained weekly it was manageable. They did mention using chlorine shock treatment on several occasions fairly regularly. Photos obtained recently show brownish and greenish water in the lower pools in some of the photos. There was considerable flotsam in the lower pool resulting from the aeration of the water.

27. How often was the fountain drained during the operating season?

The pool was drained weekly. Sometimes more often when there were larger dirt accumulations.

28. When were parts of the fountain painted? And why?

It would seem that the lower pool floor, walls and submerged steps were painted at an early date because the submerged surfaces would be too dark to permit public swimming safety. It would also improve surfaces for maintenance purposes. This would be dictated by the pool water depth, which required lifeguards present at all times of public use. We do not have an actual date of painting. The gaps in the island platforms were also closed off with aluminum plates to prevent feet from slipping through - possibly the result of accidents or local health and safety authorities.

29. Were the fountains and spray pools ever shut down for sanitary or health reasons by authorities? Parks

staff? Public Health officials?

Yes. We are told that sanitary improvements and additional safety practices were imposed by City officials. This included regular testing, lifeguards, signage and security.

30. Were there rules posted for the public? For the staff?

There were large signs posted with safety rules for public and staff.

31. How many visitors would there be on average daily? Weekends? Evenings?

There would be an average of 300 visitors daily. More on the weekends. Special events would draw between 2,000 and 10,000 people and the waterfall was used as the staging area with the Space Frame for lighting. The system was not operated after dark.

32. When were the waterplay animals added and are there any drawings and specifications available?

We don't know when, but it is thought a few years before shutdown around the early 90's. They were connected to parts of the old system with interactive push buttons added to operate. The rubber matting was added for safety.

33. Were "Owner's operating and maintenance manuals" ever provided? Are they available?

The manuals were provided but their whereabouts is not known. John Noble may have records and we are told he handles the archives. We will be checking further on these items. Also Jim McFadden has some records. Phone 716-428-6793.

34. Are "as-built" drawings available? Is there a valve chart in the pump room?

We have copies of the original drawings but we have not seen "as-builts". Judging from our observations, the drawings we have are quite similar to the installation. We are awaiting confirmation of some of the model numbers and serial numbers from pump manufacturers since the companies have changed ownership and merged with other companies.

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There was likely a valve chart at one time but we were unable to locate it. The staff seemed to recall seeing one. There also was some evidence of valve tags which would have referred to a list, chart, or drawing.

35. What maintenance equipment was provided or remains on site? eg. cleaning equipment – poles, brushes, skimmers, portable vacuum, high-pressure washer.

There is no recollection of any specific equipment being provided with the system. Staff used equipment from other pools as well as supplied leaf skimmers and brushes. There was no vacuum equipment or high-pressure washers, etc. The pump room is being used to store chairs and other

items related to the park and is in a bad state of repair, with much debris in the room.

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WATERFEATURES CHECK LIST

Outdoor Items

87 ITEMS ON CLIPBOARD DRAWINGS LIST

(SEE SECTION FOLLOWING – POOL EQUIPMENT DRAWINGS)

(The pump room was very cluttered with many parts disassembled and many objects unrelated to the pool – stored in the room. Direct access to some of the equipment and spaces was limited. Observations are cursory and general in nature, and assisted by information provided by the staff.)

Item No. Quantity and Description.

#01 – 2 – 125hp pumps were repaired due to flooding prior to shutdown. Were operating properly at shutdown. Oil and grease fittings had been serviced. No assessment could be made of motor and pump condition or screens. The pumps would require professional assessment and likely retrofitting of seals, bearings, possibly motors and screens. The equipment is of good manufacture and castings appear sound. The motors are 8 pole 460v 3 phase. The curves appeared to be suitable for the purpose intended when the system is clean. In trying to assess performance, we were advised that some weirs produced up to 4" of water. Our calculations would indicate that the maximum top weir average would be less than 3" with the high single sheet waterfall being approximately 1 ½" of water. This calculates at about 160 gallons per foot with both pumps running, and 80 gallons with 1 pump running. The single sheet waterfall may have operated at about 1000 gallons per minute. Watermarks seem to indicate less than 3" at source. One pump or 80 gallons averages out at about 1 ¼" per foot of weir at source. The pumps were still running at shutdown in 1995. We do not know if further flooding or other conditions occurred since shutdown. Efficient primary screens are required. Confirmation of the curves is still in process.

#02 – 2 – Couplings were not assessed. Outward appearance OK. Cleaning likely required. 20"

#03 – 2 – Split Check valves leaked from day one. Large loss of water at each shutdown. We would recommend alternatives such as silent globe check or automatic control check, which allows 4 valves in one – flow control, backflow control, drain control and surge control in one motorized valve. The checks are 20".

#04 – 2 – 20" x 18" Pipe spools. Internal condition unknown. Requires investigation.

#05 – 2 – 20" Butterfly valves primarily used for isolation only. Appeared to be in good condition.

#06 – 1 – Appeared to show surface rust only on exterior. Interior needs to be checked. It is quite likely it could be cleaned, possibly epoxy-treated and re-used. A re-design would likely abandon most steel pipe and fittings in exchange for better, less corrosive and lighter materials.

#07 – 4 – Check valves on 4 individual supply lines to supply source pools at top of waterfall. None of these check valves worked properly from day one and they leaked overnight or when system was off causing massive water waste and delays in startup. The actual cause of flooding of the main pump room area and the large pumps was likely due in part to this failure. The actual cause has still to be confirmed. It may also have been caused by failure of the sump pumps. (1500 usgpm at 40fh each.)

#08 – 3 - Outward appearance only surface rust. Interior needs checking.

#09 – 4 – 14" Butterfly valves look OK and were operating at shutdown.

Primarily used for isolation and possibly for balancing inlets to upper pools. Total inspection still required.

#10 – 4 – Welded tees 14" require internal inspection.

#11 – 4 – Concentric reducers – part of manifold drain system 14" x 6" – Internal inspection needed.

#12 – 4 – Weldneck Flanges – need internal inspection.

#13 – 4 – 6" Butterfly drain valves. Worked at shutdown. Need internal inspection.

#14 – 1 – Motorized Valve operator – needs inspection. Was used manually by turning switch on and off. Gear-operated manual valve might be safer and less troublesome or risky for this application.

#15 – 1 – Source pool drain manifold – needs internal check. External looks OK.

#16 – 4 – 14” Discharge piping to 4 pool sources. Need internal video camera check and pressure test.

#17 – 1 – Operates No.28 which is broken. Staff reported bypass valve for waterfall system was never used. It bypassed water directly to pump suction reservoir from pump supply manifold.

#18 – 1 – Never used. Looks OK - 16” flow control.

#19 – 1 – 60” Swimquip Steel Hi-Rate Sand Filter. Never worked properly and was regarded as inadequate. System disconnected and still sitting in room with manifolds and valves intact. Scrap.

#20 – 1 – Filter Pump – not operational.

#21 – 1 – Filter suction piping – scrap. Was bypassed with plastic pipe directly to pool.

#22 – 1 – Union - scrap.

#23 – 1 – Angle valve – scrap.

#24 – 1 – Filter suction manifold – scrap.

#25 – 1 – 6” EL scrap.

#26 – 2 – 3” Tees – scrap.

#27 – 1 – 6” Filter drain piping – still partially in use. Part of it is scrap.

#28 – 1 – 12” Butterfly Valve. Staff not sure it worked. Needs checking – likely scrap.

#29 – 2 – Stem Extensions – actuators missing. Shafts appear OK.

#30 – 38 – All Scrap.

#39 – 4” Water service appears to be OK

#40 – 4” Gate Valve to seal off bypass is OK.

#41 – 4” Gate Valve for isolation – is OK.

- #42 – 4" Water Meter Strainer appears to be OK. Screen should be checked.
- #43 – 4" City-Supplied Water Meter is OK.
- #44 – 4" Flexible coupling is OK.
- #45 – 4" Reducing tee is OK.
- #46 – 1 – Stub out for domestic water is OK.
- #47 – Backflow Preventor Clayton 4" type RP seems OK - still in use.
- #48 – 4" Clayton Solenoid piloted valve – scrap.
- #49 – 1 – Flange reducing Tee 4" – scrap.
- #50 – 1 – Booster Pump 7 1/2hp – scrap.
- #51 – #53 – Scrap.
- #54 – 1 – 12" Overflow – looks OK, needs internal check.
- #55 – 1 – 12" Pool drain looks OK, needs internal check – all mild steel.
- #56 – 1 – Butterfly valve 16" never used – condition not certain. Needs checking.
- #57 – #62 – Scrap.
- #63 – 2 – Sump pump. No shared time. One operated most of the time. One was replaced. Operated at shutdown. Current condition unknown. Needs testing and evaluation for motor and pump.
- #64 – 2 – 10" Check valves appear to be working. Need checking since shutdown.
- #65 – #68 – OK.

#69 – 2 – Sump Pump Base Plates – unable to see. Likely rusted out or need checking.

#70 – #86 – Are gone. Heating system and ice exchange are all gone. Trouble getting good results from beginning. Steam heat was inadequate. Ice heat was also inadequate. Both were shut down early in the system's history. Steam is still used for part of the remaining complex.

#87 – 1 – 10" Butterfly valve appears OK.

Pool inlets, inlet frames and grates, inlet sump drains

Pool Inlets were covered with snow and ice. Parts of the tops of the Tee return were visible and show signs of heavy surface rust. Pipe is schedule 40-welded steel. The grate frames were still in use. The original grates were gone. Makeshift expanded metal and FRP grates replaced originals. Fits were less than precise. Sump drains likely operable but there does not appear to have been any winter protection or winterizing procedure for the supply inlets, sump drainage or sump covers. There were wires, chains and locks preventing removal of the grates.

Skimmers – weirs – equalizers – filter drains

Skimmers are in total disrepair and stuffed with various objects. Skimmers are not generally suitable for active water and did not function properly from day one. They were easily vandalized. Equalizers were also damaged and inoperable. Floor drains appear to be plugged and out of use. The owners had put in sections of 3" plastic pipe and pool fittings on the ends to provide intake water for the filter system from under the lower pool platforms. These pipes were exposed and damaged and appear to have been a makeshift solution to their circulation/filtration problem.

Bottom pool reservoir entry grate and frame

The bottom pool main suction grate was replaced with FRP grating and chained to prevent removal. The primary screen that used to be on top of it is gone. The pit is full of water and there is considerable debris. There was no winter cover or protection for this area.

Light niches, lights, cables if visible, deck boxes/junction boxes 250w and 1000w

We counted 47 wall niche lights made by Hydrel that were visible. There was no winter protection. Two had been stolen with wire hanging out of the niche. Several others had been filled with

concrete. The uprights under the high waterfall were all filled in with concrete. All the junction box covers were missing and had been replaced with temporary covers. Fractures in the wall where the light niches were located indicate that the thinner wall section at the niches is a problem. There is evidence of seepage on the dry back wall surface in a number of areas. The conduits are likely reusable but all wiring and fixtures are unusable. They will have lost their UL approval status many years ago. The waterfalls were primarily lit by open-air floodlighting from the Space Frame. The upper pool wall niche lights only served to light the top pool interiors, which are relatively unattractive. Many of the lights would have glared into the eyes of viewers from the street viewing location. All lights at lower levels are filled with concrete.

Spray pool jets and drains

The spray pool jets are redundant. They have been replaced by Spray Animals and a push button system. We would classify this system as unusable. No winterizing of the system was evident.

Structure surface features, movement, levels, etc., watermarks and scum lines

The overall structures appeared to be relatively sound and in good repair. There is evidence of spalling and removal of the riser surfaces on many of the water steps due to too thin a layer of concrete over the reinforcing steel and the rusting of some steel. These can be repaired. There are also some surface cracks and some cracks through pool walls from wet side to dry side, with evidence of watermarks and seepage. These too appear to be repairable. The bottom pool structural features have chips and cracks and surface damage, but most are relatively sound. The island structures can be covered or removed.

The brick pavers in all the pools showed minor damage and soil in the cracks supporting vegetation. These could be removed or cleaned and sealed. The possibility of patching and sealing is good. There does not appear to be frost movement. The use of laser level would be helpful in checking this. There are little or no scum lines. There are leaks into the pump room walls and ceiling but these look like they could be repaired. The pump room was relatively dry and sound.

Evidence of overspray and/or leaks

The water effects seem to have been fairly well contained and directed, with little evidence of water migrating where it shouldn't have, and little evidence of overspray. The leaks have been covered above, except that water consumption and water loss was very high indicating that there could be leaks in the lower pool system – more prone to frost damage because the pools were left empty in

winter and never operated as intended all year-round. The sump pumps apparently ran pretty steadily.

Pavers, mats and painted surfaces

The pavers as mentioned above, seem to be in relatively good condition. It is unlikely they can be matched to do spot repairs. The painted surfaces are unsightly and would have to be redesigned. The waterplay mats need replacement if the area is to be renovated. All surfaces require extensive cleaning and refinishing as well as repair. Sand blasting, power washing and acid wash are possibilities. Cladding would be the best solution.

Barriers, rails, safety fences, ladders, ramps, gates, fencing, architectural metals

The barriers and railings appear to be relatively sound. They could be removed, sand blasted, and regalvanized or coated with several types of surface finishes. Some require replacement. A major renovation would see most exposed metals replaced. Today the use of stainless steel and bronze is usually the metal of choice. Aluminum and galvanized steel are generally avoided.

MECHANICAL SPACES

Reservoir space structural surface and access

The reservoir surfaces and structure are covered above. The area seems sound enough to use as a base for renovation and restructuring on top. The pool floor should be much shallower. Access to the suction reservoir is very restricted and a total redesign utilizing the base structure is recommended. This would do much to reduce maintenance and effect better cleaning and circulation. Access to the pump screens must be made easier and safer. Primary screens should eliminate the need to drain the system or crawl into awkward recesses.

Reservoir space pump screens, pipes and inlets/outlets, overflow and drain, bypass/fill

Reservoir space has been dealt with above. The overflow and drain system can be redesigned to eliminate the deficiencies that now exist and provide a much more accessible and efficient system. A lot of the cleaning load is handled at this point. The bypass and fill system likewise need redesign.

Main recirculating system waterfall pumps, pipes, valves and fittings (tags)

This part of the overall system seems to be the most intact and offers the greatest possibility for retrofitting if that is the direction the owners want to go in.

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The piping systems will need pressure testing, video examination and possibly further tests to determine soundness and watertight pressure seal. If there are major faults in these areas, feasibility is greatly affected. Other options may have to be considered.

Filtration system and backwash system

This system clearly is redundant and would need a complete replacement and redesign. The system is undersized. The filter rate is determined by surface to volume ratio and not pool volume. The surface area is the contaminating source. The surface activity increases the amount of dirt introduced into the system from the surrounding environment. The topography is another factor. Dry surface areas draining into the wet pool areas increase demand further. Biological load is a factor generated by bathing, and health water quality factors another. Underwater illumination demands greater water clarity. Finally, the surfaces must be kept clean and free from slime for safety so that slipping is prevented. The turnover rate for an installation like this in terms of filtration and treatment, therefore, is exceedingly high and requires much more filter media than is or was available. The filter backwash system used City water and was of the right type, but the sizing was wrong. Modular units require smaller backwash quantities at one time. They are all more portable and easier to service and repair.

Chemical treatment system

The chemical treatment system used an off-line erosion type bromine feeder used in most pool installations requiring a chemical residual and a strong oxidant with relatively low odour. Systems of this size may use Ozone Contact where the Ozone is removed and destroyed before the water returns to the pools. Other options are Chlorine gas, chlorine/soda pumps, and ultraviolet. Often a combination is used to purify the water and to provide a chemical residual to clean the pool surfaces and treat static areas. The high use of fresh water lowered the pool temperature and reduced biological activity so that the use of 30 lbs per week had little effect because of constant dilution.

Water fill and makeup and spray systems

Water fill and makeup systems need redesign and a different program cycle for operating and nonoperating conditions ensuring the highest pools are at overflow before satisfying the lower pools and

eventual overflow. The system now in use relied too much on manual adjustment and frequent observation. As a result there was excessive use and inadequate protection at all times. This in part may have contributed to flooding of the pump room.

Water Heating System

This system was used initially to temper the water for bathing and ran the system to November, but it was inadequate for year-round use. It seems that it did not last very long in the history of the waterfall and was isolated from the system. The same was experienced with the ice heat exchange, which would only have been useful while ice was being made. The system leaked and the transfer pipe was broken. The waterfall was generally off when ice was being made so that the exchange was of no apparent benefit.

Sump pumps and basic drainage system

The 20hp sump pumps were repaired and one replaced with motor and parts. Both were operational at shutdown. The size of the pumps appears adequate for drainage and overflow functions. The standby pump should share some of the duty time for more even wear. None of the larger pumps have hour meters. The floats are likely in need of replacement along with switchgear.

Water level control system, sensors, valves, overflows, drains related to system

This system will need complete retrofitting and a redesign based on program needs and site conditions.

Electrical distribution, breakers, ground-fault devices, starters and switch gear, controls such as timers and programmers for pumps, levels and lighting

The electrical distribution system has been out of use for seven years. Since the system was installed in 1972, most components likely will not pass current standards for safety and efficiency. A renovation can use a considerably less complex system with advanced technology in much less space. New ground-fault devices are available that ensure greater safety to personnel. The staff did not use all the devices since they monitored conditions and controlled motors and valves manually, even if they were electrically driven. In an installation of this kind, a visual check to ensure people are not on the dry water steps at startup is essential to safety. This was not considered in the original design.

Cabinets, hour meters, amperage meters, voltmeters, safety devices, log books, tags.

Most of the control devices showed ON/OFF conditions only. Voltmeters and ammeters are useful to assess operating duty points and flow rates as well as clogged screens and other warning signs. Cabinets are sound but likely redundant. Lighting switchgear is still in use, along with the dimmer system. It is nearing the end of its life however, and will likely be scrapped in the event of a retrofit or renovation. The Space Frame is needed to effectively light the waterfall area. If it is removed, a different lighting strategy will have to be considered. No logs or manuals were available, but may be located in future.

Operating instructions and wiring diagrams on site

We did not observe wiring diagrams or instructions on site, but wiring diagrams are available. The room for the panels and pumps is in a state of disorder and is being used for winter storage and other items. Many broken parts are strewn about and a general cleanup is needed of redundant equipment so that any equipment that needs inspection can be easily accessed.

Signs, nameplates, rules – electrical history – usage – hours of operation, winterizing

Most signs have been removed. The space is basically shut down and out of use or service. We will be checking archival material if it is available.

Pump room lighting and ventilation (and heat if any), access, ladders, rails, etc.

The pump room is poorly but adequately lit. The walls and ceiling are dark concrete and lighting would be greatly improved if the room were painted. The room appears well ventilated and the staff report there were no excessive condensation or humidity problems. Access for motors and motor service/removal is a problem. Ladders and railings are still sound but may require retrofitting if the room is renovated.

The above are primarily visual checks only.

NEXT STEPS

1. We recommend that a more comprehensive investigation of the structure's integrity be undertaken with the assignment to advise on the practical feasibility of renovation or restoration, and the practical application as a suitable substructure for the application of a modified, new surface treatment including the kind of bearing loads that can be supported.

2. We recommend that the four supply pipe systems be investigated with a video camera and a pressure test, as well as the materials forecast longevity and suitability for reuse or use as a conduit for smaller tubing. The four large pumps should also receive professional assessment. Finally, the drainage system and the source of foreign water should be examined. This is basically from the pump room sump to the sewer. The cause of the pump room flooding should also be determined.

3. The remaining water supply system can be up-graded and the electrical system from the load side of the main distribution transformer should be replaced and likely downsized.

4. The remaining archival materials and records of the waterfall's history, including available photos should be made readily available to a future design team if the aesthetic use of water is to be re-employed. Much of the information will be useful in implementing needed improvements such as public safety, ease of maintenance, and a reduction in operating costs.

Respectfully submitted on behalf of Urban Strategies by,

Richard J. Van Seters
with presentation materials prepared by Suzie Ramos.

R.J. Van Seters Company Limited
International Fountain Designers & Consultants