



STAFF REPORT

To: Management Committee

From: Robin D. Hale
Chief Operating Officer

Subject: **2012-2021 CAPITAL WORKS PROGRAM**

Date: 2011-09-01

Summary:

This report provides a description of the capital projects, timing and costs for consideration by the Management Committee.

Recommendation:

It is recommended that the 2012-2021 Capital Works Program, as attached, be recommended for approval by the Board.

Financial Implications:

The 2012-2021 Capital Works Program (CWP) is comprised of twelve (12) City debt supported projects and eight (8) externally funded projects listed in priority order (Schedule I). The City supported request within the CWP will require a total gross cash flow of \$98,582.0 thousand and \$59,466.0 thousand on a net basis after outside funding sources. The total gross cash flow required in 2012 is \$6,366.0 thousand, including \$966.0 thousand of carry-forwards from 2011. On a net basis, the amount of new funding requested for 2012 is \$4,500.0 thousand (including previously approved funding) after outside funding sources.

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Background:

The 2012-2021 Capital Works Program Planning documentation has been submitted (in draft) to the Financial Planning Division of the City of Toronto for review, analysis and forwarding to the Budget Committee and Executive Committee for approval by Council. Any changes by the Board will be communicated to the City.

In 2011, the City increased the debt target for the Toronto Zoo to \$6,000.0 thousand commencing in 2013 and subsequent years. This relieves some of the significant pressures faced by the Zoo in the 2012-2021 Capital Plan in attempting to meet its strategic objectives. Regardless of the increased debt target, a significant pressure and challenge that remains is the fact that construction costs continue to escalate at rates much higher than inflation. In Toronto, the Construction Index increased by 36.7% between 2002 and 2010, while the Consumer Price Index for the same period increased by 16.5%. The construction cost escalation issue exerts significant pressure on the Zoo and the tendering of large construction project given the capital funding and debt target constraints of the City. In the 2012-2021 Capital Plan, the Toronto Zoo has remained consistent in its philosophy related to project budgeting and design adopted in 2009, by including amounts for various projects within the Capital plan that better reflect the realistic cost of construction on a project by project basis. This costing practice is the optimum approach for costing the program to meet the requirements and objectives of each project based on the determination of the respective project elements and specifications.

With respect for the position of the City established in 2010 that the capital plan for the Toronto Zoo should only include projects with confirmed funding sources, there are several key projects submitted as “S7” within CAPTOR. As projects classed as “S7” are defined as projects that are required, but due to funding constraints are not included in the 10-year capital plan, this unfunded need creates additional pressures. As such, the plan as submitted is reliant on the Toronto Zoo’s and City’s ability to secure non-City funding for capital projects resulting from the significant fundraising campaign. We fully expect that externally funded projects not included in the approved 10-Year Capital Plan may be added in the future when fundraising results are realized.

The basis of the current CWP is the prior year's approved CWP and the following major reports completed previously: the Building Audit Report and Site Services Study, the Revenue and Visitor Experience Enhancement Study, the report on Information Needs 2000, the North Zoo Site Redevelopment Schematic Design, the Animal Health Facilities Feasibility Study, the Educational Development Feasibility Study, the Audit of Animal Exhibits & Holdings, and the Elephant Feasibility Study. The plan is also a continuation of the Zoo's twenty-five year Capital Master Plan of 1990 and is consistent with the directions provided in the 2009 Strategic Plan.

The Capital request is necessary to permit the Zoo to maintain a state of good repair of its assets, meet heightened public viewing expectations and satisfy our future accreditation requirements. With an estimated 1.3 million visitors annually, the Toronto Zoo intends to remain one of the top zoos in North America and a destination of choice.

Comments/Discussion:

The following discussion provides further information on the projects included in the Capital Works Plan.

2012-2021 Capital Projects – City Supported

North Zoo Site – Eurasia

The North Zoo Site Redevelopment Feasibility Study, which included the Canadian Wilderness Experience Concept Report, the Eurasia Rehabilitation Plan and the Tropical Americas Rehabilitation Plan, was adopted by the Board of Management in September 2003.

The overall project will complete the more efficient integration of visitor site circulation changes at the Zoo by bringing key Canadian animal exhibits now in the Rouge Valley up onto the tableland. The existing Canadian Domain exhibits are in need of major renovations for the welfare of the animals and viewing by the public. The need to eliminate the long walk and steep hill at the Canadian Domain for the primary Canadian/North American animal experience is necessary because of the absence of the Domain Ride. Although the Valley is a spectacular backdrop, the area has received visitor complaints concerning the long walk and steep hill.

The construction is phased to minimize operational disruptions for Zoo staff/public and to provide for an extended period of opening events.

The first phase, Tundra Trek was completed in 2009. The Tundra Trek won the coveted CAZA Baines Award and has received public acclaim for its innovative presentation of Northern species and habitat.

In 2011, the detailed design of Phase II (Eurasia Rehabilitation) of the North Zoo Site Redevelopment Project will be completed, followed by issuance of a tender for construction. This project involves the refurbishment of the existing Eurasia area. The Eurasia Rehabilitation will consolidate and intensify the experience by shortening the visitor path in the existing Eurasia area. A key component of the improvement includes a themed ride in the area as recommended in the Revenue & Visitor Experience Enhancement Study. Renovation of this area is expected to be on-going in 2012-2013. Preapproved funding for Eurasia redevelopment is included for 2011 for completion in 2013 prior to the Canadian Wilderness.

Giraffe House / Hoofstock

The giraffe house is one of the Zoo's original wooden structures, built in 1973. Due to its deteriorating condition it needs to be upgraded or replaced in the near future. The Giraffe House was listed as a major concern in the AZA Accreditation report in 2007 and therefore the project is being advanced in the CWP. Plans are also being developed to utilize the existing Elephant exhibit and holding for Giraffes as a result of the decision to retire the existing elephant herd at the Toronto Zoo. The changes to the elephant house would include adding mesh to the doors, removing some interior walls to provide additional open space for winter housing, and some minor barrier improvements to permit winter viewing. The exhibit will require the construction of retaining walls, sodding and barrier changes. The outdoor exhibit improvements will permit mixed species as well as lower level and eye level viewing. This would address the AZA Accreditation issue for the care and housing of the Giraffes.

The existing giraffe house is to be demolished and replaced with a simple concrete structure capable of housing a new hoofed animal species. A new house will incorporate the latest space and material standards as well as green energy to reduce utility usage. Improvements to the exhibit will include barrier modifications for the new species. It would also require a restraint unit installed in the house, a new floor with non-slip flooring material, sufficient storage and services, and a shelter / shade enclosure to provide year round adequate exercise area for the new species. Also required, is more indoor stalls and outdoor yards to provide adequate housing for breeding / surplus needs.

Design work is planned to commence in 2011 for the new house, yards and winter facilities, with construction scheduled for 2012-2013.

Wildlife Health Centre

In early 2004, staff and consultants developed the program for the provision of a separate quarantine facility and a new wildlife health centre.

Construction of the Quarantine Facility was completed in 2007, as the first phase of the Wildlife Health Facilities project. The Quarantine Facility enabled the Zoo to meet accreditation standards of the American and Canadian zoological associations that require quarantine of incoming animals for the protection of the existing collection. The existing wildlife health facility has evolved within an original Zoo animal holding building. It does not meet current hospital standards as detailed by various inspecting groups. Major deficiencies include: traffic flow problems; multiple functions of clinical and surgery rooms; inappropriate animal holding rooms which do not provide adequate environmental control for sensitive species; lack of recovery facilities; lack of appropriate holdings for large hoofed stock; narrow hallways; inadequate storage for equipment and supplies; lack of crate-washing facility; and limited vehicle access.

In 2011, detailed design of a new wildlife hospital and research facilities is underway and will be completed for use in the construction of the facility and to provide support for fundraising. As a follow-up to the detailed design of the Wildlife Health Centre, construction of the facility would be scheduled in 2013-2015. The construction phase is currently classed as a "S7" project and the fundraising campaign includes this project and support from the community is expected. As such, funds raised in the initial years of the capital campaign will be used for construction. The new Wildlife Health & Reproduction Centre will be specifically designed for medical and surgical care of zoo species, and will provide specialized housing for hospitalized animals. The facility will be equipped to provide maximum efficiency, comfort, and safety in handling and care of animal patients, in a professional and hygienic setting. The hospital will be designed to provide public viewing of elements of the medical procedures of interest to our visitors. The construction of the WHC is a key accreditation and state of good repair issue and has been deferred since 2007 to accommodate the capital targets.

Orangutan II & III: Indoor/Outdoor Exhibits

In 1994, the orang-utan holding capital project (Phase I) was completed. The current indoor exhibit is a design from 1974 and does not meet current zoo exhibit standards. The Orang-

utan Phase II is an exhibit improvement project to upgrade the indoor living conditions, animal enrichment and living space for the orang-utans and will also ensure a new standard of state of good repair. The area will be redesigned and renovated as a Borneo/Sumatran Rainforest habitat for these intelligent primates. The Phase III design includes provision for connection to a new outdoor exhibit at the south side of the Indo Malaya Pavilion. There is currently no outdoor area for the orang-utans. A seasonal outdoor exhibit is desirable for the behavioural enrichment of the animals, to be constructed as the final phase of the original Orang-utan Project.

The combined indoor/outdoor project would provide for a new landscape immersion visitor experience including education and interactive features and ensure a new standard of animal care.

In 2014, a conceptual design would be completed based on the initial feasibility report. Detailed design would then be scheduled with construction to follow in 2015-2016.

Canadian Wilderness

The Canadian Wilderness is Phase III of the North Zoo Site Redevelopment project and involves the creation of Mixed Woodland and Boreal Forest areas and the construction of a Canadian Wilderness Orientation Centre to complete the Canadian experience at the Zoo. This area had previously been included with the Eurasia redevelopment in order to complete the high priority Canadian Wilderness exhibits. This phase is dependent on external fundraising from the capital campaign and funds are provided in the budget in 2015-2017. It will complete the Canadian Wilderness Experience and will feature the new Orientation Centre, moose, beaver and otter exhibits, and a drive-through bison/elk paddock on the Zoomobile tour. Of major concern is that this phase of the project is classed as "S7" as this exhibit is a key State of Good Repair (SOGR) project for the Toronto Zoo. This project is intended to result in revitalized exhibits and a reduction of essential SOGR backlog issues. It will also address key accreditation issues that such exhibits must be built to modern animal care standards while ensuring that the Toronto Zoo continues to meet increased public expectations.

New Hippo House & Exhibit

The hippo house is one of the Zoo's original concrete structures, built in 1973. It needs to be upgraded or replaced to acceptable standards for breeding, animal management, winter holding and public viewing. A new house would incorporate the latest space and material standards as well as green energy to reduce utility usage. Construction of a new house closer to the present exhibit would correct the above problems and eliminate visitor viewing problems during times of inclement weather when the animals are restricted to the house. Also include for installation in the new house would be a restraint unit, new floors with non-slip flooring material, sufficient storage and services, and a shelter / shade structure to provide year round adequate exercise area for the hippos. Also required, is more indoor stalls and outdoor yards to provide adequate housing for breeding / surplus needs.

The new exhibit would be planned to allow for underwater viewing, keeper talks and winter viewing.

This project would be planned and constructed concurrently with the Elephant paddock if the Elephant program were to continue. However, regardless of the Elephant decision, expansion and design work for the Hippo House & Exhibit Refurbishment would commence in 2016 with construction of a new house, yards and winter facilities to follow in 2017-2018.

North Zoo Site – Tropical Americas

The Tropical Americas rehabilitation represents Phase IV of the North Zoo Site Redevelopment and will involve the relocation and consolidation of the South America exhibits along with the refitting of a portion of the exhibits in the Americas Pavilion for Tropical American animals. Funds are provided in the project budget in 2018-2020, however, the cost estimates will need to be re-adjusted based on recent project experience, as outlined previously.

Ride & Revenue Development

Development of thematic rides to enhance revenue and the visitor immersion experience includes a Safari Jeep ride in the African Savanna, planned for 2020-2021.

Building & Services Refurbishment

The Building & Services Refurbishment project, the result of a Building Audit Report approved by the Board in 1998, implements the repair or replacement of building components requiring attention over the next 10⁺ years. Since 1998, items of immediate concern, including the replacement of mechanical and electrical equipment in over 25 buildings on site, have been completed. Site services (gas, water, hydro) were reviewed and evaluated in a similar manner in 1999. A Bridge Condition Evaluation was conducted by an engineering consultant in early 2007 and outlined a series of repairs and rehabilitation for the seven bridges on the Zoo site.

To assist with future planning an Audit of Animal Exhibits & Holdings was completed in 2007 to determine the current repair status and future maintenance and replacement requirements, in compliance with accreditation standards, and to provide a comparison to similar holdings/exhibits at other accredited Zoos.

In 2011, replacement of roofs and skylights at Pavilions and animal holding and service buildings are planned for completion. Replacement of deteriorated glazing, walls, ceilings, siding, windows and doors at various Zoo buildings identified in the Building Audit will also be continued, as well as continuation of high voltage transformer replacements.

In 2012, replacement of deteriorated epoxy, metal work, ceilings, walls, siding, windows and doors at various Zoo buildings is planned to meet the AZA accreditation requirements. Also, replacement of vintage 1974 electrical cables, substations and transformers on site as recommended in the Site Services Study and Building Audit is planned along with completion of replacement of PCB containing transformers as required by MOE legislation. Replacement of roofs and skylights at Pavilions, animal holding buildings and service buildings on site as recommended in the Building Audit will also continue together with replacement of related mechanical equipment with new, including boilers, fans, and ventilation.

Exhibit & Holding Refurbishment

Exhibit & Holding Refurbishment is a multi-year plan involving various initiatives to renovate exhibits throughout the Zoo site.

For 2011-2012, replacement of the deteriorated Siberian Tiger Holding is planned to meet accreditation, animal welfare and state of good repair requirements. The holding building is of 1974 vintage and does not provide the necessary space requirements for current animal management needs. There is no keeper space and no flexibility in the movement of animals. The building envelope (roof, windows, and walls) and the caging system have reached the end of their economical life cycle. It is very likely that the 2012 inspections by AZA for accreditation will find this building not up to current standard due to these limitations. Utilization of a pre-cast concrete structure is proposed for this holding building to reduce the costs to within the budget allocation.

Information Systems

In 2003, the Toronto Zoo launched a project to replace the Zoo's core financial, retail and administrative systems with a public sector version of an off-the-shelf Enterprise Resources Planning (ERP) software package. A contract was awarded for the ERP system to be phased in over the period of 2005-2007. The Financial module was implemented in 2005 and the Service Management module went live in 2006. The Point of Sale systems were completed in 2007, and the Human Resources / timekeeping modules and Fixed Asset ledger were completed in 2008.

In 2011, the Zoo is completing the replacement of outdated hardware (Zoo owned PC's, and peripherals). Additionally, various technological enhancements, including digital signage, is continuing to meet the objective of enriching and exporting the Zoo experience to expanded markets through the extension of the Toronto Zoo Network to multiple locations and the setup of a secondary network.

In 2012, the BIOCON animal records database will be replaced with the new Zoo Information management System (ZIMS) which is being adopted by leading zoos across North America.

Grounds and Visitor Improvements

The Grounds and Visitor Improvements Project addresses the needs of the public concerning visitor amenities, the appearance of indoor and outdoor areas, improvements to site circulation and visitor orientation.

In 2011, the Zoo is continuing with the provision of additional seating, shade and drinking water fountains and washroom enhancements at various locations around the site. Pathway and picnic area improvements are also scheduled.

In 2012, plans include the implementation the recommendations outlined in the accessibility plan developed in 2011 to address the requirements of the Accessibility for Ontarians with Disabilities Act. Plans also include continuing with installation of new signage (way-finding)

to improve the directional flow for visitors. Also, a themed gateway for Eurasia on the main Zoo Site Circulation pathway will be constructed as originally outlined in the Revenue and Visitor Experience Enhancement Study. As well, a new visitor washroom is planned for the Eurasia area. The design and locations of the signs and washroom will be coordinated with plans developed in the North Site Redevelopment Project.

Externally Funded Projects

The eight (8) projects outlined below include several initiatives that would address many significant SOGR issues for the Toronto Zoo. Although these projects represent key requirements for the sustainability of the Zoo, in accordance with City submission guidelines they have been submitted as “S7” within CAPTOR due to funding constraints. This unfunded need creates additional pressures as the plan submitted is reliant on the Toronto Zoo’s and City’s ability to secure non-City funding for capital projects through the significant fundraising campaign. It remains our understanding that externally funded projects not included in the Budget Committee recommended 10-Year Capital Plan may be added in the future when fundraising results are realized.

The externally funded projects include the Giant Panda Exhibit, the next phase of the Schofield Memorial Garden, redesign and renovation of the Front Entrance, Breeding/Holding Facility, provision for Elephant Expansion, Centre for Sustainable Life and Learning, Gorilla II: Outdoor Display, and Rouge River Interpretive Centre. The 1990 Master Plan will be updated in 2012-2013 to determine what specific projects and their priorities are to be further developed in the CWP.

Giant Panda Project

Zoo staff completed a concept study on the construction of a Giant Panda Exhibit in 2004. The Giant Panda exhibit is to be built to allow for scientific research, including a captive breeding program, that is essential for the survival of this species. Conservation programs that contribute to the preservation of the Giant Panda and their habitat in the wild in China will also be established. A Giant Panda exhibit would be a major attraction for the Toronto Zoo and would allow the Zoo to participate in a number of research and education projects about Pandas. This project will also attract cultural interest from the Canadian-Chinese community in Toronto Zoo programs. The concept study has been updated and includes a plan and costing of project options and a detailed review of the conservation and research potential for the species.

It is expected that a Consultant may be hired to design the Giant Panda exhibit later in 2011. However, proceeding with this project is subject to receipt of outside funding and securing a final agreement with the Chinese government for the exhibit of pandas. The Zoo is also investigating sponsorship and possible Public, Private, Partnership opportunities for the exhibit in order to move forward with the initiative. If funding is secured and a loan agreement finalized, construction could be scheduled for the 2012-2013 timeframe.

Schofield Memorial Garden

This project is being done in partnership with the Dr. Schofield Memorial Foundation and the Korean community, and will be constructed as the monies become available. The exhibit, which is formally called the Dr. Schofield Statue and Memorial Garden, is a themed node in the Eurasia area of the Zoo comprised of a garden, buildings and a statue to commemorate the life and achievements of Dr. Francis Schofield, a Canadian humanitarian and veterinarian who worked in Korea.

The preliminary concept included the following components: main entrance feature, perimeter wall, Korean information building, Dr. Schofield Memorial Hall and statue, and a stone garden. Provision for an Asian pheasant facility to activate the site is also integral to the plan. Final project elements, scope and details will evolve as the design process proceeds. At this point, the cost is estimated at \$4,000.0 thousand, with further construction to occur incrementally during the period 2012-2013 as funds are raised for the various components based on the design completed in 2009.

This project is the start of a concept that would have cultural and special interest groups in the Greater Toronto Area utilizing the Zoo site for special functions, festivals, special Zoo days, weddings and cultural events. The overall conceptual design, detailed design for the first phase of the gardens (including the statue, entrance gate, pagoda structure and pond), statue installation and interim landscaping were completed in 2010.

With donations totalling \$1,200.0 thousand from the Korean Government and the Provincial Government of Ontario, the statue and memorial gardens were constructed in 2010 and the contemplative pond and pagoda structure are expected to be completed in 2011.

Front Entrance & Food Services

In 2008, external seating areas were expanded at the side of the Africa and Americas restaurants to provide additional capacity in the summer and shoulder seasons after the seasonal closure of the snack bars at the Zoomobile stations. In 2009, restaurant seating was also renovated in the Americas as part of the North Zoo Site – Tundra Trek Project. In 2010, the Peacock Café was expanded and renovated with donated funds from Compass Foods, the Zoo's food services provider.

The Revenue and Visitor Experience Enhancement Study also recommended that significant renovations are required at the front entrance to the Zoo. This work is proposed to be undertaken as part of a major Front Entrance Redevelopment project in 2013-2014.

The Study outlined that the main visitor entrance to the Zoo is deficient and outdated in a number of aspects. The shortcomings include inefficient admissions, inadequate visitor amenities, lack of orientation for first time visitors, insufficient orientation space inside the front entrance, unmemorable front entrance, indirect access to the Zoomobile, entrance/exit turnstiles are oriented opposite to the norm and the food facility is not directly accessible. The renovations proposed for the front entrance are designed to achieve improved ticketing, to provide a memorable entrance/exit to the Zoo, to locate retail and food opportunities directly in

line with the visitors' path of movement to maximize retail opportunities, to provide an enlarged plaza and to improve the overall level of services to the Zoo visitor.

A study planned for 2011 is expected to determine the feasibility of design, build, operate scenarios for the front entrance. Design work for the new front entrance and related food services would commence in 2013, with construction to follow in 2013-2014 subject to securing external funding and sponsorships.

Breeding Holding Facility

Increased breeding and holding space is required if the Zoo is to meet its commitments to the various collaborative breeding programs for endangered species (i.e. Species Survival Plans and other programs). It has become clear that the quality of future collections will be determined by the commitment made today to animal breeding.

The availability of animals has decreased as wild animal populations disappear and as regulations governing animal collection and distribution have become more restrictive. Many animals breed poorly on exhibit. Holding space is required for both large hoofstock and for specimens which must be brought indoors for the winter, and for temporary housing of animals during cleaning/maintenance of exhibits. The project was identified in the 1990 Toronto Zoo Master Plan.

One of the most important contributions zoos can make to conservation is participation in captive breeding programs. This cannot be achieved without appropriate breeding facilities.

Elephant Expansion

In 2011, the Board adopted the recommendations to retire the existing elephant herd and to reassess at a future date its options for an Elephant Program, pending the results of a major study by the Institute of Museum and Library Services (IMLS) in the US, financial considerations, and any other relevant factors. Depending on the results of the IMLS study of elephant management, the Zoo may re-establish its elephant program at some point in the future.

CLR Design reviewed the Zoo's current elephant facilities between 2008-2010 and while they meet existing AZA/CAZA standards, it is evident these standards will increase over time. Based on their, and with future standards in mind, CLR Design has recommended the following changes:

- A new elephant barn of 3,700 square metres that would be the largest elephant holding and exercise barn with natural substrate in North America. This would be substantially larger than the existing barn of 920 square metres.
- Two new outdoor paddocks of 3,600 square metres and 3,900 square metres respectively. Combined with the current paddock space of 3,360 square metres, this would bring the total outdoor space to approximately 10,900 square metres.

The total capital cost of these new and renovated facilities is estimated at \$19,000.0 thousand. Design work could be scheduled for 2016 and subject to the provision of external funding, construction work would commence in 2017 with completion in 2019.

Educational Development

A Feasibility Study was completed in 2006 for a Centre for Sustainable Life & Learning. The Centre would support the development of interactive programs and learning strategies, provide professional training and to position the Zoo as a leader in development, evaluation, research and dissemination of formal and informal programs. The Centre for Sustainable Life & Learning will be an innovative, dynamic, state of the art building that provides ecologically and socially responsible learning space for a wide variety of visitors and users. It will also be an institution that continuously educates users and visitors about the efficiency of its functions, and the mandate and activities of the Zoo. Once the Centre is built, the Zoo will then be in a position to take the lead on biodiversity issues as a participant in the City's designation as a "Regional Centre of Expertise in Education for Sustainable Development". The Centre will serve teachers at all levels to receive more intense and effective learning experiences that relate directly to the curriculum.

Detailed design of the Centre for Sustainable Life & Learning is proposed for 2019 with construction to follow in 2020-2021, however the phasing is dependent on the availability of outside funding.

Gorilla II: Outdoor Display

A Gorilla Feasibility Study was completed in 1993 and updated in 2001. The plan provides for a new outdoor display to be extended up the hill to the north, towards the Family Centre. The wire mesh roof will be eliminated and viewing will be over a moat or through glass. Behavioural enrichment components will be included in all aspects of the project.

This project will improve visibility for visitors and provide a larger, more enriched environment for the gorillas. With increased size, the exhibit will be better able to withstand increased seasonal use by the gorillas.

Detailed design of the exhibit will occur in 2020 with construction to follow in 2021-2022.

Rouge River Valley Interpretive Centre

This exhibit will display plants and animals found in the Rouge River Valley. Working with partners such as the Rouge Park Alliance, Ontario Ministry of Natural Resources and Parks Canada, the Zoo intends to highlight conservation species found in this unique riverine habitat. The Rouge Valley is an important ecosystem and has also played an important role in the cultural heritage of both native peoples and the citizens of the City of Toronto.

The Rouge Valley exhibit will be constructed in close proximity to the Canadian Wilderness Experience and will provide Zoo visitors, especially educators and school groups, with the opportunity to see native species such as the endangered redbreasted dace, brook trout, lamprey, and aquatic invertebrates. It is intended that a series of exhibits will showcase upper river regions to

the lower stretches reaching the estuary at Rouge Park marshes at Lake Ontario and the influence of human development on these habitats and the species community changes that result.

Conclusion:

As one of the largest zoos in the world, the Toronto Zoo inspires people to love, respect and protect wildlife and wild spaces. The Zoo has passionate supporters with an attendance averaging 1.3 million visitors, and with 350 volunteers, over 150,000 students, and over 30,000 membership households.

To date, over \$154.0 million has been invested in the City's asset through the Capital Works Plan (CWP). The 2012-2021 CWP represents a balanced approach to maintaining the existing facilities and approval of the plan will enable the Zoo to continue implementation of its exciting master plan to ensure a State of Good Repair and creation of new exhibits that allow the Zoo to remain a destination of choice. Every year for the past ten years, the Zoo has either opened new facilities (i.e. award winning Tundra Trek) or enhanced existing ones.

Finally, as an institution, the Zoo seeks to become financially sustainable for the long term. In strengthening our internal fundraising capacity, we anticipate a consistent progression towards reaching our fundraising goals in a highly competitive marketplace. Combined with the support of the City through the Capital Works Program, this will assist in the continuous improvement of the Zoo for both wildlife and visitors.

R. D. Hale
Chief Operating Officer

List of Attachments:

Schedule I – Capital Works Program 2012-2021
Schedule II - Council Approved 2011-2020 Capital Works Program



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In 2011, the detailed design of Phase II (Eurasia Rehabilitation) of the North Zoo Site Redevelopment Project will be completed, followed by issuance of a tender for construction. This project involves the refurbishment of the existing Eurasia area. The Eurasia Rehabilitation will consolidate and intensify the experience by shortening the visitor path in the existing Eurasia area. A key component of the improvement includes a themed ride in the area as recommended in the Revenue & Visitor Experience Enhancement Study. Renovation of this area is expected to be on-going in 2012-2013. Preapproved funding for Eurasia redevelopment is included for 2011 for completion in 2013 prior to the Canadian Wilderness.

Giraffe House / Hoofstock

The giraffe house is one of the Zoo's original wooden structures, built in 1973. Due to its deteriorating condition it needs to be upgraded or replaced in the near future. The Giraffe House was listed as a major concern in the AZA Accreditation report in 2007 and therefore the project is being advanced in the CWP. Plans are also being developed to utilize the existing Elephant exhibit and holding for Giraffes as a result of the decision to retire the existing elephant herd at the Toronto Zoo. The changes to the elephant house would include adding mesh to the doors, removing some interior walls to provide additional open space for winter housing, and some minor barrier improvements to permit winter viewing. The exhibit will require the construction of retaining walls, sodding and barrier changes. The outdoor exhibit improvements will permit mixed species as well as lower level and eye level viewing. This would address the AZA Accreditation issue for the care and housing of the Giraffes.

The existing giraffe house is to be demolished and replaced with a simple concrete structure capable of housing a new hoofed animal species. A new house will incorporate the latest space and material standards as well as green energy to reduce utility usage. Improvements to the exhibit will include barrier modifications for the new species. It would also require a restraint unit installed in the house, a new floor with non-slip flooring material, sufficient storage and services, and a shelter / shade enclosure to provide year round adequate exercise area for the new species. Also required, is more indoor stalls and outdoor yards to provide adequate housing for breeding / surplus needs.

Design work is planned to commence in 2011 for the new house, yards and winter facilities, with construction scheduled for 2012-2013.

Wildlife Health Centre

In early 2004, staff and consultants developed the program for the provision of a separate quarantine facility and a new wildlife health centre.

Construction of the Quarantine Facility was completed in 2007, as the first phase of the Wildlife Health Facilities project. The Quarantine Facility enabled the Zoo to meet accreditation standards of the American and Canadian zoological associations that require quarantine of incoming animals for the protection of the existing collection. The existing wildlife health facility has evolved within an original Zoo animal holding building. It does not meet current hospital standards as detailed by various inspecting groups. Major deficiencies include: traffic flow problems; multiple functions of clinical and surgery rooms; inappropriate animal holding rooms which do not provide adequate environmental control for sensitive species; lack of recovery facilities; lack of appropriate holdings for large hoofed stock; narrow hallways; inadequate storage for equipment and supplies; lack of crate-washing facility; and limited vehicle access.

In 2011, detailed design of a new wildlife hospital and research facilities is underway and will be completed for use in the construction of the facility and to provide support for fundraising. As a follow-up to the detailed design of the Wildlife Health Centre, construction of the facility would be scheduled in 2013-2015. The construction phase is currently classed as a "S7" project and the fundraising campaign includes this project and support from the community is expected. As such, funds raised in the initial years of the capital campaign will be used for construction. The new Wildlife Health & Reproduction Centre will be specifically designed for medical and surgical care of zoo species, and will provide specialized housing for hospitalized animals. The facility will be equipped to provide maximum efficiency, comfort, and safety in handling and care of animal patients, in a professional and hygienic setting. The hospital will be designed to provide public viewing of elements of the medical procedures of interest to our visitors. The construction of the WHC is a key accreditation and state of good repair issue and has been deferred since 2007 to accommodate the capital targets.

Orangutan II & III: Indoor/Outdoor Exhibits

In 1994, the orang-utan holding capital project (Phase I) was completed. The current indoor exhibit is a design from 1974 and does not meet current zoo exhibit standards. The Orang-

utan Phase II is an exhibit improvement project to upgrade the indoor living conditions, animal enrichment and living space for the orang-utans and will also ensure a new standard of state of good repair. The area will be redesigned and renovated as a Borneo/Sumatran Rainforest habitat for these intelligent primates. The Phase III design includes provision for connection to a new outdoor exhibit at the south side of the Indo Malaya Pavilion. There is currently no outdoor area for the orang-utans. A seasonal outdoor exhibit is desirable for the behavioural enrichment of the animals, to be constructed as the final phase of the original Orang-utan Project.

The combined indoor/outdoor project would provide for a new landscape immersion visitor experience including education and interactive features and ensure a new standard of animal care.

In 2014, a conceptual design would be completed based on the initial feasibility report. Detailed design would then be scheduled with construction to follow in 2015-2016.

Canadian Wilderness

The Canadian Wilderness is Phase III of the North Zoo Site Redevelopment project and involves the creation of Mixed Woodland and Boreal Forest areas and the construction of a Canadian Wilderness Orientation Centre to complete the Canadian experience at the Zoo. This area had previously been included with the Eurasia redevelopment in order to complete the high priority Canadian Wilderness exhibits. This phase is dependent on external fundraising from the capital campaign and funds are provided in the budget in 2015-2017. It will complete the Canadian Wilderness Experience and will feature the new Orientation Centre, moose, beaver and otter exhibits, and a drive-through bison/elk paddock on the Zoomobile tour. Of major concern is that this phase of the project is classed as "S7" as this exhibit is a key State of Good Repair (SOGR) project for the Toronto Zoo. This project is intended to result in revitalized exhibits and a reduction of essential SOGR backlog issues. It will also address key accreditation issues that such exhibits must be built to modern animal care standards while ensuring that the Toronto Zoo continues to meet increased public expectations.

New Hippo House & Exhibit

The hippo house is one of the Zoo's original concrete structures, built in 1973. It needs to be upgraded or replaced to acceptable standards for breeding, animal management, winter holding and public viewing. A new house would incorporate the latest space and material standards as well as green energy to reduce utility usage. Construction of a new house closer to the present exhibit would correct the above problems and eliminate visitor viewing problems during times of inclement weather when the animals are restricted to the house. Also include for installation in the new house would be a restraint unit, new floors with non-slip flooring material, sufficient storage and services, and a shelter / shade structure to provide year round adequate exercise area for the hippos. Also required, is more indoor stalls and outdoor yards to provide adequate housing for breeding / surplus needs.

The new exhibit would be planned to allow for underwater viewing, keeper talks and winter viewing.

This project would be planned and constructed concurrently with the Elephant paddock if the Elephant program were to continue. However, regardless of the Elephant decision, expansion and design work for the Hippo House & Exhibit Refurbishment would commence in 2016 with construction of a new house, yards and winter facilities to follow in 2017-2018.

North Zoo Site – Tropical Americas

The Tropical Americas rehabilitation represents Phase IV of the North Zoo Site Redevelopment and will involve the relocation and consolidation of the South America exhibits along with the refitting of a portion of the exhibits in the Americas Pavilion for Tropical American animals. Funds are provided in the project budget in 2018-2020, however, the cost estimates will need to be re-adjusted based on recent project experience, as outlined previously.

Ride & Revenue Development

Development of thematic rides to enhance revenue and the visitor immersion experience includes a Safari Jeep ride in the African Savanna, planned for 2020-2021.

Building & Services Refurbishment

The Building & Services Refurbishment project, the result of a Building Audit Report approved by the Board in 1998, implements the repair or replacement of building components requiring attention over the next 10⁺ years. Since 1998, items of immediate concern, including the replacement of mechanical and electrical equipment in over 25 buildings on site, have been completed. Site services (gas, water, hydro) were reviewed and evaluated in a similar manner in 1999. A Bridge Condition Evaluation was conducted by an engineering consultant in early 2007 and outlined a series of repairs and rehabilitation for the seven bridges on the Zoo site.

To assist with future planning an Audit of Animal Exhibits & Holdings was completed in 2007 to determine the current repair status and future maintenance and replacement requirements, in compliance with accreditation standards, and to provide a comparison to similar holdings/exhibits at other accredited Zoos.

In 2011, replacement of roofs and skylights at Pavilions and animal holding and service buildings are planned for completion. Replacement of deteriorated glazing, walls, ceilings, siding, windows and doors at various Zoo buildings identified in the Building Audit will also be continued, as well as continuation of high voltage transformer replacements.

In 2012, replacement of deteriorated epoxy, metal work, ceilings, walls, siding, windows and doors at various Zoo buildings is planned to meet the AZA accreditation requirements. Also, replacement of vintage 1974 electrical cables, substations and transformers on site as recommended in the Site Services Study and Building Audit is planned along with completion of replacement of PCB containing transformers as required by MOE legislation. Replacement of roofs and skylights at Pavilions, animal holding buildings and service buildings on site as recommended in the Building Audit will also continue together with replacement of related mechanical equipment with new, including boilers, fans, and ventilation.

Exhibit & Holding Refurbishment

Exhibit & Holding Refurbishment is a multi-year plan involving various initiatives to renovate exhibits throughout the Zoo site.

For 2011-2012, replacement of the deteriorated Siberian Tiger Holding is planned to meet accreditation, animal welfare and state of good repair requirements. The holding building is of 1974 vintage and does not provide the necessary space requirements for current animal management needs. There is no keeper space and no flexibility in the movement of animals. The building envelope (roof, windows, and walls) and the caging system have reached the end of their economical life cycle. It is very likely that the 2012 inspections by AZA for accreditation will find this building not up to current standard due to these limitations. Utilization of a pre-cast concrete structure is proposed for this holding building to reduce the costs to within the budget allocation.

Information Systems

In 2003, the Toronto Zoo launched a project to replace the Zoo's core financial, retail and administrative systems with a public sector version of an off-the-shelf Enterprise Resources Planning (ERP) software package. A contract was awarded for the ERP system to be phased in over the period of 2005-2007. The Financial module was implemented in 2005 and the Service Management module went live in 2006. The Point of Sale systems were completed in 2007, and the Human Resources / timekeeping modules and Fixed Asset ledger were completed in 2008.

In 2011, the Zoo is completing the replacement of outdated hardware (Zoo owned PC's, and peripherals). Additionally, various technological enhancements, including digital signage, is continuing to meet the objective of enriching and exporting the Zoo experience to expanded markets through the extension of the Toronto Zoo Network to multiple locations and the setup of a secondary network.

In 2012, the BIOCON animal records database will be replaced with the new Zoo Information management System (ZIMS) which is being adopted by leading zoos across North America.

Grounds and Visitor Improvements

The Grounds and Visitor Improvements Project addresses the needs of the public concerning visitor amenities, the appearance of indoor and outdoor areas, improvements to site circulation and visitor orientation.

In 2011, the Zoo is continuing with the provision of additional seating, shade and drinking water fountains and washroom enhancements at various locations around the site. Pathway and picnic area improvements are also scheduled.

In 2012, plans include the implementation the recommendations outlined in the accessibility plan developed in 2011 to address the requirements of the Accessibility for Ontarians with Disabilities Act. Plans also include continuing with installation of new signage (way-finding)

to improve the directional flow for visitors. Also, a themed gateway for Eurasia on the main Zoo Site Circulation pathway will be constructed as originally outlined in the Revenue and Visitor Experience Enhancement Study. As well, a new visitor washroom is planned for the Eurasia area. The design and locations of the signs and washroom will be coordinated with plans developed in the North Site Redevelopment Project.

Externally Funded Projects

The eight (8) projects outlined below include several initiatives that would address many significant SOGR issues for the Toronto Zoo. Although these projects represent key requirements for the sustainability of the Zoo, in accordance with City submission guidelines they have been submitted as “S7” within CAPTOR due to funding constraints. This unfunded need creates additional pressures as the plan submitted is reliant on the Toronto Zoo’s and City’s ability to secure non-City funding for capital projects through the significant fundraising campaign. It remains our understanding that externally funded projects not included in the Budget Committee recommended 10-Year Capital Plan may be added in the future when fundraising results are realized.

The externally funded projects include the Giant Panda Exhibit, the next phase of the Schofield Memorial Garden, redesign and renovation of the Front Entrance, Breeding/Holding Facility, provision for Elephant Expansion, Centre for Sustainable Life and Learning, Gorilla II: Outdoor Display, and Rouge River Interpretive Centre. The 1990 Master Plan will be updated in 2012-2013 to determine what specific projects and their priorities are to be further developed in the CWP.

Giant Panda Project

Zoo staff completed a concept study on the construction of a Giant Panda Exhibit in 2004. The Giant Panda exhibit is to be built to allow for scientific research, including a captive breeding program, that is essential for the survival of this species. Conservation programs that contribute to the preservation of the Giant Panda and their habitat in the wild in China will also be established. A Giant Panda exhibit would be a major attraction for the Toronto Zoo and would allow the Zoo to participate in a number of research and education projects about Pandas. This project will also attract cultural interest from the Canadian-Chinese community in Toronto Zoo programs. The concept study has been updated and includes a plan and costing of project options and a detailed review of the conservation and research potential for the species.

It is expected that a Consultant may be hired to design the Giant Panda exhibit later in 2011. However, proceeding with this project is subject to receipt of outside funding and securing a final agreement with the Chinese government for the exhibit of pandas. The Zoo is also investigating sponsorship and possible Public, Private, Partnership opportunities for the exhibit in order to move forward with the initiative. If funding is secured and a loan agreement finalized, construction could be scheduled for the 2012-2013 timeframe.

Schofield Memorial Garden

This project is being done in partnership with the Dr. Schofield Memorial Foundation and the Korean community, and will be constructed as the monies become available. The exhibit, which is formally called the Dr. Schofield Statue and Memorial Garden, is a themed node in the Eurasia area of the Zoo comprised of a garden, buildings and a statue to commemorate the life and achievements of Dr. Francis Schofield, a Canadian humanitarian and veterinarian who worked in Korea.

The preliminary concept included the following components: main entrance feature, perimeter wall, Korean information building, Dr. Schofield Memorial Hall and statue, and a stone garden. Provision for an Asian pheasant facility to activate the site is also integral to the plan. Final project elements, scope and details will evolve as the design process proceeds. At this point, the cost is estimated at \$4,000.0 thousand, with further construction to occur incrementally during the period 2012-2013 as funds are raised for the various components based on the design completed in 2009.

This project is the start of a concept that would have cultural and special interest groups in the Greater Toronto Area utilizing the Zoo site for special functions, festivals, special Zoo days, weddings and cultural events. The overall conceptual design, detailed design for the first phase of the gardens (including the statue, entrance gate, pagoda structure and pond), statue installation and interim landscaping were completed in 2010.

With donations totalling \$1,200.0 thousand from the Korean Government and the Provincial Government of Ontario, the statue and memorial gardens were constructed in 2010 and the contemplative pond and pagoda structure are expected to be completed in 2011.

Front Entrance & Food Services

In 2008, external seating areas were expanded at the side of the Africa and Americas restaurants to provide additional capacity in the summer and shoulder seasons after the seasonal closure of the snack bars at the Zoomobile stations. In 2009, restaurant seating was also renovated in the Americas as part of the North Zoo Site – Tundra Trek Project. In 2010, the Peacock Café was expanded and renovated with donated funds from Compass Foods, the Zoo's food services provider.

The Revenue and Visitor Experience Enhancement Study also recommended that significant renovations are required at the front entrance to the Zoo. This work is proposed to be undertaken as part of a major Front Entrance Redevelopment project in 2013-2014.

The Study outlined that the main visitor entrance to the Zoo is deficient and outdated in a number of aspects. The shortcomings include inefficient admissions, inadequate visitor amenities, lack of orientation for first time visitors, insufficient orientation space inside the front entrance, unmemorable front entrance, indirect access to the Zoomobile, entrance/exit turnstiles are oriented opposite to the norm and the food facility is not directly accessible. The renovations proposed for the front entrance are designed to achieve improved ticketing, to provide a memorable entrance/exit to the Zoo, to locate retail and food opportunities directly in

line with the visitors' path of movement to maximize retail opportunities, to provide an enlarged plaza and to improve the overall level of services to the Zoo visitor.

A study planned for 2011 is expected to determine the feasibility of design, build, operate scenarios for the front entrance. Design work for the new front entrance and related food services would commence in 2013, with construction to follow in 2013-2014 subject to securing external funding and sponsorships.

Breeding Holding Facility

Increased breeding and holding space is required if the Zoo is to meet its commitments to the various collaborative breeding programs for endangered species (i.e. Species Survival Plans and other programs). It has become clear that the quality of future collections will be determined by the commitment made today to animal breeding.

The availability of animals has decreased as wild animal populations disappear and as regulations governing animal collection and distribution have become more restrictive. Many animals breed poorly on exhibit. Holding space is required for both large hoofstock and for specimens which must be brought indoors for the winter, and for temporary housing of animals during cleaning/maintenance of exhibits. The project was identified in the 1990 Toronto Zoo Master Plan.

One of the most important contributions zoos can make to conservation is participation in captive breeding programs. This cannot be achieved without appropriate breeding facilities.

Elephant Expansion

In 2011, the Board adopted the recommendations to retire the existing elephant herd and to reassess at a future date its options for an Elephant Program, pending the results of a major study by the Institute of Museum and Library Services (IMLS) in the US, financial considerations, and any other relevant factors. Depending on the results of the IMLS study of elephant management, the Zoo may re-establish its elephant program at some point in the future.

CLR Design reviewed the Zoo's current elephant facilities between 2008-2010 and while they meet existing AZA/CAZA standards, it is evident these standards will increase over time. Based on their, and with future standards in mind, CLR Design has recommended the following changes:

- A new elephant barn of 3,700 square metres that would be the largest elephant holding and exercise barn with natural substrate in North America. This would be substantially larger than the existing barn of 920 square metres.
- Two new outdoor paddocks of 3,600 square metres and 3,900 square metres respectively. Combined with the current paddock space of 3,360 square metres, this would bring the total outdoor space to approximately 10,900 square metres.

The total capital cost of these new and renovated facilities is estimated at \$19,000.0 thousand. Design work could be scheduled for 2016 and subject to the provision of external funding, construction work would commence in 2017 with completion in 2019.

Educational Development

A Feasibility Study was completed in 2006 for a Centre for Sustainable Life & Learning. The Centre would support the development of interactive programs and learning strategies, provide professional training and to position the Zoo as a leader in development, evaluation, research and dissemination of formal and informal programs. The Centre for Sustainable Life & Learning will be an innovative, dynamic, state of the art building that provides ecologically and socially responsible learning space for a wide variety of visitors and users. It will also be an institution that continuously educates users and visitors about the efficiency of its functions, and the mandate and activities of the Zoo. Once the Centre is built, the Zoo will then be in a position to take the lead on biodiversity issues as a participant in the City's designation as a "Regional Centre of Expertise in Education for Sustainable Development". The Centre will serve teachers at all levels to receive more intense and effective learning experiences that relate directly to the curriculum.

Detailed design of the Centre for Sustainable Life & Learning is proposed for 2019 with construction to follow in 2020-2021, however the phasing is dependent on the availability of outside funding.

Gorilla II: Outdoor Display

A Gorilla Feasibility Study was completed in 1993 and updated in 2001. The plan provides for a new outdoor display to be extended up the hill to the north, towards the Family Centre. The wire mesh roof will be eliminated and viewing will be over a moat or through glass. Behavioural enrichment components will be included in all aspects of the project.

This project will improve visibility for visitors and provide a larger, more enriched environment for the gorillas. With increased size, the exhibit will be better able to withstand increased seasonal use by the gorillas.

Detailed design of the exhibit will occur in 2020 with construction to follow in 2021-2022.

Rouge River Valley Interpretive Centre

This exhibit will display plants and animals found in the Rouge River Valley. Working with partners such as the Rouge Park Alliance, Ontario Ministry of Natural Resources and Parks Canada, the Zoo intends to highlight conservation species found in this unique riverine habitat. The Rouge Valley is an important ecosystem and has also played an important role in the cultural heritage of both native peoples and the citizens of the City of Toronto.

The Rouge Valley exhibit will be constructed in close proximity to the Canadian Wilderness Experience and will provide Zoo visitors, especially educators and school groups, with the opportunity to see native species such as the endangered redbreasted dace, brook trout, lamprey, and aquatic invertebrates. It is intended that a series of exhibits will showcase upper river regions to

the lower stretches reaching the estuary at Rouge Park marshes at Lake Ontario and the influence of human development on these habitats and the species community changes that result.

Conclusion:

As one of the largest zoos in the world, the Toronto Zoo inspires people to love, respect and protect wildlife and wild spaces. The Zoo has passionate supporters with an attendance averaging 1.3 million visitors, and with 350 volunteers, over 150,000 students, and over 30,000 membership households.

To date, over \$154.0 million has been invested in the City's asset through the Capital Works Plan (CWP). The 2012-2021 CWP represents a balanced approach to maintaining the existing facilities and approval of the plan will enable the Zoo to continue implementation of its exciting master plan to ensure a State of Good Repair and creation of new exhibits that allow the Zoo to remain a destination of choice. Every year for the past ten years, the Zoo has either opened new facilities (i.e. award winning Tundra Trek) or enhanced existing ones.

Finally, as an institution, the Zoo seeks to become financially sustainable for the long term. In strengthening our internal fundraising capacity, we anticipate a consistent progression towards reaching our fundraising goals in a highly competitive marketplace. Combined with the support of the City through the Capital Works Program, this will assist in the continuous improvement of the Zoo for both wildlife and visitors.

R. D. Hale
Chief Operating Officer

List of Attachments:

Schedule I – Capital Works Program 2012-2021
Schedule II - Council Approved 2011-2020 Capital Works Program