APPENDIX C – TRANSCONA CENTENNIAL POOL FEASIBILITY STUDY – MAY 9, 2014

TRANSCONA CENTENNIAL POOL
FEASIBILITY STUDY

MAY 9. 2014

Prepared by

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Acknowledgments

The Consultants would like to acknowledge the generous help and assistance provided by the City of Winnipeg staff.

Respectfully submitted to the City of Winnipeg, May 9, 2014

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EXECUTIVE SUMMARY

1x1 architecture inc. was engaged by the City of Winnipeg to provide a schematic design and an associated cost estimate for the renovation and addition to the Transcona Centennial Pool. The construction is envisioned as being constructed in three phases:

Phase I: The renovation and expansion of an exterior pool and associated site work. The design work for this phase is complete and does not form part of this feasibility study.

Phase II: The renovation and addition to the existing pool including an expanded lobby, enlarged change facilities and enhanced support spaces. This phase also includes the expansion of the basement to accommodate the mechanical and electrical equipment for Phases I, II and III.

Phase III: an addition to the building which houses an interior leisure water pool and water features to provide a year round aquatic experience.

The Scope of Work includes:

a) An architectural overview of the current building to ensure it can support the additional space and programs required;

b) A functional review that examines the existing building spaces to determine what additional space is required to meet the functional needs of the City of Winnipeg and the requirements of the current edition of the National Building Code (NBC);

c) Layout and design recommendations for the use of existing spaces in the Transcona Centennial Pool and additions as required;

d) Outline specifications from architectural, structural, mechanical and electrical consultants;

e) A class 'D' Cost analysis for the proposed renovations and additions.

The study was undertaken from March 18th to May 9th, 2014.

The consultant team included:

Prime Consultant:	1x1 architecture inc.
Structural Consultant:	Lavergne Draward & Associates Inc.
Mechanical Consultant:	Nova 3 Engineering Ltd.
Electrical Consultant:	Nova 3 Engineering Ltd.
Cost Consultant:	GWH Construction Management Services

The scope of the work is limited to that portion of the building in which the renovation is being proposed. The City of Winnipeg indicated that the pool area would not be required to be examined for upgrades, with the exception of the addition of exterior glazing and new doors as listed in the report.

1.0 THE PROCESS

The process for meeting with the City of Winnipeg was the following:

Meeting No. 1 - January 25. 2014
PROJECT DESCRIPTION
Prior to project commencement, 1x1 architecture met with City of Winnipeg Representatives and Representatives of McGowan Russell Group for an understanding of the project.

Meeting No. 2 - January 31. 2014
ARCHITECTURAL SITE WALKTHROUGH
Prior to project commencement, 1x1 architecture did a walkthrough of the site to investigate existing site conditions.

Meeting No. 3 - March 27. 2014
SCHEMATIC DESIGN MEETING No. 1
At this meeting, the consultant team met with representatives from the City of Winnipeg Building Committee. The initial design scheme was reviewed.

Meeting No. 4 - April 7, 2014
SCHEMATIC DESIGN MEETING No. 2
At this meeting, the consultant team met with Paul Huntington to review the schematic design.

Meeting No. 5 - April 8, 2014
SCHEMATIC DESIGN PRESENTATION No. 1
At this meeting, the consultant team presented the schematic design to City of Winnipeg Councillor Wyatt and representatives from the City of Winnipeg Building Committee.

Meeting No. 6 - April 11, 2014
BUILDING WALKTHROUGH
At this meeting, the entire consultant team and City of Winnipeg Staff did a thorough walkthrough of the building.

Meeting No. 7 - April 11, 2014
SCHEMATIC DESIGN PRESENTATION No. 2
At this meeting, the consultant team presented the schematic design to Mr. Lawrence Toet, P.C., M.P. House of Commons and City of Winnipeg Councillor Wyatt and representatives from the City of Winnipeg Building Committee.

Meeting No. 8 - April 17, 2014
SCHEMATIC DESIGN PRESENTATION No. 3
At this meeting, the consultant team reviewed schematic design and schedule with members of the City of Winnipeg Building Committee.

Meeting No. 9 - April 28, 2014
SCHEMATIC DESIGN PRESENTATION No. 4
At this meeting, the consultant team reviewed mechanical and electrical schematic design and schedule with representatives from the City of Winnipeg Building Committee.

Participants of the Meetings:

Meeting No. 1
CITY OF WINNIPEG
Jenn Sarna, John Kiernan, Paul Huntington, Rob Loudfoot

McGOWAN RUSSELL GROUP
Susan Russell, Jackie Wilkie

CONSULTANT TEAM
Travis Cooke, Glen Gross

Meeting No. 2
CITY OF WINNIPEG
Jenn Sarna

CONSULTANT TEAM
Travis Cooke

Meeting No. 3
CITY OF WINNIPEG
Paul Huntington, John Atkinson , Norbert Maertins

CONSULTANT TEAM
Travis Cooke, Glen Gross

Meeting No. 4
CITY OF WINNIPEG
Paul Huntington

CONSULTANT TEAM
Travis Cooke, Glen Gross, Jordan Pauls

Meeting No. 5
CITY OF WINNIPEG
City of Winnipeg Councillor Russ Wyatt, Christopher Belanger, Paul Huntington
John Kiernan, Jennifer Hansell

CONSULTANT TEAM
Travis Cooke, Glen Gross, Jordan Pauls

Meeting No. 6
CITY OF WINNIPEG
John Atkinson , Norbert Maertins, Rob Loudfoot, Jenn Sarna, Alan Leitch, Dennis Glowasky, Pool staff

McGOWAN RUSSELL GROUP
Jackie Wilkie

CONSULTANT TEAM
Travis Cooke, Glen Gross, Jordan Pauls, Dan Zilinski, Mike Hollender, Brad Draward

Meeting No. 7
FEDERAL GOVERNMENT
Mr. Lawrence Toet, P.C., M.P. House of Commons and Shawn Nason

CITY OF WINNIPEG
City of Winnipeg Councillor Russ Wyatt, Paul Huntington, John Kiernan

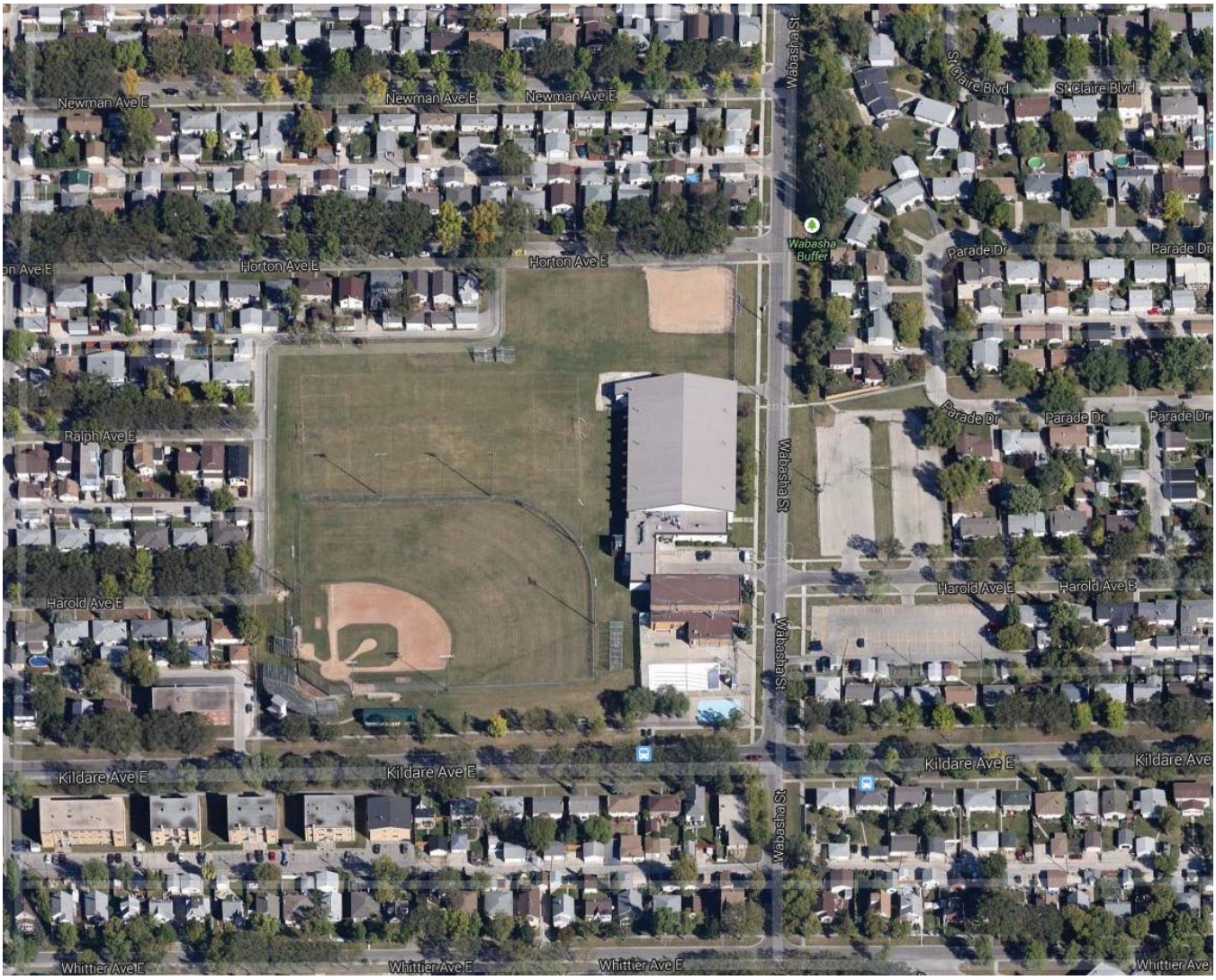
CONSULTANT TEAM
Travis Cooke, Glen Gross

Meeting No. 8
CITY OF WINNIPEG
Paul Huntington, John Atkinson , Norbert Maertins

CONSULTANT TEAM
Travis Cooke, Glen Gross

Meeting No. 9
CITY OF WINNIPEG
John Atkinson , Norbert Maertins

CONSULTANT TEAM
Travis Cooke, Dan Zilinski, Mike Hollender



Above: Aerial view of the Transcona Centennial Pool site
(Image courtesy of Google Maps)

2.0 ARCHITECTURAL BUILDING OVERVIEW

2.1 OVERVIEW

The consultant team conducted a visual review of the Transcona Centennial Pool on January 31, 2014 and April 11th, 2014. On April 11th, City of Winnipeg Personnel provided input to the consulting team regarding the building.

The City provided the consultant team with original design drawings of the Transcona Centennial Pool to assist in developing this report. It is assumed that these documents are accurate.

This assessment focuses only on the architectural assessment of those portions of the building that will be renovated.

The building envelope and roof were not part of the assessment process and are assumed to be in good condition.

A hazardous materials survey did not form part of the assessment.

2.2 SITE AND ZONING

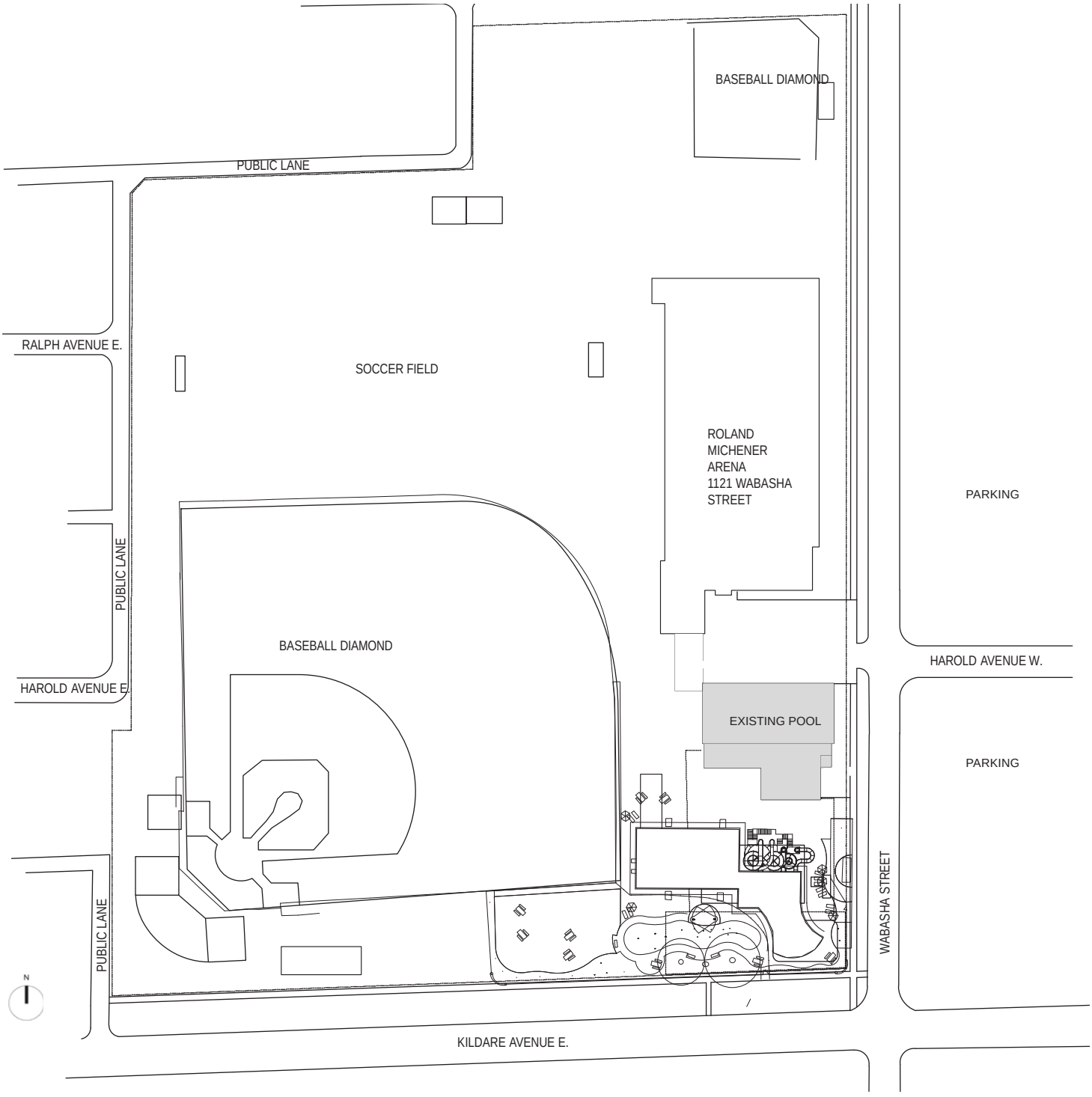
The Transcona Centennial Pool is located at 1101 Wabasha Street. It is surrounded by the Roland Michener Indoor Arena to the north, a baseball field on the west and single family residences on the east. The parking lot across the street to the east serves the Pool.

The zoning of 1101 Wabasha Street is PR3 - Parks and Recreation.

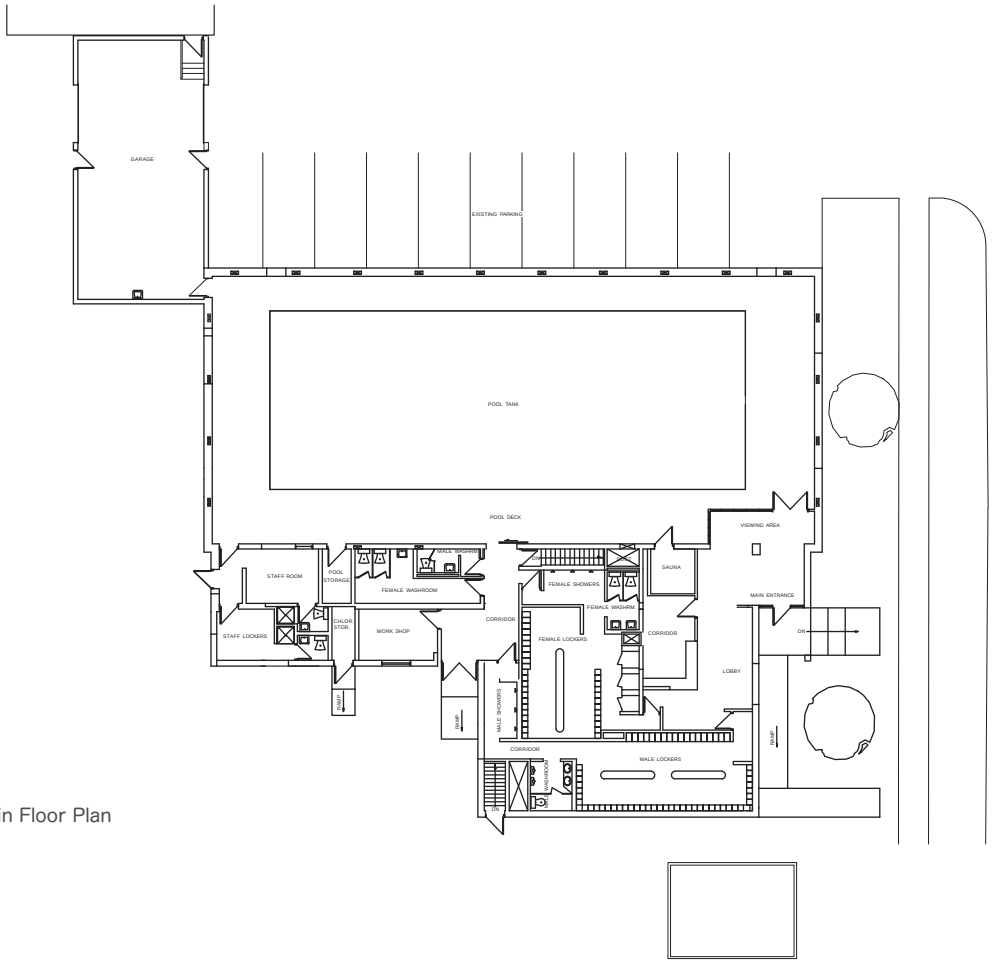
Description of PR3 from the City of Winnipeg website:
This district is intended for sites that include major recreation facilities and parks that are a regional destination. These sites may include major recreational facilities, aquatic leisure centres, regional parks, sport multiplexes and athletic field developments. Parking facilities ranging from 100 to 300+ stalls may be associated with these uses. These facilities are typically found along major arterials.

The Minimum setbacks according to the *City of Winnipeg Zoning By-law No. 200/2006* are:
Minimum Front Yard (Ft.): 20
Minimum Rear Yard (Ft.): 25
Minimum Side Yard (Ft.): 10

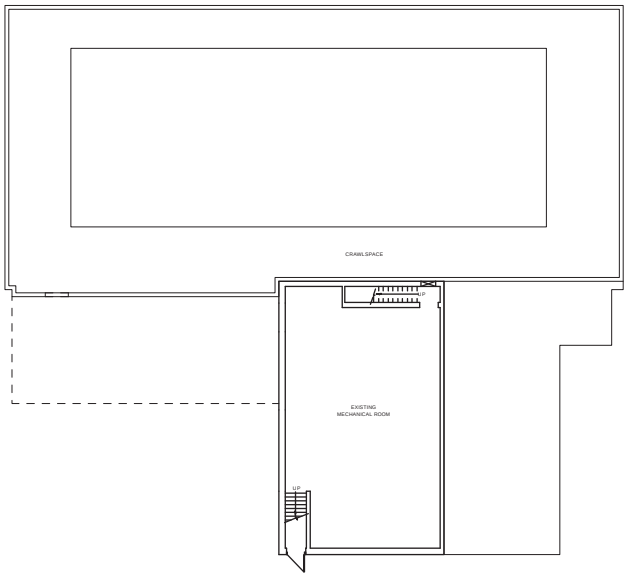
Source: City of Winnipeg website
http://cms00asa1.winnipeg.ca



Above: Existing Transcona Centennial Pool Site Plan



Main Floor Plan



Basement Floor Plan

Above: Existing Transcona Centennial Pool Building Plans
Drawings provided by City of Winnipeg's Municipal Accommodation Division

Above: Exterior view of the pool.

2.3 THE BUILDING

Built in 1967 as a Centennial project, the 8,500 sq. ft (main floor) facility houses a 2,550 sq. ft. pool that serves the Transcona community and surrounding area. All the amenity spaces in the building are associated with the pool, including change facilities, washrooms and staff associated areas.

The original architectural drawings dated March 31, 1967 do not show the current area of female washroom, staff room and pool storage (shown in plan on opposite page) as constructed in 1967. However, one structural drawing from the 1967 package indicates this was part of the construction. It is unknown if this portion of the building was original to the building.

The portion of the building labelled as staff lockers, chlorine storage and work shop was constructed as an addition in 1976.

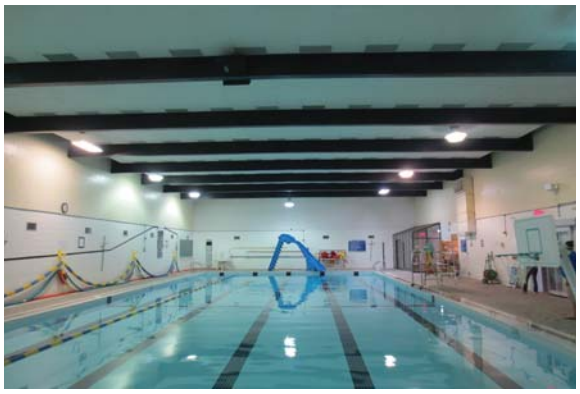
The storage garage to the north west of the pool deck was constructed in 1977. This garage is also accessible to the Roland Michener indoor arena to the north.

The building has a basement, roughly 1,400 sq. ft., that houses the mechanical and electrical equipment for the facility. A crawlspace, that runs around the perimeter of the pool, was not accessed for this report.

The building is not equipped with an elevator.

The existing roof structure consists of glulam beams with wood decking that is exposed to the underside in most areas. This construction is typical of the entire pool.

The walls are typically constructed of 8” or 10” painted concrete block. Typically, the exterior walls are clad in a 4” masonry veneer. Their is minimal articulation on the exterior with the exception of some intricate detailing at the upper level of the pool volume. The masonry for the building additions completed in 1976 and 1977 do not match the original masonry on the building.



Above: Interior view of the pool.

Pool Deck

The Pool deck area houses a roughly 2,550 sq. ft. pool. The interior walls are concrete block and the ceiling is finished with a sound absorptive ceiling panel which does not appear to be original to the building. The space feels very utilitarian. Personnel from the City of Winnipeg recommended that the study should investigate incorporating natural light into the space.

The pool deck area has a crawlspace underneath that houses the Heating, Ventilation and Air Conditioning (HVAC) which is concealed in the exterior wall. This routing will need to be considered for any new openings in these walls.

City of Winnipeg personnel did not indicate any issues with the Pool itself or the pool equipment, thus the pool itself was not considered for upgrades during this study.

Lobby
The lobby space, located at the east end of the building, is not very inviting, has minimal natural light and is not very generous. The lobby size will not be sufficient for an increase in capacity of occupants anticipated to attend the facility with the increased programming in Phase I and III.

The reception desk does not meet current barrier free standards. It would be recommended that any development in the lobby space should consider providing a new reception desk that meets current City of Winnipeg Accessibility Design Standards and NBC requirements.

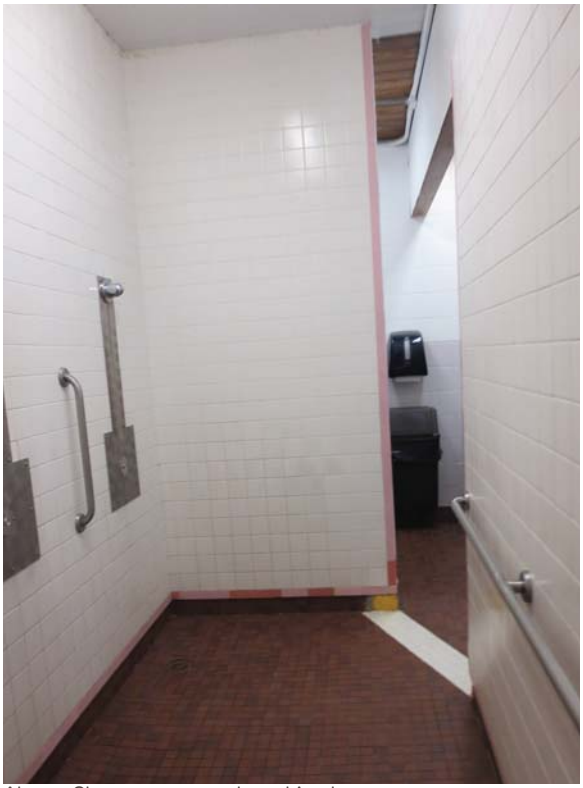
The viewing area to the north of the lobby appears to be a renovation to the original building. It contains a small glassed in area looking into the pool deck area. The area is in the corner of the pool, which is not ideal, however the planning of the pool does not lend itself well for patrons to access the middle of the pool.

Above: Lobby space

Changing Facilities
The male and female change rooms house washroom facilities, locker changing areas, hair drying areas and shower stalls. The female change room also has three private change booths.

The change rooms are constructed of concrete block wall, tile flooring and exposed wood ceiling.

The washrooms, showers, corridors and entrances will not meet current National Building Code requirements for barrier free access. The spaces are extremely tight and with the introduction of new occupants, a full re-design of these areas will be required.


Above: Shower space and combined corridor

Public Washrooms
The washrooms, will not meet current National Building Code requirements for Barrier Free access. The spaces are extremely tight.

Consideration should be given to washroom facilities outside the change room facilities for patrons of the facility.

Instructor Office (staff room on plan)
The Instructor guard area allows staff to monitor the pool area. The space is immediately accessible from the Pool deck area and has windows to the pool deck allowing the supervisor opportunity to monitor to pool deck. The space has a bench which is utilized as a first aid area. A small kitchenette complete with fridge is also in the space. The combination of a staff kitchenette with the first aid area is not an ideal relationship. A washroom and shower is also located off the space.

Staff Locker Area
The locker area has an area for lockers and room for miscellaneous storage. There is a washroom and shower off the space.

WorkShop (office)
This area functions as an office for City of Winnipeg personnel. It was recommended that any renovation should consider maintaining a room for this use.

Above Top: Tight corridors in female change room

Above: Basement mechanical room

Storage Area and Chlorine Room

The storage and chlorine rooms are required for the basic functions of the pool. These spaces are required and if any modifications are proposed in this area, the space will be required to be replaced with a space of equal size and similar relationship to the pool.

An inventory of finishes in this room was not conducted.

Sauna

The City of Winnipeg indicated that the sauna is fully operational.

Storage Room

There is a storage room located in the Northwest corner of the building. This portion of the building was built in 1977 and is also connected to the Roland Michener Arena. This area houses storage cabinets for chemicals as well as a storage space for miscellaneous equipment. It also serves a space for City staff to do repairs on outdoor furniture, equipment etc. Section 2.4 of this document indicates potential National Building Code issues related to this area.

Basement

The 1,400 square foot basement sits under a portion of the change room facilities. The room houses the mechanical and electrical equipment for the building and indoor pool. The space is accessed via two stairs, one that enters from the interior of the building and one that leads directly outside. It would be recommended that both stairs lead directly to an exterior exit in case of fire. It appears that one of the stairwell walls was modified to move equipment down to the basement.

2.4 BUILDING CODE AND LIFE SAFETY

The following is based on the National Building Code of Canada (NBC) 2010 including Manitoba Amendments. The building classification is Group A, Division 3.

Although a full building code review on the entire facility was not completed, some significant Building Code issues should be noted:

Means of Egress

Upon initial review, it appears there are non-conforming issues with respect to egress from the basement. There are two stairs that lead from the basement, however one of the stairs exits into the pool area, not to the exterior. The exit stair that does exit directly to the exterior may not meet current code conditions in terms of rise/run and landing requirements. This feasibility study does not remedy this stair condition, thus it would be prudent to review this stair condition with the Authorities Having Jurisdiction (AHJ).

Barrier Free Design

Considering the building was constructed in the 1960's, the facility does not meet numerous barrier free standards as outlined in Section 3.8 of the National Building Code . Specific areas that are not deemed satisfactory would be the entrance, the change facilities and washrooms. Refer to Section 2.5 of the report for further analysis of accessibility design issues.

Exiting from Pool Deck

Considering the occupant count in the Pool Deck area, the exit doors are required to swing in the path of travel. The existing door configuration is, therefore, non-conforming.

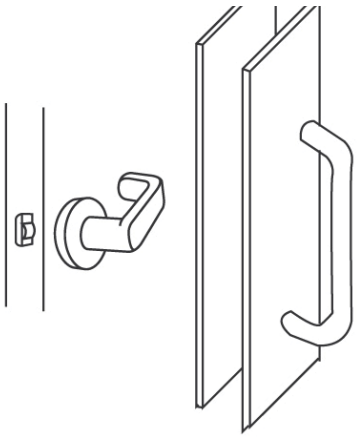
Washroom

The washroom layout does not meet current spatial requirements needed for the current edition of the National Building Code. As well, Barrier free washrooms are not provided in the facility.

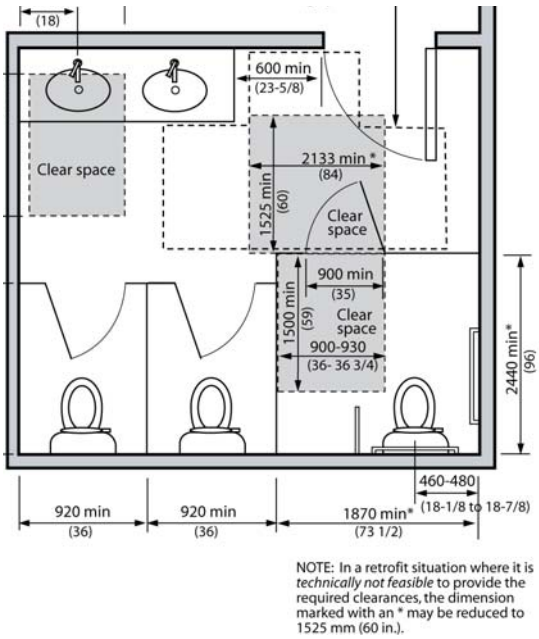
Storage Building

The storage building constructed to the North west of the facility in 1977 connects the Roland Michener Arena with the pool building. It is unknown whether the Authorities Having Jurisdiction considers the arena, pool and storage facility as one building as a result of this connection. This should be examined in more detail and reviewed with the AHJ. If the AHJ deems the entire complex as one building, there may be significant NBC issues that need to be reviewed, including sprinklering and washroom count. Should this building remain and a substantial renovation/ addition to the pool move forward, consideration of a firewall may be prudent. This area requires further investigation with the AHJ during design development.

Above: Interior of storage building looking towards the door leading to the Roland Michener Arena



Examples of Accessible Hardware
(*2010 City of Winnipeg Accessibility Design Standard*).



Required Washroom Dimensions.
(*2010 City of Winnipeg Accessibility Design Standards*)

2.5 ACCESSIBLE DESIGN

Due to the age of the facility, there are numerous shortcomings with respect to barrier free design within the building.

A preliminary review of the building using the 2010 City of Winnipeg Accessibility Design Standards (CWADS) has revealed numerous shortcomings in achieving a facility that is universally accessible.

Entrance
The approach to the building has a ramp to the building and would not meet the intent of the CWADS. The handrails should be brought up to current CWADS requirements.

Door Hardware
The door hardware throughout the facility, in most cases a doorknob, does not comply with the requirement that such devices “not require fine finger control, tight grasping, pinching or twisting of the wrist to operate”.

Reception Desk
The reception desk in the lobby is not equipped with a lower section of counter as required by the CWADS.

Washrooms
The multi-stalled washrooms in the entire facility have numerous deficiencies that do not meet the CWADS. CWADS also requires that at least one universal washroom be provided in a public area of all public buildings. Given the large area requirements for accessible washroom facilities and the limited space currently available, it would not be possible to meet the requirements of the CWADS in the existing change room washrooms.

3.0 PHASE I

3.1 EXTERIOR IMPROVEMENTS

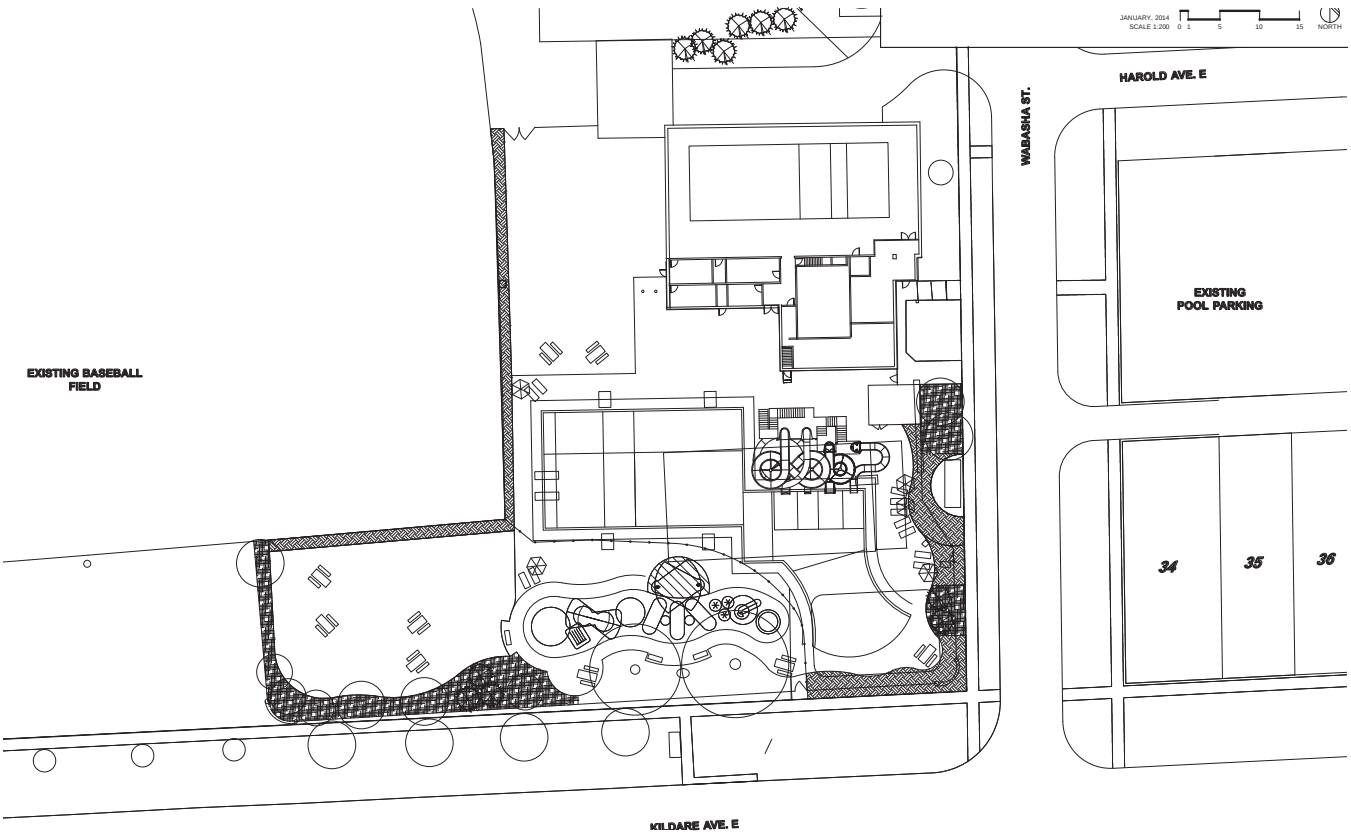
McGowan Russell Group has been previously engaged to provide documentation for a design-build RFP for extensive improvements to the outdoor pool. The design and costing for this phase is outside the scope of work for this report, however significant building upgrades are required for this phase of development to occur, including the following:

·physical space for the required mechanical equipment associated with the exterior pool;

·upgrade of the electrical system for the building;

·the required washroom / shower count associated with the new bather load for the exterior pool will need to be increased as per *Swimming Pool and Other Water Recreational Facilities Regulation Regulations* provided by The Public Health Act. Considering the bather load for the existing pool and Phase I development, the washroom count will be required to be increased to 6 water closets, 3 lavatories and 5 shower stalls for each sex.

Below: New exterior pool conceptual design as of January 2014. Image Courtesy of McGowan Russell Group



4.0 PHASE II

4.1 ARCHITECTURAL DESIGN RECOMMENDATIONS

Refer to Drawings and Specifications in Appendix for all work associated with Phase II.

Pool Deck

Although the Pool Deck finishes did not form part of the scope for the report, some improvements in the Pool Deck area should include:

- large amounts of glazing on the east side of the building for the introduction of natural light into the space (Alternatively, clerestory windows could be installed at high level around the pool volume);
- improved exiting from the space.

Note: For the purpose of this study, curtainwall glazing on the east side of the pool was considered. This provides a vast amount of natural light into the pool as well as a visual connection from inside the pool from the street.

Lobby

Significant improvements in the lobby space should be considered:

- a larger lobby to accommodate the increased users of the facility;
- a lobby that is more inviting with sufficient natural light;
- an improved front entry that will enhance first impressions of the facility;
- a ramp and entry that meets the NBC and CWADS requirements;
- a valuables locker area.

Reception

Improvements for the reception area should consider:

- space for two receptionists;
- a reception desk that meets the 2010 City of Winnipeg Accessibility Design Standards;
- access to a 'safe room' for the purposes of end of day cash out.

It is recommended that staff be consulted in the detailed design of this area for specific user requirements.

Viewing Area

Improvements for the viewing area should consider:

- Providing a space closer to the middle of the pool to act as a viewing area.

Note: Further exploration could be considered if the City of Winnipeg wishes to relocate the viewing area. The results of the attached schematic design did not address this consideration.

Change Room Facilities

Significant Improvements in the Change Room facilities should consider:

- upgrade washrooms and provide increased water closet count to meet NBC requirements and Manitoba Health Requirements;
- upgrade showers and provide increase shower count to meet Manitoba Health Requirements;
- providing full and half height lockers as required by the City of Winnipeg (It is recommended that staff be

consulted in the quantity and selection of the lockers);
- provide a family change area dedicated to families and for persons with special needs;
- provide enclosed change areas in the female washrooms;
- provide hair drying stations;
- provide benches;
- The design of the locker area should consider an open floor plan that would allow supervision of the space to reduce theft concerns.

Family / Speciality Change Room

The introduction of a family / speciality change facility should be considered as part of the renovation. The design should consider:

- 2 universal washrooms and shower areas which meets the City of Winnipeg Accessible Design Standards;
- provide full and half height lockers as required by the City of Winnipeg (It is recommended that staff be consulted in the quantity and selection of the lockers);
- showers similar to those in the change room facilities;
- provide enclosed change areas;
- provide hair drying station;
- provide benches.

Office

Requirements for the Instructor Guard area should consider:

- Providing space for staff to do paper work;
- Visual access to pool is not required.

Staff Room

Requirements for the Staff Room area should consider:

- provide a small kitchennete;
- provide lockers for staff (It is recommended that staff be consulted in the quantity and selection of the lockers);
- provide staff showers and washrooms.

It is recommended that staff be consulted in the detailed design of this area for specific user requirements.

Supervisor Room

Requirements for the Supervisor Room area should consider:

- provide space for one or two personnel;
- visual access to pool is required.

First Aid Room

The existing facility does not have a dedicated first aid room, however this should be considered for any future development of the facility, and should consider:

- provide direct access from the pool deck is preferred;
- provide sink and bench;
- consideration should be given to locate this space with location of emergency vehicles arriving to site.

Storage

Requirements for the Storage area should consider:

- provide space for chemical storage;
- provide space for pool storage;
- provide space for outdoor pool storage.

It is recommended that staff be consulted during design development for space requirements for permanent storage, chemical storage, exterior pool storage and interior indoor pool storage.

Basement
Requirements for the basement should consider:
- provide space for mechanical and electrical equipment for Phase I (new exterior pool)
- provide space for mechanical and electrical equipment for Phase II (main floor renovation and addition)
- provide space for mechanical and electrical equipment for Phase III (Water Leisure Pool addition)
- provide two means of egress from space;
- provide space for permanent storage (as required);
- provide a stair with an appropriate width for moving mechanical and electrical equipment

4.2 ARCHITECTURAL DESIGN CONSIDERATIONS

Due to the preliminary nature of the feasibility study, some conditions will require further exploration as detailed design continues, some consideration should be:

Manitoba Health Requirements - Water Closet Count
The design of the facility will be required to meet the *Swimming Pool and Other Water Recreational Facilities Regulation Regulations* provided by The Public Health Act.

As per correspondence with Greg Marsh, the Recreational Water Specialist with Manitoba Health, the following requirements will be required as per Provincial regulations:

Section 14 (1)
Maximum bathing load computation
14(1) The maximum bathing load in a swimming pool or other water recreational facility other than a whirlpool or a wading pool, shall not exceed one person for each 1.5 m2 of water surface area of the swimming pool or other water recreational facility or the maximum design bathing load for the water recirculation system of the swimming pool or other water recreational facility, whichever is less.

25(2) For public swimming pools where the maximum bathing load exceeds 600, the operator shall provide one water closet or equivalent, one shower and one hand basin for each gender for each additional 150 bathers or portion of that number.

Therefore the bathing loads for the entire site are as follows (Note that the areas of all the water surface are approximate and should be confirmed once design is finalized):

Existing Pool: 238 sq.m = 158 Bathers maximum

New Exterior Pool: Area to be confirmed
632 sq. m. = 421 Bathers maximum

Phase III Pool: Area to be determined
227 sq. m. = 151 Bather Maximum

Thus the Bather Load for the entire site is 730 bathers.

According to Schedule D, the sanitary facilities required are as follows:

Water Closets:	Male:	7
	Female:	7
Hand Basins	Male:	4
	Female:	4
Showers	Male:	7
	Female:	7

SCHEDULE D
(Section 25)

SANITARY FACILITIES FOR PUBLIC SWIMMING POOLS

Maximum Bathing Load	Showers for Each Sex	Water Closets Male	Water Closets Female	Hand Basins for Each Sex	Urinals
1 - 99	1	1	1	1	0
100 - 199	2	1	2	1	1
200 - 299	3	1	3	2	2
300 - 399	4	2	4	2	2
400 - 499	5	2	5	3	3
500 - 600	6	3	6	3	3

Above: Sanitary Facilities requirements for Public Swimming Pools from *Swimming Pool and Other Water Recreational Facilities Regulation Regulations*

As well, sanitary facilities will be required for spectators according to section 25 (3):

25(3) In addition to meeting the requirements of subsections (1) and (2), the operator of a public swimming pool shall
(a) ensure that the sanitary facilities provided for bathers are not accessible to spectators; and
(b) provide separate sanitary facilities for spectators and auxiliary areas in addition to those provided for bathers

In determining the Occupancy of the building as defined by the National Building Code, the Bather Load for the two indoor pools has been utilized, not the bather load for the exterior pool. Should the Authorities Having Jurisdiction require the Occupant Load of the building be determined by the entire site, then the washroom count for the facility will be required to be greatly increased. Refer to Table 3.7.2.2.A in the National Building Code.

For the purpose of the study, it is assumed that the occupant load in the lobby space, pool deck and change facilities are within the bather load calculations. It was also assumed that the maximum staff in the facility would be 15. The occupant load of Phase II and III would be:

Existing Pool:	158
New Interior Pool:	151
Staff:	15
Total:	324

Thus the number of persons of each sex is 162. According to the NBC, the washroom requirement:

Male:	4
Female:	7

Note: For the purpose of the study, McGowan Russell Group indicated that 4 showers were going to be constructed on the exterior of the building, thus it is assumed that only 5 showers per sex need to be constructed on the interior of the facility.

It is recommended that the Authorities Having Jurisdiction be consulted early in design development in consideration of determining the occupant load of the building.

Table 3.7.2.2.A.
Water Closets for an Assembly Occupancy
Forming Part of Sentence 3.7.2.2.(6)

Number of Persons of Each Sex	Minimum Number of Water Closets	
	Male	Female
1 - 25	1	1
26 - 50	1	2
51 - 75	2	3
76 - 100	2	4
101 - 125	3	5
126 - 150	3	6
151 - 175	4	7
176 - 200	4	8
201 - 250	5	9
251 - 300	5	10
301 - 350	6	11
351 - 400	6	12
Over 400	7, plus 1 for each additional increment of 200 males in excess of 400	13, plus 1 for each additional increment of 100 females in excess of 400

Above: Water Closet requirements for Assembly Occupancy (2010 National Building Code of Canada)

Zoning

Due to the tight constraints of the site and the recommendation to expand the lobby space, the proposed design exceeds on the required City of Winnipeg set-back requirements. Prior to proceeding with design, it is recommended that a variance be explored and applied for with the City of Winnipeg to allow the new entry and lobby space to encroach on the required set back.

Roland Michener Arena

At the time of the feasibility study, it appeared the Roland Michener Arena was for sale by the City of Winnipeg. It is unknown at this time if this building will be sold to a private developer or be maintained under City of Winnipeg ownership.

Currently, documentation provided by the City indicates that the Arena and pool are on the same property. Should the City of Winnipeg sell the arena building, creating a separate property, new restrictions may apply to the Pool property. This may include the use of the parking lot to the North of the pool, use of the attached storage garage and

the proximity in which a new addition can be built to the property line.

Consideration of the sale and development of this site should be considered during design development.

Storage Building

The storage garage located in the north west corner of the pool was constructed in the late 1970's. The building physically connects the Transcona Centennial Pool with the arena. It is unknown if the Authorities Having Jurisdiction recognise the entire complex, in terms of Building Code, as one building. If it is deemed one building, this may have a significant impact on the requirements for the renovation and addition. The entire complex may be required to be sprinklered (Access to the arena was not provided, thus it is unknown if it sprinklered). It is recommended that a proper analysis of this condition take place and discussion with the Authorities Having Jurisdiction occur early in the next stage of design development.

Parking Lot

A review of the parking lot was not conducted. Zoning requirements may affect the amount of parking required with increased user capacity in Phase I development. It is also unknown if the parking lot across the Roland Michener Arena is for sale along with the building or if this parking lot will remain the property of the City of Winnipeg for pool parking purposes.

Mechanical Building for the Spray Pad

A building having mechanical services was built to the south east corner of the Pool building that serves the outdoor spray pad. The building is sited in such a way that it impedes on both the exterior development and potential expansion opportunities for the building. Consideration should be given to relocate this equipment to the basement of Phase II development. Although this is an additional cost that was not explored in this study, the benefits of relocating the equipment and removing the building would greatly impact the site and the presence of the pool to the street.

Above: Mechanical Building for the exterior SprayPad

Mechanical Building for the New Pool

The mechanical equipment for the exterior pool will be by a design-build process. The exact spatial requirements for this work will not be known until the design is complete. The basement spatial requirement should be reviewed once the requirements are fully known.

Exterior Pool Plan

The exterior pool design was completed by the McGowan Russell Group. This project will be issued as a Design-Build for construction. The design of Phase I, the outdoor pool, is outside the scope of this feasibility study. This feasibility study utilized the information provided by the McGowan Russell Group.

It should be noted that the preferred exiting condition from the change facilities to the exterior pool would be for the users to enter into the shallow end of the pool. The current layout is such that patrons will immediately approach the deep end of the pool upon leaving the change facilities.

Existing Stair to Basement

The existing stair to the basement that leads to the exterior of the building is steep and does not meet current National Building Code requirements. In this study, a new separate stair is recommended which would be an appropriate width for the moving of mechanical equipment, thus the existing stair would be solely used as an emergency exit. This situation should be reviewed with the Authorities Having Jurisdiction.

Basement Size

For this purpose of this study, specific spatial requirements to accommodate Phase II and III are not known. Some assumptions were considered in allocating a square footage for the basement:

- all mechanical equipment would be housed on the interior of the building. Rooftop equipment is not preferred.
- the existing basement is roughly 1,400 sq. ft. and provides spatial requirements for the mechanical and electrical equipment for the 8,500 sq. ft main floor and existing pool;
- the building addition for Phase II and III is roughly 9,000 sq. ft. complete with a pool and water features, thus an estimated 1,400 sq. ft space was allocated for the mechanical and electrical requirements for this space;
- 600 sq. ft. space was allocated for the mechanical and electrical equipment for Phase I of the project;
- 400 sq. ft. space was allocated for storage.

As the design of the mechanical and electrical systems are refined, the spatial requirements of the basement should be reviewed. If the spatial requirements could be reduced, some basement area could be replaced with a structural floor slab as per the remainder of the project.

Hazardous Material

An assessment of hazardous material was not conducted as part of this feasibility study. Should hazardous material be present in the facility, costs associated with their removal should be considered. Given the vintage of this facility, we anticipate that hazardous materials may be present.

Above: Stair to Exterior from basement

4.3 DESIGN

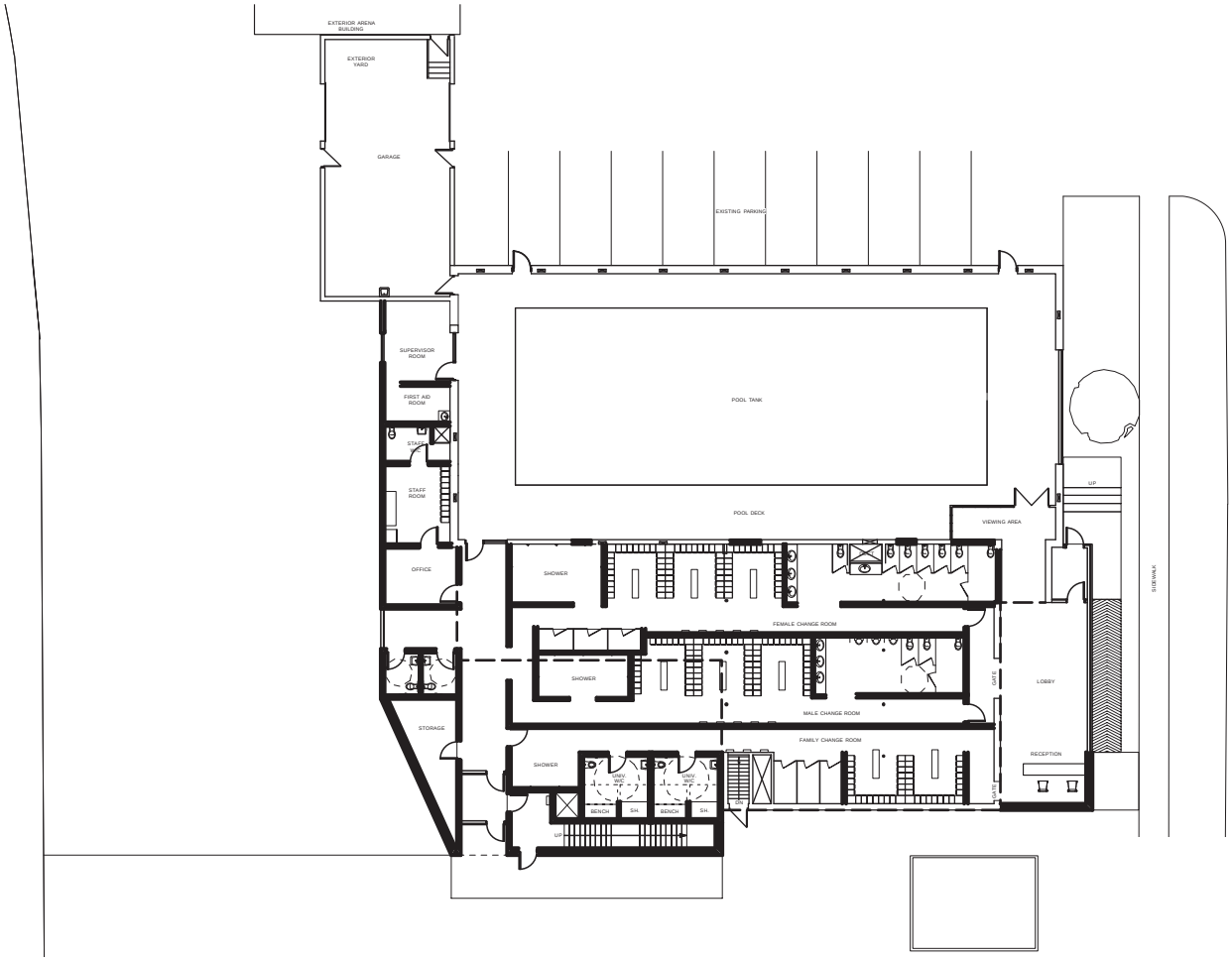
The design provides a new, more functional lobby space with an abundance of natural light through glazing on the east facade. This will be the new face for the building on Wabasha Street. New glazing in the Pool deck area will create a strong visual connection from the exterior of the pool with the interior, while allowing an abundance of natural light into the pool deck.

The change facilities have been redesigned with the inclusion of a family change area. This change area will include change facilities for persons with special needs. As one exits the change facilities, the single corridor leads the user to either the indoor pool or exterior pool. This will also be the future connection to the water leisure pool. This corridor becomes the hub of the building as it also contains a set of washroom facilities that can be utilized by users of both the interior and exterior pool without having to return to the change facilities.

Staff amenity spaces are situated on the east end of the pool.

The basement (refer to appendix) is enlarged to house the mechanical and electrical equipment for Phase I development and for future Phase III development.

Below: Phase II Building Addition. Refer to appendix for full plan.
Next page: Rendering showing Phase II, showing new lobby space.




TRANSCONA KINSMEN CENTENNIAL POOL

5.0 PHASE III

5.1 ARCHITECTURAL DESIGN RECOMMENDATIONS

Refer to Drawings and Specifications in the Appendix for all work associated with Phase III.

Water Leisure Pool

The addition of the Water Leisure Pool should include:

- a 4,500 - 5,000 sq. ft space;
- a beach entry water leisure pool with a maximum depth of 20" - 22" to accommodate swimming lessons;
- water features ('toys');
- a mechanical system for the pool should be separate from the existing pool system;
- temporary storage cubbies;
- a space that could be interconnected with the Phase I exterior pool.

Note: For the purposes of this study, water features were selected by City of Winnipeg personnel. It would be recommended that, during design development, a pool design consultant be engaged to assist in the pool design features.

Multi-Purpose Room

For the purposes of this study, a multi-purpose room was not included as a programmatic request. It would be recommended that, during design development, the inclusion of this type of room be considered.

Storage

- provide space for storage as required.

Access

- provide physical access from the storage area to the exterior pool for transfer of chemicals and equipment.

5.2 ARCHITECTURAL DESIGN CONSIDERATIONS

Roof Height

The attached design shows a new pool addition that is higher than the existing pool. A detailed exploration of the snow shadow load on the existing pool was not conducted. It may be required that the Phase III roof line be the same height of the existing building, eliminating the potential requirement to reinforce the existing roof.

At this point in design, the full extent of the water leisure pool was not known, thus a higher roof provided more opportunities for the water leisure pool, such as slides etc. If this height is not required, the roof height could be reduced.

Water Leisure Pool Features

The attached design for the water leisure pool was not explored in great depth. It is recommended that as the project moves forward in design development, the assistance of a pool design consultant be considered for this area in selection of the features etc.

Water features, as selected by the City of WInnipeg, were provided to give an order of magnitude for the project. This should be re-considered once the project moves forward.

5.3 DESIGN

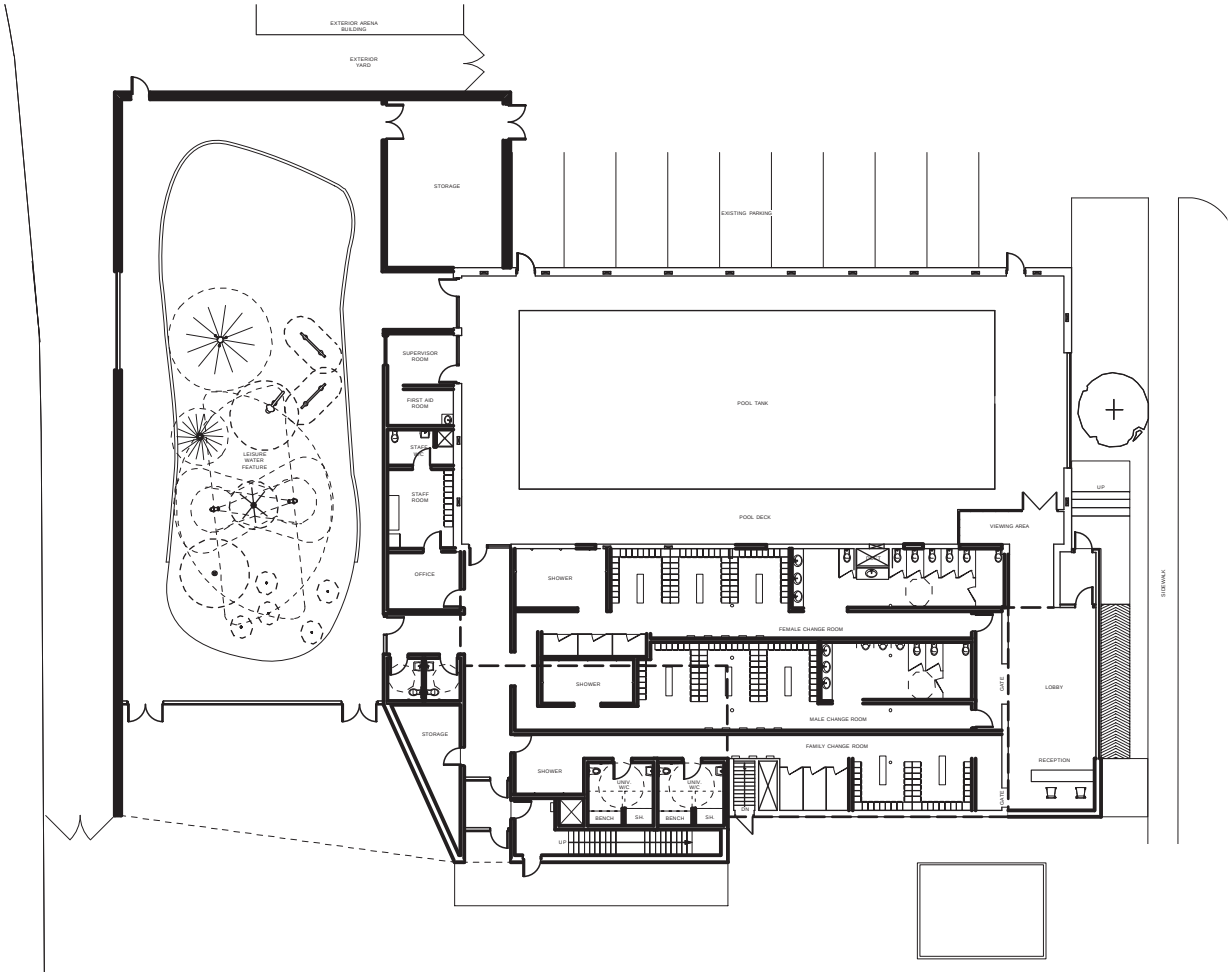
Phase III includes a roughly 5,000 sq. ft. addition with a water leisure pool and 600 sq. ft. storage area to replace the existing garage. The addition will provide a strong visual connection with the new exterior pool completed in Phase I.

The striking new form will be constructed with steel columns, glulam beams and a solid wood decking roof structure to match the existing building. The roof will overhang the south facing exterior sitting area. Floor to ceiling curtainwall glazing is envisioned on the south facade, providing a strong visual connection to the exterior pool. A connection to the existing interior pool is provided.

The covered exterior deck on the south side allows parents to take a reprieve from the interior of the spray pad or allow them to view the exterior pool in shade.

Exterior access from the storage area to the existing pool deck is provided on the east side of the building.

Below: Phase III Building Addition. Refer to appendix for full plan.
Next page: Rendering showing Phase III.



6.0 COST ESTIMATE

Refer to the Appendix for the Class 'D' cost estimate breakdown. The following outlines construction costs:

The Class 'D' construction cost estimate is indicated as $3,115,001.00 for Phase II and $3,574,704.00 for Phase III. This includes a design contingency of 15%. The accuracy of this estimate at level 'D' should range between -20% to +20%.

Cost Breakdown
The construction cost is broken down into two phases as per the drawings and specifications. Should the projects proceed simultaneously, it would be anticipated that some cost savings in the General Requirements category should be expected.

Escalation Factor
Phase II: An escalation factor has not been included for Phase II.
Phase III: An escalation factor of 8% for construction to commence in September 2016 was included in the construction cost estimate. Should this work commence earlier or later, the escalation factor should be revised to suit.

Exclusions:
The following items are not included in the construction cost estimate and should be included in the overall project costs if required:
- consultant fees including, but not limited to, Architectural, Structural, Mechanical, Electrical and Environmental;
- costs of variance applications as required,
- costs of asbestos or other hazardous materials removal if required;
- relocation of existing facilities, including furniture and equipment;
- cost of new furniture and equipment;
- special audio, visual, security equipment;
- window treatments;
- geo-technical report and survey;
- City of Winnipeg Overhead and Project Administration costs;
- GST.

Schedule:
The cost consultant indicates a 10 month construction schedule for Phase II and 10 month construction schedule for Phase III.

NOTE:
The cost estimate does not include any significant work to the swimming pool area or crawlspace except as outlined in the report. If the Authorities Having Jurisdiction require any work related to this or upgrades to the storage building during Phase II, the costs of this work should be considered. Mechanical renovations and new construction as described is based on non-invasive site evaluations and unverified drawings.

7.0 APPENDICES

· Architectural and Structural Drawings

A1	Existing Site Plan
A2	Phase II Demolition Plan
A3	Phase II Main Floor Plan
A4	Phase III Demolition Plan
A5	Phase III Main Floor Plan
A6	Phase II & III Basement Floor Plan
A7	Phase II & III Roof Plan
A8	Phase II & III Elevations
A9	Phase II & III Elevations
A10	Phase II & III Site Plan
S1	Foundation & Main Floor Framing Plan
S2	Roof Framing Plan

· Architectural Outline Specification

· Structural Outline Specification

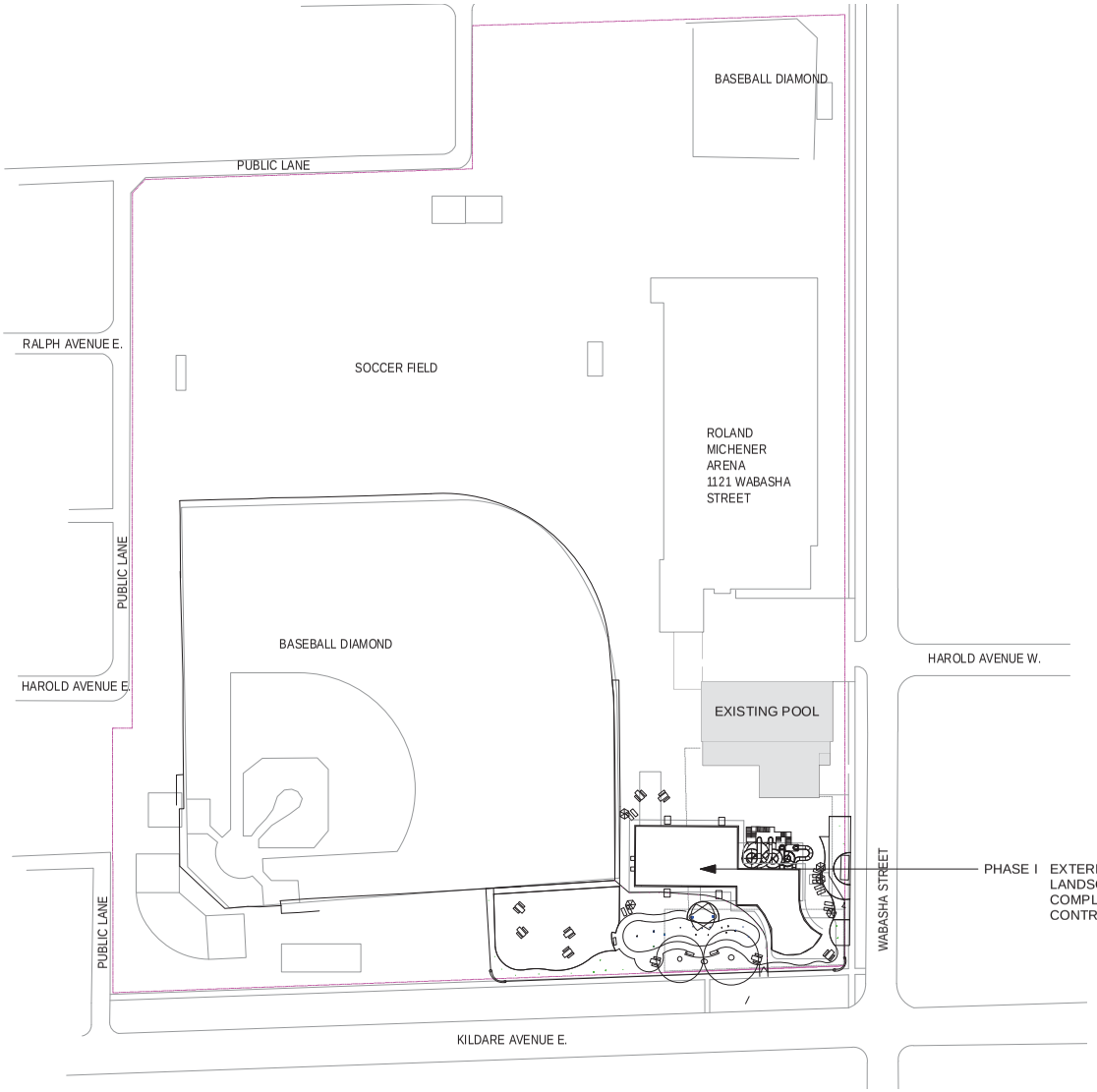
· Mechanical Outline Specification

· Electrical Outline Specification

· Water Spray Pad Features

· Cost Estimate Cover Letter

· Cost Estimate Breakdown



EXISTING SITE PLAN

A1

Transcona Centennial Pool Feasibility Study
SCHEMATIC DESIGN
April 30. 2014

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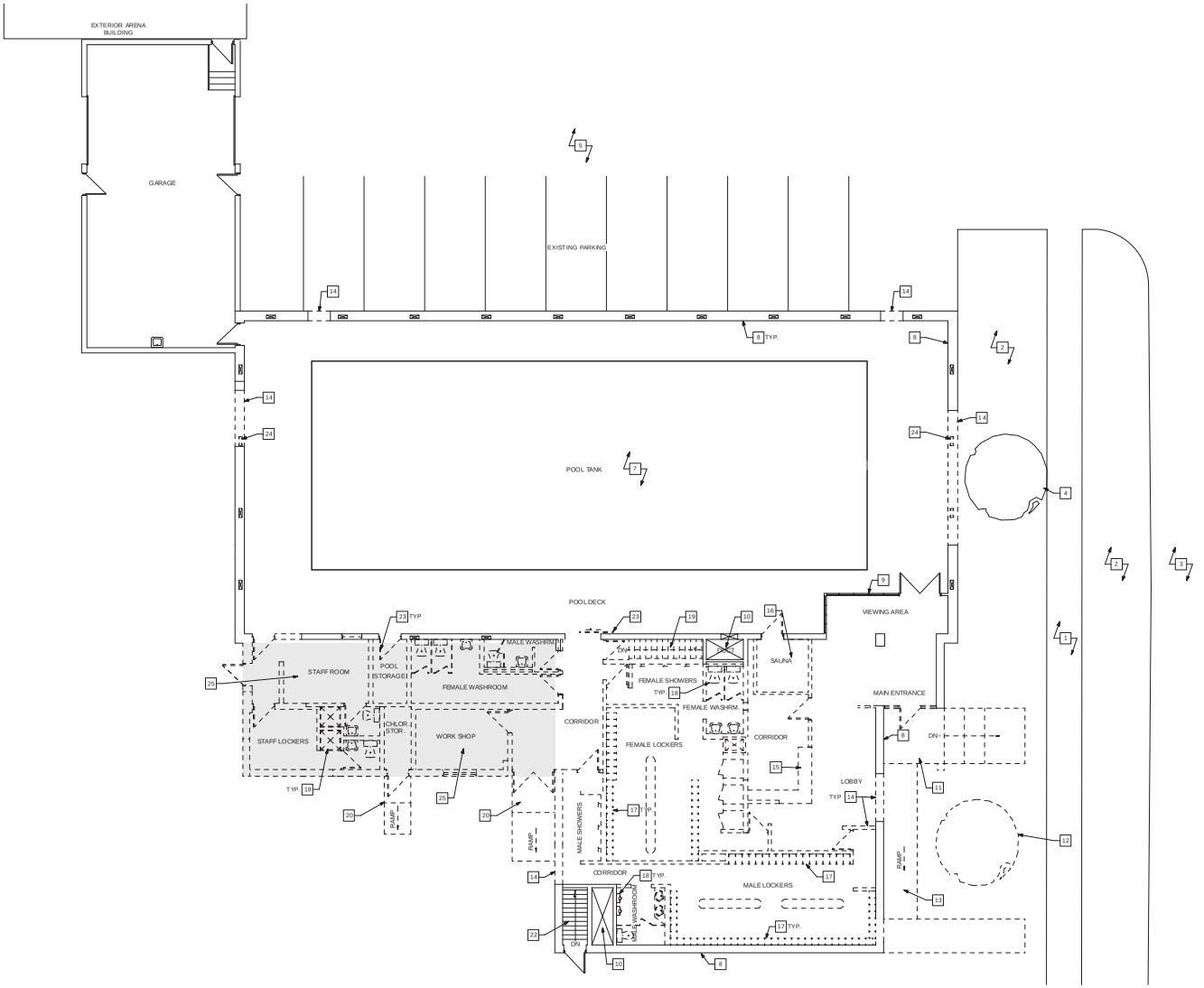
LEGEND

- EXSITING WALL TO REMAIN
- NEW WALL
- EXSITING WALL TO BE DEMOLISHED
- EXSITING DOOR TO REMAIN
- NEW DOOR
- EXSITING DOOR TO BE DEMOLISHED

KEYNOTES

1. EXSITING SIDEWALK TO REMAIN
2. EXISTING GRASS TO REMAIN
3. EXISTING STREET TO REMAIN
4. EXISTING TREE TO REMAIN. PROVIDE PROTECTION DURING CONSTRUCTION
5. EXISTING PARKING LOT TO REMAIN
6. EXISTING BUILDING TO REMAIN
7. EXISTING POOL TANK TO REMAIN
8. EXISTING WALL TO REMAIN
9. EXISTING GLASS WALL TO REMAIN
10. EXISTING MECHANICAL CHASE - REFER TO MECH.
11. DEMOLISH EXISTING EXTERIOR CONCRETE PAD AND STAIRS
12. EXISTING TREE TO BE REMOVED BY OWNER - REFER TO CASH ALLOWANCE
13. DEMOLISH EXISTING RAMP
14. DEMOLOISH EXISTING WALL
15. DEMOLISH EXISTING RECEPTION DESK
16. EXISTING SAUNA
17. DEMOLISH EXISTING LOCKERS - RETURN TO OWNER.
18. DEMOLISH EXISTING PLUMBING FIXTURES - REFER TO MECH
19. DEMOLISH EXISTING CONCRETE STAIRS
20. DEMOLISH EXISTING CONCRETE RAMP/CURB
21. NOT USED
22. EXISTING STAIRS TO REMAIN
23. DEMOLISH EXISTING DOOR
24. DEMOLISH EXISTING MECHANICAL VENT - REFER TO MECH.
25. DEMOLISH EXISTING CONCRETE FLOOR STRUCTURE,PILING AND ROOF IN SHADED AREA



PHASE II
DEMOLITION PLAN
SCALE 1:200

A2

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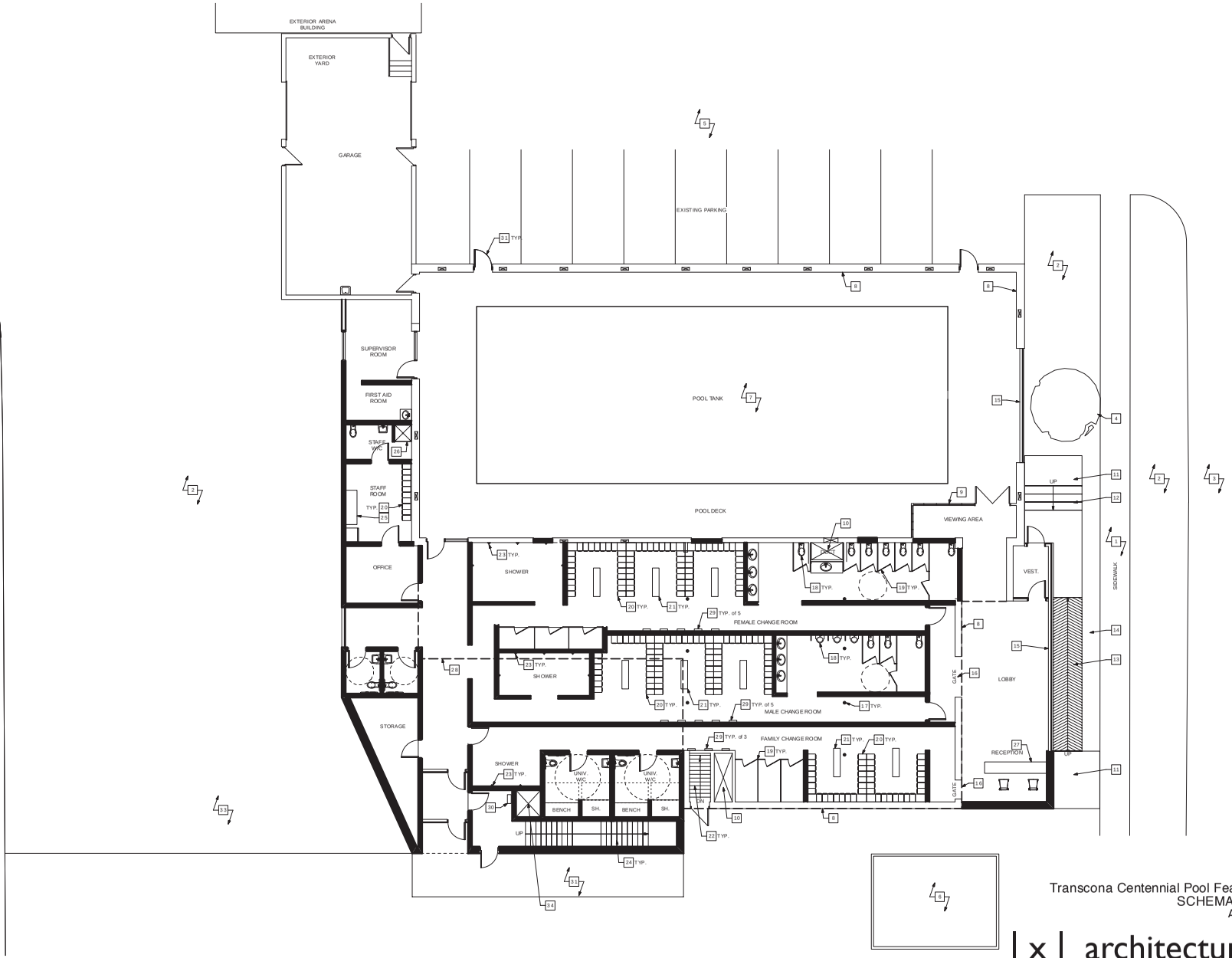
LEGEND

- EXSITING WALL TO REMAIN
- NEW WALL
- EXSITING WALL TO BE DEMOLISHED
- EXSITING DOOR TO REMAIN
- NEW DOOR
- EXSITING DOOR TO BE DEMOLISHED

KEYNOTES

1. EXSITING SIDEWALK TO REMAIN
2. EXISTING GRASS TO REMAIN
3. EXISTING STREET TO REMAIN
4. EXISTING TREE TO REMAIN. PROVIDE PROTECTION DURING CONSTRUCTION
5. EXISTING PARKING LOT TO REMAIN
6. EXISTING BUILDING TO REMAIN
7. EXISTING POOL TANK TO REMAIN
8. EXISTING WALL TO REMAIN
9. EXISTING GLASS WALL TO REMAIN
10. EXISTING MECHANICAL CHASE - REFER TO MECH.
11. NEW EXTERIOR CONCRETE PAD
12. NEW CONCRETE STAIRS
13. NEW CONCRETE RAMP
14. NEW SOIL AND SOD
15. NEW GLAZED CURTAINWALL
16. NEW GATE
17. NEW STEEL COLUMN - REFER TO STRUCT.
18. NEW PLUMBING FIXTURES - REFER TO MECH
19. NEW TOILET PARTITIONS
20. NEW FULL HEIGHT STAINLESS STEEL LOCKERS.
21. NEW WOOD BENCH
22. EXISTING STAIRS TO REMAIN
23. NEW SHOWER HEAD - REFER TO MECH.
24. NEW CONCRETE STAIR
25. NEW KITCHENETTE
26. NEW SHOWER
27. NEW RECEPTION DESK
28. LINE OF EXISTING BUILDING
29. NEW HAIR / HAND DRYERS
30. NEW ROOF LADDER
31. NEW DOOR
32. NEW CONCRETE TO TIE INTO EXISTING
33. NEW SOIL AND SOD
34. NEW MECHANICAL DUCT CHASE

PHASE II
MAIN FLOOR PLAN
SCALE 1:200



A3

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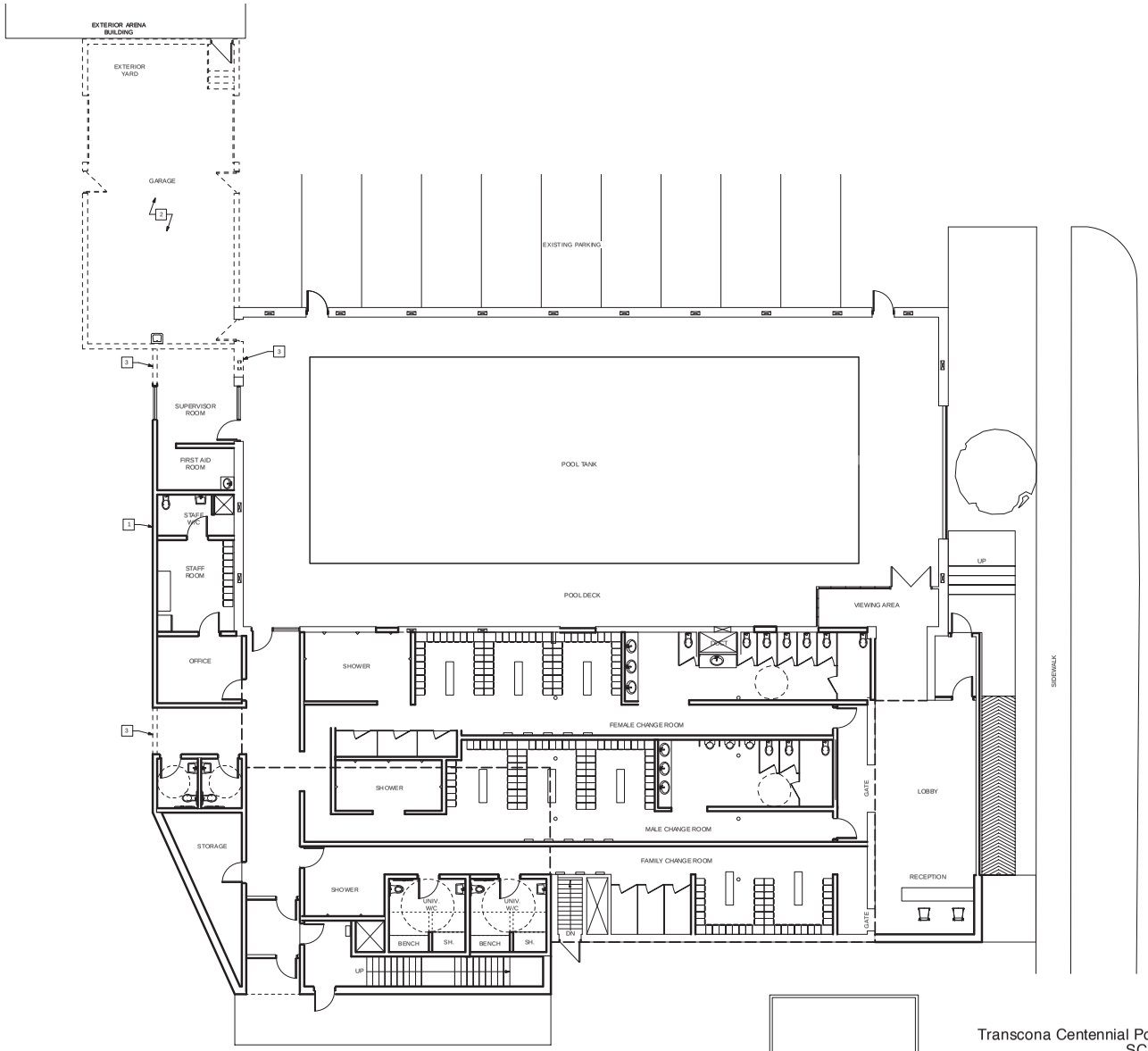
LEGEND

- EXSITING WALL TO REMAIN
- NEW WALL
- EXSITING WALL TO BE DEMOLISHED
- EXSITING DOOR TO REMAIN
- NEW DOOR
- EXSITING DOOR TO BE DEMOLISHED

KEYNOTES

1. DEMOLISH EXTERIOR CLADDING AND PREPARE WALL FOR INTERIOR WALL.
2. DEMOLISH EXISTING GARAGE IN ITS ENTIRETY INCLUDING SUB-STRUCTURE.
3. DEMOLISH EXISTING WALL



PHASE III
DEMOLITION PLAN
SCALE 1:200

A4

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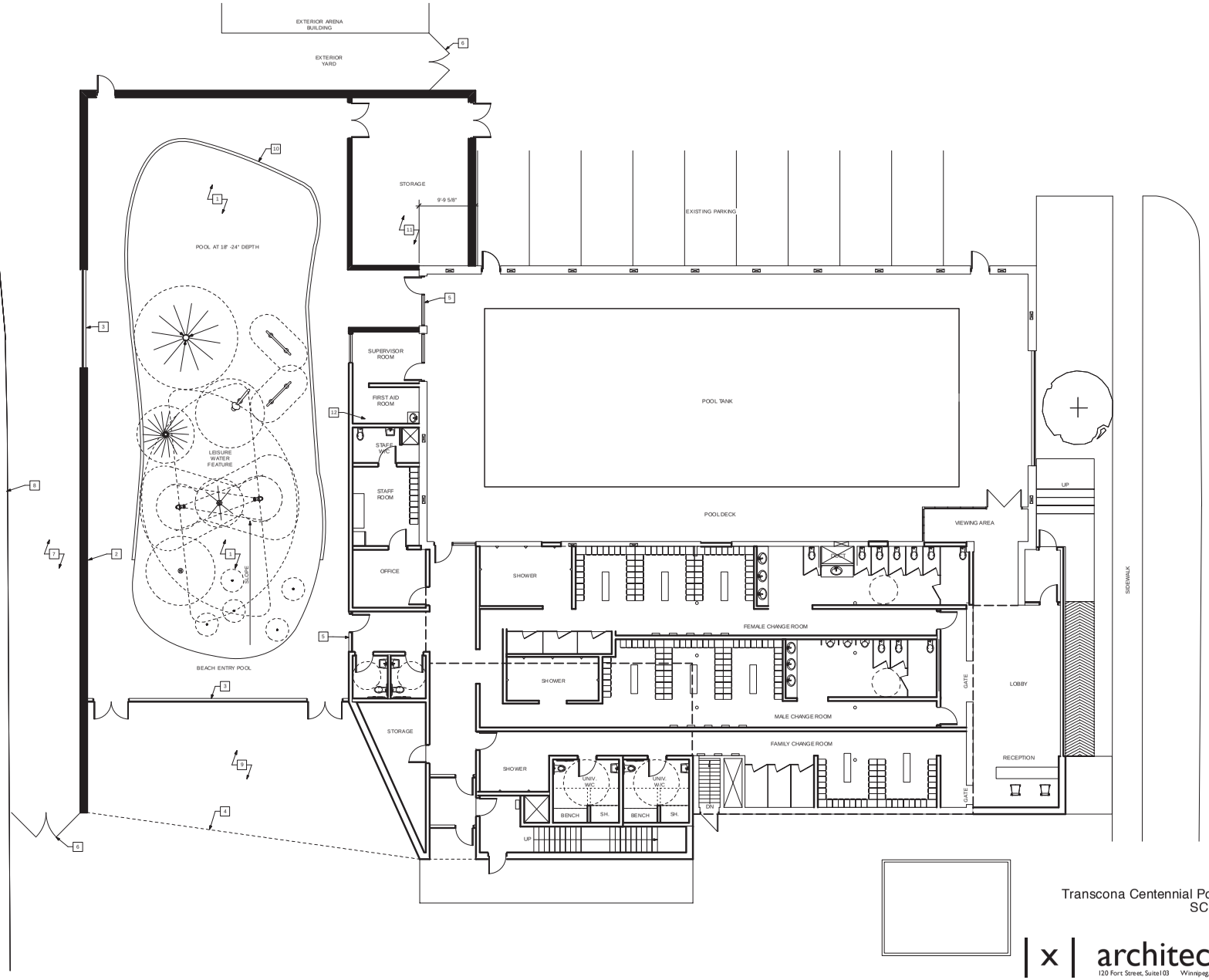
LEGEND

- EXSITING WALL TO REMAIN
- NEW WALL
- EXSITING WALL TO BE DEMOLISHED
- EXSITING DOOR TO REMAIN
- NEW DOOR
- EXSITING DOOR TO BE DEMOLISHED

KEYNOTES

1. NEW FULLY ACCESSIBLE WATER LEISURE C/W DRAINAGE.
2. NEW WALL
3. NEW GLAZED CURTAINWALL
4. ROOF LINE ABOVE
5. NEW GLAZING AND DOOR
6. NEW FENCE C/W GATE
7. NEW ASPHALT DRIVEWAY
8. EXISTING FENCE TO REMAIN
9. NEW CONCRETE TO TIE INTO EXISTING CONCRETE
10. CURB AROUND POOL
11. MECHANICAL MEZZANINE ABOVE
12. STORAGE MEZZANINE ABOVE (OPTIONAL: REQUIRES STAIRCASE)



PHASE III
MAIN FLOOR PLAN
SCALE 1:200

A5

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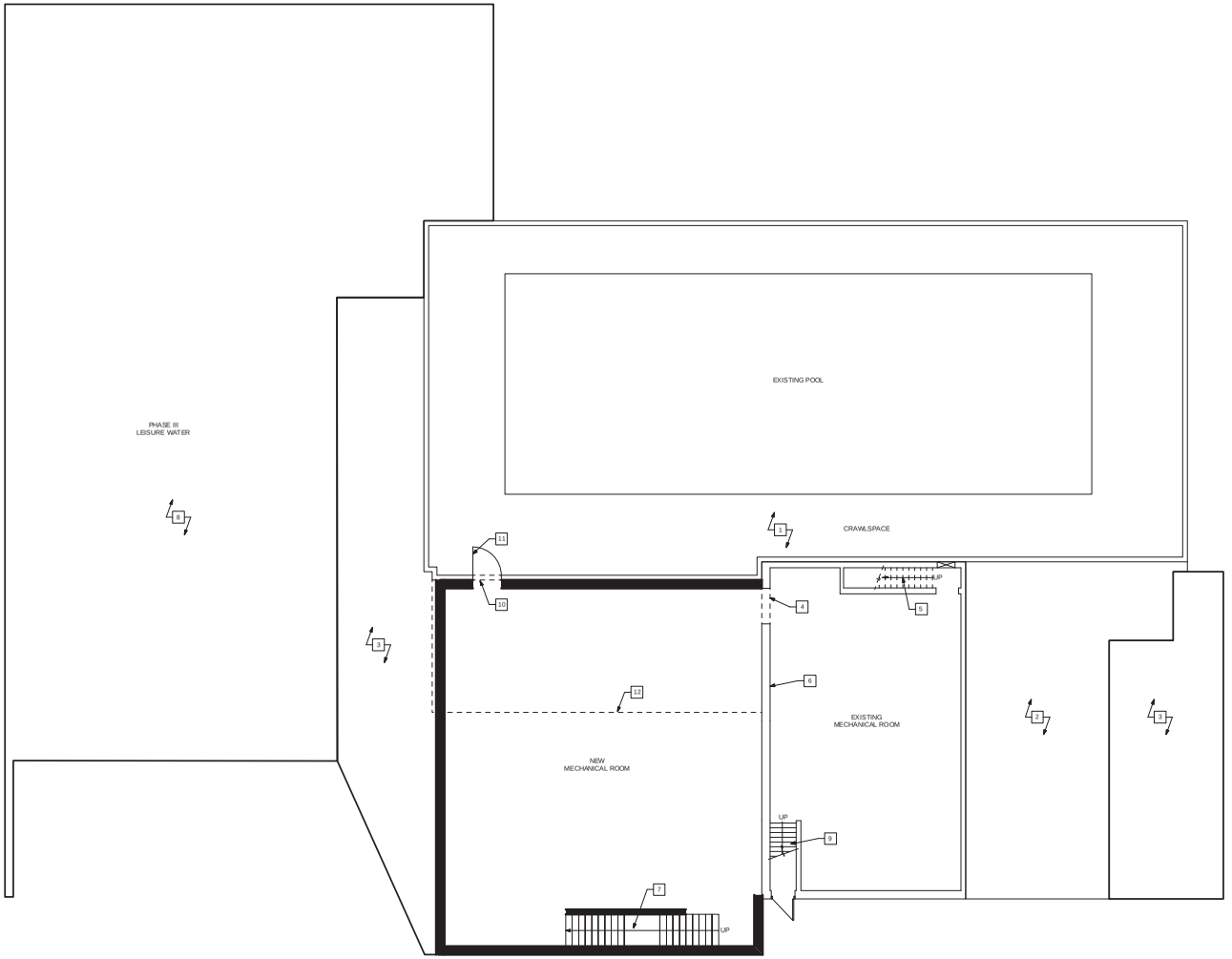
LEGEND

- EXSITING WALL TO REMAIN
- NEW WALL
- EXSITING WALL TO BE DEMOLISHED
- EXSITING DOOR TO REMAIN
- NEW DOOR
- EXSITING DOOR TO BE DEMOLISHED

KEYNOTES

1. EXSITING CRAWLSPACE
2. EXISTING CONCRETE SLAB ABOVE - REFER TO STRUCT.
3. NEW CONCRETE SLAB ABOVE - REFER TO STRUCT.
4. DEMOLISH EXISTING WALL
5. DEMOLISH EXISTING CONCRETE STAIR
6. EXISTING WALL TO REMAIN
7. NEW STAIR
8. CONCRETE FLOOR ABOVE COMPLETE WITH LEISURE POOL
9. EXISTING STAIR TO REMAIN
10. PROVIDE NEW OPENING TO EXISTING CRAWLSPACE
11. NEW DOOR
12. LINE OF EXISTING FLOOR SLAB ABOVE DEMOLISHED IN PHASE II



PHASE II AND III
BASEMENT PLAN
SCALE 1:200

A6

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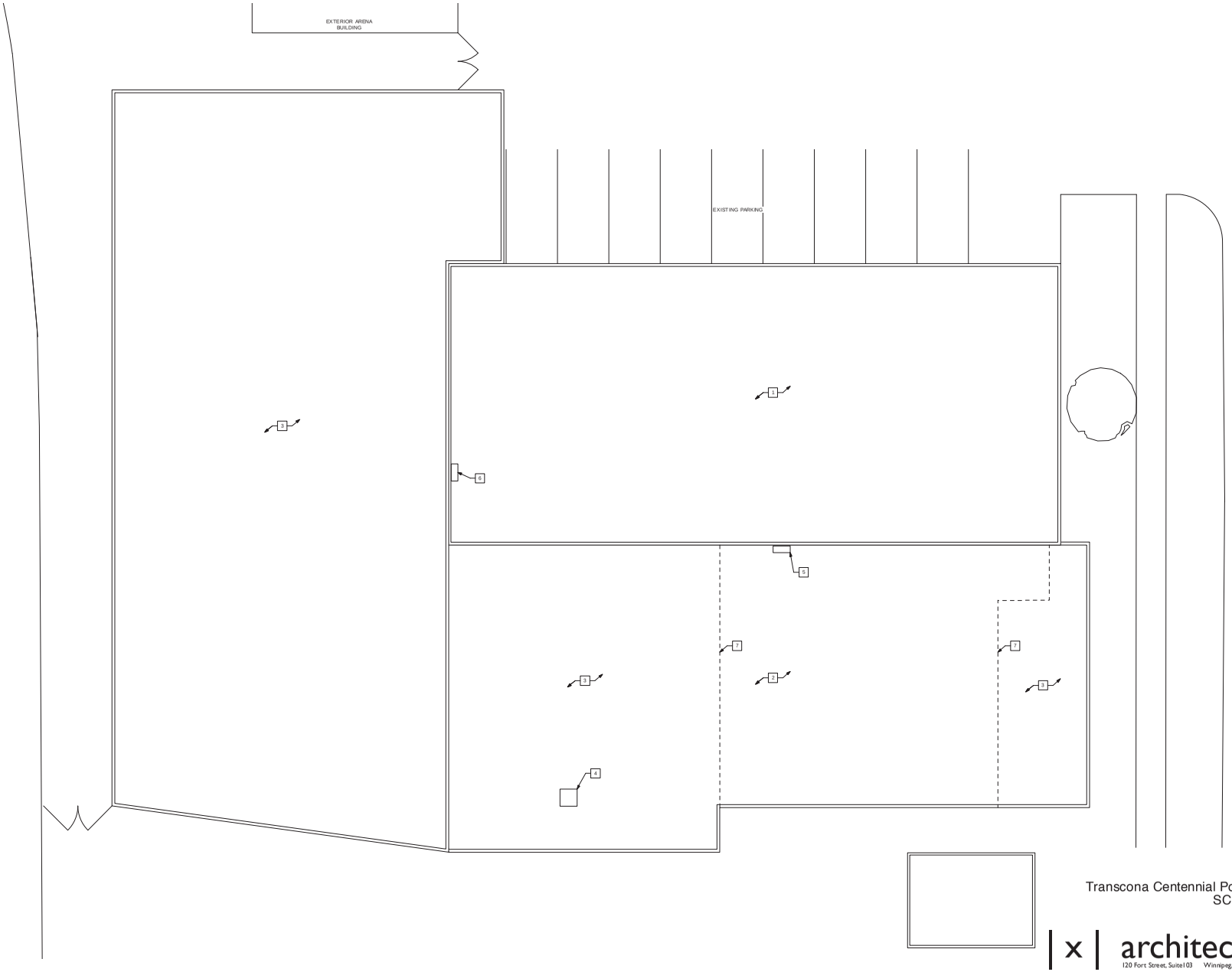

KEYNOTES

1. EXISTING ROOFING TO REMAIN
2. NEW ROOF. PROVIDE NEW ROOFING ON EXISTING
3. NEW ROOFING
4. NEW ROOF HATCH
5. EXISTING ROOF LADDER TO REMAIN
6. NEW ROOF LADDER
7. LINE OF EXISTING BUILDING BELOW - SHOWN FOR REFERENCE ONLY

NOTE:
1. PROVIDE FALL PROTECTION AS REQUIRED
2. MECHANICAL EQUIPMENT NOT SHOWN - REFER TO MECHANICAL

PHASE II AND III
ROOF PLAN
SCALE 1:200

A7

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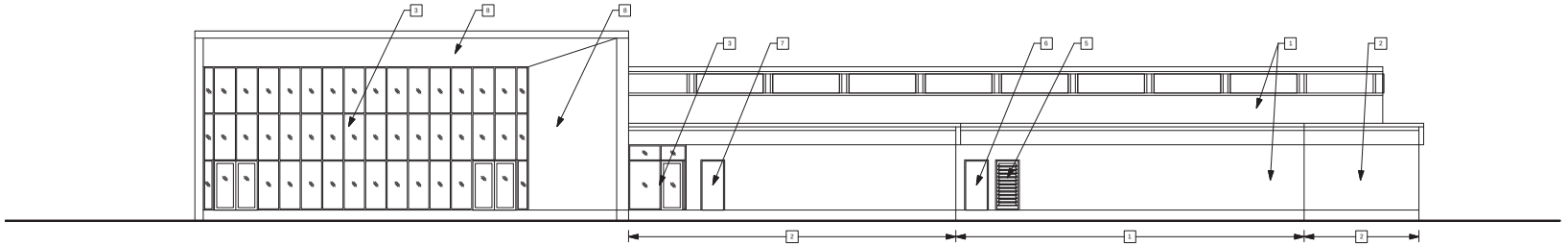
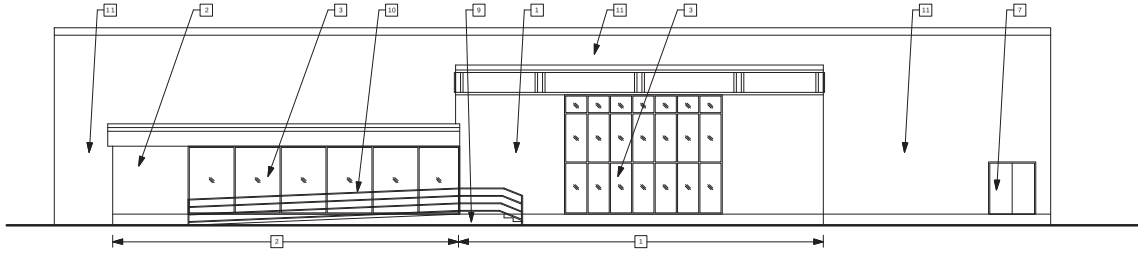


SOUTH ELEVATION



EAST ELEVATION

KEYNOTES

1. EXISTING MASONRY TO REMAIN
2. NEW MASONRY
3. NEW GLAZED CURTAINWALL
4. NEW DOOR
5. EXISTING MECHANICAL LOUVRE
6. EXISTING METAL DOOR - PAINT
7. NEW METAL DOOR - PAINT
8. EXTERIOR WOOD
9. NEW EXTERIOR RAMP AND STAIR
10. NEW STAINLESS STEEL HANDRAIL
11. NEW FIBRE REINFORCED CEMENT PANEL

PHASE II AND III
ELEVATIONS
SCALE 1:200

A8

Transcona Centennial Pool Feasibility Study
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April 30. 2014

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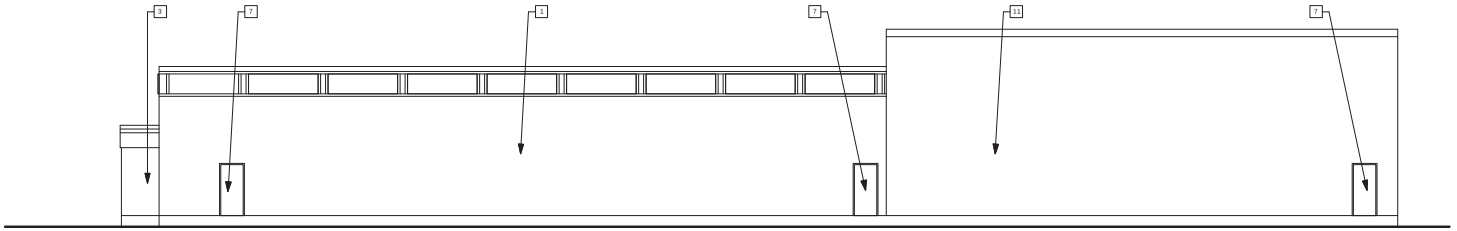
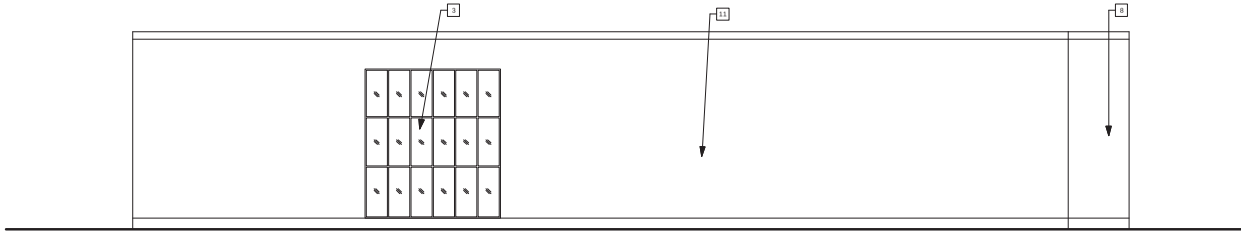


NORTH ELEVATION



WEST ELEVATION

KEYNOTES

1 EXISTING MASONRY TO REMAIN
2 NEW MASONRY
3 NEW GLAZED CURTAINWALL
4 NEW DOOR
5 EXISTING MECHANICAL LOUVRE
6 EXISTING METAL DOOR - PAINT
7 NEW METAL DOOR - PAINT
8 EXTERIOR WOOD
9 NEW EXTERIOR RAMP AND STAIR
10 NEW STAINLESS STEEL HANDRAIL
11 NEW FIBRE REINFORCED CEMENT PANEL

PHASE II AND III
ELEVATIONS
SCALE 1:200

A9

Transcona Centennial Pool Feasibility Study
SCHEMATIC DESIGN
April 30. 2014

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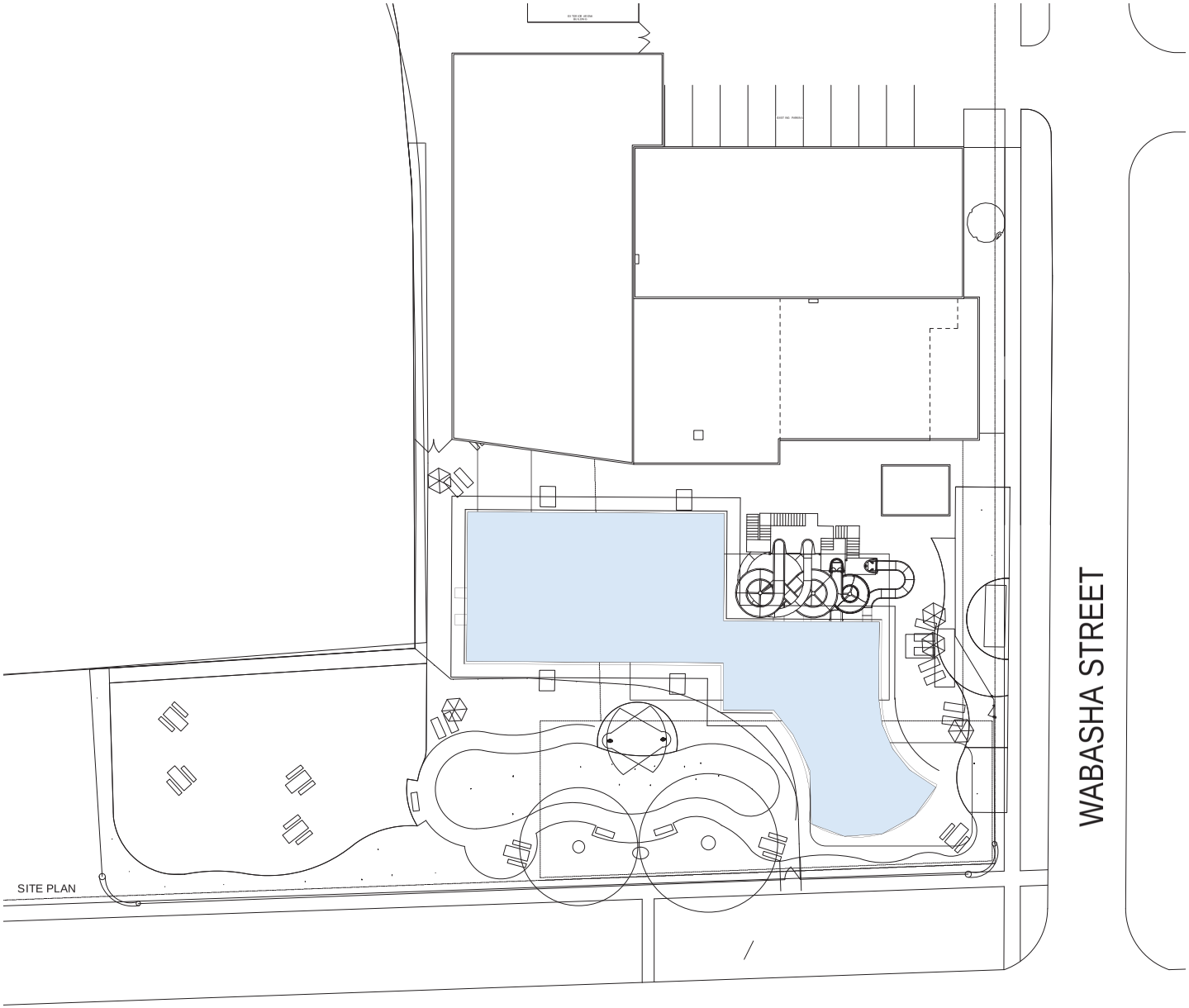

SITE PLAN

A10

Transcona Centennial Pool Feasibility Study
SCHEMATIC DESIGN
April 30. 2014

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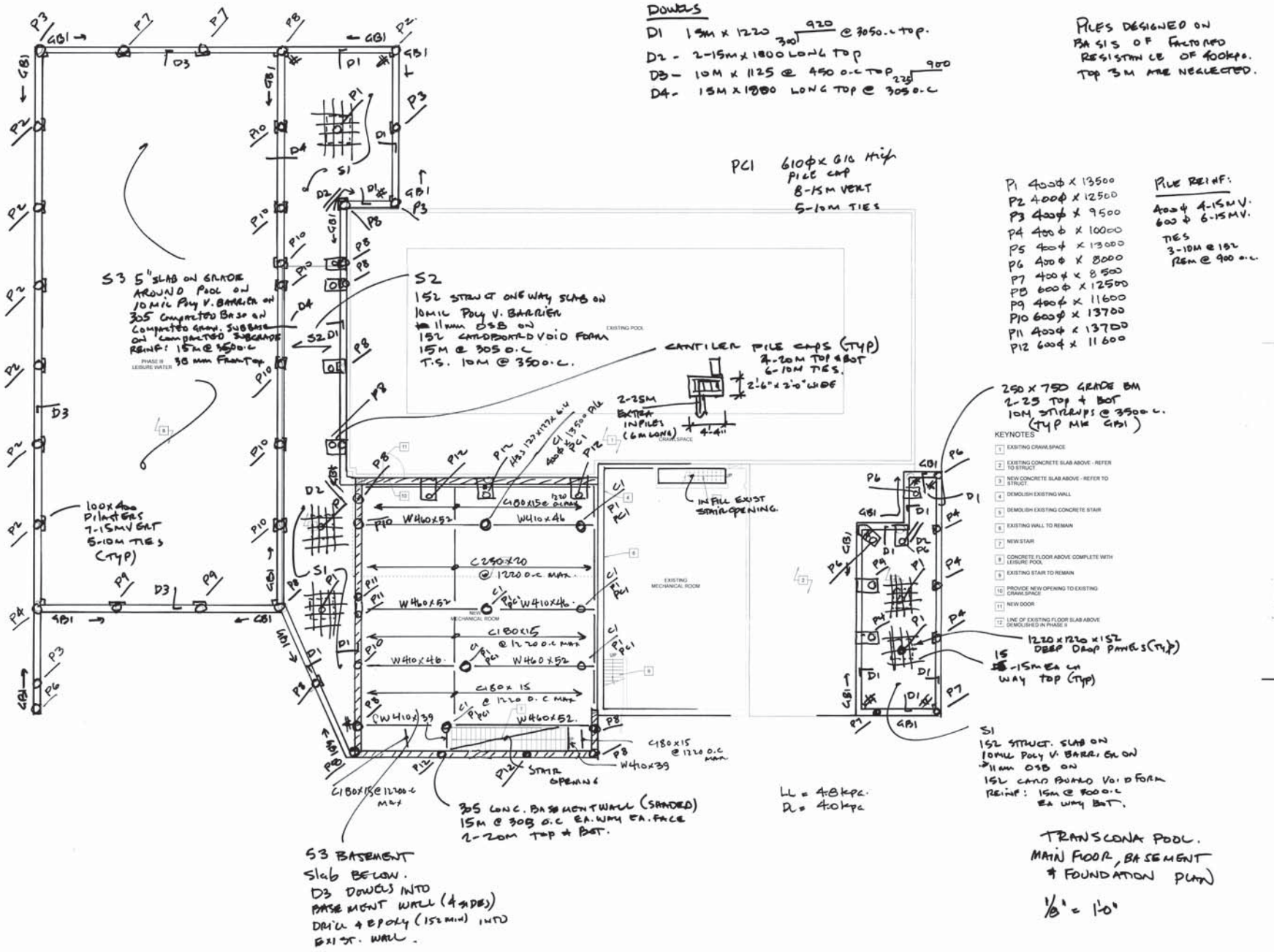
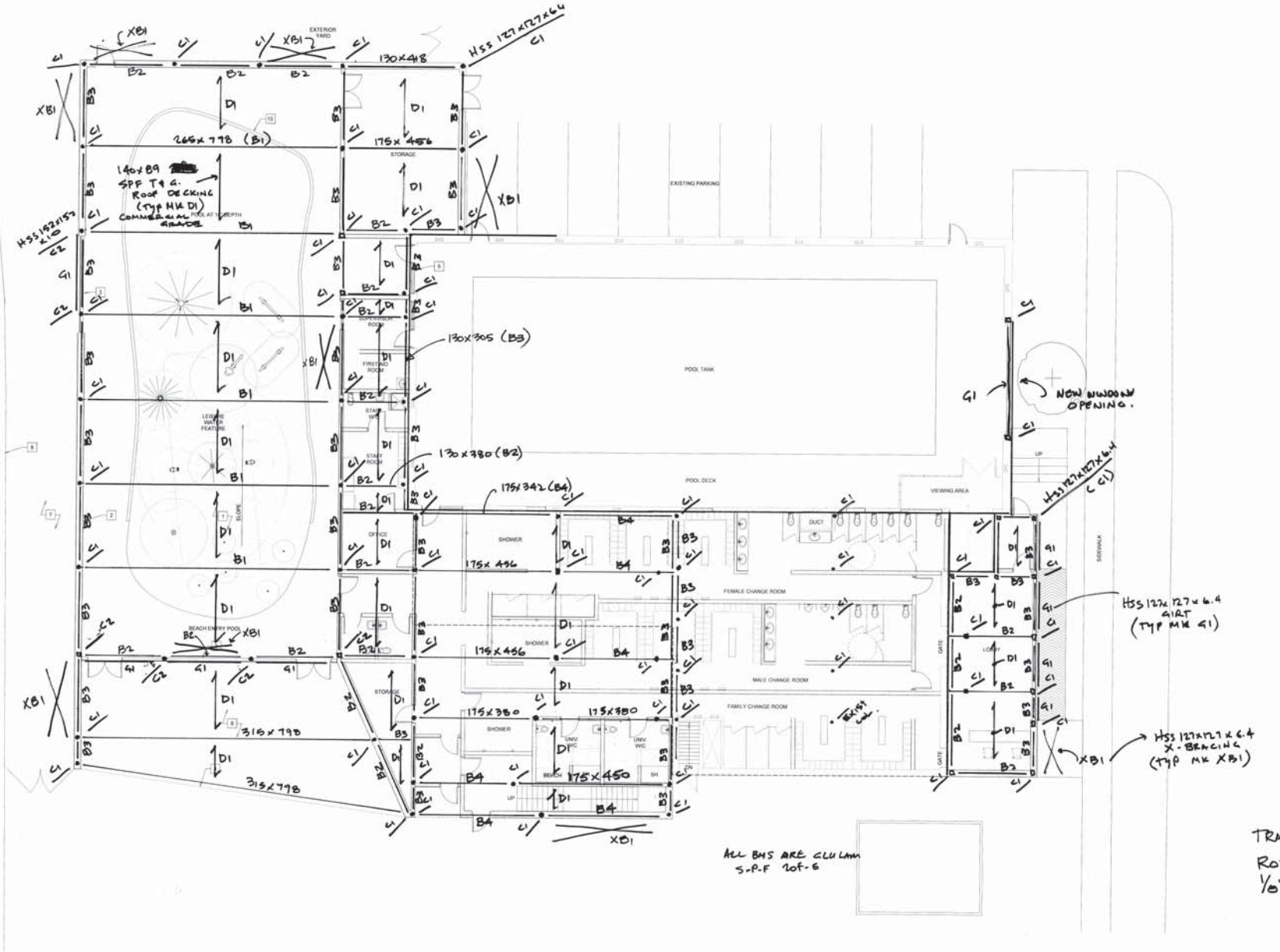

DOWELS
D1 15M x 1220 @ 3050. c to p.
D2 - 2-15M x 1800 LONG TOP
D3 - 10M x 1125 @ 450 O.C TOP
D4 - 15M x 1980 LONG TOP @ 305 O.C
PILES DESIGNED ON BASIS OF FACTORED RESISTANCE OF 400KPa. TOP 3M ARE NEGLECTED.
PC1 610ϕ x 610 HIGH PILE CAP 8-15M VERT 5-10M TIES
P1 400ϕ x 13500
P2 400ϕ x 12500
P3 400ϕ x 9500
P4 400ϕ x 10000
P5 400ϕ x 13000
P6 400ϕ x 8000
P7 400ϕ x 8500
P8 600ϕ x 12500
P9 400ϕ x 11600
P10 600ϕ x 13700
P11 400ϕ x 13700
P12 600ϕ x 11600
PILE REINF:
400ϕ 4-15M V.
600ϕ 6-15M V.
TIES 3-10M @ 1ST 15M @ 900 O.C.
S3 5" SLAB ON GRADE AROUND POOL ON 10MIL POLY V. BARRIER ON 305 COMPACTED BASE ON COMPACTED GRAV. SUBBASE ON COMPACTED SUBGRADE REINF: 15M @ 3500 O.C
S2 15Ø STRUCT ONE WAY SLAB ON 10MIL POLY V. BARRIER 11mm OSB ON 15Ø CARDBOARD VOID FORM 15M @ 305 O.C T.S. 10M @ 3500 O.C.
CANTILEVER PILE CAPS (TYP) 2-20M TOP & BOT 6-10M TIES
2'-6" x 2'-0" WIDE
2-25M EXTRA IN PILES (6M LONG)
250 x 750 GRADE BM 2-25 TOP & BOT 10M STIRRUPS @ 3500 O.C. (TYP MK GB1)
KEYNOTES
1 EXISTING CRAWLSPACE
2 EXISTING CONCRETE SLAB ABOVE - REFER TO STRUCT
3 NEW CONCRETE SLAB ABOVE - REFER TO STRUCT
4 DEMOLISH EXISTING WALL
5 DEMOLISH EXISTING CONCRETE STAIR
6 EXISTING WALL TO REMAIN
7 NEW STAIR
8 CONCRETE FLOOR ABOVE COMPLETE WITH LEISURE POOL
9 EXISTING STAIR TO REMAIN
10 PROVIDE NEW OPENING TO EXISTING CRAWLSPACE
11 NEW DOOR
12 LINE OF EXISTING FLOOR SLAB ABOVE DEMOLISHED IN PHASE II
100x400 PILASTERS 7-15MV GAT 5-10M TIES (TYP)
INFILL EXIST STAIR OPENING
EXISTING MECHANICAL ROOM
NEW MECHANICAL ROOM
C180x15 @ 1220 O.C MAX
W410x46
W460x52
W410x39
C250x20 @ 1220 O.C MAX
C180x15@1220 O.C Max
STAIR OPENING
1220 x 1220 x 1ST DEEP DROP PANELS (TYP)
15 #15M EA WAY TOP (TYP)
S1 15Ø STRUCT. SLAB ON 10MIL POLY V. BARRIER ON 11mm OSB ON 15Ø CARDBOARD VOID FORM REINF: 15M @ 900 O.C EA WAY BOT.
LL = 4.8kpa.
D = 4.0kpa
305 CONC. BASEMENT WALL (SHADED) 15M @ 305 O.C EA WAY EA FACE 2-20M TOP & BOT.
S3 BASEMENT Slab BELOW. D3 DOWELS INTO BASEMENT WALL (4 SIDES) DRILL & EPOXY (15Ø MIN) INTO EXIST. WALL.
TRANSCONA POOL. MAIN FLOOR, BASEMENT & FOUNDATION PLAN
1/8" = 1'-0"


XB1
EXTERIOR YARD
130x418
HSS 127x127x6.4
265x798 (B1)
175x456
STORAGE
140x89 SPF T&G ROOF DECKING (TYP MK D1) COMMERCIAL GRADE
EXISTING PARKING
HSS 152x152 x10
130x305 (B3)
POOL TANK
NEW WINDOW OPENING.
130x380 (B2)
175x342 (B4)
POOL DECK
VIEWING AREA
HSS 127x127x6.4 C.J.
SHOWER
175x436
FEMALE CHANGE ROOM
HSS 127x127x6.4 GIRT (TYP MK G1)
BEACH ENTRY POOL
175x456
MALE CHANGE ROOM
175x380
175x380
FAMILY CHANGE ROOM
315x798
315x798
175x450
HSS 127x127x6.4 X-BRACING (TYP MK XB1)
ALL BMS ARE CLULAM S-P-F 20f-6
TRANSCONA POOL
ROOF FRAMING PLAN
1/8" - 1'0"

ARCHITECTURAL OUTLINE SPECIFICATION

1.1. GENERAL REQUIREMENTS

1. GENERAL
    1. The existing building has a main floor of ± 792 s.m main floor, ± 126 s.m. basement and a crawlspace under the pool deck;
    2. The project is to be priced in two phases indicated as Phase II and III on the documents and below:
        1. Phase I: (NOT IN CONTRACT) Phase I includes the construction of an outdoor pool, slides, exterior landscaping and all associated equipment required for the outdoor pool. The mechanical equipment for this outdoor pool will be located within the basement of Phase II construction, however the costs associated with the supply and install of this mechanical equipment will be part of the costs of Phase I. Costs from Phase I construction is NOT included in this costing exercise.
        2. Phase II: This phase will include the renovation and addition to the existing building. This work includes the expansion of the washroom / change facilities, lobby space, building services and new windows into the existing pool deck area. This phase will also include the expansion of the basement to accommodate mechanical equipment for the outdoor pool and for the Phase III indoor water leisure pool addition.
        3. Phase III: This phase will include the addition of the water leisure pool area. This renovation will include the demolition of the attached storage garage and replacement with new storage area.
            1. This phase will include a new water leisure pool which consists of an approximate 20” shallow pool with a beach entry. Refer to Mechanical and Electrical outline Specification and Special Construction for the water ‘features’
        4. Refer to Drawings for clarification on phased construction
    3. The building addition will connect the existing building and new building, resulting in a new, single building (for the purposes of code analysis).
    4. The building would not be occupied during construction of Phase II. The building would be occupied during construction of Phase III
    5. The Occupancy classification is A3;
    6. For the purpose of National Building Code, the Occupancy of the building is +/- 325
    7. Refer to Mechanical and electrical outline specification.

2. CASH ALLOWANCES
    1. Testing allowances and inspections

1.	Piling and shoring inspections	$5,000
2.	Concrete and compaction testing	$5,000
3.	Air barrier and curtainwall envelope testing	$3,000
4.	Roofing inspections	$2,000
5.	Replacement in Trees in Kind from demolition of existing tree	$40,000

1.2. SITE WORK

1. DEMOLITION
    1. Refer to demolition plan for extent of interior and exterior demolition works for phase II and III;
    2. The portion of the building in the south west which does not include a basement and appears to be an addition to the original building to be demolished in its entirety, including for slab and roof;

2. EARTHWORK
    1. A geotechnical investigation is not yet available. Refer to structural outline specifications for general assumptions.
    2. Demolish existing exterior grass and paved area in preparation for building addition
3. FOUNDATION
    1. Refer to Structural Outline Specification and Drawings
4. DRAINAGE
    1. The existing roof is all surface drainage with eavestrough and rain water leaders.
    2. Phase II: Provide surface drainage to match existing;
    3. Phase III: Provide surface drainage to match existing;
5. SITE DEVELOPMENT
    1. Repair all surrounding areas damaged during the course of construction.
    2. Phase II:
        1. Provide new concrete sidewalk/ramps and stairs at east end of addition;
        2. Tie in existing concrete and asphalt at south end of new and existing building;
        3. Maintain Tree east of Existing Pool Tank
        4. Grade and sod west of new addition
    3. Phase III:
        1. Provide new concrete south of building addition;
        2. Provide asphalt drive west and north of building addition;
        3. Provide new chainlink fencing as shown on drawings.
    4. Patch and repair asphalt paving, concrete curbs and sodded areas damaged by construction;
    5. Sidewalks and curbs to be built to City of Winnipeg standards;
    6. Grade and sod site in general viscinity of addition

1.3. BUILDING STRUCTURE

1. Refer to Structural Outline Specification and Drawings

1.4. EXTERIOR WALLS

1. Walls below grade: The concrete grade beams will be insulated on the exterior using 50mm polystyrene SM insulation fastened to the concrete, with a cement board cover where exposed.
2. Phase II:
    1. 200mm reinforced concrete block masonry interior walls, commercial grade air/vapour barrier, 125mm rigid insulation and 90mm face brick to match existing. Refer to Exterior Elevations.
3. Phase III:
    1. 200mm reinforced concrete block masonry interior walls, commercial grade air/vapour barrier, 125mm rigid insulation, hat channels and Fibre Reinforced Cement Panels. Refer to Exterior Elevations.
    2. Clad the interior wall of the West wall with a fir slat wall, full height and width.
4. Refer to Door and Windows

1.5. ROOFING

1. The typical roof insulation will be rigid, HCFC free polyisocyanurate (IKOTherm) with an aged R value of 30. Backslopes, where required to be HCFC free type 1 expanded polystyrene (Plast-fab or Atlas Falcon Foam), tapered to provide a 1:50 sloped surface for drainage.The roof vapour barrier will be torch-on applied.
2. The typical roof membrane will 2 ply SBS modified bitumen.
3. Miscellaneous rainware and flashings to be prefinished aluminum or steel. Roof drainage to be exterior to match existing. Refer to Mechanical and Electrical.

1.6. INTERIOR WALLS

1. 150mm / 200mm exposed lightweight concrete block masonry, sealed and painted. Refer to Plans

1.7. METAL, STAIRS, LADDERS, HANDRAILS & GUARDRAILS

1. Ladders to provide access to roof areas to be galvanized steel, painted to the Manitoba Department of Labour standards. Provide new interior roof ladder in Phase II as located on plans. Provide new exterior roof ladder from existing roof to new roof in Phase III as indicated on plans.
2. Stainless steel handrails/ guardrails at exterior stairs and ramps at new front entry in Phase II.
3. Provide new galvinised handrails at interior stairs.
4. All columns to be painted galvinised metal
5. Provide lintels as required for structural support of opening in existing masonry walls

1.6. DOORS AND WINDOWS

1. Aluminum exterior entrance and exit doors and frames to be thermally broken aluminum with anodized finish. Glazing to be high performance H.S.T.G. with superspacer.
2. Exterior curtain wall and punched windows to be Kawneer Isoweb 7525 series (or equivalent) both with warm-edge spacer. Glazing to be 25 mm sealed dual glazed with 6 mm (1/4") clear inner and outer panes, 12.5 mm (1/2") air space between panes, argon fill and Comfort T1-AC 40 coating on #2 surface.
3. New curtainwall at east end of existing Pool tank to tie into existing masonry.
4. New interior doors to pool tank and Leisure water pool and all vestibule to be aluminium storefront.
5. Typical new Interior door and frames in the renovation portion to be painted welded hollow metal (50 mm profile). Door hardware will be institutional quality with lever handles.
6. New Exterior doors from existing Pool Tank and Storage area to be painted insulated steel doors and insulated steel frames
7. Existing Interior doors and frames in the renovated portion of the building to be painted.
8. Provide ten (10) new power door operators for Phase II and two (2) new power door operators for Phase III.

1.7. FINISHES

1. **Lobby / Viewing Area:**
   1. Floors: New Ceramic Tile
   2. Walls: Sealed and painted concrete block / curtainwall.
   3. Ceilings: Exposed Glulam Beam and Wood deck
2. **Change Room (All):**
   1. Floors: New non slip Ceramic Tile
   2. Walls: Sealed and painted concrete block
   3. Ceilings: Exposed Glulam Beam and Wood deck
3. **Showers:**
   1. Floors: New non slip Ceramic Tile
   2. Walls: New Ceramic Tile
   3. Ceilings: Exposed Glulam Beam and Wood deck
4. **Universal W/C:**
   1. Floors: New non slip Ceramic Tile
   2. Walls: New Ceramic Tile
   3. Ceilings: Exposed Glulam Beam and Wood deck
5. **Office / Staff Room / Supervisor Room:**
   1. Floors: New Ceramic Tile
   2. Walls: Sealed and painted concrete block / curtainwall.

3. Ceilings: New Accoutic Ceiling Tile

6. Leisure Water Pool:

1. Floors: New non slip Ceramic Tile
2. Walls: Sealed and painted concrete block / curtainwall.
3. Ceilings: Exposed Glulam Beam and Wood deck

1.8. SPECIALTIES / ACCESSORIES

1. Provide new Stainless steel lockers to match existing in Change Rooms and staff room. Refer to drawings.
2. Provide Solid Plastic toilet partition system in washrooms/change rooms. Standard of Acceptance: Comtec / Scranton
3. Provide new barrier free wood bench in Universal Washroom.
4. Provide new wood benches in the Change Rooms. Refer to plans
5. Provide 18" x 18" x 18" open wood cubbies in water leisure pool for temporary towel storage. Total length 18' long, 6' high.
6. Provide lockable valuables storage lockers (wallet size lockers etc.) adjacent to reception counter. Refer to drawings.
7. Millwork
    1. All millwork to meet AWMAC standards and barrier free standards.
    2. Provide solid surface / wood reception deck c/w barrier free counter. Refer to drawings
    3. All exposed surfaces and edges of upper and lower cabinets will be plastic laminate. Interior surfaces will be melamine. Edges of cabinet doors and drawers will be 3mm PVC edging. Exposed shelving will be plastic laminate on plywood.
    4. Provide institutional grade hardware throughout.
8. Washroom and misc. accessories to be Bobrick contoured line commercial grade (or equivalent) and include towel bars, toilet paper holders, paper towel dispensers, liquid soap dispensers, waste receptacles, coat hooks, folding shower seats, sanitary napkin dispensers/receptacles, include toilet grab bars for one accessible toilet per washroom.
9. Provide three 4'x4' bulletin boards
10. Fire Extinguishers
11. Provide Exterior Building Signage and Interior building and wayfinding signage.

1.9. SPECIAL CONSTRUCTION

1. Spray Pad Features:
    1. Provide the following Spraypad features (including all Mechanical and Electrical requirements) for inclusion in the Water Leisure Pool Area.:
        1. Toddler Area
            1. Fun Guy
            2. Snake
            3. Frog
            4. Gecko
            5. Spinny Squirt
            6. Morning Grass
            7. Charlotte's Web
            8. Discovery Stream With Fish, water wheel
            9. Activator – Action Plate
        2. Childrens Area
            1. Blue Bottle
            2. Aneth Bloom 1
            3. Rain Cap
            4. Dew Drop
            5. Papillon
            6. Confetti Spray

7. Ants
8. Activator Sprout

1. Refer to mechanical and electrical outline specification
2. A spraypad consultant shall provide price for all equipment, including mechanical, to make spraypad fully operational.
3. The system to be a re-circulated system to a holding tank. The system is to be a separate system from the existing pool system.
4. Contact information for Spraypad consultants:
    1. Playworks & Waterplay
        1. Jeff Kuby (Playworks) jeff@playworks.ca (204) 899-7474
        2. Ryan McDowell ryan@waterplay.com (250)712-3393 ext205

Structural Outline Specification

.1 Foundation:

.1 The new building will be founded on cast-in-place friction piles similar to those shown on the existing structural drawings. Please note that the foundation will have to be substantiated by a geotechnical investigation and report. The preliminary piles have been designed on the basis of a service limit state (SLS) of 14.4 kPa (300 psf) and a factored resistance of 19.25 kPa (400 psf).

.2 Pile sizes are shown on the attached preliminary structural drawings.

.2 Main Floor Framing:

.1 The building perimeter structure will supported on a perimeter concrete grade beam and concrete basement walls where there is a basement.

.2 The beams shall typically be 10" x 30" with 6" deep pockets at column locations. The basement wall will be 12” thick. Pilasters will be provided at perimeter column locations.

.3 The beams and walls will be designed and reinforced in accordance to CSA Standard A23.3.

.4 A 6" void will be provided below all grade beams and walls.

.5 The main floor will consist of a cast-in-place slab on grade over compacted A-base over compacted C-base on compacted sub-grade in the pool area. Other floors without any basement area will structural and will poured over a 6” cardboard void form.

This will be installed in accordance to the geotechnical investigation report that will be needed.

The floor over the basement will consist of 2 ½” of concrete over 1 ½” composite metal deck (100 mm total floor thickness. This in turn will be supported by a series of steel channels, main steel beams and columns.

.6 The slab will be reinforced as shown on the preliminary drawings.

.7 25 MPa concrete will be used for the grade beams, walls, floors and slabs.

.3 Wall Framing

.1 The exterior walls will mostly consist of structurally designed curtain wall supported half way up the wall with a structural steel girt. The remainder will consist of steel stud walls or 8" concrete block reinforced with 15M vertical bars spaced at 4' on centre

.2 They will not be designed to carry any vertical load.

.4 Roof Framing

.1 Roof framing will 3 1/2" SPF commercial grade random wood decking.

.2 These will in turn be supported by a series of spruce pine 20f-E stress grade glu-laminated beams and steel columns (galvanized in pool area.

.3 Lateral loads will be taken down to the foundation via HSS steel cross-bracing.

.5 Existing Structure

.1 The existing concrete block walls that are scheduled for demolish are structure and can be removed and replaced with steel columns.

.5 Live loads Due to Use, Occupancy, Snow, Ice, Rain and Wind

.1 Roof Design Snow, Ice and Rain Load

.1 The basic ground snow load S_s for Winnipeg is 1.9 kPa

.2 The rain load S_s 0.2 kPa

.3 The specified design roof snow load S = Is(S_s ($C_bC_wC_sC_a$) + $S_{r)}$

Is = 1.0 (building is considered normal)

C_b = 0.8

C_w = 1.0

C_s = 1.0

C_a = 1.0

S = 1.0(1.9)(0.8 X 1.0 X 1.0 X1.0) + 0.2) = 1.72 kPa

.2 Wind Design

.1 The reference velocity pressure having a probability of being exceeded in any one year of 1 in 50 will be used for the design of structural members in general:

q_{50} = 0.45 kPa

.2 The specified external pressure or suction due to wind on part or all of the surface of the building will be calculated from:

p = Iwq $C_eC_gC_p$

.3 The specified internal pressure or suction due to wind will be calculated from:

p_i = Iwq $C_eC_gC_{pi}$

.4 The net specified pressure due to wind on part or all of the surface of the building will be algebraic difference of the external and internal pressures.

.3 Floor Design Live Loads

.1 The main floor will be designed for a live load of 4.8 kPa.

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Mechanical Feasibility Study / Outline Scope of Work

Transcona Pool - Phase 2, Phase 3

Our File: 34-112ME

Date: May 1, 2014

PART 1 GENERAL

1.1 PROJECT SUMMARY

.1 PHASE 1 (BY OTHERS):

.1 New exterior pool, waterslide, and associated mechanical and electrical systems.

.2 PHASE 2:

.1 Demolition of existing pool building main floor washroom and locker areas.

.2 Building addition to accommodate new washroom and locker room expansions including mechanical and electrical building systems.

.3 Basement addition to accommodate Phase 1, Phase 2, and Phase 3 building and pool systems.

.3 PHASE 3:

.1 Addition of new indoor leisure pool and associated mechanical and electrical systems.

1.2 GENERAL

.1 All air handling equipment, plumbing fixtures, insulation, boilers, domestic water heaters, and all related equipment and components described herein shall meet the requirements of the National Energy Code for Buildings (2011) and local regulations.

.2 The system capacities, sizes, and quanitities specified herein are estimates only. All equipment selections are to be verified by the successful contractor/consultant team.

PART 2 PHASE 2

2.1 DEMOLITION

.1 Existing pool building mechanical systems to be demolished or modified in accordance with architectural plans. Refer to schematic design for details.

.2 Plumbing:

.1 Existing plumbing fixtures on main floor to be removed, including water closets, lavatories, urinals, showers, and floor drains.

.2 All domestic hot and cold water piping serving existing main floor plumbing fixtures to be removed back to basement mechanical room, including valves, insulation, and associated hardware.

.3 All sanitary piping serving existing main floor plumbing fixtures to be removed back to basement mechanical room, including associated hardware.

.4 Existing domestic hot water heating system within basement mechanical room to be removed including hot water heater and storage tank.

.5 Existing basement plumbing systems to remain except where noted.

.3 H.V.A.C.:

.1 Existing mechanical ventilation system serving main floor locker, washroom, shower, and corridor pool areas to be removed including exhaust fans, ductwork, and associated hardware.

.2 Pool dehumidification unit supply duct work to be modified as required by demolition of existing pool area walls. Refer to new construction section.

.3 Existing indoor pool ventilation and exhaust system located in basement mechanical room to remain.

.4 Indoor Pool:

.1 Existing indoor pool system located in basement mechanical room to remain.

.5 Site Services:

.1 Existing 2" (50mm) incoming water service from Wabasha Street to be removed back to water main, capped, and sealed. Coordinate with utility. Refer to New Construction for new water service installation.

.2 Existing 6" (150mm) sanitary main to Wabasha Street to be removed back to main, capped, and sealed. Coordinate with utility. Refer to New Construction for new sanitary line installation.

2.2 NEW CONSTRUCTION

.1 Provision and installation of mechanical systems to serve new main floor areas in accordance with architectural floor plans. Refer to schematic design for details.

.2 Plumbing:

.1 Provide all plumbing fixtures to serve all washrooms, locker rooms, and shower rooms in new main floor schematic design in the following quantities:

.1 Urinals - 3

.2 Standard Water Closets - 9

.3 Barrier Free Water Closets - 6

.4 Barrier Free Lavatories - 13

.5 Floor Drains - 12

.6 Shower Fixtures - 15

.7 Shower Stall - 1

.2 Provide new natural gas fired domestic hot water heating system within basement mechanical room with the following minimum specifications:

.1 Gas fired domestic hot water heater:

.1 130 Gallon capacity.

.2 500 MBH natural gas heating input.

.2 Domestic hot water storage tank:

.1 300 Gallon capacity.

.3 Provide new sanitary piping serving all main floor plumbing fixtures as per new main floor schematic design. Connect new sanitary lines to existing sanitary system within basement mechanical room.

.4 Provide domestic hot water, cold water, and hot water recirculation lines to serve all new fixtures. Hot water recirculation line to extend to all new fixtures requiring domestic hot water.

.5 Provide new domestic hot water recirculation pump c/w occupancy times within basement mechanical room and connect to new domestic hot water heating system.

.3 H.V.A.C.:

.1 Provide and install new Energy Recovery Ventilator (ERV) within basement mechanical room with the following minimum specifications:

.1 5,000 cfm airflow.

.2 Reverse airflow system.

.3 Minimum 85% thermal efficiency.

.4 Integral electric heating section (50 kW).

.5 Integral cooling section (10-ton).

.6 Roof mounted condensing unit (10-ton).

.2 ERV to provide ventilation, heating, and cooling to pool building main and basement floor.

.3 ERV supply and exhaust ductwork to be ducted to main floor from basement mechanical room within duct chase.

.4 ERV outdoor supply and exhaust ductwork to be ducted from basement to louvers on main floor exterior walls.

.5 Supply air duct distribution to be at high level on main floor. Diffusers to be located in each space for appropriate distribution of air.

.6 Exhaust air duct distribution to be at high level on main floor. Exhaust grilles to be located in each space for appropriate removal of contaminated air and moisture.

.7 Provide and install electric force flow heaters of the following minimum specifications near all exterior entrances:

.1 3 kW.

.4 Site Services:

.1 Provide new 6" (150mm) domestic water line underground from City of Winnipeg main at Wabasha Street to new basement mechanical room. Provide new water meter assembly complete with approved backflow prevention assembly to City of Winnipeg standards. Coordinate with utility.

.2 Provide new 10" (250mm) sanitary line underground from new basement mechanical room to main at Wabasha Street. Line to accommodate new outdoor pool and indoor leisure pool installations in Phase 1 and Phase 3.

.3 Provide new catch basin within new basement mechanical room to accommodate installation of new outdoor pool in Phase 1.

.4 Provide upgrade to existing natural gas service to add approximately 1,500 MBH capacity to the site. Coordinate with utility.

PART 3 PHASE 3

3.1 DEMOLITION

.1 Existing garage mechanical systems to be demolished or modified in accordance with architectural plans. Refer to schematic design for details.

.2 Plumbing:

.1 Existing plumbing fixtures on main floor to be removed including janitor sink, eye wash station, and floor drains.

.2 Existing garage sump pit and pump to be removed.

.3 All domestic hot and cold water piping serving existing garage plumbing fixtures to be removed back to basement mechanical room within pool building, including valves, insulation, and associated hardware.

.4 All underground sanitary piping serving existing garage plumbing fixtures including sump pit pumped discharge line to be removed back to main beneath indoor pool deck. Lines to be capped and sealed as appropriate.

.3 H.V.A.C.:

.1 Existing garage mechanical systems to be removed including gas fired unit heaters, controls, and associated hardware.

.2 Natural gas lines to be removed back to main within existing pool building, capped, and sealed.

3.2 NEW CONSTRUCTION

.1 Provision and installation of mechanical systems to serve new leisure pool areas in accordance with architectural floor plans. Refer to schematic design for details.

.2 Plumbing:

.1 Provide all plumbing fixtures to serve new leisure pool and storage areas in the following quantities:

.1 Floor Drains - 14 (leisure pool deck drainage).

.2 Floor Drain - 1 (storage room).

.3 Hub Drain - 1 (storage room).

.2 Provide new underground sanitary piping serving all leisure pool deck drains and storage room drains as per pool schematic design. Route new combined sanitary line underground to new basement mechanical room and connect to existing sanitary system.

.3 H.V.A.C.:

.1 Provide and install new leisure pool area dehumidification unit as per the following minimum specifications:

.1 8,000 cfm airflow.

.2 100 lb/hr moisture removal capacity.

.2 Dehumidification unit to be designed, manufactured, certified, and marketed as a complete, self-contained system with established performance characteristics.

.3 Dehumidification unit to provide ventilation, heating, cooling, and dehumidification to pool area.

.4 Dehumidification unit to be mounted on mezzanine level above storage room adjacent to pool area.

.5 Dehumidification unit supply air and return air ductwork to be hung from underside of structure within leisure pool area and encompass complete room perimeter. Supply airflow to be directed downwards to splash all doors, walls, and windows.

.6 Dehumidification unit outdoor supply and relief air ductwork to be routed from unit appropriately to building exterior.

.7 Dehumidification unit ductwork, supply grilles, return grilles, and all associated hardware to be of all aluminum construction.

.8 Dehumidification condensing unit to be mounted on roof.

.9 Provide and install exhaust fan of the following minimum specifications:

.1 250 cfm airflow.

.10 Exhaust fan to provide ventilation to storage room area adjacent to leisure pool.

.11 Exhaust fan ductwork to be routed through storage room ceiling to roof with appropriate termination. Outdoor air intake duct work to be routed to space from exterior wall.

.12 Provide and install new gas fired separate combustion unit heater of the following minimum specifications:

.1 50 MBH natural gas heating input.

.13 Provide natural gas piping connection to unit heater. Piping to be run appropriately from existing service in basement mechanical room.

.14 Unit heater serve storage room and be hung at high level with airflow directed towards exterior wall and entrance.

.4 Leisure Pool:

.1 Provide complete, fully functional mechanical pool system including spray features in accordance with all existing and forthcoming codes and standards.

.2 All mechanical equipment for new leisure pool and spray features to be located in new basement mechanical room.

.3 Provide all required mechanical equipment, piping, and control systems to allow operation of pool, including simultaneous operation of all spray features.

.4 Pool:

.1 Provide and install duplex pump system to allow one complete pool water change of approximately 110 m^3 (29,500 gal) every six hours, approximately 5 L/s (80 gpm).

.2 Provide and install one ultraviolet (UV) water filter of appropriate size and capacity for approximate pool volume of 110 m^3 (29,500 gal), and flow rate of 5 L/s (80 gpm).

.3 Provide and install one sand filter of sufficient size to accommodate approximate pool volume of 110 m^3 (29,500 gal) and flow rate of 5 L/s (80 gpm).

.4 Provide and install one chlorination system of appropriate size and capacity for approximate pool volume of 110 m^3 (29,500 gal), and flow rate of 5 L/s (80 gpm).

.5 Provide a minimum of two natural gas fired pool heaters of the following minimum capacity:

.1 150 MBH natural gas heating input (each).

.6 Provide natural gas piping connection to each pool heater. Piping to be run appropriately from existing service in basement mechanical room.

.7 Leisure pool supply, return, and vacuum piping to be routed from new basement mechanical room underground to leisure pool perimeter for fixture connections.

.8 Provide skimmers, vacuum outlets, drains, supply outlets, and appropriate piping connections.

.9 Bottom pool drains and pool drainage piping system to be of sufficient capacity to allow operation of pool water system and all spray features simultaneously.

.10 Provide 2" (50mm) domestic water pool fill line underground from basement mechanical room to pool area.

.5 Spray Features:

.1 Provide all required mechanical equipment, piping, and control systems to allow operation of all spray features in accordance with all current applicable standards.

.2 Provide and install spray features as per the following quantities and specifications:

.1 Small Spray Features (3-6 gpm) - 5

.2 Medium Spray Features (7-19 gpm) - 5

.3 Large Spray Features (20+ gpm) - 5

.3 Provide and install spray feature pump within new basement pool mechanical room to allow simultaneous operation of all 14 spray features totaling approximately 12 L/s (190 gpm).

.4 Spray feature supply piping to be routed from new basement mechanical room underground to leisure pool for fixture connections.

.5 Provide appropriate valving, piping, and controls to allow individual spray feature operation if necessary.

.6 Spray feature control to be operated by programmable timer.

.7 Provide interlock to prevent spray feature operation when pool system is not running.

NOVA 3 ENGINEERING LTD.
201 - 120 Fort Street
Winnipeg, Manitoba
R3C 1C7 CANADA

CONSULTING ENGINEERS
Phone (204) 943-6142
Fax (204) 942-1276
info@nova3.ca

Date: April 30, 2014

Re: **Transcona Centennial Pool Feasibility Study**
Electrical Outline Project Specification –
1101 Wabasha St., Winnipeg, MB

Our File: 34-112E

Project Summary:

Phase 1 (by others): New exterior pool.

Phase 2: Demolition of existing washroom and locker areas to accommodate new washroom and locker room renovations including building addition.

Phase 3: Addition of new indoor leisure pool to existing building.

Electrical Provisions:

- Provide electrical demolition as required to accommodate renovation. Refer to architect's demolition plan for areas to be demolished. All electrical outside the areas of renovation is to be maintained operational throughout the project. Re-route/re-wire as required. No wiring and/or raceways are to be left abandoned within the renovated area. Remove back to associated panel where practicable.
- Existing underground power services are to be removed and replaced with one new underground service. A new 600A-347/600V-3ph-4w pad mounted CSTE c/w metering is proposed to be located in the parking lot to the north-east of the pool, subject to Manitoba Hydro's acceptance. From the new distribution, the existing 200A-240V-3ph-3w distribution and the existing 200A-120/240V-1ph-3w distribution are to be re-fed (they are currently located in the existing basement). The new main distribution will be located within the new addition basement.
- Provide new lighting throughout renovated areas. Refer to architect's renovation plan for areas to be renovated. Proposed luminaires are as follows:
    - Locker rooms: vapour-tight, vandal resistant T5 fluorescent luminaires, with occupancy sensor control.
    - Lobby: LED direct/indirect suspended luminaires.
    - New basement mechanical room and storage rooms: chain suspended T5 fluorescent strips c/w wireguards on occupancy sensor control.
    - Existing indoor pool: existing T5 HO fluorescent luminaires are anticipated to remain.
    - Offices and staff areas: recessed fluorescent compatible with ceiling type.
    - Leisure pool: LED highbay luminaires mounted close to the ceiling.
    - Other areas: fluorescent compatible with ceiling type.
    - Exterior building lighting: wall mounted LED cut-off luminaires for new and existing building (replace existing HID fixtures).
    - Parking Lot (east of Wabasha): two new LED post mounted luminaires.

- Provide local line voltage lighting control within each room, where not otherwise specified.
- Provide receptacles to meet user's requirements and as per code.
- Wire & connect all owner's equipment including pool equipment.
- Provide electric hand dryers as shown on architectural drawings.
- Provide emergency lighting and exit signage throughout the complex to meet code. Emergency lighting is to be remote DC heads c/w central battery banks to provide 60 minutes backup capacity. All exit signs in the building are to be the new running man style.
- Provide a code conforming fire alarm system extension throughout the renovated and new addition areas. Existing FACP is an addressable Edwards Fireshield and is located in the existing basement. A new system annunciator panel will be required at the new main entrance. As the building is not sprinklered throughout, heat detection is required. Audible devices are to match existing horn/strobes. Provide fire alarm verification inspection of all new/modified devices.
- Provide voice/data outlets in all offices and mechanical rooms. Each outlet is to be provided a minimum of two Cat 6 UTP cables back to a new LAN rack in the basement. Provide patch panels, jacks, terminations and testing of all communication cables.
- Wire & connect all new mechanical equipment. Refer to mechanical outline specifications for details.
- Provide a security system extension throughout new and renovated areas including motion detector coverage of all public areas, door contacts on all exterior doors, sonic glass break detectors at all main floor windows, and keypads at all staff entrances.
- Provide card access control of all staff entrance exterior doors. Allow for four controlled doors.
- Provide CCTV system extension to record the following views: all exterior entrance doors, main lobby, leisure pool area.
- Provide a public address system with call station at main reception and speakers throughout new and renovated areas.
- Replace existing wiring and raceways in crawlspace around existing indoor pool which is corroded and degraded.
- Wiring method to generally be EMT conduit with liquid-tight fittings. Minimum wire size #12 AWG copper.

Spinny Squirt

C02-540/C02-541

Spraying water from 5 nozzles circling the main sphere, the Spinny Squirt will have toddlers thrilled to get through the spray and up to the feature to turn it in a complete, never-ending 360º. Create a comprehensive toddler zone by pairing with ground sprays and features like Fun Guy and Misty Twisty.

Spinny Squirt **C02-540**

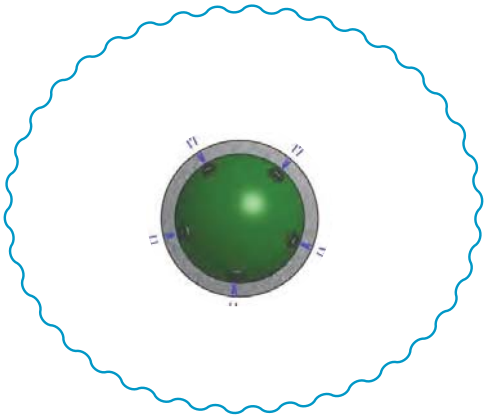
SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
2'1"/639mm	Ø12'/3658mm

NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
5/19	●	●

COMPATIBILITY		
DEX	I.S.E.	WET WHEEL
●		
PLAY PAL	PUSH 'N PLAY	

PLAY ZONES		
TODDLER	CHILD	YOUTH
●		

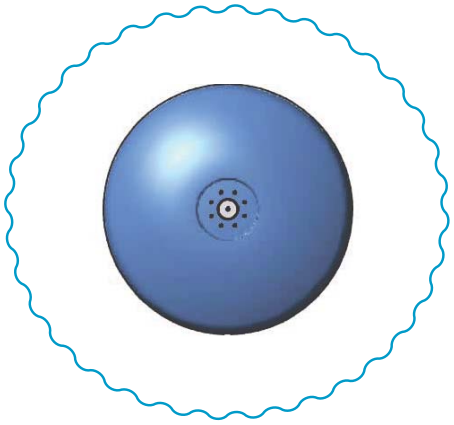
Spinny Squirt - w/ DEX **C02-541**



Rain Cap
C02-017

The Rain Cap is a classic aquatic play feature that waterplayers love to gather under. Create a water garden oasis by pairing with Trilly Lillies, Daisy Maes, Cat Tails and Poly Palms.

Rain Cap		C02-017
SIZE SPECIFICATIONS		
HEIGHT	SPRAY AREA	
9'10"/2997mm	Ø16'/4900mm	
NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
10-22/38-83	●	●
COMPATIBILITY		
DEX	I.S.E.	WET WHEEL
●	●	●
PLAY PAL	PUSH 'N PLAY	
●	●	
PLAY ZONES		
TODDLER	CHILD	YOUTH
●	●	



Papillon
C02-172

Papillon is a uniquely beautiful play feature, with a special spout for water and a curvy body and wings painted to the colours of your choice. Create a garden-like environment with similar features like Waterleaf, Daisy Mae, Trilli Lily and Flower Play Spray.

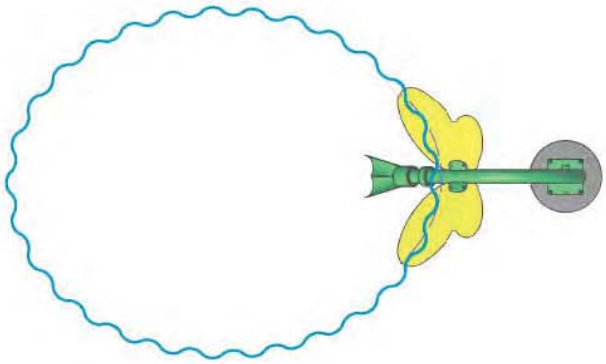
Papillon C02-172

SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
10'11"/3328mm	Ø14'/4300mm

NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
10-38/20-76	•	•

COMPATIBILITY		
DEX	I.S.E.	WET WHEEL
•		
PLAY PAL		PUSH 'N PLAY

PLAY ZONES		
TODDLER	CHILD	YOUTH
	•	•



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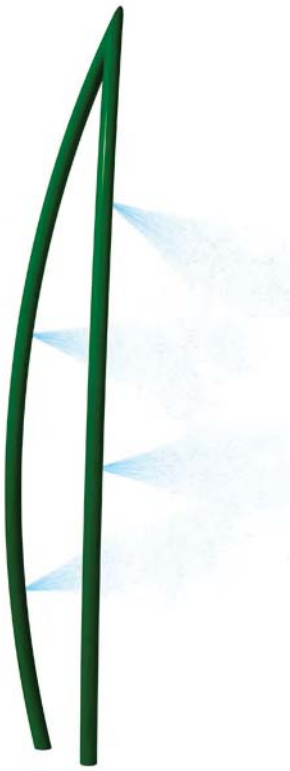

Morning Grass 3

Features + Specifications

- Sprays waterplayers as they run by
- Features recessed spray nozzles
- Super durable powder coat finish

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
Ø3.5" (89 mm)	2 x 1" (25 mm)	4 x 3/4" (19 mm)

Play Zones	Toddler	Child	
Special Features			
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	5 GPM	19 LPM	
Height	12'	3661 mm	
Width	2'3"	678 mm	
Length			
Spray Area	12' x 24'	3657 x 7315 mm	
Install Options	DEX	Embedded	
Materials	A304 stainless steel		

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Confetti Spray

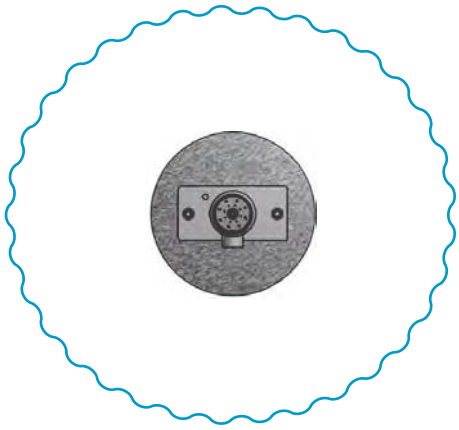
Watch this ground spray exalt a sense of celebration with eight larger streams encircling the perimeter and eight smaller streams shooting straight up the centre. Spraying up to about 36 inches, the Confetti Spray is cause for celebration.

Confetti Spray

SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
n/a	Ø16'/4877mm

NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
4-6/15-30	•	•

PLAY ZONES		
TODDLER	CHILD	YOUTH
•	•	•



Charlottes Web

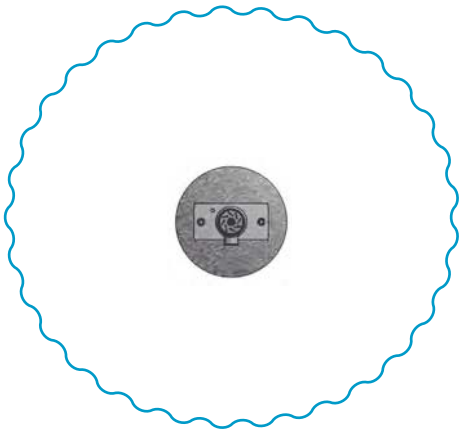
This ground effect shoots from 10 openings angled to spray at 75° creating a wide-spread circular pattern reminiscent of a spider shooting its web. Charlottes Web reaches up to 60 inches or 1524 mm high.

Charlottes Web

SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
n/a	Ø20'/6096mm

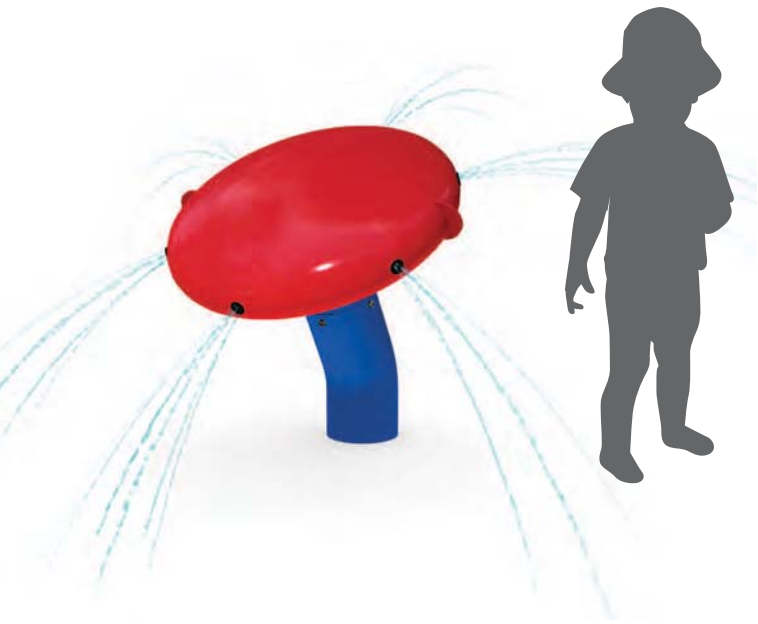
NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
6-9/23-34	•	•

PLAY ZONES		
TODDLER	CHILD	YOUTH
•	•	•



Fun-Guy

C02-558/C02-561



Spraying water from six nozzles that encircle its rotating cap, the Fun-Guy is designed to intrigue and excite toddlers in any aquatic environment. This feature aids in development of motor skills and offers a variety of means in which to engage. Watch as waterplayers tap it like a drum, spin the cap and cover the nozzles to increase the distance of the uncovered sprays! Consider investing in custom graphics to really make this feature come to life.

Fun-Guy C02-558

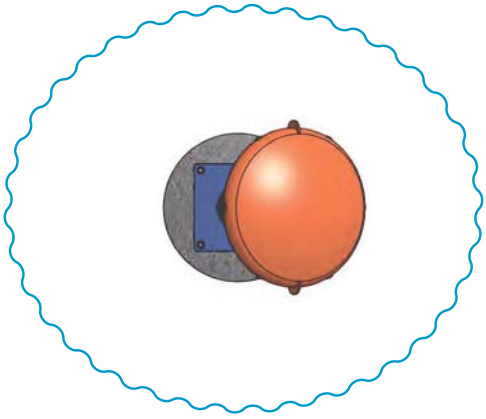
SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
2'0"/610mm	Ø8'/2440mm

NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
3-6/11-23	●	●

COMPATIBILITY		
DEX	I.S.E.	WET WHEEL
●		
PLAY PAL	PUSH 'N PLAY	

PLAY ZONES		
TODDLER	CHILD	YOUTH
●		

Fun-Guy - w/ DEX C02-561



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AVAILABLE COLOURS FOR FISH: As shown

COLOUR OPTIONS: STREAM BED

Stone | Sand | Blue

Little Bend - One Fish

Features + Specifications

- Waterplayers will have a blast maneuvering the flow of water with this playful fish
- Modular stream configuration adapts to any play environment
- Interactive weirs encourage engaging and mindful play for all ages
- Suggested water depth: 2" (50mm)

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
n/a	n/a	n/a

Play Zones	Toddler	Child	Youth
Special Features	Interactive	Movement	
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate			
Height	9"	229 mm	
Width	3'5"	1050 mm	
Length	3'10"	1162 mm	
Spray Area			
Materials	AquaPoly™, AquaCrete™		

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NOTE: For full product specifications, please refer to component written specification document. Due to our continuing product improvement program, Waterplay® Solutions Corp. reserves the right to change specifications without notice.

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Dew Drop

Features + Specifications

MORE DETAILS

- Dew Drop's clear bucket fills and dumps intermittently, splashing onto waterplayers below
- Super durable powder coat finish

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
Ø3.5" (89 mm)	2 x 1" (25 mm)	n/a

Play Zones		Child	Youth
Special Features			
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	10 GPM		38 LPM
Height	10'11"		3320 mm
Width	2'11"		898 mm
Length			
Spray Area	Ø20'		Ø6096"
Install Options	DEX		Embedded
Materials	A304 stainless steel, AquaLume™, AquaPoly™		

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Snake

Features + Specifications

MORE DETAILS

- This interactive ground spray erupts with a bigger and bigger spray as waterplayers work together to cover up nozzles
- Flush-mounted to prevent tripping

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
n/a	1 x 1" (25 mm)	5 x 1.5" (89 mm)

Play Zones	Toddler	Child	Youth
Special Features	Interactive		
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	20 GPM		76 GPM
Height			
Width	3'6"		1067 mm
Length	3'6"		1067 mm
Spray Area	Ø18'		Ø5486 mm
Install Options	DEX		Embedded
Materials	Aquacrete™, acetal nozzles		

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Gecko

Features + Specifications

- This interactive ground spray erupts with a bigger and bigger spray as waterplayers work together to cover up nozzles
- Flush-mounted to prevent tripping

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
n/a	1 x 1" (25 mm)	3 x 1.5" (89 mm)

Play Zones	Toddler	Child	Youth
Special Features	Interactive		
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	12 GPM		45 LPM
Height			
Width	1'6"		451 mm
Length	3'11"		1187 mm
Spray Area	Ø16'		Ø4877 mm
Install Options			Embedded
Materials	Aquapoly™, acetal nozzles		

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Frog

Features + Specifications

- This interactive ground spray erupts with a bigger and bigger spray as waterplayers work together to cover up nozzles
- Flush-mounted to prevent tripping

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
n/a	1 x 1" (25 mm)	3 x 1.5" (89 mm)

Play Zones	Toddler	Child	Youth
Special Features	Interactive		
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	12 GPM		45 LPM
Height			
Width	1'8"		508 mm
Length	1'10"		565 mm
Spray Area	Ø15'		Ø4572 mm
Install Options			Embedded
Materials	Aquacrete™, acetal nozzles		

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Ants 5

Features + Specifications

- This interactive ground spray erupts with a bigger and bigger spray as waterplayers work together to cover up nozzles
- Flush-mounted to prevent tripping

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
n/a	5 x 1" (25 mm)	5 x 1.5" (89 mm)

Play Zones	Toddler	Child	Youth
Special Features	Interactive		
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	20 GPM		76 LPM
Height			
Width	1'6"		457 mm
Length	7'4"		2235 mm
Spray Area	20' x 4'		6096 x 4267 mm
Install Options			Embedded
Materials	Aquacrete™, acetal nozzles		

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Blue Bottle

Features + Specifications

- Waterplayers use Blue Bottle's leaf-shaped handle to spin the spraying flower around and around
- Top half of feature rotates 360°
- Super durable powder coat finish

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
Ø3.5" (89 mm)	1x 1.5" (38 mm)	3 x 2.5" (63.5 mm)

Play Zones		Child	Youth
Special Features	Interactive	Movement	
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	20 GPM		76 LPM
Height	8'10"		2686 mm
Width	Ø3'		Ø906 mm
Length			
Spray Area	Ø24'		Ø7315 mm
Install Options	DEX		
Materials	A304 stainless steel, AquaLume™, AquaPoly™		

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Aneth Bloom 1

Features + Specifications

- Water sprays from the stem of the Aneth Bloom, through and deflecting off of the floral top and showering waterplayers below
- The blooming canopy creates additional shade on the aquatic play pad
- Super durable powder coat finish

MORE DETAILS

Pipe Diameter	Water Inlet(s)	Spray Nozzle(s)
Ø3.5" (89 mm)	1 x 1.5" (38 mm)	1 x 2.5" (63.5 mm)

Play Zones	Toddler	Child	
Special Features			
Enviro Flow Rate			
Low Flow Rate			
High Flow Rate	10 GPM	38 LPM	
Height	10'8"	3245 mm	
Width	Ø4'8"	Ø1422 mm	
Length			
Spray Area	Ø30'	Ø9144 mm	
Install Options	DEX	Embedded	
Materials	A304 stainless steel, AquaLume™		

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NOTE: For full product specifications, please refer to component written specification document. Due to our continuing product improvement program, Waterplay® Solutions Corp. reserves the right to change specifications without notice.

Action Plate

C02-168

Equipped with Waterplay's high quality activation technology, the Action Plate is a great way to add interactive play value to any aquatic play pad, all waterplayers have to do is touch it with their toes to bring aquatic play features to life. Using Piezo craftsmanship, this activator requires no sensitivity adjustment and has a higher tolerance for water around the play pad.

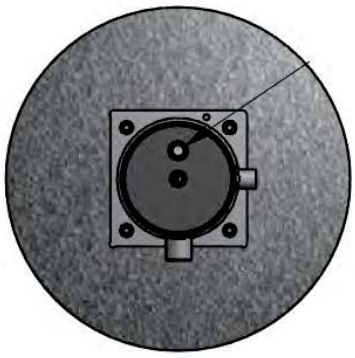
Action Plate **C02-168**

SIZE SPECIFICATIONS	
HEIGHT	SPRAY AREA
n/a	n/a

NOZZLE FLOWS		
GPM/LPM	ENVIRO (LOW)	HIGH
n/a		

COMPATIBILITY		
DEX	I.S.E.	WET WHEEL

PLAY ZONES		
TODDLER	CHILD	YOUTH
●	●	●



GWH
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1 x 1 Architecture
421 Mulvey Avenue East
Winnipeg, Manitoba
R3L 0R6

May 8, 2014

Attention: Mr. Travis Cooke, Architect

Dear Travis;

Re: Level "D" Construction Estimate Transcona Centennial Pool, Interior Alterations / Addition and Splash Pad Addition, Winnipeg, Manitoba, Phase 2 and Phase 3

Attached please find our divisional breakdown summary with class "D" construction estimate, for the above noted project, based on your feasibility study drawings dated April 30, 2014.

The overall estimated cost of the entire project is valued at $3,115,001.00 for phase 2 + GST in 2014 dollars and $3,574,704.00 + GST for phase 3 in 2016 dollars, including a 15% design and estimate contingency allowance. This cost is based on 2 separate tender packages, overall project costs could be reduced marginally if projects were tendered as 1 project.

The accuracy of this estimate at level "D" should range between - 25% to +25%, of the tender prices you will be receiving. We never estimate to be low bidder rather mid bid in a bidder group of at least 5 general contractors

The following list of exclusions should be considered by all parties while reviewing the estimate.

Exclusions and Clarifications are as follows:

- Design, Engineering and Project Administration Costs.
- All costs are based on current month costs for phase 2.
- GST is Extra
- Escalation to 2016 as noted for phase 3
- Market Conditions excluded.
- Cash Allowances are included as noted.

Ownership and accuracy of the estimates, provided by GWHCMS Ltd.:

All estimates, reports, and similar documents prepared by GWHCMS Ltd. Shall remain the property of GWHCMS Ltd. The client will have access to all documents and worksheets related to the project and they shall be made available upon request.

Pricing by GWHCMS Ltd. reflects probable construction costs obtainable in the location of the project as of the date of the report and is a determination of fair market value for the construction of this project and should not be taken as a prediction of low bid.

This pricing assumes competitive bidding for every portion of the construction work including all subcontractors as well as the general contractor, and assumes a minimum of five (5) general bidders. If fewer bids are received, the bid results can be expected to be higher.

It is recognized, however that GWHCMS Ltd. does not have control over the cost of labor, materials or equipment, over a contractor's methods of determining bid prices, or over competitive bidding, market or negotiation conditions.

Accordingly GWHCMS Ltd. cannot and does not warrant or represent that bids or negotiated prices will not vary from this nor any subsequent estimate of construction cost or evaluation prepared by or agreed to by GWHCMS Ltd.

Trusting you will find the attached information helpful, please feel free to contact us at your convenience should you have any questions or concerns.

Respectfully yours,

Gerhard Hoppenheit C.E.T., P.Q.S., G.S.C.
President
GWH Construction Management Services Ltd.

GH/sh

GWH Construction Management Services Ltd. 08-May-14

Class "D" Construction Estimate Anticipated Accuracy - 25% to + 25% Project # 2014-27

Project: Transcona Centennial Pool Feasibility Study, Winnipeg, Manitoba

Client: 1 x 1 Architecture Project Duration: 20 Months
Phase 2 and 3

Divisional Cost Breakdown: Addition and Renovations

Item #		Activity			Phase 2	Phase 3
					10 Months	10 Months
1		General Requirements				
		Cash Allowances			$27,500	$27,500
		Cash Allowances (Trees)			$40,000	
		Clean-up, Final Clean, Tools,		Incl Below		
		Freight and Cartage		Incl Below		
		Project Coordination & General Superintendent		Incl Below		
		Temporary Facilities		Incl Below		
		Temp. Power and Light, Signage, Safety, As- Builts Etc.		Incl Below		
					$377,100	$377,100
2		Site and Exterior Work				
		General Exterior, Site and Building Demolition			$40,315	$27,450
		Piling			$73,800	$25,200
		Earth Work and Shoring			$102,725	$7,375
		Dewatering and Sumps			$8,500	
		Backfill and Grading			$10,000	$15,000
		Landscaping			$3,000	$5,000
		Sidewalks, Ramps, Landings, and Railings			$12,000	$10,000
		Asphalt Paving				$24,000
		Fencing				$3,700
3		Concrete Work & Reinforcing Steel				
		Concrete Work & Reinforcing Steel			$146,270	
		Concrete Work & Reinforcing Steel				$97,910
4		Masonry				
		Exterior Masonry Walls			$53,257	
		Interior Masonry Walls			$140,400	
		Exterior Masonry Walls				$129,808
		Interior Masonry Walls				$29,700
5		Structural Steel & Miscellaneous Metal				
		Steel Columns, Girts, X-Bracing			$162,481	$175,088
		Miscellaneous Metal			$40,000	$44,000
6		Rough Carpentry & Fasteners, Millwork				
		Misc. Roof Carpentry Blocking and Fasteners			$1,722	$1,692
		Wood Beams			$49,920	$98,685
		Wood Deck			$9,800	$23,450
		Millwork (Staff Room Kitchenette)			$5,500	
7		Thermal & Moisture Protection				
		Foundation Insulation and Protection Board and Damproofing			$7,728	
		Foundation Insulation and Protection Board and Damproofing				$6,048
		AVB and Wall Insulation			$23,025	
		AVB and Wall Insulation				$51,475
		Spray-on Insulation Allowance			$5,000	
		Spray-on Insulation Allowance				$10,000
		Fiber Cement and Wood Siding				$119,600
		Roofing and Roof Drainage			$44,800	
		Roofing and Roof Drainage				$107,200
8		Doors, Frames, Hardware, Windows				
		Doors, Frames, Hardware, Windows, Curtain Wall			$119,425	$141,950
9		Finishes				
		Acoustic Ceilings			$3,088	
		Ceramic Floor Tile			$100,100	$69,600
		Painting			$21,450	$17,400
10		Specialties: Signage, Lockers, Washroom Accessories, Visual Display				
		Exterior Signage				$2,500
		Interior Signage, Lockers, Stalls, Washroom Accessories, Benches			$178,875	
11		Window Treatments			$0	$0
12		Splash Pad Equipment			$0	$280,800
13		Plumbing, HVAC, Controls			$352,000	$385,555
14		Fire Protection			$1,350	
15		Electrical			$246,600	$243,600
			Subtotal		$2,407,731	$2,558,386
16		Permits, Bonds, Insurance, Overhead & Fee			$300,966	$319,798
17		Design and Estimate Contingency Allowance 15%			$406,305	$431,728
18		Escalate Phase 2 to 2016 at 8%				$264,793
	Phase 2	Cost / Sf based on 7,150 sf = $435.66	Total		$3,115,001	$3,574,704
	Phase 3	Cost / Sf based on 5,800 sf = $616.33				

Estimate Sheet | Transcona Centennial Pool Feasibility Study Winnipeg, Mb. | GWHCMS Ltd. | 08-May-14

Class D Estimate

Item	Description	Qty.	Unit	Rate	Cost	Phase 2	Phase 3		
1	**General Requirements**	1	ls	$377,100	$377,100	$377,100			
	General Requirements	1	ls	$377,100	$377,100		$377,100		
	Cash Allowances	1	ls	$27,500.00	$27,500	$27,500			
	Cash Allowances	1	ls	$27,500.00	$27,500		$27,500		
	Cash Allowances (Trees)	1	ls	$40,000.00	$40,000	$40,000			
2	**Site Works**								
	Demolish Exterior Concrete and Ramps	1	ls	$18,000.00	$18,000	$18,000			
	Interior Demolition	2390	sf	$3.50	$8,365	$8,365			
	Demolish Complete Structure	930	sf	$15.00	$13,950	$13,950		$40,315	
	Demolish Complete Structure	1025	sf	$18.00	$18,450		$18,450		
	Tie- In Selective Demolition	6	each	$1,500.00	$9,000		$9,000	$27,450	
	Piling	41	each	$1,800.00	$73,800	$73,800			
	Piling	14	each	$1,800.00	$25,200		$25,200		
	Shoring	100	lf	$750.00	$75,000	$75,000			
	Excavation and Haul	1109	cy	$25.00	$27,725	$27,725		$102,725	
	Excavation and Haul	295	cy	$25.00	$7,375		$7,375		
	Sumps and Dewatering	1	ls	$8,500.00	$8,500	$8,500			
	Site Backfill and Grading	1	ls	$10,000.00	$10,000	$10,000			
	Site Backfill and Grading	1	ls	$15,000.00	$15,000		$15,000		
	Landscaping	1	ls	$3,000.00	$3,000	$3,000			
	Landscaping	1	ls	$5,000.00	$5,000		$5,000		
	Sidewalks and Landings and Railings	4	each	$2,500.00	$10,000		$10,000		
	Sidewalks and Stairs and Ramps and Railings	2	each	$6,000.00	$12,000	$12,000			
	Asphalt Drive	3000	sf	$8.00	$24,000		$24,000		
	Fencing and Gates	4	each	$925.00	$3,700		$3,700		
3	**Concrete Work**								
	Concrete Wall	138	lf	$265.00	$36,570	$36,570			
	Grade Beam	280	lf	$95.00	$26,600	$26,600		$63,170	
	Grade Beam	298	lf	$95.00	$28,310		$28,310		
	Pile Caps	15	each	$1,500.00	$22,500	$22,500			
	Doweling	1	ls	$7,500.00	$7,500	$7,500			
	Suspended Slab	1200	sf	$18.00	$21,600	$21,600			
	Basement SOG	1200	sf	$9.00	$10,800	$10,800			
	Slab S-1	1000	sf	$12.00	$12,000	$12,000			
	Slab S-2	600	sf	$12.00	$7,200	$7,200		$81,600	
	Slab S-3 Depressed with Curb	5800	sf	$12.00	$69,600		$69,600	$97,910	
	Misc. Concrete (Stair Pan and Landings)	1	ls	$1,500.00	$1,500	$1,500		$1,500	$146,270
4	**Masonry**								
	Exterior Masonry Walls	2803	sf	$19.00	$53,257	$53,257			
	Interior Masonry Walls	7800	sf	$18.00	$140,400	$140,400			
	Exterior Masonry Walls	6832	sf	$19.00	$129,808		$129,808		
	Interior Masonry Walls	1650	sf	$18.00	$29,700		$29,700		
5	**Structural Steel and Miscellaneous Metals**								
	New Window Opening	1	each	$4,500.00	$4,500	$4,500			
	C1 and C2 Columns	36900	lbs	$4.00	$147,600	$147,600			
	C1 and C2 Columns	36540	lbs	$4.00	$146,160		$146,160		
	X Bracing	2455	lbs	$3.50	$8,593	$8,593			
	X Bracing	7365	lbs	$3.50	$25,778		$25,778		
	G-1	511	lbs	$3.50	$1,789	$1,789		$162,481	
	G-1	900	lbs	$3.50	$3,150		$3,150	$175,088	
	Miscellaneous Metal; Railings and Stairs	1	ls	$40,000.00	$40,000	$40,000			
	Miscellaneous Metal; Railings and Ladder, Fall Protection, Mezzanine and Stair	1	ls	$44,000.00	$44,000		$44,000		
6	**Carpentry**								
	Misc. Roof Carpentry Blocking and Fasteners	287	lf	$6.00	$1,722	$1,722			
	Misc. Roof Carpentry Blocking and Fasteners	282	lf	$6.00	$1,692		$1,692		
	Wood Beams	768	lf	$65.00	$49,920	$49,920			
	Wood Beams	731	lf	$135.00	$98,685		$98,685		
	Wood Decking	2800	sf	$3.50	$9,800	$9,800			
	Wood Decking	6700	sf	$3.50	$23,450		$23,450		
	Millwork (Staff Room Kitchenette)	10	lf	$550.00	$5,500	$5,500			

		Qty.	Unit	Rate	Cost	Phase 2	Phase 3	
7	**Thermal and Moisture**							
	Grade Beam Insulation and Protection Board	966	sf	$5.75	$5,555	$5,555		
	Grade Beam Insulation and Protection Board	756	sf	$5.75	$4,347		$4,347	
	Damproofing	966	sf	$2.25	$2,174	$2,174		$7,728
	Damproofing	756	sf	$2.25	$1,701		$1,701	$6,048
	AVB	3000	sf	$3.00	$9,000	$9,000		
	AVB	7100	sf	$3.00	$21,300		$21,300	
	Rigid Wall Insulation	3300	sf	$4.25	$14,025	$14,025		$23,025
	Rigid Wall Insulation	7100	sf	$4.25	$30,175		$30,175	$51,475
	Spray-on Insulation Allowance	1	ls	$5,000.00	$5,000	$5,000		
	Spray-on Insulation Allowance	1	ls	$10,000.00	$10,000		$10,000	
	Fiber Cement Siding	6000	sf	$17.00	$102,000		$102,000	
	Wood Siding	800	sf	$22.00	$17,600		$17,600	$119,600
	Roofing, Gutters and Down Spouts	2800	sf	$16.00	$44,800	$44,800		
	Roofing, Gutters and Down Spouts	6700	sf	$16.00	$107,200		$107,200	
8	**Doors and Windows**							
	Interior Doors	18	each	$1,100.00	$19,800	$19,800		
	Exterior Insulated Doors Single and Double	5	each	$1,400.00	$7,000	$7,000		
	Exterior Sidelights Transoms	45	sf	$75.00	$3,375	$3,375		
	Interior Steel Windows	350	sf	$45.00	$15,750	$15,750		
	Sliding Grille	43	lf	$125.00	$5,375	$5,375		
	Power Assist	10	each	$1,750.00	$17,500	$17,500		
	Curtain Wall	675	sf	$75.00	$50,625	$50,625		$119,425
	Interior Doors	2	each	$1,100.00	$2,200		$2,200	
	Exterior Insulated Doors Single and Double	3	each	$1,400.00	$4,200		$4,200	
	Aluminum Doors and Hardware	4	each	$1,750.00	$7,000		$7,000	
	Power Assist	21	each	$1,750.00	$36,750		$36,750	
	Curtain Wall	1224	sf	$75.00	$91,800		$91,800	$141,950
9	**Finishes**							
	Acoustic Ceilings	650	sf	$4.75	$3,088	$3,088		
	Ceramic Floor Tile	7150	sf	$14.00	$100,100	$100,100		
	Ceramic Floor Tile	5800	sf	$12.00	$69,600		$69,600	
	Painting Walls and Doors	7150	sf	$3.00	$21,450	$21,450		
	Painting Walls and Doors	5800	sf	$3.00	$17,400		$17,400	
10	**Specialties & Equipment**							
	Lockers	195	each	$735.00	$143,325	$143,325		
	Exterior Signage Allowance	1	ls	$2,500.00	$2,500		$2,500	
	Interior Signage Allowance	1	ls	$3,500.00	$3,500	$3,500		
	Locker Room Benching	8	each	$500.00	$4,000	$4,000		
	UA Washroom Bench	2	each	$500.00	$1,000	$1,000		
	Washroom Partitions, Stalls, Screens	1	ls	$14,300.00	$14,300	$14,300		
	Washroom Accessories	1	ls	$11,775.00	$11,775	$11,775		
	Visual Display Boards	3	each	$325.00	$975	$975		$178,875
11	**Splash Pad Equipment**						$280,800	
12	**Plumbing and HVAC and Controls**	1	ls	$0.00	$0	$352,000		
	Plumbing and HVAC and Controls	1	ls	$0.00	$0		$385,555	
13	**Fire Protection**							
	Sprinkler System Modifications	0	sf	$0.00	$0			
	Fire Extinguishers and Cabinets and Signage	3	each	$450.00	$1,350	$1,350		
14	**Electrical**							
	New Service and Distribution	1	ls	$35,000	$35,000	$35,000		
	Renovations to Existing	3150	sf	$24.00	$75,600	$75,600		
	Building Lighting, Fire Alarm, Emergency and Exit, Mechanical Connect	4000	sf	$34.00	$136,000	$136,000		$246,600
	Building Lighting, Fire Alarm, Emergency and Exit, Mechanical Connect	5800	sf	$42.00	$243,600		$243,600	
					Total	$2,407,731	$2,558,386	

General Requirements | Transcona Centennial Pool | 08-May-14

Prepared for: 1 x 1 Architecture | 20 Month Schedule
Phase 11 and 111
Prepared By; GWHCMS Ltd | Class D

Item Name	Quantity	Unit	Rate	Total
General Clean-up	20	Month	$500.00	$10,000
Snow Removal	10	month	$500.00	$5,000
Garbage Bins 2	40	month	$350.00	$14,000
Haul Waste to Recycler	28	trips	$250.00	$7,000
Final Clean-up	12000	sf	$0.25	$3,000
Tools and Barricades	20	Month	$500.00	$10,000
Heavy Equipment Rentals				
Bob Cat	6	month	$1,200.00	$7,200
Man Lift	8	month	$850.00	$6,800
Scissor Lift	12	month	$850.00	$10,200
Scaffolding Allowance	20	month	$1,500.00	$30,000
Site Fence and Gates	1000	lf	$22.00	$22,000
Temp. Site Office	20	month	$600.00	$12,000
Temp. Sanitary	20	month	$600.00	$12,000
Cell Phone, PC, Site Com.	20	month	$450.00	$9,000
Security	0	month	$500.00	$0
Temp. Power	20	month	$350.00	$7,000
Temp. Panels and Feeders	20	month	$5,000.00	$100,000
Temp. Lights	20	month	$500.00	$10,000
Hoardings	0	ls	$1,000.00	$0
Superintendent	20	month	$9,000.00	$180,000
Project Manager (1/2 Time)	20	month	$5,800.00	$116,000
Foreman (6months each project only needed)	12	month	$7,500.00	$90,000
Room and Board	0	month	$2,500.00	$0
Travel and Fuel and Mileage	0	trips	$800.00	$0
Safety Coordinator	20	month	$800.00	$16,000
Cartage and Freight	20	month	$500.00	$10,000
Courier	20	month	$300.00	$6,000
Misc. Fuel and Travel Time	20	month	$250.00	$5,000
Safety Equipment,				
Railings, Fall Protection	20	month	$500.00	$10,000
Signage	2	ls	$750.00	$1,500
As-Builts	2	ls	$750.00	$1,500
Set up Owner Supplied Materials	2	ls	$5,000.00	$10,000
O & M's	6	each	$500.00	$3,000
Warranty	2	ls	$10,000.00	$20,000
Site Reports and Images	20	month	$250.00	$5,000
Demobilization	1	ls	$5,000.00	$5,000

$754,200

Phase 1 Phase 2
$377,100 $377,100