

2018-05-29

**REQUEST FOR PROPOSAL
ENERGY RETROFIT - ENERGY CONSERVATION
RFP 18 (2018-03)
ADDENDUM # 3**

This addendum shall be incorporated into, and form part of RFP #18 (2018-03) and take precedence over all requirements of the previously issued bid documents including plans. This addendum must be signed by the bidder (signing officer) in the appropriate space and must be attached to the Form for submission by the bidder. This Addendum consists of three (3) pages and the documents listed below.

1. Question - Scheduling detailed site visit.

Response-As the Toronto Zoo is a large site with many buildings, the Toronto Zoo has scheduled the following date for a site visit: **Monday June 4th, 2018 starting at 9:00am.**

Please provide in advance a list of priority areas you would like to see so we can allocate the necessary time. Plan to spend the day at the Zoo in order to ensure you see all necessary areas.

2. Question - Please clarify Toronto Zoo preference and/or restrictions for funding of the project. The Mandatory Requirement # 2 states “Third party financing will not be considered”. Meanwhile, clause 4.3.1 last bullet states “Identify options and financial consulting to the Toronto Zoo for vendor financing of the energy performance contract and/or support.”

Response-The Toronto Zoo holds charity status within Canada and therefore is restricted against carrying loans. With respect to Mandatory Requirement #2 the Toronto Zoo will consider financial coverage by the IEPC contracted to complete the Energy Retrofit Project, but is not capable of entering into a loan agreement with any other organization, financial or brokerage institution. Any financial coverage by the contracted IEPC is expected to be paid out by the achieved utilities saving as a result of the project within the payback period and should be included and clearly defined in the proposal’s financial statements.

3. Question - Please clarify Toronto preference and/or restrictions regarding Mandatory Requirement # 4: “Proponent MUST provide a post project consultant to coordinate with Zoo facilities staff to ensure optimal operations of the systems to achieve guaranteed savings.” Does Toronto Zoo accept this consultant to be part of the ESCO organization, or is an independent consultant required?

Response - The Toronto Zoo wishes to ensure the projected savings in the proposal are achievable as proposed by the IEPC organization. This Mandatory Requirement is to ensure that once the project is complete and online, that there is reasonable trust the project will achieve the expected targets. To support Toronto Zoo staff training and monitoring, experienced personnel is required. This consultant can either be a member of the ERP contracted IEPC organization or an independent consultant as hired by the IEPC organization.

4. Question - Please clarify the submission requirement regarding 5.1.5 and 5.1.12. Is Toronto Zoo asking for a preliminary project technical program and financials as part of the submission? If so, please clarify a) the depth and scope of the preliminary project technical program and financials, b) provision for additional site visits, c) % weighting of various related items in 5.1.10 to 5.1.15.

Response-Based on the information provided by the Toronto Zoo on its facilities and utility services, the Toronto Zoo is expecting to see a project proposal that provides technical details on facilities and services recommended for replacement, projected costs for such replacement as well as a business case for the recommended project that achieves the financial and environment criteria detailed in the RFP.

The evaluation of the proposal will be as per section 7.6 Evaluation of Submitted Proposals where 1. History, Corporate Organization and Track Record will have a 35% weight of the overall score; 2. Technical Qualifications and Approach will have a 40% weight of the overall score; and 3. Financial will have a 25% weight of the overall score. Information provided as parts of Items 5.1.1 to 5.1.15 will be used within the above representation.

5. **Question** - Please clarify how Toronto Zoo intends to apply the NPV referenced in clause 7.2. Is NPV calculated net of asset renewal? How is NPV calculated? Can you provide an example?

Response-The Toronto Zoo will use Net Present Value (NPV) as an approach to evaluate the best interests of the Toronto Zoo with respect to the project. NPV will be used to assess the interest of the Zoo moving forward on projects at this time with respect to good state of repair management, overall utilities savings and the payback period for capital investment.

6. **Question** -Please consider allowing for paperless electronic proposal submissions as an option. This fully-paperless alternative may support the waste mitigation objectives covered in RFP Section 5.1.

Response-The Toronto Zoo has very strict guidelines to document retention for business operations and as such must receive proposals as stipulated in the RFP.

7. **Question** - How do you expect hazardous material, including asbestos, will be treated within the project?

Response - The Toronto Zoo is aware that hazardous materials including asbestos are at the facility. It is expected the contracted IEPC organization will treat any hazardous materials and asbestos in relation to the scope of the final approved project within the scope of the project. As the proposal phase will not provide the necessary detail to accurately account for these materials, proponents are asked to provide a cost per unit in a separate line item of their financials to safely handle and dispose of such materials.

8. **Question** - Do we need to provide list of recommended measures, anticipated savings and cost for each building in the proposal? Is the Bidder to provide an estimate of the project costs, savings and incentives based on the utility costs with our experience of retrofit projects?

Response-Recommended measures, anticipated savings and cost for each building should be provided, where possible, in order to evaluate the overall project benefits in light of the Toronto Zoo's Capital Master plan based on your experiences with retrofit projects.

- Listing of the proposed incentives and grants should also be included.
9. **Question** - Can Private Public Partnership (P3) projected be utilized as reference given their inherent similarity to Energy Savings Performance Contracts?

Response - Yes, a proponent may provide a reference of Private-Public Partnership as it relates to energy or utilities savings or similar activities. Note, the Toronto Zoo will assess and weigh the reference for relatability to this project

10. **Question** - For the Detailed Concept Phase will the following information be available to the successful proponent?

- a. Mechanical and Electrical plans for each building
- b. Control shop drawings for each building
- c. Remote web based BAS access

Response-- For the Detailed Concept Phase, we will work with the successful proponent to provide the necessary documents, as available, to meet the proponent's needs. Mechanical and Electrical plans are accessible by the Toronto Zoo, Control shop drawings are partially accessible and Remote web based BAS access is not yet available.

11. **Question** - For simple payback calculations will M&V costs during the guarantee period be used in the financial analysis?

Response-- M&V costs during the guarantee period will be used in the financial analysis of the project. Costs association with this should be noted as an expected cost to the project. We recognize at this phase of the proposal to define a set amount for this may be very difficult and may vary greatly in the final project concept design and therefore it is not expected that you include a dollar figure at this time.

Documents Attachments:

- Toronto Zoo Building Inventory (includes floor area and building use)
- Utilities Consumption Records 2012 - 2017 (units and \$) of Gas, Electricity and Water 3-5 years.
- Sub-meter Inventory (2016 & 2017) (gas, electricity, BTU and water)
- Toronto Zoo 2007 Green Plan (includes GHG targets)
- Toronto Zoo Aquatic Exhibits List
- Equipment List (Maintenance Management System)
- Asbestos 2011

Receipt of the Addendum shall be acknowledged as part of your submission.

The Board of Management of the Toronto Zoo reserves the right to reject any or all Quotations or to accept any quotation, should it deem such action to be in its interests.

If you have any queries regarding this matter, please contact Mr. Peter Vasilopoulos, Supervisor, Purchasing & Supply, at 416-392-5916.

Yours truly,

Peter Vasilopoulos
Supervisor, Purchasing & Supply



I/we hereby acknowledge receipt of this addendum and make allowance in my bid.

Signed (Must be Signing Officer of Firm)

Name of Firm

Date



**Facilities & Services
Building Audit
2016-12-30**

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Building Use Const.	
<u>MAIN GATE AREA</u>				
VS0000	Members & Visitors Centre (incl. Peacock Café, Generators, Stroller Rooms)	9,500	1974	Administrative/Food Service
VS1000	Greenhouse Giftshop	1730	1986	Administrative
ZS0000	Education/Retail Centre	13,000	1986	Administrative/Retail
<u>DISCOVERY ZONE</u>				
DZ0100	Bird Barn	1760	1988	Animal Habitat
DZ0210	Splash Island Change/Mechanical	1705	2002/11	Public Access/Maintenance
DZ0220	Washrooms	1330	2003	
DZ0400	Waterside Holding	1140	2003	Animal Habitat
DZ0600	Goat & Pig	290	2003	Animal Habitat
EC0000	Portable Classroom	1,765	2003	Administrative/Animal Habitat
<u>INDO-MALAYA</u>				
IN0000	Indo-Malaya Pavilion	28,800	1974	Animal Habitat
IN1700	Sumatran Tiger	645	Feb-84	Animal Habitat
IR0000	Indian Rhino	7,200	1981	Animal Habitat
IP0100	Himalayan Tahr	360		Animal Habitat
MW0000	Malayan Woods	5,000	1974	Animal Habitat
MO0000	Conservation Connection	1,000	1974	Administrative
IP0300	Lion-Tailed Macaque	1,100	1974	Animal Habitat
IP0400	Gaur (2 Houses)	3,350	1980	Animal Habitat
<u>AFRICA</u>				
FC0000	First Aid	780	1974	Administrative
AF0000	African Rainforest Pavilion	46,440	1974/00	Animal Habitat
EH0100	Hippo (lower elephant)	6,145	1974	Animal Habitat
EH0200	Elephant House (New Giraffe)	11,000	1974/98	Animal Habitat
AN0100	African Waterfowl	700	1974	Animal Habitat
AN0200	Hyena	1,000	1986	Animal Habitat
AN0300	Crested Porcupine	330	1974	Animal Habitat
AN0400	Vacant			Animal Habitat

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Building Use Const.	
AN0700	Ostrich	600	2012	Animal Habitat
AN0800	Giraffe	1,200	1974	Animal Habitat
AN1000	Penguin	1,843	2011	Animal Habitat
AS1000	Rhino/Hoofstock	8970	1998	Animal Habitat
AS1100	Hoofstock/Bird	6400	1998	Animal Habitat
AS1200	Cheetah	1645	1998	Animal Habitat
AS1300	Baboon	1325	1998	Animal Habitat
AS1400	Lion	1525	1998	Animal Habitat
AF4000	Africa Restaurant	7,748	1974/08	Food Service
AS1902	Market Bazaar West	200	1998	Administrative
AS1903	Thorntree Café	60	1998	Food Service
AS1904	Kesho Park Headquarters	200	1998	Public Access
AS2000	Simba Safari Snack Bar/Washrooms	2665	1998	Food Service
AS2100	Twiga Retail Store/Snack Bar	1120	2002	Food Service
AS2200	Zoomobile Line Up Structure			Administrative
AS2300	Africa Picnic Shelter			Administrative
AS2400	Bush Camp	335		Administrative
AS2500	Picnic Shelter			Administrative
<u>CANADIAN DOMAIN</u>				
CD0100	Waterfowl House & Viewing	980	1976	Animal Habitat
CD0200	Raccoon	250	1974	Animal Habitat
CD0600	Grizzly Bear	350	1976	Animal Habitat
CD0700	Moose House	1,300	1976	Animal Habitat
CD0900	Wolf	375	1974	Animal Habitat
CD1700	Weston Station/Washrooms	1,900	1976	Administrative
CD1800	Zoomobile Stop/Washrooms	1,235	1974	Administrative
<u>AMERICAS</u>				
AM0000	Americas Pavilion	18,475	1974/02	Animal Habitat
MA0000	Mayan Temple	4,000	1986	Animal Habitat
TT0100	Polar Bear House	3,738	1974/09	Animal Habitat
TT0700	Polar Bear Viewing/Weather Station	516	2009	Animal Habitat
TT0300	Reindeer Shelter	600	2009	Animal Habitat
TT0500	Fox Shelter	324	2009	Animal Habitat
TT0600	Wolf Building	678	2009	Animal Habitat
TT0400	Snow Goose	396	2012	Animal Habitat
AP0500	Americas Restaurant	5,920	1974	Food Service
AP0600	Zoomobile Station - Beaver Tails	200	2002	Administrative
AP0601	Zoomobile Station - General Store	200	2002	Administrative
AP0602	Zoomobile Line Up Structure			Administrative

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Building Use Const.	
<u>OUTDOOR HOLDING</u>				
OH0100	Cheetah House #1	400	1974	Animal Habitat
OH0200	Cheetah House #2	200	1974	Animal Habitat
OH0900	Keeper Office	485		Administrative
OH1000	Horticulture Shed			Maintenance
<u>OPERATIONS COMPLEX</u>				
HS0100	Hay Shed	1,950	1974	Maintenance
TR0000	Transit Building	10,800	1974/94	Maintenance
AD0000	Administrative/Support Centre/AHC/ANC/ Quarantine/Invert. House/Maintenance/Curatorial	89,877	1974/94/	Administrative/Maintenance/Animal 07 Habitat
QW0000	Quarantine			Animal Habitat
CU0000	CEW			Administrative
NS0000	West Admin Centre			Administrative
IH0000	Invertebrate House			Animal Habitat
GR0000	Horticulture Centre	21,240	1994	Plant Habitat/Maintenance
WH0000	Wildlife Health Centre	32,464		Animal Habitat
<u>AUSTRALASIA/EURASIA</u>				
AU0000	Australasia Pavilion	19,280	1974	Animal Habitat
EP0100	Wisent	420	1975	Animal Habitat
EP0300	Dhole House	1,100	1985	Animal Habitat
EP0400	Barbary Ape/Japanese Macaque	900	1974/89	Animal Habitat
EP0500	Przewalski's Horse	1,065	1988	Animal Habitat
EP0600	Camel Palace	3,660	1987	Animal Habitat
EP1400	Red Panda	375	1992	Animal Habitat
EP1500	Dromedary Camel	575	1975	Animal Habitat
EP1600	Oryx	800	1987	Animal Habitat
EP1800	Yak	1,150	1975	Animal Habitat
EP2000	Eurasia Snack Bar/Washrooms	1,400	1974	Food Service
EP2050	Zoomobile Line-up Structure/Kiosk	650	2002	Administrative
EP2060	Panda Shop	925	2013	Administrative
EP2070	Mandarin Express	396	2013	Food Service
EP2080	Washroom	197	2013	Administrative
EP2100	Reindeer	1,000	1999	Animal Habitat
EP2400	Dr Schofield Filtration	196	2011	Maintenance
EP2500	Panda / Amur Tiger	2970	2013	Animal Habitat
EP2510	View Shelter	280	2013	Public Access
EP2600	Snow Leopard / Bird	1847	2013	Animal Habitat
<u>NORTH & EAST BUILDINGS</u>				
BH0000	Block House	400	1936	Maintenance

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Building Use Const.
BF0000	Black-footed Ferrets (North Barn)	600	Animal Habitat
MC0000	Marmot Centre (South Barn)	1800	Animal Habitat
GA0000	Gate House	900	1936 Administrative
VH0000	Valley Halla	7400	1936 Administrative
MB0000	Main Barn	2000	Animal Habitat
PH0000	Pearse House	1600	Administrative
FI0000	Finch Barn	1200	Maintenance/Storage
DS0000	Drive Shed		Maintenance
PS0000	Potting Shed		Maintenance
101 Buildings	TOTAL AREA (sq.ft.)	434,595	

Electricity Consumption at the Toronto Zoo

Use in kWh

Meter:	ZMM	FB	GHS	MB	FRB
Billing Year	Sub-meter	Jan	Feb	Mar	Apr
2012	FB	17	14	15	13
	FRB	6,543	6,325	6,549	5,862
	GHS	343	1,081	1,745	1,360
	MB	972	909	972	941
	VH	1,405	1,594	1,582	1,283
	ZMM	1,046,572	954,349	972,683	873,908
	Totals	1,055,853	964,272	983,546	883,367
2013	FB	17	14	14	13
	FRB	6,307	5,656	6,132	5,449
	GHS	771	370	397	651
	MB	12,567	887	14,566	32,281
	VH	2,062	2,935	3,039	2,630
	ZMM	976,893	905,465	959,281	873,507
	Totals	998,618	915,327	983,429	914,532
2014	FB	14	13	15	14
	FRB	8,769	9,081	8,499	3,708
	GHS	1,923	1,717	1,499	410
	MB	41,992	33,900	15,445	11,562
	VH	1,901	2,469	3,220	656
	ZMM	1,095,744	983,713	1,090,951	918,183
	Totals	1,150,343	1,030,894	1,119,629	934,532
2015	FB	43	35	55	47
	FRB	12,281	13,428	20,470	14,120
	GHS	1,243	1,246	1,530	336
	MB	26,818	26,716	20,344	8,713
	VH	2,197	3,970	7,991	4,639
	ZMM	1,099,227	1,024,053	1,033,216	898,528
	Totals	1,141,807	1,069,449	1,083,606	926,383
2016	FB	63	160	229	25
	FRB	8,188	6,582	6,659	6,999
	GHS	812	580	370	231
	MB	16,906	16,020	13,341	7,171
	VH	1,626	2,001	1,826	1,684
	ZMM	1,071,368	1,012,683	1,032,899	941,272
	Totals	1,098,963	1,038,025	1,055,323	957,384
2017	FB	30	28	28	24

FRB	6,009	4,859	6,074	5,139
GHS	149	152	185	69
MB	13,121	9,897	5,859	3,323
VH	4,520	3,119	2,725	1,284
ZMM	1,074,887	944,999	1,047,367	884,249
Totals	1,098,716	963,054	1,062,238	894,088

Electricity Costs at the Toronto Zoo

Meter:	ZMM	FB	GHS	MB	FRB
Billing Year	Sub-meter	Jan	Feb	Mar	Apr
2012	FB	\$54	\$50	\$54	\$49
	FRB	\$906	\$867	\$916	\$898
	GHS	\$100	\$173	\$257	\$225
	MB	\$569	\$532	\$569	\$551
	VH	\$188	\$204	\$210	\$187
	ZMM	\$111,214	\$104,526	\$100,953	\$115,928
	Totals	\$113,032	\$106,353	\$102,960	\$117,838
2013	FB	\$31	\$26	\$29	\$28
	FRB	\$946	\$849	\$920	\$819
	GHS	\$124	\$71	\$76	\$108
	MB	\$1,759	\$588	\$2,153	\$4,116
	VH	\$280	\$395	\$408	\$356
	ZMM	\$108,318	\$117,828	\$110,584	\$113,233
	Totals	\$111,459	\$119,757	\$114,171	\$118,660
2014	FB	\$28	\$28	\$28	\$20
	FRB	\$1,342	\$1,386	\$1,320	\$596
	GHS	\$299	\$263	\$235	\$77
	MB	\$6,010	\$5,021	\$2,617	\$1,409
	VH	\$274	\$304	\$247	\$99
	ZMM	\$156,027	\$133,501	\$150,495	\$53,501
	Totals	\$163,981	\$140,501	\$154,943	\$55,702
2015	FB	\$44	\$38	\$42	\$40
	FRB	\$1,974	\$1,867	\$1,675	\$1,216
	GHS	\$224	\$191	\$153	\$60
	MB	\$4,559	\$4,544	\$3,452	\$1,468
	VH	\$327	\$462	\$588	\$358
	ZMM	\$139,742	\$167,708	\$103,632	\$112,834
	Totals	\$146,871	\$174,811	\$109,542	\$115,976
2016	FB	\$49	\$64	\$86	\$50
	FRB	\$1,473	\$1,222	\$1,290	\$1,368
	GHS	\$182	\$142	\$113	\$95

	MB	\$3,136	\$3,013	\$2,595	\$1,424
	VH	\$284	\$355	\$343	\$320
	ZMM	\$150,798	\$162,922	\$147,999	\$167,487
	Totals	\$155,922	\$167,719	\$152,426	\$170,744
2017	FB	\$47	\$45	\$50	\$47
	FRB	\$1,109	\$893	\$1,119	\$936
	GHS	\$63	\$65	\$89	\$46
	MB	\$2,479	\$1,831	\$1,098	\$628
	VH	\$754	\$507	\$440	\$219
	ZMM	\$150,715	\$171,705	\$170,078	\$116,269
	Totals	\$155,168	\$175,045	\$172,874	\$118,144

VH

May	June	July	Aug	Sept
12	11	12	13	13
5,822	5,598	5,883	5,359	4,814
1,016	99	80	73	63
990	1,036	1,138	1,145	1,241
1,109	471	497	526	662
874,617	868,218	954,399	927,113	824,905
883,566	875,433	962,010	934,228	831,698
13	13	14	15	17
4,975	4,935	5,587	5,084	4,658
723	637	698	717	752
1,545	1,158	1,221	1,009	1,318
2,631	2,004	236	276	724
842,818	842,381	894,678	888,596	818,516
852,703	851,128	902,433	895,696	825,985
16	26	29	43	67
3,800	7,320	7,814	6,939	4,360
527	986	899	1,039	962
8,879	1,334	1,379	1,335	1,369
688	644	408	412	624
899,842	872,749	942,393	930,825	845,175
913,753	883,059	952,921	940,594	852,558
23	22	23	25	26
6,691	4,721	7,013	4,475	5,198
227	94	94	95	158
1,127	1,525	1,188	1,044	1,475
1,830	1,235	638	497	430
867,847	835,944	933,547	903,852	834,647
877,744	843,540	942,503	909,989	841,935
23	22	23	25	54
4,952	4,553	5,162	5,241	4,495
99	114	107	93	72
2,565	1,275	1,261	1,294	1,459
1,322	651	626	675	931
920,117	879,207	932,059	958,322	835,755
929,079	885,822	939,238	965,649	842,765
24	22	22	25	27

3,910	3,504	3,919	3,984	3,523
64	46	43	52	96
2,646	2,442	920	1,058	1,134
1,047	522	530	679	546
828,067	797,013	943,002	926,811	876,743
835,758	803,548	948,437	932,608	882,069

VH

May	June	July	Aug	Sept
\$53	\$50	\$51	\$50	\$43
\$867	\$847	\$901	\$753	\$674
\$179	\$61	\$60	\$57	\$49
\$460	\$191	\$202	\$201	\$220
\$167	\$89	\$91	\$89	\$105
\$101,803	\$101,849	\$122,024	\$99,802	\$86,342
\$103,529	\$103,086	\$123,329	\$100,951	\$87,432
\$28	\$28	\$30	\$30	\$30
\$759	\$764	\$864	\$765	\$699
\$120	\$110	\$119	\$120	\$124
\$599	\$251	\$290	\$264	\$289
\$368	\$288	\$51	\$55	\$114
\$102,951	\$116,218	\$139,456	\$95,614	\$126,322
\$104,826	\$117,660	\$140,810	\$96,848	\$127,577
\$24	\$40	\$42	\$44	\$45
\$616	\$1,207	\$1,285	\$1,141	\$726
\$98	\$181	\$169	\$188	\$179
\$1,135	\$338	\$349	\$306	\$233
\$106	\$111	\$77	\$78	\$108
\$102,547	\$129,262	\$120,165	\$119,270	\$118,675
\$104,525	\$131,139	\$122,087	\$121,027	\$119,967
\$37	\$35	\$36	\$36	\$36
\$1,151	\$830	\$1,221	\$775	\$907
\$69	\$45	\$47	\$47	\$54
\$201	\$264	\$211	\$188	\$256
\$283	\$198	\$112	\$92	\$79
\$135,554	\$128,849	\$147,849	\$144,482	\$135,768
\$137,293	\$130,220	\$149,475	\$145,620	\$137,099
\$49	\$49	\$50	\$51	\$55
\$1,019	\$963	\$1,079	\$1,087	\$943
\$55	\$67	\$66	\$64	\$53

\$541	\$284	\$282	\$289	\$321
\$264	\$144	\$139	\$148	\$193
\$156,354	\$166,690	\$140,905	\$162,733	\$114,291
\$158,283	\$168,197	\$142,522	\$164,370	\$115,855

\$44	\$41	\$42	\$43	\$41
\$688	\$603	\$621	\$619	\$552
\$51	\$45	\$45	\$46	\$51
\$470	\$426	\$167	\$184	\$194
\$174	\$99	\$95	\$111	\$94
\$135,444	\$144,654	\$131,719	\$129,973	\$117,484
\$136,871	\$145,868	\$132,689	\$130,975	\$118,417

Oct	Nov	Dec	Annual Total
15	15	16	166
5,185	5,441	5,532	68,912
90	141	443	6,536
1,356	6,035	18,108	34,843
1,455	1,871	1,148	13,603
834,704	872,114	932,888	10,936,469
842,805	885,616	958,134	11,060,529
21	24	18	192
4,832	6,442	7,574	67,631
802	933	1,498	8,949
2,013	6,730	25,455	100,750
2,340	2,593	2,517	23,985
880,585	922,661	1,036,698	10,842,079
890,593	939,383	1,073,759	11,043,587
105	149	74	565
6,838	12,941	9,355	89,425
870	1,352	664	12,849
4,636	13,677	20,722	156,230
1,020	1,390	1,024	14,455
874,077	944,618	1,037,120	11,435,391
887,546	974,126	1,068,960	11,708,915
30	30	30	388
4,860	5,952	5,412	104,621
495	586	556	6,660
2,282	5,841	10,661	107,735
561	708	1,517	26,214
882,645	881,515	968,060	11,163,081
890,873	894,633	986,236	11,408,698
130	102	36	890
5,262	6,232	8,817	73,140
194	121	221	3,014
1,769	4,531	10,808	78,401
2,204	4,560	4,953	23,061
882,796	898,235	1,028,702	11,393,416
892,355	913,781	1,053,536	11,571,923
33	38	20	319

3,273	3,839	3,389	51,423
149	167	116	1,287
1,186	2,006	1,525	45,118
602	1,136	978	17,687
840,712	882,727	1,039,273	11,085,850
845,955	889,912	1,045,301	11,201,684

Oct	Nov	Dec	Annual Total
\$29	\$28	\$27	\$537.20
\$777	\$815	\$828	\$10,048.45
\$38	\$45	\$84	\$1,326.50
\$395	\$1,094	\$2,253	\$7,236.21
\$204	\$254	\$157	\$1,947.32
\$99,015	\$102,127	\$108,879	\$1,254,462.21
\$100,458	\$104,362	\$112,227	\$1,275,558
\$32	\$31	\$33	\$356.16
\$733	\$1,013	\$1,194	\$10,324.39
\$132	\$154	\$238	\$1,495.31
\$371	\$1,075	\$3,795	\$15,550.34
\$329	\$368	\$363	\$3,375.44
\$106,726	\$110,207	\$155,651	\$1,403,108.70
\$108,322	\$112,849	\$161,273	\$1,434,210
\$49	\$48	\$48	\$443.66
\$824	\$1,216	\$1,521	\$13,180.47
\$135	\$149	\$128	\$2,099.44
\$778	\$2,308	\$3,517	\$24,020.98
\$134	\$139	\$157	\$1,834.93
\$108,530	\$150,945	\$141,437	\$1,484,354.04
\$110,450	\$154,805	\$146,808	\$1,525,934
\$37	\$36	\$36	\$452.47
\$847	\$1,034	\$946	\$14,441.67
\$114	\$127	\$119	\$1,251.25
\$403	\$1,035	\$1,945	\$18,525.81
\$108	\$127	\$259	\$2,993.52
\$114,945	\$114,019	\$165,027	\$1,610,408.66
\$116,455	\$116,379	\$168,332	\$1,648,073
\$71	\$63	\$57	\$693.35
\$1,081	\$1,238	\$1,691	\$14,454.26
\$90	\$62	\$98	\$1,086.39

\$384	\$934	\$2,123	\$15,327.07
\$421	\$842	\$879	\$4,331.78
\$140,905	\$170,727	\$179,632	\$1,861,442.97
\$142,951	\$173,865	\$184,480	\$1,897,336

\$44	\$45	\$31	\$520.59
\$516	\$615	\$536	\$8,807.17
\$58	\$64	\$48	\$671.35
\$207	\$338	\$255	\$8,277.22
\$103	\$171	\$143	\$2,908.77
\$121,613	\$114,498	\$138,467	\$1,642,618.42
\$122,540	\$115,732	\$139,480	\$1,663,804

Water Consumption at the Toronto Zoo

Use in CUBICM

Meter: ZMM

Billing Year	Jan	Feb	Mar	Apr	May	June	July	Aug
2012	10,890	12,778	14,345	14,381	19,656	24,138	33,067	27,122
2013	8,839	7,983	8,839	8,560	20,919	9,100	9,788	7,034
2014	8,053	7,390	10,803	10,463	19,346	18,722	19,346	22,164
2015	8,718	9,085	10,362	10,031	14,662	15,139	25,377	22,248
2016	8,434	8,773	10,085	10,833	15,445	18,878	25,172	24,057
2017	10,174	8,863	12,374	11,486	12,104	14,641	22,065	26,859

Water Costs at the Toronto Zoo

Meter: ZMM

Billing Year	Jan	Feb	Mar	Apr	May	June	July	Aug
2012	\$27,113	\$31,814	\$35,714	\$35,805	\$48,937	\$60,097	\$82,328	\$67,527
2013	\$23,986	\$21,665	\$23,986	\$23,230	\$56,769	\$24,696	\$26,562	\$19,089
2014	\$23,821	\$21,859	\$31,954	\$30,949	\$57,223	\$55,377	\$57,223	\$65,558
2015	\$25,089	\$26,087	\$28,945	\$28,200	\$46,837	\$48,362	\$81,065	\$69,995
2016	\$29,096	\$30,268	\$32,217	\$37,373	\$53,285	\$65,130	\$86,844	\$82,997
2017	\$36,857	\$32,107	\$44,827	\$41,607	\$43,847	\$53,038	\$79,929	\$97,295

Sept	Oct	Nov	Dec	Annual Total
24,157	14,390	9,740	9,273	213,940
7,905	8,622	9,258	9,818	116,667
13,859	13,170	10,587	8,433	162,336
16,027	12,036	9,188	8,308	161,182
17,728	13,894	11,201	10,599	175,098
17,230	13,856	10,388	9,864	169,904

Sept	Oct	Nov	Dec	Annual Total
\$60,145	\$35,827	\$24,250	\$24,364	\$533,921.89
\$21,452	\$23,398	\$25,123	\$26,648	\$316,603.25
\$40,994	\$38,956	\$31,314	\$24,925	\$480,152.79
\$50,426	\$37,872	\$29,352	\$26,610	\$498,841.38
\$61,164	\$47,938	\$38,646	\$38,394	\$603,353.82
\$62,414	\$50,194	\$37,630	\$35,799	\$615,544.35

Natural Gas Consumption at the Toronto Zoo**Use in CUBICM****Meter: ZMM**

Billing Year	Jan	Feb	Mar	Apr	May	June	July	Aug
2012	303,939	266,864	195,029	177,469	70,521	36,935	30,237	29,680
2013	332,292	309,422	271,911	176,935	82,023	45,198	36,675	39,342
2014	343,201	301,792	295,934	151,141	67,564	37,053	32,521	34,686
2015	349,907	377,961	264,770	159,388	83,479	46,274	36,328	30,556
2016	341,279	305,247	259,630	204,320	87,744	37,191	26,056	23,758
2017	337,707	285,420	335,045	157,967	104,399	51,229	34,240	37,767

Natural Gas Costs at the Toronto Zoo**Meter: ZMM**

Billing Year	Jan	Feb	Mar	Apr	May	June	July	Aug
2012	\$89,762	\$78,278	\$57,203	\$51,315	\$19,415	\$10,173	\$8,370	\$8,183
2013	\$86,646	\$80,772	\$71,074	\$46,364	\$21,613	\$12,004	\$9,851	\$10,530
2014	\$87,001	\$75,895	\$78,149	\$44,171	\$20,682	\$11,424	\$9,940	\$10,382
2015	\$102,716	\$111,521	\$72,388	\$42,290	\$21,547	\$12,058	\$9,954	\$8,578
2016	\$80,580	\$71,541	\$61,628	\$49,980	\$21,878	\$9,418	\$6,670	\$6,079
2017	\$83,045	\$72,321	\$84,863	\$39,904	\$26,416	\$13,001	\$8,595	\$9,369

Sept	Oct	Nov	Dec	Annual Total
51,707	148,600	230,648	281,468	1,823,097
62,590	134,554	236,049	318,650	2,045,642
56,348	124,943	238,617	270,562	1,954,360
44,615	128,445	176,750	218,662	1,917,134
32,293	114,749	189,606	294,837	1,916,710
52,045	101,348	238,189	400,215	2,135,571

Sept	Oct	Nov	Dec	Annual Total
\$13,670	\$38,738	\$60,048	\$73,299	\$508,454.70
\$16,612	\$35,348	\$61,809	\$82,608	\$535,230.78
\$16,189	\$34,584	\$64,859	\$75,562	\$528,838.24
\$11,894	\$32,081	\$42,822	\$52,486	\$520,335.65
\$7,907	\$26,295	\$42,706	\$68,316	\$452,996.78
\$12,801	\$25,832	\$62,274	\$100,816	\$539,236.43

MONTHLY UTILITY METER READINGS

READING DATE: 2016 Feb 13

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.OAL
AF4000	Restaurants	Africa	3726	200 W	96102	3125746
AP0500		Caribou Café	5183	100 W	34574	25150
AP0510		Polar Patio			2087	
AS2000		Safari Lodge	9928		901800	17053.65 m ³
AP0600		Beaver Tails (Tims)			17421 m ³	
AS2100		Twiga	54982		52752 m ³	
VS0000		Membership/Guest Services		—	—	04521.38 Cuft
ZS0000	Education		—	—	6613	104622.00
VS1000	Greenhouse Gift Shop				m ³ 64675	
TR0000	Transit				07352	
TR0000	Main Generators				00177800	
NS0000	North Service Bldg		15217 MW	360	10482	174552 m ³
QW0000	Quarantine Building				1596000	01429.5 m ³
GR0000	Grounds keeping Bldg				62185554	108472.02
EH0200	Elephants	Roof Unit & DHW			12254	
		Mechanical Room			39392	
EH0100	Hippo House (lower elephant)				43120700	272100 m ³
IN0000	Indo-Malaya Pavilion		1,737,313	134	0855486.2 ^{m³}	117100 m ³
MW0000	Malayan Woods				09680 cuft	—
IR0000	Indian Rhino	DHW			22092	
		Furnace			23971289	
FC0000	First Aid (Family Centre)				3509	
AF0000	Africa	Pavilion	16030457	222	51351	06183 m ³
AF1300		Gorilla Holding			8324	
AM0000	Americas Pavilion		331,561	93	146857.07	187300 m ³
AU0000	Australasia	Pavilion	4441864.50	97.73	38958.	60100 m ³
		GBR			5262	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP. GAL
AN0800	Giraffe House Watusi			349900	
AN0300	Carnot Lynx Porcupine			40609 m³	
AN0200	Hyena House			86334 m³	
AN0100	Penguin			4396	
MA0000	Mayan Temple			94723 m³	373400 m³
TT0100	Polar Bear			22353	017457 m³
TT0600	Arctic Wolf			4081	
AS1000	Rhino/Mixed Hoofstock	1656.58 MW		907535 m³	767389 L
AS1100	Mixed Hoofstock/Bird	5018.95 MW		48442 m³	077071 L
AS1400	Lion House	380.645 MW		93322 m³	370920.0 L
AS1200	Cheetah House	40.131 MW		24017 m³	453837.0 L
AS1300	Baboon House	1009.54 MW		37612 m³	483510 L
AS1100	Ostrich			4523 Cuf	
	Africa Rhino Pool				53800 m³
VH0000	Valley Halla GAS 28300	83568			
GA0000	Gate House	57479		009200	
DZ0000	Splash Island			4125	206938.0 m³
MB0000	Main Barn				004019 m³
	Panda			01229.99 Cuf	
	Snow Leopard			06793 m³	
	Panda Washroom			07405 m³	
	Panda Gift Shop			03948 m³	
	Panda Interpretive Centre N			597100 Cuf	
	Panda Interpretive Centre S			406900 Cuf	
	Panda House			375800 Cuf	
MAIN:	Water Meter				27503240 m³
	New Main Water Meter				0348680 m³
	Natural Gas Meter			17863560 Ccf	
NAME: 3686 WILD CAMP GAS		DATE: 2016 FEB 3/			
				Ray Rogers	

MONTHLY UTILITY METER READINGS
READING DATE:
MAR 3 / 2016.

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	3823	200 W	97217	3127252
AP0500		Caribou Café	5155	180 W	36690	25161
AP0510		Polar Patio			2087	
AS2000		Safari Lodge	0091		912300	17054.84m ³
AP0600		Beaver Tails/Tims			17524 m ³	
AS2100		Twiga	55280		52985 m ³	
VS0000		Tims (Peacock)			—	
VS0000	Membership/Guest Services		—	—	04783.55	
ZS0000	Education		—	—	—	104755
VS1000	Greenhouse Gift Shop				66363 m ³	
TR0000	Transit				08067	
TR0000	Main Generators				00177803	
NS0000	North Service Bldg		15489 MW	527.4	14390	174812 m ³
QW0000	Quarantine Building				01558.8 m ³	16801 m ³
GR0000	Groundskeeping Bldg				62599166	116504.0L
EH0200	Giraffe	Roof Unit & DHW			01271400	
		Mechanical Room			40204	
EH0100	Hippo House (lower elephant)				43415700	273300m ³
IN0000	Indo-Malaya Pavilion		1,765,916	121	0862110.3m ³	118300m ³
MW0000	Malayan Woods				1007400	
IR0000	Indian Rhino	DHW			23113 m ³	
		Furnace			24184370	
FC0000	First Aid (Family Centre)				375200	
AF0000	Africa	Pavilion	295293.813	225	5631900	0621000m ³
AF1300		Gorilla Holding			016100	
AM0000	Americas Pavilion		378,403	96	153881.95	187700m ³
AU0000	Australasia	Pavilion	4495934.50	98.07	40939	60400 m ³
		GBR			5402	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AN0900	Watusi			367100	
AN0300	Porcupine			40850 m³	
AN0200	Hyena House			97748 m³	
AN0100	Penguin			472700	
MA0000	Mayan Temple			96891 m³	375400m³
TT0100	Polar Bear			22780	017484m³
TT0600	Arctic Wolf			4260	
AS1000	Rhino/Mixed Hoofstock	1665.10 MW		918067 m³	777307 L
AS1100	Mixed Hoofstock/Bird	5065.92 MW		484242 m³	90941 L
AS1400	Lion House	363.114 MW		964.31 m³	370920 L
AS1200	Cheetah House	40.174 MW		25482 m³	455862.0L
AS1300	Baboon House	1014.54 MW		38926 m³	489126.0L
AS1100	Ostrich			486000	
AS0000	Africa Rhino Pool				053800m³
VH0000	Valley Halla	88758		105700	
GA0000	Gate House	58032		36300	
BF0000	Ferrett Barn			2100	
MC0000	Marmot Centre			0000	
DZ0000	Splash Island			4426	206956.6 m³
MB0000	Main Barn			—	004183 m³
EP2500	Panda			1351.68	
EP2600	Snow Leopard			7650 m³	
EP2080	Panda Washroom			7713 m³	
EP2060	Panda Gift Shop			4190 m³	
ST0000	Panda Interpretive Centre N			670000	
ST0000	Panda Interpretive Centre S			465700	
EP2500	Panda House			431600	
ST0201	Augmented Reality			6213	
MAIN	Water Meter				280016.64³
	New Main Water Meter				358554.8m³
	Natural Gas Meter			19118364 ccf	

NAME: *Ray Rogers* DATE: 2016 (MAR 7)

MONTHLY UTILITY METER READINGS
READING DATE:
2016/4/5

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	3911	210 W	00031	3131 478
AP0500		Caribou Café	5226	200 W	38033	25204.2
AP0510		Polar Patio			2063	
AS2000		Safari Lodge	0048		932300	17081.09 m ³
AP0600		Beaver Tails/Tims			17694 m ³	
AS2100		Twiga	57397		53774 m ³	
VS0000		Tims (Peacock)			17694	
VS0000		Membership/Guest Services		—	—	4978.25
ZS0000	Education		—	—	5503	104969.00
VS1000	Greenhouse Gift Shop				67912 m ³	
TR0000	Transit				8417	
TR0000	Main Generators				00177803	
NS0000	North Service Bldg		15710 MW	542.6	16699	175009 m ³
QW0000	Quarantine Building				17335 m ³	1647.7 m ³
GR0000	Groundskeeping Bldg				6283153	12517.5 L
EH0200	Giraffe	Roof Unit & DHW			13004	
		Mechanical Room			4061500	
EH0100	Hippo House (lower elephant)				43665100	274800 m ³
IN0000	Indo-Malaya Pavilion		—	—	867117.7 m ³	119200 m ³
MW0000	Malayan Woods				1047100	
IR0000	Indian Rhino	DHW			23895 m ³	
		Furnace			2430421.5	
FC0000	First Aid (Family Centre)				389600	
AF0000	Africa	Pavilion	435024.313	220.3	61225	624200 m ³
AF1300		Gorilla Holding			194000	
AM0000	Americas Pavilion		428,868	83	159753.78	188400 m ³
AU0000	Australasia	Pavilion	4554928.50	90	42796	60700 m ³
		GBR			5708	

SIC	DESCRIPTION	UNIT	READING	UNIT	READING
AN0900	Watusi				405300
AN0300	Porcupine				41004 m ³
AN0200	Hyena House				98944 m ³
AN0100	Penguin				496100
MA0000	Mayan Temple				98182 m ³ 376900 m ³
TT0100	Polar Bear				23076 17614 m ³
TT0600	Arctic Wolf				4291
AS1000	Rhino/Mixed Hoofstock		1672.90 MW		925557 m ³ 785967
AS1100	Mixed Hoofstock/Bird		5105.73 MW		484242 m ³ 101493 L
AS1400	Lion House		365.021 MW		98916 m ³ 370920 L
AS1200	Cheetah House		40.176 MW		26356 m ³ 457445 L
AS1300	Baboon House		1021.05 MW		39724 m ³ 494106 L
AS1100	Ostrich				526100
AS0000	Africa Rhino Pool				5410 m ³
VH0000	Valley Halla		90274		1694
GA0000	Gate House		58343		52900
BF0000	Ferrett Barn				5300
MC0000	Marmot Centre				0900
DZ0000	Splash Island				4626 207007 m ³
MB0000	Main Barn				— 00423.1 m ³
EP2500	Panda				1438.38
EP2600	Snow Leopard				8260 m ³
EP2080	Panda Washroom				7918 m ³
EP2060	Panda Gift Shop				4281 m ³
ST0000	Panda Interpretive Centre N				703300
ST0000	Panda Interpretive Centre S				493200
EP2500	Panda House				468100
ST0201	Augmented Reality				8436
MAIN	Water Meter				368079.1 m ³
	New Main Water Meter				285139 m ³
	Natural Gas Meter				199477.7 cf
NAME: Roy Rogers		DATE: 2016/4/5			

MONTHLY UTILITY METER READINGS
READING DATE:

2016 / MAY 3 & 4

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	3986	220 W	01721	3135085.0
AP0500		Caribou Café	5277	210 W	39104	25238.800
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0084		955100	17109.09m ³
AP0600		Beaver Tails/Tims			17827 m ³	
AS2100		Twiga	59702		54701 m ³	
VS0000		Tims (Peacock)			—	
VS0000	Membership/Guest Services		—	—	5104.12	
ZS0000	Education		—	—	—	105178.00
VS1000	Greenhouse Gift Shop				69138 m ³	
TR0000	Transit				08679	
TR0000	Main Generators				00179829	
NS0000	North Service Bldg		15924 MW	345.6	18824	175204 m ³
QW0000	Quarantine Building				1778300 m ³	01743.7 m ³
GR0000	Groundskeeping Bldg				6301121.2	135559.0L
EH0200	Giraffe	Roof Unit & DHW			1320700	
		Mechanical Room			4093200	
EH0100	Hippo House (lower elephant)				438198	276000 m ³
IN0000	Indo-Malaya Pavilion		—	—	0870334.6 m ³	119900 m ³
MW0000	Malayan Woods				1076300	
IR0000	Indian Rhino	DHW			24627 m ³	
		Furnace			24401461	
FC0000	First Aid (Family Centre)				400900	
AF0000	Africa	Pavilion	549870.375	206.1	6475500	627000 m ³
AF1300		Gorilla Holding			304700	
AM0000	Americas Pavilion		41,271	85	163315	189000 m ³
AU0000	Australasia	Pavilion	4604877.00	88.55	44022.26	61000 m ³
		GBR			5828	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP. GAL
AN0900	Watusi			414500	
AN0300	Porcupine			41099 m ³	
AN0200	Hyena House			99911 m ³	
AN0100	Penguin			512200	
MA0000	Mayan Temple			99641 m ³	378900 m ³
TT0100	Polar Bear			23266	017755 m ³
TT0600	Arctic Wolf			4301	
AS1000	Rhino/Mixed Hoofstock	1679.13 MW		930732 m ³	791762 L
AS1100	Mixed Hoofstock/Bird	5141.03 MW		484242 m ³	113362 L
AS1400	Lion House	366.497 MW		00333 m ³	370920.0 L
AS1200	Cheetah House	40.255 MW		27045 m ³	459179.0 L
AS1300	Baboon House	1027.74 MW		40295 m ³	498130.0 L
AS1100	Ostrich			539800	
AS0000	Africa Rhino Pool				5445.0 m ³
VH0000	Valley Halla	91846		226200	
GA0000	Gate House	58526		69600	
BF0000	Ferrett Barn			7600	
MC0000	Marmot Centre			000/00	
DZ0000	Splash Island			4701	201066.7 m ³
MB0000	Main Barn			-----	004259 m ³
EP2500	Panda			1509.23	
EP2600	Snow Leopard			08785 m ³	
EP2080	Panda Washroom			8079 m ³	
EP2060	Panda Gift Shop			4336 m ³	
ST0000	Panda Interpretive Centre N			728600	
ST0000	Panda Interpretive Centre S			511800	
EP2500	Panda House			495900	
ST0201	Augmented Reality			10235	
MAIN	Water Meter				290730.9 m ³
	New Main Water Meter				03783792 m ³
	Natural Gas Meter			20557996 Ccf	
NAME: <i>Ray Rogers</i>		DATE: 2016 / May 3 & 4			

MONTHLY UTILITY METER READINGS
READING DATE:
JUNE 2 / 2016

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4195	360 W	02745	3141021
AP0500		Caribou Café	5364	240 W	39675	25304.30
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0135		981200	17187.3m ³
AP0600		Beaver Tails/Tims			18006 m ³	
AS2100		Twiga	6275		55047 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	5157.80
ZS0000	Education		—	—	—	105560
VS1000	Greenhouse Gift Shop				69489 m ³	
TR0000	Transit				8734	
TR0000	Main Generators				180012	
0000	North Service Bldg		16160 MW	527	20258	175563 m ³
QW0000	Quarantine Building				1794500 m ³	1847.7 m ³
GR0000	Groundskeeping Bldg				631166	151209 L
EH0200	Giraffe	Roof Unit & DHW			1325900	
		Mechanical Room			41012	
EH0100	Hippo House (lower elephant)				439286	277200 m ³
IN0000	Indo-Malaya Pavilion <small>ALT DECO GAS-20000</small>		—	—	873716.1 m ³	123100 m ³
MW0000	Malayan Woods				10943	
IR0000	Indian Rhino	DHW			25271 m ³	
		Furnace			24433244	
FC0000	First Aid (Family Centre)				404300	
AF0000	Africa	Pavilion	667632.313	203.1	65993	630300 m ³
AF1300		Gorilla Holding			337700	
AM0000	Americas Pavilion		83389	75	165291.29	189500 m ³
AU0000	Australasia	Pavilion	4654688.00	89	44622	61300 m ³
		GBR			5861	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP.GAL
AN0900	Watusi			416800	
AN0300	Porcupine			4163 m ³	
AN0200	Hyena House			00409 m ³	
AN0100	Penguin			515700	
MA0000	Mayan Temple			00337 m ³	380800 m ³
TT0100	Polar Bear			23311	18136 m ³
TT0600	Arctic Wolf			4301	
AS1000	Rhino/Mixed Hoofstock	1685.27 MW		933439 m ³	795580 L
AS1100	Mixed Hoofstock/Bird	5179.63 MW		484242 m ³	127778 L
AS1400	Lion House	367.563 MW		00773 m ³	370920 L
AS1200	Cheetah House	40.666 MW		27266 m ³	459892 L
AS1300	Baboon House	503225 MW		40435 m ³	1033.15 L
AS1100	Ostrich			541700	
AS0000	Africa Rhino Pool				546800 m ³
VH0000	Valley Halla	93004		251300	
GA0000	Gate House	58629		71900	
BF0000	Ferrett Barn			8700	
MC0000	Marmot Centre			0001	
DZ0000	Splash Island			4902	209450.9 m ³
MB0000	Main Barn			—	004291 m ³
EP2500	Panda			01549	
EP2600	Snow Leopard			9055 m ³	
EP2080	Panda Washroom			8157 m ³	
EP2060	Panda Gift Shop			4341 m ³	
ST0000	Panda Interpretive Centre N			734300	
ST0000	Panda Interpretive Centre S			517400	
EP2500	Panda House			508500	
ST0201	Augmented Reality			10637	
MAIN	Water Meter				2999445 m ³
	New Main Water Meter				0334059 m ³
	Natural Gas Meter			20852345 Ccf	
NAME: <i>Roy Rogers</i>		DATE: <i>June 2 / 2016.</i>			

MONTHLY UTILITY METER READINGS
READING DATE:

July 1 / 2016

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4213	360 W	03596	3147717
AP0500		Caribou Café	5441	210 W	40089	25373.4
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0176		000400	17240.3 m ³
AP0600		Beaver Tails/Tims			18173 m ³	
AS2100		Twiga	75142		55154 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	5184.34
ZS0000	Education		—	—	—	106061.00
VS1000	Greenhouse Gift Shop				69559 m ³	
TR0000	Transit				08737	
TR0000	Main Generators					
NS0000	North Service Bldg		16369 MW	527.4	20559	175858 m ³
QW0000	Quarantine Building				18031 m ³	1979.7 m ³
GR0000	Groundskeeping Bldg				63182241	164196 L
EH0200	Giraffe	Roof Unit & DHW			1329400	
		Mechanical Room			41030	
EH0100	Hippo House (lower elephant)				43982700	278200 m ³
IN0000	Indo-Malaya Pavilion ^{GAS MTR} _{DEAD 20000}		—	—	874951.7 m ³	124500 m ³
MW0000	Malayan Woods				11070	
IR0000	Indian Rhino	DHW			25543 m ³	
		Furnace			24433244	
FC0000	First Aid (Family Centre)				4043	
AF0000	Africa	Pavilion	7697 46.79	197.4	6647600	633500 m ³
AF1300		Gorilla Holding			3395	
AM0000	Americas Pavilion		118,499	102	165495	189900 m ³
AU0000	Australasia	Pavilion	4696770.00	92.48	44724	61600 m ³
		GBR			5867	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP. GAL
AN0900	Watusi			4169	
AN0300	Porcupine			41163 m ³	
AN0200	Hyena House			00796 m ³	
AN0100	Penguin			515700	
MA0000	Mayan Temple			00430 m ³	383000 m ³
TT0100	Polar Bear			23327	18506 m ³
TT0600	Arctic Wolf			4211	
AS1000	Rhino/Mixed Hoofstock	1690.26 MW		934606 m ³	800429 L
AS1100	Mixed Hoofstock/Bird	5204.19 MW		484242 m ³	132871 L
AS1400	Lion House	368.434 MW		00894 m ³	370920 L
AS1200	Cheetah House	41.014 MW		27328 m ³	460939 L
AS1300	Baboon House	1036.83 MW		40479 m ³	506637 L
AS1100	Ostrich			541700	
AS0000	Africa Rhino Pool				54690 m ³
VH0000	Valley Halla	93628		251300	
GA0000	Gate House	58737		071900	
BF0000	Ferrett Barn			009300	
MC0000	Marmot Centre			000300	
DZ0000	Splash Island			5938	212518.5 m ³
MB0000	Main Barn			NOT TURNED ON YET	004321 m ³
EP2500	Panda			1569.73	
EP2600	Snow Leopard			09159 m ³	
EP2080	Panda Washroom			08202 m ³	
EP2060	Panda Gift Shop			04344 m ³	
ST0000	Panda Interpretive Centre N			734600	
ST0000	Panda Interpretive Centre S			5187	
EP2500	Panda House			510800	
ST0201	Augmented Reality			10637	
MAIN	Water Meter				309899.39 m ³
	New Main Water Meter				411370.01
	Natural Gas Meter			20967516 Ccf	

NAME:

Ray Rogers

DATE:

July 1/2016

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP.GAL
AN0900	Watusi			4169	
AN0300	Porcupine			41163 m ³	
AN0200	Hyena House			00867 m ³	
AN0100	Penguin			5157.00	
MA0000	Mayan Temple			00589 m ³	387700 m ³
TT0100	Polar Bear			23348	019393 m ³
TT0600	Arctic Wolf			4302	
AS1000	Rhino/Mixed Hoofstock	1702.49 MW		935788 m ³	810519.0L
AS1100	Mixed Hoofstock/Bird	5273.73 MW		484242 m ³	154283 L
AS1400	Lion House	370.709 MW		1011 m ³	370920.0L
AS1200	Cheetah House	42.011 MW		27387 m ³	464157.0L
AS1300	Baboon House	1046.70 MW		40570 m ³	518146.0L
AS1100	Ostrich			541700	
AS0000	Africa Rhino Pool				5562.0 m ³
VH0000	Valley Halla	94983		2513	
GA0000	Gate House	58941		0719	
BF0000	Ferrett Barn			110.00	
MC0000	Marmot Centre			0005.00	
DZ0000	Splash Island			5954	228465.9 m ³
MB0000	Main Barn			—	004897 m ³
EP2500	Panda			01610.28	
EP2600	Snow Leopard			9209 m ³	
EP2080	Panda Washroom			08297 m ³	
EP2060	Panda Gift Shop			04351 m ³	
ST0000	Panda Interpretive Centre N			7347.00	
ST0000	Panda Interpretive Centre S			5200.00	
EP2500	Panda House			5143.00	
ST0201	Augmented Reality			10638	
MAIN	Water Meter				340946.5 m ³
	New Main Water Meter				04651598 m ³
	Natural Gas Meter			21160762 Ccf	
NAME: <i>Randy Rogers</i>		DATE: 2016 / Sept 1-7			

MONTHLY UTILITY METER READINGS
READING DATE:
2016 / Sept 1-7

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4548	380 W	06065	3167101
AP0500		Caribpu Café	5783	180 W	41601	25580.8
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0326		0755.00	17508.77m ³
AP0600		Beaver Tails/Tims			18593 m ³	
AS2100		Twiga	73449		55784 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	5244.26
ZS0000	Education		—	—	—	107575.00
VS1000	Greenhouse Gift Shop				69592 m ³	
TR0000	Transit				08737	
TR0000	Main Generators				00180012	
NS0000	North Service Bldg		16930 MW	392.4	21056	176784 m ³
QW0000	Quarantine Building				18150 m ³	02222.1m ³
GR0000	Groundskeeping Bldg				03218234	197137 L
EH0200	Giraffe	Roof Unit & DHW			41030	
		Mechanical Room			1341400	
EH0100	Hippo House (lower elephant)				440586	02804m ³
IN0000	Indo-Malaya Pavilion <i>ART DECOR CAS</i>		—	—	0876864m ³	01296 m ³
MW0000	Malayan Woods				11336	
IR0000	Indian Rhino	DHW			25640 m ³	
		Furnace			24433244	
FC0000	First Aid (Family Centre)				4043	
AF0000	Africa	Pavilion	985741.313	187.9	67331.00	41700 m ³
AF1300		Gorilla Holding			3395.00	
AM0000	Americas Pavilion		1991030	73	166045	01909.00m ³
AU0000	Australasia	Pavilion	4793795.50	90.33	45004	00623.00m ³
		GBR			5884	

MONTHLY UTILITY METER READINGS
READING DATE: Oct 3 & 4 2016

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4645	250 W	06706	3170128
AP0500		Caribou Café	5730	220 W	41869	256255
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0353		81900	11540.11m ³
AP0600		Beaver Tails/Tims			18747 m ³	
AS2100		Twiga	75836		55831 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	5262.09
ZS0000	Education		—	—	—	69625
VS1000	Greenhouse Gift Shop				69665 m ³	
TR0000	Transit				8749	
TR0000	Main Generators				180012	
NS0000	North Service Bldg		17130 MW	502.4	21301	177062 m ³
QV0000	Quarantine Building				18247 m ³	2308.2
GR0000	Groundskeeping Bldg				63275368	210785 L
EH0200	Giraffe	Roof Unit & DHW			13465	
		Mechanical Room			4105100	
EH0100	Hippo House (lower elephant)				44086000	281000 m ³
IN0000	Indo-Malaya Pavilion		—	—	877652.7 m ³	131700 m ³
MW0000	Malayan Woods				11481	
IR0000	Indian Rhino	DHW			25670 m ³	
		Furnace			24433244	
FC0000	First Aid (Family Centre)				405700	
AF0000	Africa	Pavilion	1090180.75	196.5	67494	644500 m ³
AF1300		Gorilla Holding			353600	
AM0000	Americas Pavilion		232746	71	166604	191500 m ³
AU0000	Australasia	Pavilion	4833669	83.73	45331	62600 m ³
		GBR			5881	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP. GAL
AN0900	Watusi			4169	
AN0300	Porcupine			4163 m ³	
AN0200	Hyena House			00897 m ³	
0100	Penguin			5157	
MA0000	Mayan Temple			00672 m ³	390100 m ³
TT0100	Polar Bear			23357	19723 m ³
TT0600	Arctic Wolf			4305	
AS1000	Rhino/Mixed Hoofstock	1707.20MW		937193 m ³	813694.0L
AS1100	Mixed Hoofstock/Bird	5301.56 MW		484242 m ³	159271 L
AS1400	Lion House	371.836MW		01138 m ³	370920 L
AS1200	Cheetah House	42.405 MW		27467 m ³	465494 L
AS1300	Baboon House	1050.77 MW		40615 m ³	522448 L
AS1100	Ostrich			541700	
AS0000	Africa Rhino Pool				556200 m ³
VH0000	Valley Halla	95778		251400	
GA0000	Gate House	59028		71900	
BF0000	Ferrett Barn			011700	
0000	Marmot Centre			000600	
DZ0000	Splash Island			5977	228901.7 m ³
MB0000	Main Barn			(NO USAGE) YET	004418 m ³
EP2500	Panda			1621.54	
EP2600	Snow Leopard			9335 m ³	
EP2080	Panda Washroom			8346 m ³	
EP2060	Panda Gift Shop			4355 m ³	
ST0000	Panda Interpretive Centre N			7352	
ST0000	Panda Interpretive Centre S			530400	
EP2500	Panda House			520300	
ST0201	Augmented Reality			10723	
MAIN	Water Meter				348406 m ³
	New Main Water Meter				48127 m ³
	Natural Gas Meter			21268653 scf	
NAME:		DATE: Oct 3/4 2016			

MONTHLY UTILITY METER READINGS
READING DATE:

Oct 30 & 31 / 2016

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4715	220 W	8089	3173 344
AP0500		Caribou Café	5799	210 W	42304	25659.500
AP0510		Polar Patio			(SHUT OFF) (TILL)	
AS2000		Safari Lodge	0378		83600	17566.51m ³
AP0600		Beaver Tails/Tims			18820 m ³	
AS2100		Twiga	77374		55959 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	5327.47
ZS0000	Education		—	—	—	1080170
VS1000	Greenhouse Gift Shop				70092 m ³	
TR0000	Transit				8851	
TR0000	Main Generators				00180012	
NS0000	North Service Bldg		17350 MW	536.4	22735	177290m ³
QW0000	Quarantine Building				1846800m ³	2397.7 m ³
GR0000	Groundskeeping Bldg				63413072	223387L
EH0200	Giraffe	Roof Unit & DHW			1355200	
		Mechanical Room			4132300	
EH0100	Hippo House (lower elephant)				44144400	282000m ³
IN0000	Indo-Malaya Pavilion		—	—	880442.4 m ³	132600m ³
MW0000	Malayan Woods				1167900	
IR0000	Indian Rhino	DHW			25913 m ³	
		Furnace			24484774	
FC0000	First Aid (Family Centre)				413100	
AF0000	Africa	Pavilion	1192126.25	202.8	6913800	647300m ³
AF1300		Gorilla Holding			447000	
AM0000	Americas Pavilion		265,107	73	169567.70	191900m ³
AU0000	Australasia	Pavilion	4869936.50	85.30	46314.43	62900 m ³
		GBR			5967	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMP. GAL
AN0900	Watusi			416900	
AN0300	Porcupine			41250 m ³	
AN0200	Hyena House			01511 m ³	
AN0100	Penguin			518900	
MA0000	Mayan Temple			00752 m ³	392000 m ³
TT0100	Polar Bear			23415	20021 m ³
TT0600	Arctic Wolf			4323	
AS1000	Rhino/Mixed Hoofstock	1713.51 MW		941544 m ³	817679 L
AS1100	Mixed Hoofstock/Bird	5342.48 MW		484241 m ³	168283 L
AS1400	Lion House	373.895 MW		02058 m ³	370920 L
AS1200	Cheetah House	42.530 MW		27947 m ³	467212 L
AS1300	Baboon House	1056.11 MW		41145 m ³	530349 L
AS1100	Ostrich			5497	
AS0000	Africa Rhino Pool				5562.0 m ³
VH0000	Valley Halla	97341		253300	
GA0000	Gate House	75200		59175	
BF0000	Ferrett Barn			12700	
MC0000	Marmot Centre			1500	
DZ0000	Splash Island			6163	229001.9 m ³
MB0000	Main Barn			WEST - 400 EAST - 3200	4432 m ³
EP2500	Panda			1652.70	
EP2600	Snow Leopard			9662 m ³	
EP2080	Panda Washroom			8413 m ³	
EP2060	Panda Gift Shop			4361 m ³	
ST0000	Panda Interpretive Centre N			754200	
ST0000	Panda Interpretive Centre S			552200	
EP2500	Panda House			526300	
ST0201	Augmented Reality			11377	
MAIN	Water Meter				4940659 m ³
	New Main Water Meter				353240.9 m ³
	Natural Gas Meter			21604062 Ccf	

NAME:

Roy Rogers

DATE: Oct 30 + 31 / 2016

MONTHLY UTILITY METER READINGS
READING DATE:
Dec 2/2016

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4788	200 W	10494	3175464
AP0500		Caribou Café	5857	180 W	42631	25689.400
AP0510		Polar Patio			(off)	
AS2000		Safari Lodge	0400		105700	17576.62m ³
AP0600		Beaver Tails/Tims			18880 m ³	
AS2100		Twiga	77455		5607.2 m ³	
VS0000		Tims (Peacock)			—	
VS0000	Membership/Guest Services		—	—	5481.82	
ZS0000	Education		—	—	—	108168
VS1000	Greenhouse Gift Shop				71339 m ³	
TR0000	Transit				09116	
TR0000	Main Generators				0180012	
NS0000	North Service Bldg		17618 MW	394.2	24892	177700 m ³
QW0000	Quarantine Building				1913700 m ³	2864.3 m ³
GR0000	Groundskeeping Bldg				63699421	238475L
EH0200	Giraffe	Roof Unit & DHW			13722	
		Mechanical Room			41825	
EH0100	Hippo House (lower elephant)				443282	283500 m ³
IN0000	Indo-Malaya Pavilion		—	—	885959.6 m ³	133400 m ³
MW0000	Malayan Woods				12004	
IR0000	Indian Rhino	DHW			27019 m ³	
		Furnace			24604519	
FC0000	First Aid (Family Centre)				429400	
AF0000	Africa	Pavilion	1316177.13	212.2	7228000	650200 m ³
AF1300		Gorilla Holding			542300	
AM0000	Americas Pavilion		305681	76	174122.78	192300 m ³
AU0000	Australasia	Pavilion	4912371.50	90.07	47908.32	63200 m ³
		GBR			6175	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP. GAL
AN0900	Watusi			424300	
AN0300	Porcupine			41371 m ³	
AN0200	Hyena House			2123 m ³	
AN0100	Penguin			539000	
MA0000	Mayan Temple			2886 m ³	394200m ³
TT0100	Polar Bear			23703	20385 m ³
TT0600	Arctic Wolf			4338	
AS1000	Rhino/Mixed Hoofstock	1720.99MW		948123 m ³	821593 L
AS1100	Mixed Hoofstock/Bird	5389.42MW		484242 m ³	180702L
AS1400	Lion House	376.044MW		4674 m ³	370920L
AS1200	Cheetah House	42.573MW		28413 m ³	469150 L
AS1300	Baboon House	1061.42MW		42540 m ³	534658 L
AS1100	Ostrich			588100	
AS0000	Africa Rhino Pool				55620 m ³
VH0000	Valley Halla	102317		302300	
GA0000	Gate House	59319		93500	
BF0000	Ferrett Barn			16200	
MC0000	Marmot Centre			1600	
DZ0000	Splash Island			6233	229041.7m ³
MB0000	Main Barn			4800 1000	004451 m ³
EP2500	Panda			1704.43	
EP2600	Snow Leopard			10077 m ³	
EP2080	Panda Washroom			8547 m ³	
EP2060	Panda Gift Shop			4118 m ³	
ST0000	Panda Interpretive Centre N			791900	
ST0000	Panda Interpretive Centre S			582800	
EP2500	Panda House			54700	
ST0201	Augmented Reality			12832	
MAIN	Water Meter				504349.4m ³
	New Main Water Meter				356428 m ³
	Natural Gas Meter			22358347Ccf	
NAME: Roy Rogers		DATE: Dec 2/2016			

MONTHLY UTILITY METER READINGS
READING DATE:
JAN 6 / 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4862-	180 W	15533	3176612
AP0500		Caribou Café	5917	180 W	43538	25764.900
AP0510		Polar Patio			(OFF)	
AS2000		Safari Lodge	0423		141000	17576.99m ³
AP0600		Beaver Tails/Tims			18954 m ³	
AS2100		Twiga	77637		56486 m ³	
VS0000		Tims (Peacock)			—	
VS0000	Membership/Guest Services		—	—	5777.70	
ZS0000	Education		—	—	—	108232
VS1000	Greenhouse Gift Shop				74397 m ³	
TR0000	Transit				9735	
TR0000	Main Generators				00180014	
NS0000	North Service Bldg		17901 MW	487.2	28060	177870 m ³
QW0000	Quarantine Building				2031200 m ³	2761.5 m ³
GR0000	Groundskeeping Bldg				6420157.5	254148 L
EH0200	Giraffe	Roof Unit & DHW			1412500	
		Mechanical Room			4292500	
EH0100	Hippo House (lower elephant)				44710800	285200 m ³
IN0000	Indo-Malaya Pavilion		—	—	895090.6m ³	134400 m ³
MW0000	Malayan Woods				1242200	
IR0000	Indian Rhino	DHW			28083 m ³	
		Furnace			24819052	
FC0000	First Aid (Family Centre)				456900	
AF0000	Africa	Pavilion	1467674.75	221.5	787.2100	653400 m ³
AF1300		Gorilla Holding			704300	
AM0000	Americas Pavilion		357717	74	181196.26	192700 m ³
AU0000	Australasia	Pavilion	4976042.00	98.12	50248.36	63500 m ³
		GBR			6666	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER MPGAL
AN0900	Watusi			460700	
AN0300	Porcupine			41612 m ³	
AN0200	Hyena House			3248 m ³	
AN0100	Penguin			579000	
MA0000	Mayan Temple			07201 m ³	396800 m ³
TT0100	Polar Bear			24248	20478 m ³
TT0600	Arctic Wolf			4515	
AS1000	Rhino/Mixed Hoofstock	1730.15MW		958755 m ³	829770 L
AS1100	Mixed Hoofstock/Bird	5444.49 MW		484242 m ³	192164 L
AS1400	Lion House	378.692 MW		10410 m ³	370920 L
AS1200	Cheetah House	42.574 MW		29150 m ³	470814 L
AS1300	Baboon House	1066.98 MW		44973 m ³	539520 L
AS1100	Ostrich			629600	
AS0000	Africa Rhino Pool				5562 m ³
VH0000	Valley Halla	107577		374400	
GA0000	Gate House	59517		121000	
BF0000	Ferrett Barn			23900	
MC0000	Marmot Centre			3100	
DZ0000	Splash Island			5533	229058.8 m ³
MB0000	Main Barn			WEST - 1500 EAST - 12600	NO ACCESS (FROZEN) m ³
EP2500	Panda			1801.33	
EP2600	Snow Leopard			10821 m ³	
EP2080	Panda Washroom			8788 m ³	
EP2060	Panda Gift Shop			4597 m ³	
ST0000	Panda Interpretive Centre N			868900	
ST0000	Panda Interpretive Centre S			655200	
EP2500	Panda House			582000	
ST0201	Augmented Reality			15425	
MAIN	Water Meter				359551.91 m ³
	New Main Water Meter				000010.0 m ³
	Natural Gas Meter			23620031 Ccf	
NAME: Roy Rogers		DATE: JAN 6 / 2017			

MONTHLY UTILITY METER READINGS
READING DATE: JAN 31 + FEB 1 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4916	180 W	18821	3177322
AP0500		Caribou Café	5958	120 W	4377	25710.9
AP0510		Polar Patio			(OFF)	
AS2000		Safari Lodge	0440		166100	17576.99m ³
AP0600		Beaver Tails/Tims			18999 m ³	
AS2100		Twiga	77763		56766 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	6019.08
ZS0000	Education		—	—	—	108337
VS1000	Greenhouse Gift Shop				76373 m ³	
TR0000	Transit				10243	
TR0000	Main Generators				183973	
NS0000	North Service Bldg (HYDRO METER RECORD)		18017 MW	436.8	177987	177987m ³
QW0000	Quarantine Building				2095000 m ³	2879.0 m ³
GR0000	Groundskeeping Bldg				64536770	264166 L
EH0200	Giraffe	Roof Unit & DHW			1461200	
		Mechanical Room			4352800	
EH0100	Hippo House (lower elephant)				44996800	286300 m ³
IN0000	Indo-Malaya Pavilion		—	—	901639.8 m ³	135200 m ³
MW0000	Malayan Woods				1270700	
IR0000	Indian Rhino	DHW			28645 m ³	
		Furnace			24991424	
FC0000	First Aid (Family Centre)				474400	
AF0000	Africa	Pavilion	1572569.88	220	8317900	655400 m ³
AF1300		Gorilla Holding			835000	
AM0000	Americas Pavilion		343439	90	186166.12	193000m ³
AU0000	Australasia	Pavilion	5022570.00	100.8	51879.26	63700 m ³
		GBR			6987	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	IMP. GAL.
				4846 00	
AN0900	Watusi			41805 m ³	
AN0300	Porcupine			4016 m ³	
AN0200	Hyena House			6064 00	
AN0100	Penguin			09034 m ³	3981 00 m ³
MA0000	Mayan Temple			2468 3	0205 25 m ³
TT0100	Polar Bear			4419	
TT0600	Arctic Wolf			695959 m ³	835 007 L
AS1000	Rhino/Mixed Hoofstock	1736.33 MW		4847 42 m ³	201436 L
AS1100	Mixed Hoofstock/Bird	5492.76 MW		14492 m ³	370920 L
AS1100	Lion House	380.751 MW		29826 m ³	492355 L
AS1200	Cheetah House	42.573 MW		46762 m ³	543142 L
AS1300	Baboon House	1071.03 MW		6552	
AS1100	Ostrich				5562 m ³
AS0000	Africa Rhino Pool			428100	
VH0000	Valley Halla	111360		139900	
GA0000	Gate House	59653		28800	
BF0000	Ferrett Barn			5100	
MC0000	Marmot Centre			5744	229066.1 m ³
DZ0000	Splash Island			EAST - 20000 WEST - 15000	4974 m ³
MB0000	Main Barn			1862.27	
EP2500	Panda			1127.7 m ³	
EP2600	Snow Leopard			8952 m ³	
EP2080	Panda Washroom			4702 m ³	
EP2060	Panda Gift Shop			918600	
ST0000	Panda Interpretive Centre N			703800	
ST0000	Panda Interpretive Centre S			604900	
EP2500	Panda House			17232	
ST0201	Augmented Reality				36159.48 m ³
MAIN	Water Meter				52444.50 m ³
	New Main Water Meter				
	Natural Gas Meter			24491607 Ccf	

NAME:

Roy Rogers

DATE:

JAN 31 & FEB 1 / 2017

MONTHLY UTILITY METER READINGS
READING DATE:
MAR 6 / 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	4990	180 W	22483	31789.21
AP0500		Caribou Café	6020	180 W	55411	25729.500
AP0510		Polar Patio			2130	
AS2000		Safari Lodge	0467		2002	17577.11 m ³
AP0600		Beaver Tails/Tims			19084 m ³	
AS2100		Twiga	7792.2		57111 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	6401.46
ZS0000	Education		—	—	—	108485
VS1000	Greenhouse Gift Shop				79044 m ³	
TR0000	Transit				10946	
TR0000	Main Generators				00185 457	
NS0000	North Service Bldg		402.4 MW	646.7	33240	178158 m ³
QW0000	Quarantine Building				22048 m ³	297.30 m ³
GR0000	Groundskeeping Bldg				64982631	279220 L
EH0200	Giraffe	Roof Unit & DHW			1526400	
		Mechanical Room			432300	
EH0100	Hippo House (lower elephant)				45335800	m ³
IN0000	Indo-Malaya Pavilion		—	—	915311.4 m ³	136400 m ³
MW0000	Malayan Woods				1307300	
IR0000	Indian Rhino	DHW			29724 m ³	
		Furnace			25239963	
FC0000	First Aid (Family Centre)				4958	
AF0000	Africa	Pavilion	1723243.75	219.7	8977700	658400 m ³
AF1300		Gorilla Holding			19100	
AM0000	Americas Pavilion		441,941	82	193474	193700 m ³
AU0000	Australasia	Pavilion	5091296.00	100.9	54153.36	63900 m ³
		GBR			7427	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP. GAL
AN0900	Watusi			516 700	
AN0300	Porcupine			42056 m³	
AN0200	Hyena House			516 2 m³	
AN0100	Penguin			647300	
MA0000	Mayan Temple			11793 m³	398800 m³
TT0100	Polar Bear			2533 2	20655 m³
TT0600	Arctic Wolf			464 0	
AS1000	Rhino/Mixed Hoofstock	1744.78 MW		975597 m³	841106 L
AS1100	Mixed Hoofstock/Bird	5551.69 MW		484 240 m³	213028 L
AS1400	Lion House	383.631 MW		188 3 2 m³	370 920 L
AS1200	Cheetah House	42.573 MW		30719 m³	475 435 L
AS1300	Baboon House	1076.45 MW		49228 m³	548 326 L
AS1100	Ostrich			683 2	
AS0000	Africa Rhino Pool				556 2 m³
VH0000	Valley Halla	114 58 7		4966	
GA0000	Gate House	59820		1624	
BF0000	Ferrett Barn			0346	
MC0000	Marmot Centre			0092-	
DZ0000	Splash Island			5019	229083 m³
MB0000	Main Barn			0280 (EAST) 0108 (WEST)	004509 m³
EP2500	Panda (NORTH)			1954.01	
EP2600	Snow Leopard			11952 m³	
EP2080	Panda Washroom			9194 m³	
EP2060	Panda Gift Shop			4888 m³	
ST0000	Panda Interpretive Centre N R6			2300	
ST0000	Panda Interpretive Centre S			762700	
EP2500	Panda House			637 200	
ST0201	Augmented Reality			19847	
MAIN	Water Meter				363826.77 m³
	New Main Water Meter				053376.28 m³
	Natural Gas Meter			256226790cf	
NAME: Roy Rogers		DATE: MAR 6 / 2017			

MONTHLY UTILITY METER READINGS

READING DATE: APRIL 5 / 2017

SIG	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CUFT	WATER IMPERIAL
AF4000	Restaurants	Africa	5160	180 W	26462	3185705.0
AP0500		Caribou Café	6060	180 W	47355	25745200
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	2588		240000	1157730 m ³
AP0600		Beaver Tails/Tims			19145 m ³	
AS2100		Twiga	78080		57436 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	6685.63
ZS0000	Education		—	—	—	108620.00
VS1000	Greenhouse Gift Shop				80382 m ³	
TR0000	Transit				11493	
TR0000	Main Generators				00185539	
NS0000	North Service Bldg		655.2 MW	411.2	35776	178295
QW0000	Quarantine Building				2278600 m ³	029840 m ³
GR0000	Groundskeeping Bldg				65300534	291833 L
EH0200	Giraffe	Roof Unit & DHW			015686	
		Mechanical Room			4496200	
EH0100	Hippo House (lower elephant)				45599100	289000 m ³
IN0000	Indo-Malaya Pavilion		—	—	0925853.6 m ³	0137400 m ³
MW0000	Malayan Woods				1331500	
IR0000	Indian Rhino	DHW			30711 m ³	
		Furnace			25427465	
FC0000	First Aid (Family Centre)				518500	
AF0000	Africa	Pavilion	1850738.63	210	9489700	661100 m ³
AF1300		Gorilla Holding			214700	
AM0000	Americas Pavilion		483,549	81	199530	194100 m ³
AU0000	Australasia	Pavilion	5148746.00	99.91	5962	64100 m ³
		GBR			8735	

NO.	DESCRIPTION	UNIT	READING	UNIT	READING
AN0900	Watusi				536300
AN0300	Porcupine				42236 m ³
AN0200	Hyena House				06182 m ³
AN0100	Penguin				680500
MA0000	Mayan Temple				13742 m ³ 039950 m ³
TT0100	Polar Bear				26893 023245 m ³
TT0600	Arctic Wolf				4734
AS1000	Rhino/Mixed Hoofstock		1751.23MW		981227 m ³ 8462240
AS1100	Mixed Hoofstock/Bird		5597.11MW		484242 m ³ 2239060
AS1400	Lion House		386.058MW		23273 m ³ 3709201L
AS1200	Cheetah House		42.578MW		31363 m ³ 47800 L
AS1300	Baboon House		1080.72MW		55108 m ³ 5528980 L
AS1100	Ostrich				712100
AS0000	Africa Rhino Pool				56200 m ³
VH0000	Valley Halla		114987		569200
GA0000	Gate House		9991		182800
BF0000	Ferrett Barn				0413
MC0000	Marmot Centre				0138
DZ0000	Splash Island				6389 229104.0 m ³
MB0000	Main Barn				W- 22500 E- 38400 00452.2 m ³
EP2500	Panda				02024.31
EP2600	Snow Leopard				12509 m ³
EP2080	Panda Washroom				09373 m ³
EP2060	Panda Gift Shop				04992 m ³
ST0000	Panda Interpretive Centre N				060100
ST0000	Panda Interpretive Centre S				812400
EP2500	Panda House				672900
ST0201	Augmented Reality				21785
	Water Meter				36681.37
	New Main Water Meter				547063.8 m ³
	Natural Gas Meter				26853035 Ccf
NAME:		DATE: APRIL 5 / 2017			

MONTHLY UTILITY METER READINGS
READING DATE:
MAY 10 / 2017

BIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU FT	WATER L/MPGAL
AF4000	Restaurants	Africa	5150	380 W	28206	3192167.0
AP0500		Caribou Café	6128	200 W	48442	25784.600
AP0510		Polar Patio			(SHUT OFF)	
AS2000		Safari Lodge	0513		253900	17617.49 m ³
AP0600		Beaver Tails/Tims			19231 m ³	
AS2100		Twiga	78488		57477 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	6855.82
ZS0000	Education		—	—	—	108780
VS1000	Greenhouse Gift Shop				80546 m ³	
TR0000	Transit				11709	
TR0000	Main Generators				00185539	
NS0000	North Service Bldg		953.8 MW	646.2	37837	178437 m ³
QW0000	Quarantine Building				2322900 m ³	03004.6m ³
GR0000	Groundskeeping Bldg				65512080	308640 L
EH0200	Giraffe	Roof Unit & DHW			1598400	
		Mechanical Room			4532000	
EH0100	Hippo House (lower elephant)				45707800	289800 m ³
IN0000	Indo-Malaya Pavilion				932294.3 m ³	138700 m ³
MW0000	Malayan Woods				1350000	
IR0000	Indian Rhino	DHW			31533 m ³	
		Furnace			25556447	
FC0000	First Aid (Family Centre)				529600	
AF0000	Africa	Pavilion	1976264.39	201.8	9784900	664500 m ³
AF1300		Gorilla Holding			300100	
AM0000	Americas Pavilion		5301879	62	203871.51	194500 m ³
AU0000	Australasia	Pavilion	5204428.50	94.98	57301.26	64400 m ³
		GBR			7849	

NO	DESCRIPTION	HEATING KWH	DEMAND KWB	WATER M ³	WATER M ³
AN0900	Watusi			538700	
AN0300	Porcupine			42348 m ³	
AN0200	Hyena House			7155 m ³	
AN0100	Penguin			708600	
MA0000	Mayan Temple			15834 m ³	400600 m ³
TT0100	Polar Bear			26169	023546 m ³
TT0600	Arctic Wolf			4842	
AS1000	Rhino/Mixed Hoofstock	1757.06 MW		984893 m ³	850901 L
AS1100	Mixed Hoofstock/Bird	5642.15 MW		484242 m ³	236028.0 L
AS1400	Lion House	387.885 MW		25426 m ³	370920 L
AS1200	Cheetah House	42.630 MW		31613 m ³	480350 L
AS1300	Baboon House	1087.72 MW		52438 m ³	558442.0 L
AS1100	Ostrich			739500	
AS0000	Africa Rhino Pool				5667.0 m ³
VH0000	Valley Halla	118634		6224	
GA0000	Gate House	60075		1921	
BF0000	Ferrett Barn			0139	
MC0000	Marmot Centre			0439	
DZ0000	Splash Island			6331	229155.9 m ³
MB0000	Main Barn			EAST - 0386 WEST - 0263	4542 m ³
EP2500	Panda			2136.50	
EP2600	Snow Leopard			12932 m ³	
EP2080	Panda Washroom			9499 m ³	
EP2060	Panda Gift Shop			5002 m ³	
ST0000	Panda Interpretive Centre N			88800	
ST0000	Panda Interpretive Centre S			46600	
EP2500	Panda House			693500	
ST0201	Augmented Reality			22911	
METER	Water Meter				314102.42 m ³
	New Main Water Meter				560821.2 m ³
	Natural Gas Meter			2750680.5 Ccf	
NAME: <u>Ray Rogers</u>		DATE: <u>2017 / MAY 10</u>			

W/HC 33602.67

MONTHLY UTILITY METER READINGS

READING

DATE: 2017-06-01

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	5206	180 W	28519	3192307
AP0500		Caribou Café	6168	180 W	48605	25785.61
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	6533		257500	11619.99 m ³
AP0600		Beaver Tails/Tims			19261 m ³	
AS2100		Twiga	80444		57478 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	06891
ZS0000	Education		—	—	—	10888600
VS1000	Greenhouse Gift Shop				80550 m ³	
TR0000	Transit				11781	
TR0000	Main Generators				185539	
NS0000	North Service Bldg		1251 MW	583.4	38850	178497 m ³
QW0000	Quarantine Building				2337300 m ³	03009.5 m ³
GR0000	Groundskeeping Bldg				6565086	3234150
EH0200	Giraffe	Roof Unit & DHW			016120	
		Mechanical Room			4547700	
EH0100	Hippo House (lower elephant)				45754200	0290400 m ³
IN0000	Indo-Malaya Pavilion				0934331.4 m ³	0333900 820460 m ³
MW0000	Malayan Woods				1354700	
IR0000	Indian Rhino	DHW			32018 m ³	
		Furnace			25583349	
FC0000	First Aid (Family Centre)				530500	
AF0000	Africa	Pavilion	2044278.5	189.2	9848300	665400 m ³
AF1300		Gorilla Holding			328600	
AM0000	Americas Pavilion		557223	58	205483	195200 m ³
AU0000	Australasia	Pavilion	5286332.5	93.25	5782	64200 m ³
		GBR			7864	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AN0900	Watusi			538700	
AN0300	Porcupine			42394 m ³	
AN0200	Hyena House			07331 m ³	
AN0100	Penguin			711100	
MA0000	Mayan Temple			16533 m ³	04101606 m ³
TT0100	Polar Bear			26276	023830 m ³
TT0600	Arctic Wolf			4848	
AS1000	Rhino/Mixed Hoofstock	1760.60 MW		986186 m ³	852314 L
AS1100	Mixed Hoofstock/Bird	566930 MW		*484242 m ³	242334 L
AS1400	Lion House	388.725 MW		25845 m ³	370920 L
AS1200	Cheetah House	42.630 MW		31652 m ³	481791 L
AS1300	Baboon House	1092.26 MW		52963 m ³	561570 L
AS1100	Ostrich			737800	
AS0000	Africa Rhino Pool				56680 m ³
VH0000	Valley Halla	119478		649400	
GA0000	Gate House	60113		193800	
BF0000	Ferrett Barn			44400	
MC0000	Marmot Centre <i>Station</i>			14000	
DZ0000	Splash Island <i>9482</i>			6731	229182.0 m ³
MB0000	Main Barn			38600 29500	204550 m ³
EP2500	Panda			0209030	
EP2600	Snow Leopard			13068 m ³	
EP2080	Panda Washroom			09519 m ³	
EP2060	Panda Gift Shop			05005 m ³	
ST0000	Panda Interpretive Centre N			094700	
ST0000	Panda Interpretive Centre S			854200	
EP2500	Panda House			698600	
ST0201	Augmented Reality			23247	
MAIN	Water Meter				376896.1 m ³
	New Main Water Meter				0569511.5 m ³
	Natural Gas Meter			27751243 Ccf	
NAME:		DATE:			

MONTHLY UTILITY METER READINGS
READING DATE:

July 5 / 2017

RIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT.	WATER IMP.GAL
AF4000	Restaurants	Africa	5306	300 W	29073	3196274.0
AP0500		Caribou Café	6245	260 W	48840	25828.400
AP0510		Polar Patio			(OFF)	
AS2000		Safari Lodge	0580		274000	1765566 m ³
AP0600		Beaver Tails/Tims			19344 m ³	
AS2100		Twiga	83056		57590 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	(NO ACCESS)
ZS0000	Education		—	—	—	109105.00
VS1000	Greenhouse Gift Shop				80550 m ³	
TR0000	Transit				11796	
TR0000	Main Generators				00185680	
NS0000	North Service Bldg		1467 MW	462.6	3936100	178645 m ³
QW0000	Quarantine Building				2349800 m ³	03030.8 m ³
GR0000	Groundskeeping Bldg				65689253	336328.0 L
EH0200	Giraffe	Roof Unit & DHW			4547700	
		Mechanical Room			01640800	
EH0100	Hippo House (lower elephant)				45781300	0290900 m ³
IN0000	Indo-Malaya Pavilion		—	—	09353725 m ³	0140400 m ³
MW0000	Malayan Woods				1357800	
IR0000	Indian Rhino	DHW			32507 m ³	
		Furnace			25589409	
FC0000	First Aid (Family Centre)				530500	
AF0000	Africa	Pavilion	2132207	189.2	9894900	0668200 m ³
AF1300		Gorilla Holding			329300	
AM0000	Americas Pavilion		596.204	86	20574.32	0195800 m ³
AU0000	Australasia	Pavilion	5282611.50	95.09	57933	0064800 m ³
		GBR			7805	

	DESCRIPTION	HEATED CUBIC FEET	DEMAND CUBIC FEET	WATER CUBIC FEET	WATER CUBIC FEET
AN0900	Watusi			538800	
AN0300	Porcupine			42420 m ³	
AN0200	Hyena House			07365 m ³	
AN0100	Penguin			714400	
MA0000	Mayan Temple			16986 m ³	0405900 m ³
TT0100	Polar Bear			26289	024244 m ³
TT0600	Arctic Wolf			5842	
AS1000	Rhino/Mixed Hoofstock	1765.41		986832 m ³	855975.0
AS1100	Mixed Hoofstock/Bird	5703.94 MW		484242 m ³	248254.0
AS1400	Lion House	390.085 MW		26074 m ³	370920.0 L
AS1200	Cheetah House	42.630 MW		31692 m ³	483564 L
AS1300	Baboon House	1094.01 MW		53117 m ³	56640.0 L
AS1100	Ostrich			739900	
AS0000	Africa Rhino Pool				057000 m ³
VH0000	Valley Halla	119832		649400	
GA0000	Gate House	060163		194200	
BF0000	Ferrett Barn			045100	
MC0000	Marmot Centre			014800	
DZ0000	Splash Island			6331	230821.3 m ³
MB0000	Main Barn			W-026900 E-038600	NO ACCESS
EP2500	Panda			02101.07	
EP2600	Snow Leopard			13109 m ³	
EP2080	Panda Washroom			09544 m ³	
EP2060	Panda Gift Shop			05009 m ³	
ST0000	Panda Interpretive Centre N			096300	
ST0000	Panda Interpretive Centre S			856100	
EP2500	Panda House			699900	
ST0201	Augmented Reality			23334	
	Water Meter				384323.3 m ³
	New Main Water Meter				0586574 m ³
	Natural Gas Meter			27882285 Ccf	
NAME: <u>Ray & Rogers</u>		DATE: <u>July 5/2017</u>			

MONTHLY UTILITY METER READINGS
READING DATE:
AUG 2 / 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	5432	320 w	3010300	3204264.0
AP0500		Caribou Café	6345	280 w	49498	25927.900
AP0510		Polar Patio				
AS2000		Safari Lodge	0644		306400	17805.39 m ³
AP0600		Beaver Tails/Tims			19507 m ³	
AS2100		Twiga	86380		57953 m ³	
VS0000		Tims (Peacock)				
VS0000		Membership/Guest Services				6093700
ZS0000	Education					10964500
VS1000	Greenhouse Gift Shop				80550 m ³	
TR0000	Transit				11796	
TR0000	Main Generators				00185683	
NS0000	North Service Bldg		1760 MW	529	3954700	178798 m ³
QW0000	Quarantine Building				2360800 m ³	03052.2 m ³
GR0000	Groundskeeping Bldg				65218022	358693 L
EH0200	Giraffe	Roof Unit & DHW			01654500	
		Mechanical Room			4547700	
EH0100	Hippo House (lower elephant)				45793800	0291400 m ³
IN0000	Indo-Malaya Pavilion				09357565 m ³	0141400 m ³
MW0000	Malayan Woods				1359300	
IR0000	Indian Rhino	DHW			32891 m ³	
		Furnace			25590611	
FC0000	First Aid (Family Centre)				530500	
AF0000	Africa	Pavilion	2217705.00	156.5	9945600	0671600 m ³
AF1300		Gorilla Holding			329300	
AM0000	Americas Pavilion		37044	86	20594200	0196200 m ³
AU0000	Australasia	Pavilion	5328089.5	90.95	57989	65000 m ³
		GBR			701500	
	Wildlife Health center				33602.67	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AN0900	Watusi			538800	
AN0300	Porcupine			42420 m ³	
AN0200	Hyena House			07402 m ³	
AN0100	Penguin			717500	
MA0000	Mayan Temple			17192 m ³	0406200 m ³
TT0100	Polar Bear			26305	024476 m ³
TT0600	Arctic Wolf			4852	
AS1000	Rhino/Mixed Hoofstock	1770.16 MW		487122 m ³	860700.0L
AS1100	Mixed Hoofstock/Bird	5739.52 MW		484241 m ³	25138.0L
AS1400	Lion House	391.384 MW		26122 m ³	370920.0L
AS1200	Cheetah House	42.926 MW		31720 m ³	485052.0L
AS1300	Baboon House	1097.25 MW		53154 m ³	57066.0L
AS1100	Ostrich			739900	
AS0000	Africa Rhino Pool				57010 m ³
VH0000	Valley Halla	120390		649400	
GA0000	Gate House	60202		194200	
BF0000	Ferrett Barn			045900	
MC0000	Marmot Centre			014900	
DZ0000	Splash Island			6331	236116.2 m ³
MB0000	Main Barn			Ⓢ 038600 Ⓜ 027500	NO ACCESS m ³
EP2500	Panda			0211600	
EP2600	Snow Leopard			13116 m ³	
EP2080	Panda Washroom			09565 m ³	
EP2060	Panda Gift Shop			05012 m ³	
ST0000	Panda Interpretive Centre N			096300	
ST0000	Panda Interpretive Centre S			856100	
EP2500	Panda House			700800	
ST0201	Augmented Reality			23334	
MAIN	Water Meter				27994087 m ³
	New Main Water Meter				06079668 m ³
	Natural Gas Meter			27994087 Ccf	
NAME: R. Hunter		DATE: Aug 2 / 2017			



FACILITIES & SERVICES

MONTHLY UTILITY METER READINGS

READING DATE: Sept 3/2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	5555	300 w	3122600	32164170
AP0500		Caribou Café	6455	280 w	024300	26069.2
AP0510		Polar Patio				
AS2000		Safari Lodge	0715		348000	18069.49 m ³
AP0600		Beaver Tails/Tims			19719 m ³	
AS2100		Twiga	89966		58349 m ³	
VS0000		Tims (Peacock)				
VS0000	Membership/Guest Services				06962	
ZS0000	Education					11033000
VS1000	Greenhouse Gift Shop				80550 m ³	
TR0000	Transit				0552024	
TR0000	Main Generators				00185684	
NS0000	North Service Bldg			MW 364	3978300	179166 m ³
QW0000	Quarantine Building				2375100 m ³	030725 m ³
GR0000	Groundskeeping Bldg				65775222	3783480 L
EH0200	Giraffe	Roof Unit & DHW			016799900	
		Mechanical Room			4547700	
EH0100	Hippo House (lower elephant)				45808500	0241900 m ³
IN0000	Indo-Malaya Pavilion				0936248.4 m ³	0143000 m ³
MW0000	Malayan Woods				13606	
IR0000	Indian Rhino	DHW			33448 m ³	
		Furnace			25599006	
FC0000	First Aid (Family Centre)				530800	
AF0000	Africa	Pavilion	2297053.5	148.7	9996600	0675000 m ³
AF1300		Gorilla Holding			334300	
AM0000	Americas Pavilion		75096	62	206380	0197400 m ³
AU0000	Australasia	Pavilion	53719640	96.84	58191	0065300 m ³
		GBR			7946	

WHC

33602.67

NO	DESCRIPTION	HYDRO KWH	DEMAND KWD	READING m³	READING m³
AN0900	Watusi			538900	
AN0300	Porcupine			42420 m³	
AN0200	Hyena House			07445 m³	
AN0100	Penguin			718400	
MA0000	Mayan Temple			17721 m³	0409000 m³
TT0100	Polar Bear			26314	025128 m³
TT0600	Arctic Wolf			4843	
AS1000	Rhino/Mixed Hoofstock	1775.23 MW		987748 m³	865599.0 L
AS1100	Mixed Hoofstock/Bird	5776.78 MW		484242 m³	2544210 L
AS1400	Lion House	392.713 MW		26306 m³	3709200 L
AS1200	Cheetah House	43366 MW		31791 m³	4870470 L
AS1300	Baboon House	1102.46 MW		53237 m³	5773540 L
AS1100	Ostrich			739900	
AS0000	Africa Rhino Pool				057650 m³
VH0000	Valley Halla	121141		649400	
GA0000	Gate House	60251		194200	
BF0000	Ferrett Barn			046700	
MC0000	Marmot Centre			015000	
DZ0000	Splash Island			6331	242509.0 m³
MB0000	Main Barn			038620 027900	No AGESS m³
EP2500	Panda			0213656	
EP2600	Snow Leopard			13139 m³	
EP2080	Panda Washroom			09573 m³	
EP2060	Panda Gift Shop			05016 m³	
ST0000	Panda Interpretive Centre N			097900	
ST0000	Panda Interpretive Centre S			857700	
EP2500	Panda House			701900	
ST0201	Augmented Reality			23335	
MAIN	Water Meter				410757.6 m³
	New Main Water Meter				0634880.4 m³
	Natural Gas Meter			28136052 Ccf	
NAME: Rob Hunter		DATE: 17/9/3			



FACILITIES & SERVICES

MONTHLY UTILITY METER READINGS

READING DATE: Oct 7, 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	5663	300 w	3194200	3225668
AP0500		Caribou Café	6544	290 w	5061800	26117400
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0759		19815 364000	1819912 m ³
AP0600		Beaver Tails/Tims			19815 m ³	
AS2100		Twiga	92778		58569 m ³	
VS0000		Tims (Peacock)				
VS0000		Membership/Guest Services		—	—	0698300
ZS0000	Education		—	—	—	11065000
VS1000	Greenhouse Gift Shop				80553 m ³	
TR0000	Transit				11796	
TR0000	Main Generators				00185684	
NS0000	North Service Bldg		—	MW	4022400	179338 m ³
QW0000	Quarantine Building				2392600 m ³	03099.1 m ³
GR0000	Groundskeeping Bldg				65860105	3910610 L
EH0200	Giraffe	Roof Unit & DHW			01712200	
		Mechanical Room			4554900	
EH0100	Hippo House (lower elephant)				45835100	0292500 m ³
IN0000	Indo-Malaya Pavilion		—	—	09374754 m ³	0144600 m ³
MW0000	Malayan Woods				1364800	
IR0000	Indian Rhino	DHW			33998 m ³	
		Furnace			25615059	
FC0000	First Aid (Family Centre)				534200	
AF0000	Africa	Pavilion	2392392.5	176.8	0068100	0678600 m ³
AF1300		Gorilla Holding			346900	
AM0000	Americas Pavilion		112,406	42	208578	0199500 m ³
AU0000	Australasia	Pavilion	5416285.5	89.57	58790	0065600 m ³
		GBR			7947	

ITEM	DESCRIPTION	UNIT	DEMAND	READING	UNIT
AN0900	Watusi			538900	
AN0300	Porcupine			42420 m ³	
AN0200	Hyena House			07490 m ³	
AN0100	Penguin			718400	
MA0000	Mayan Temple			18459 m ³	0411600 m ³
TT0100	Polar Bear			26328	025526 m ³
TT0600	Arctic Wolf			5843	
AS1000	Rhino/Mixed Hoofstock	1780.33 MW		988122 m ³	8705850 L
AS1100	Mixed Hoofstock/Bird	5858.27 MW		484242 m ³	2585010 L
AS1400	Lion House	394.821 MW		26640 m ³	3709200 L
AS1200	Cheetah House	43.707 MW		31956 m ³	4897460 L
AS1300	Baboon House	1107.98 MW		53411 m ³	5822800 L
AS1100	Ostrich			740300	
AS0000	Africa Rhino Pool				057650 m ³
VH0000	Valley Halla	121609		649400	
GA0000	Gate House,	60359		194200	
BF0000	Ferrett Barn			047400	
MC0000	Marmot Centre			015000	
DZ0000	Splash Island			6331	2436814 m ³
MB0000	Main Barn			038600 028300	NO ACCESS m ³
EP2500	Panda			0215000	
EP2600	Snow Leopard			13194 m ³	
EP2080	Panda Washroom			09594 m ³	
EP2060	Panda Gift Shop			05020 m ³	
ST0000	Panda Interpretive Centre N			104500	
ST0000	Panda Interpretive Centre S			864000	
EP2500	Panda House			703900	
ST0201	Augmented Reality			23540	
MAIN	Water Meter				419508 m ³
	New Main Water Meter				06542939 m ³
	Natural Gas Meter			28349658 Ccf	
NAME: ROB HUNTER		DATE: Oct 7, 2017			

MONTHLY UTILITY METER READINGS
READING DATE: Dec. 5, 2017

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	5794	280 W	410000	32301730
AP0500		Caribou Café	6642	220 W	3605500 5386900	26158.7
AP0510		Polar Patio			2136	
AS2000		Safari Lodge	0821		384800	18252.5 m ³
AP0600		Beaver Tails/Tims			19940 m ³	
AS2100		Twiga	94985		58643 m ³	
VS0000		Tims (Peacock)				
VS0000		Membership/Guest Services		_____	_____	WORKERS LAZARETT NO ACCESS
ZS0000	Education		_____	_____	_____	11098500
VS1000	Greenhouse Gift Shop				81828 m ³	
TR0000	Transit				0552008 41198	
TR0000	Main Generators				00185685	
NS0000	North Service Bldg		_____ MW	455	4380400	179586 m ³
QW0000	Quarantine Building				2484800 m ³	031440 m ³
GR0000	Groundskeeping Bldg				66333495	3988560 L
EH0200	Giraffe	Roof Unit & DHW			01793900	
		Mechanical Room			4880700	
EH0100	Hippo House (lower elephant)				46084600	0293800 m ³
IN0000	Indo-Malaya Pavilion		_____	_____	09496652 m ³	0146200 m ³
MW0000	Malayan Woods				1403000	
IR0000	Indian Rhino	DHW			35063 m ³	
		Furnace			25809534	
FC0000	First Aid (Family Centre)				562300	
AF0000	Africa	Pavilion	2568134.25	171.7	0596600	0684100 m ³
AF1300		Gorilla Holding			446700	
AM0000	Americas Pavilion		178.278	55	21732700	0202500 m ³
AU0000	Australasia	Pavilion	5496614	79.8	6147700	0066200 m ³
		GBR			8462	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AN0900	Watusi			563000	
AN0300	Porcupine			42619 m ³	
AN0200	Hyena House			08781 m ³	
AN0100	Penguin			747900	
MA0000	Mayan Temple			2209 m ³	0413700 m ³
TT0100	Polar Bear			26832	025751 m ³
TT0600	Arctic Wolf			5926	
AS1000	Rhino/Mixed Hoofstock	1791.76 MW		99389700 m ³	8800610 L
AS1100	Mixed Hoofstock/Bird	5962.05 MW		484241 m ³	283036.0 L
AS1400	Lion House	398.844 MW		32684 m ³	370920 L
AS1200	Cheetah House	43.765 MW		33859 m ³	4953860 L
AS1300	Baboon House	1116.60 MW		ACCESS BLOW OUT by casing	5902490 L
AS1100	Ostrich			821000	
AS0000	Africa Rhino Pool				058010 m ³
VH0000	Valley Halla	123493		700100	
GA0000	Gate House	060676		211200	
BF0000	Ferrett Barn			054100	
MC0000	Marmot Centre			015700	
DZ0000	Splash Island			6452	243759.2 m ³
MB0000	Main Barn			044800 023300	m ³
EP2500	Panda			0220500	
EP2600	Snow Leopard			13636 m ³	
EP2080	Panda Washroom			09638 m ³	
EP2060	Panda Gift Shop			05101 m ³	
ST0000	Panda Interpretive Centre N			160600	
ST0000	Panda Interpretive Centre S			943100	
EP2500	Panda House			730900	
ST0201	Augmented Reality			26375	
MAIN	Water Meter				426276.3 m ³
	New Main Water Meter				676236.4 m ³
	Natural Gas Meter			29734306 ccf	
NAME:			DATE:		

MONTHLY UTILITY METER READINGS
READING DATE: JAN 17 / 2018

SIC	BUILDING		HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AF4000	Restaurants	Africa	6886	200 W	41708400	32309450
AP0500		Caribou Café	6799	180 W	5988	26167.00
AP0510		Polar Patio			—	
AS2000		Safari Lodge	0866		420400	18252.65 m ³
AP0600		Beaver Tails/Tims			20008 m ³	
AS2100		Twiga	05306		59076 m ³	
VS0000		Tims (Peacock)			—	
VS0000		Membership/Guest Services		—	—	(NO ACCESS)
ZS0000	Education		—	—	—	11047.00
VS1000	Greenhouse Gift Shop				86314 m ³	
TR0000	Transit				11796	
TR0000	Main Generators				00185681	
NS0000	North Service Bldg		3294 MW	500.4	49217	179740 m ³
QW0000	Quarantine Building				2626700 m ³	03155 m ³
GR0000	Groundskeeping Bldg				6698433	4048520 L
EH0200	Giraffe	Roof Unit & DHW			01870400	
		Mechanical Room			5063600	
EH0100	Hippo House (lower elephant)				464780	0294700 m ³
IN0000	Indo-Malaya Pavilion		—	—	09705063 m ³	0147100 m ³
MW0000	Malayan Woods				1451700	
IR0000	Indian Rhino	DHW			35566 m ³	
		Furnace			26088772	
FC0000	First Aid (Family Centre)				597900	
AF0000	Africa	Pavilion	2715174.25	199.3	1492300	687800 m ³
AF1300		Gorilla Holding			589100	
AM0000	Americas Pavilion		234,646	96	226730.33	203600 m ³
AU0000	Australasia	Pavilion	5569515.50	100.8	64415	66500 m ³
		GBR			0356	

SIC	BUILDING	HYDRO KWH	DEMAND KWD	NATURAL GAS CU.FT	WATER IMP.GAL
AN0900	Watusi			619400	
AN0300	Porcupine			42948 m ³	
AN0200	Hyena House			10431 m ³	
AN0100	Penguin			793200	
MA0000	Mayan Temple			26189 m ³	416200 m ³
TT0100	Polar Bear			27604	025781 m ³
TT0600	Arctic Wolf			6026	
AS1000	Rhino/Mixed Hoofstock	1802.47 MW		003574 m ³	8870400 L
AS1100	Mixed Hoofstock/Bird	6030.90 MW		484241 m ³	2992170 L
AS1400	Lion House	402.092 MW		39598 m ³	3716930 L
AS1200	Cheetah House	43.765 MW		36722 m ³	4992330 L
AS1300	Baboon House	1122.29 MW		57911 m ³	5960030 L
AS1100	Ostrich			868300	
AS0000	Africa Rhino Pool				0580100 m ³
VH0000	Valley Halla	125269		784300	
GA0000	Gate House	—		239200	
BF0000	Ferrett Barn			067800	
MC0000	Marmot Centre			025300	
DZ0000	Splash Island			6744	243176.1 m ³
MB0000	Main Barn			EAST - 060200 WEST - 0016900	(NO ACCESS) m ³
EP2500	Panda (NORTH)			0234000	
EP2600	Snow Leopard			14618 m ³	
EP2080	Panda Washroom			09857 m ³	
EP2060	Panda Gift Shop			05645 m ³	
ST0000	Panda Interpretive Centre N			219900	
ST0000	Panda Interpretive Centre S			087200	
EP2500	Panda House			185100	
ST0201	Augmented Reality			29350	
MAIN	Water Meter				42894 m ³
	New Main Water Meter				068810.15 m ³
	Natural Gas Meter			31486934 Ccf	
NAME: Ray Rogers			DATE: JAN 12 / 2018		

Green Plan 2007







As an analogy, consider a top-heavy bookshelf. If you push it lightly, nothing happens. If you push it somewhat harder, nothing happens. But if you push it beyond a certain point, it will suddenly fall over. Once the bookshelf has fallen over, it's extremely difficult to put it upright again (and there are books all over the floor).

- David Suzuki



Climate change is for real. We have just a small window of opportunity and it is closing rather rapidly. There is not a moment to lose.

- Dr. Rajendra Pachauri
Chairman of the Intergovernmental Panel on
Climate Change



*The good news is we know what to do.
The good news is we have everything we need now to respond to the challenge of global warming.*

- Al Gore



Foreword

Environmentalism was established and led by courageous visionaries. The last forty years has seen this minority grow together and connect globally. We are entering into a time of full acceptance, embracing environmentalism as standard practice, driven by necessity and held to accountability.

The Toronto Zoo has a long history of environmental protection and awareness, and of innovative action toward sustainable operations. Our collective dedication stems from a deep appreciation for biodiversity preservation and animal welfare.

"Regional differences in environmental politics can dictate the pace of change... Some zoos - notably those in Toronto and Portland, Oregon have absolutely tremendous environmental programs."

Christine Sheppard (2003)
Curator & Green Team Leader, Bronx Zoo;
Chair, AZA's Green Practices
Scientific Advisory Group

As Canada's premier zoo, we must continue to demonstrate leadership in all aspects of our operations, including sustainable growth and maintenance. The process is familiar: conserve energy, use renewable and clean power, decrease water consumption and conserve grey water, reduce, reuse and recycle materials, cut the use of harmful chemicals, buy materials and food produced locally using environmentally sound practices, practice sustainable landscaping, and educate staff and the public about sustainability issues. Toronto Zoo is familiar with these processes, but a renewed commitment is necessary.

Implementation of institution-wide sustainable practices requires acceptance from all staff. The Green Eco-Zoo team (GEZT) is a dedicated committee of Toronto Zoo employees from all Branches and Divisions. GEZT Committee members drafted the "*Greenprint - A Background Paper for a Green Plan*" in early 2007.

The broad sweep of inspirational ideas contained in the *Greenprint* thoroughly demonstrates our successful history and our optimism for the future. The *Greenprint* is an excellent resource for staff, but if we are to "live our mission" then green thinking must be woven throughout all future planning and day-to-day operations. An action-based, goal-oriented GREEN PLAN is needed.

During two intense facilitated meetings, in the spring of 2007, the GEZT Committee provided the framework for the *Toronto Zoo Green Plan*. By implementing our *Green Plan*, we will continue to be leaders in the local and global community, providing a credible voice to our staff and volunteers, visitors, and local, provincial, and national governments.

The timing of the *Toronto Zoo Green Plan* is aligned with budget cycles, progressive initiatives and goals stemming from other organizations and jurisdictions, and a willingness from all levels of the organization to take action. The *Green Plan* is intended to guide sustainable operation management over the long-term but includes short-term action steps that will catalyze the process.

The Green Plan is authored by the Toronto Zoo Green Eco-Zoo Team: Animal Care, Conservation, Education and Research, Facilities and Services, Financial Services, Food Services, Marketing and Public Relations, Operation and Administration, Planning and Analysis, and the Toronto Zoo Foundation.

Vision Statement

The Toronto Zoo is Canada's premier zoo known for its interactive education and conservation activities. As a unique wildlife experience, we inspire people to live in ways that promote the well being of the natural world.

Green Vision

The Toronto Zoo has a strong record of environmental protection and of energy efficient operation management. The Zoo has stimulated staff, volunteers and the public to live sustainably in balance with Nature. We understand and accept that climate change is a real threat to earth's biodiversity, perhaps most acutely to our own species. We accept that humans are largely responsible for global warming as a result of our use of non-renewable energy resources and the emission of greenhouse gases. We encourage people to lessen their ecological footprint on the earth.

Our vision toward a green and sustainable future will include:

- Eco-ethical partnerships
- Green funding plans
- Green staff culture
- Promotion of green programs and achievements
- Sustainable energy use and production

"Zoos are in a position to teach their visitors what they want to teach them."

- Wildlife Conservation Society



Toronto Zoo Green Commitment

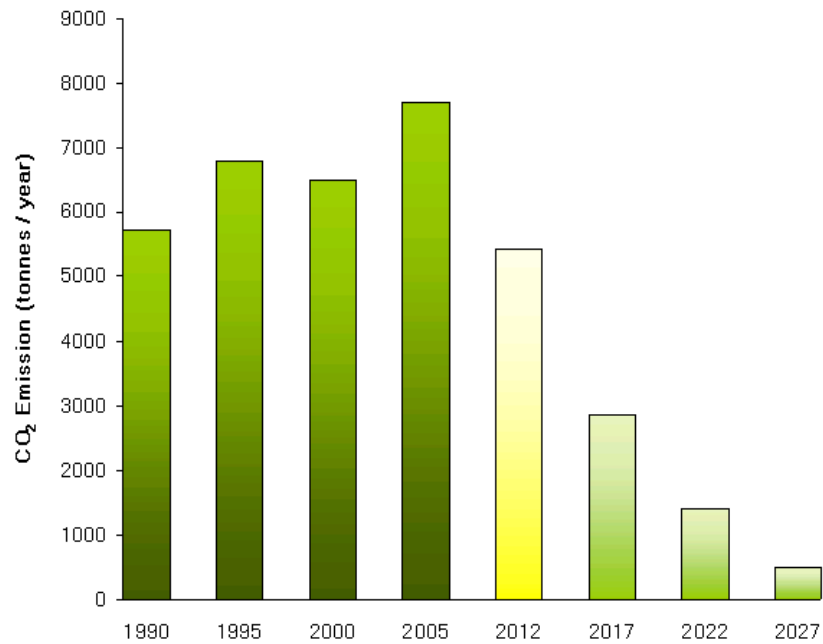
The benchmark of any successful Green Plan is a significant and meaningful reduction in water consumption and greenhouse gas emissions.

The following targets can be met if we accept and follow the strategies and action steps of our *Green Plan*. Described on the following pages, our long-term 20-year vision will guide us as we implement successive short-term 3-year action steps.

Toronto Zoo will reduce...

CO₂ emissions by...

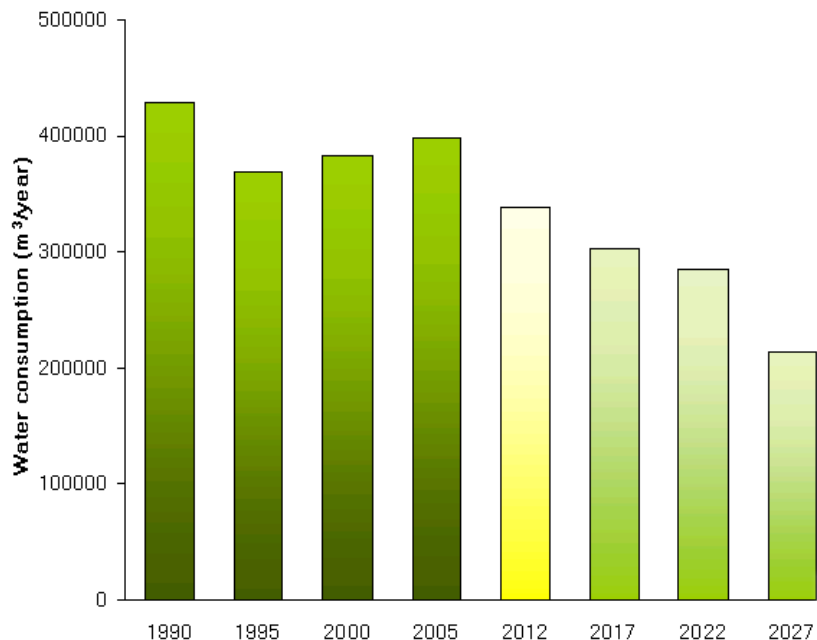
- 6% below 1990 levels by 2012 (Kyoto targets)
- 50% below 1990 levels by 2017
- 75% below 1990 levels by 2022
- 95% below 1990 levels by 2027



Note: Toronto Zoo methane emissions account for a percentage of total GHG emissions, and are not included above. However, *Action Step 8* will assist tracking and reducing methane emissions.

Water consumption by...

- 5% by 2012
- 10% by 2017
- 20% by 2022
- 40% by 2027



Note: Reduction targets are based on the average water consumption between 1990 and 2006.



Greenhouse gas emission reduction targets are a necessary mechanism toward sustainability, and targets vary according to jurisdiction and government. The table below illustrates CO₂ emission reduction targets for various jurisdictions and governments. The Toronto Zoo is a relatively small jurisdiction with relatively strong control of emissions

Jurisdiction	Kyoto Targets	Quarter-century targets			Mid-century targets
Toronto Zoo	6% by 2012*	50% by 2017	75% by 2022	95% by 2027	
City of Toronto	6% by 2012	30% by 2020			80% by 2050
Ontario	6% by 2014***	15% by 2020			80% by 2050
Canada					60-70% by 2050
Green Party of Canada	6% by 2012	30% by 2020		50% by 2030	80% by 2040
Germany	20% by 2012			80% by 2030	

* Unless otherwise stated, all targets in the table are set against 1990 (Kyoto) levels.

** The province of Ontario has recently extended their initial emission reduction target from 2012 (Kyoto) to 2014.





To achieve our goal, Toronto Zoo staff must overcome *obstacles* and produce *breakthroughs* .

Everyday, Toronto Zoo staff and volunteers must...

- Ensure the environment becomes a top priority for the whole organization.
 - Make green choices the sensible and easy ones for staff, volunteers, and visitors.
 - Balance environmental values with other priorities, like animal welfare and workplace safety.
-

"Making the right decisions for the longer term requires innovation in thought and implementing these decisions requires innovation in practice and techniques."

- Environment Canada





Long-term *strategies* facilitate and guide future decisions and provide a balance with other operational needs and services. *Implementation* of a strategy requires *action*. Toronto Zoo supports three broad strategies with three action statements.

Over the next 20 years, Toronto Zoo will work towards...

A Green Corporate Culture by...

1. Rewarding green personal initiatives.
2. Elevating and enforcing green policies.
3. Incorporating green responsibilities into job descriptions and human resource practices.

Green National Leadership by...

4. Providing appropriate funding for green projects.
5. Communicating the Zoo's green efforts and programs.
6. Establishing a green education program.

Green management of operations by...

7. Preserving the Rouge Valley Park ecosystem.
8. Developing green project management standards.
9. Investing in renewable energy generation.



Broad actions require direction in the short-term. The Toronto Zoo Green Eco-Zoo Team, with assistance from all Toronto Zoo staff, will realize our short term action steps and catalyze our *Green Plan NOW*.

Over the next 1-3 years, Toronto Zoo will...

1. Reward green personal initiatives by ...

- 1.1. recruiting staff stewards from all divisional areas that will monitor green practices and techniques and relate results to the GEZT committee
- 1.2. recognizing positive efforts by Toronto Zoo staff toward green personal initiatives
- 1.3. implementing the 'Get a G.R.I.P.!' - Green Reward Incentive Program - award initiative

2. Elevate and enforce green policies by ...

- 2.1 revising the Toronto Zoo environmental policy to reflect *Green Plan* strategies
- 2.2 assisting relevant departments on environmentally sound purchasing practices
- 2.3 implementing consequences for not following policies

3. Incorporate green responsibilities into job descriptions and human resource practices by...

- 3.1. revising job descriptions and interview questions, and amending union and exempt review processes to include green initiatives
- 3.2. updating staff information and orientation policies
- 3.3. applying relevant *Green Plan* strategies to contractors and their staff

4. Provide appropriate funding for green projects by...

- 4.1. creating an operating budget for initiatives and projects related to the *Green Plan*
- 4.2. reinvesting all revenues generated by green initiatives and projects back into other *Green Plan* related projects
- 4.3. applying to external grants and government programs

5. Communicate the Zoo's green efforts and programs by...

- 5.1. exhibiting new environmental ideas, conservation practices, facilities and technologies to Toronto Zoo visitors
- 5.2. participating with government and non-government groups in local, regional and international conservation programs and projects
- 5.3. organizing lunch and learn sessions for staff and volunteers, and publishing articles on Zoo green initiatives for internal and external media

6. Establish a green education program by...

- 6.1. hiring a full-time sustainability coordinator to create and deliver *Green Plan* presentations and curriculum to staff, volunteers, visitors and the broader GTA community
- 6.2. renovating and using the Conservation Connection centre as an interim location for Green Learning and Living programs on-site
- 6.3. establishing a contemporary Centre of Excellence for Sustainable Life and Learning on-site to serve regional and national communities



7. Provide support and expertise to preserve the Rouge Valley Park, the Great Lake basin and other Ontario ecosystem by...

- 7.1. empowering staff, volunteers and visitors to be environmental stewards of the Park, including the Zoo site
- 7.2. focusing local and regional habitat conservation messages on the health and status of the Rouge Valley Park, Great Lake basin and other Ontario ecosystems
- 7.3. continuing to study and implement the Zoo's goose control research program, and elevating the Zoo's invasive species research and control program

8. Develop green project management standards by...

- 8.1. quantifying all material and energy inputs and outputs, and illustrating to staff, volunteers and visitors the amount we consume and waste
- 8.2. conducting an external Environmental Management System assessment, for example an ISO 14001 Gap Analysis
- 8.3. adopting the City of Toronto Green Development Standard (January 2007) for applicable development features at Toronto Zoo

9. Invest in renewable energy generation by ...

- 9.1. building renewable energy generation facilities or modular components on-site
- 9.2. developing research programs for emerging renewable energy generation technologies
- 9.3. purchasing locally sold renewable energy



Public concern for the environment is the driving mechanism for change. Public concern for the environment has never been as high as it is today, and the momentum is still growing.

The Toronto Zoo is a leader in the local and international conservation movement. The Zoo has a credible voice that resonates with visitors, staff and volunteers. The strategic directions of the *Toronto Zoo Green Plan*, including the wise execution of the 27 short-term 1-3 year action steps, will translate into serious reductions in our greenhouse gas emissions and water consumption. The result will demonstrate that sustainability is possible, even at zoos. We must remain a leader in what has become the most important issue for humankind: earth's biodiversity and the environment.

The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard.

Gaylord Nelson, co-founder of Earth Day



Cover design and layout by:
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Additional Photos Courtesy of:
www.freeimages.co.uk (opposite & cover background)
www.pdphoto.org

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SIC	LOCATION	DESCRIPTION	VOLUME (L) ²	LIFE SUPPORT SYSTEM ³	FREQUENCY	COMMENTS
AFRICAN RAINFOREST PAVILION						
AF02P2		Pygmy Hippo	38,000	Fill Daily, Ht		Freshwater
AF0521		L. Victoria Exhibit	8,700	S, Ch, UV		Fresh
AF22P3		Spotted Neck Otter Pool	4,500	Cart	3x per week	Fresh
AF30P1		Dwarf Crocodile Pool	9,000	S, Ht	3x per week	Fresh
AF3101		Africa River Exhibit	33,750	S, Ch, Ht, B, Oz	Daily	Fresh
AF3200		Lake Malawi	81,000	S, Ch, Ht, B, Oz	Daily	Fresh
AF14P1		Nile Softshell Turtle Moat	10,000	S, Ht	3x per week	Fresh
AF3500		Fishes Holding - approx 20 aquaria	100-1600	Various, Can, Sp		Fresh
AF0322		Fishes Exhibit	1,000	Can, Ht		Fresh
AF0323		Fishes Exhibit	400	Can, Ht		Fresh
AF0324		Fishes Exhibit	450	Can, Ht		Fresh
AF0325		Fishes Exhibit	1,000	Can, Ht		Fresh
AF0521		Subway Tank 21			1x per week	Fresh
		Ibis Exhibit Pool				Fresh
AMERICAS PAVILION						
AM1301		Coastal - Splash Exhibit	300	Can, Ch		Marine
AM1302		Octopus Exhibit	6,200	Cart, B, Ch, S		Marine
AM1303		Coastal Fishes Exhibit	200	Can, Ch		Marine
AM1304		Coastal Inverts Exhibit	200	Can, Ch		Marine
AM1305		Coastal Inverts Exhibit	1,200	Can, Ch		Marine
AM1306		Marine Room - Reserves 6 - 13	100-400	Various, Ch		Marine
AM1561-9		Fishes Holding - approx 12	40-400	Can, Ht		Fresh, Brackish
AM18P1		Caiman Exhibit Pool	6,800	Ht, S	3x per week	Fresh
AM19P1		Snapping Turtle Exhibit Pool	2,700	Ht, S	3x per week	Fresh
AM20P1		Alligator Exhibit Pool	6,800	Ht, S	3x per week	Fresh
AM22P1		Turtle Exhibit Pool	2,000	Ht, S	3x per week	Fresh
AM23P1		Gar Exhibit	900	Ht		Fresh, Live Plants
AM2402		Electric Eel Exhibit	8,000	UV, S	3x per week	Fresh
AM2701		American Eel Exhibit	1,100	Can, Ch, Ht		Fresh
AM2702		Fish Exhibit	1,400	Can, Ht		Fresh
AM35P1		Beaver/Otter - Small East pool	67,500	S,	Daily	Fresh
AM36P1		Otter - Indoor Pool	3,600	S, ht	3x per week	Fresh
AM37P1		Wetlands Pool	2,300	S, ht, pump	3x per week	Fresh
AM1502		Piranha Exhibit	1,100	Can, Ht		Fresh
AM1501		Amazon Fishes Exhibit	1,100	Can, Ht		Fresh
AM2401		Cavefish Exhibit	500	Can, Ht		Fresh
AFRICA PADDOCKS						
AN0107		Water Fowl Pool	30,000	S	Seasonally	Fresh
AN0108		Penguin Exterior Pool	180,000	Cell, Br, Oz, pH bal,	Daily	Fresh
		Penguin Interior Pool	40,000	Br, S, UV	Daily	Fresh
		Penguin Isolation Room Pool	6,500	Br, S, UV	Daily	Fresh
AMERICAS PADDOCKS						
TT01P1		Polar Bear Exhibit Pool	320,000	Cell, Cl, pH bal	Daily	Fresh
TT01P2		Polar Bear Exhibit Pool/Stream	10,000	S, Cl, pH Bal	Daily	Fresh
AFRICAN SAVANNA						
AS1000		Rhino Pool	1,900,000	S	Daily	Fresh
AS1300		Baboon	104,000	S	Daily	Fresh
EH0100		Hippo House	80,000	Daily Fill,		Fresh
		Hippo Outdoor				
AUSTRALASIA PAVILION						
AU1700		Exhibit Pool (Billagong Comorant)	9,000	S, Ht	3x per week	Fresh
AU2002		Komodo Dragon Exhibit Pool	1,100	Ht, P	3x per week	Fresh
AU2307		Turtle Exhibit Pool	900	S, P, ht	3x per week	Fresh
AU7000	Great Barrier Reef (Marine)	Fishes Community	18,900	Sk D, Ch, Ht, Oz	3x per week	Marine
		Coral Exhibit	1,400	Ch, Sk, B		Marine
		Seahorse 1	1,800	B, Sk, UV, Ch		Marine
		Seahorse 2	1,000	B, Sk UV		Marine
		Jellyfish	1,800	S, Ch		Marine
AU2600		New - Inverts	3,600	B, P		Fresh
AU265B		New Fishes	8,700	S		Fresh
INDO MALAYA PAVILION						
IN01P5		Gibbon Exhibit Moat	21,000	S, Ht, P	3x per week	Fresh
IN02P1		Gharial Exhibit Pool	13,500	S, P, Ht	3x per week	Fresh
IN1800		Fishes Holding - approx 6	40-400			Reserve
IN1900		Fishes - Tank 6	8,700	S, Ch		Fresh
IN2600		Keeper Room/Kitchen			3x per week	Fresh
IN2700		Keeper Room/Kitchen			3x per week	Fresh
IN2800		Keeper Room/Kitchen			3x per week	Fresh
IN2900-3300		Orang Fish Area - Tank 16 - 20				Closed. Future Mangrove
IN3801		Indo Malaya Waters	58,800	S, Ch, B, Oz, Ht	Daily	Fresh
		Indo - reserve- 2	270	Can, Sp		Fresh
IN38P1		Waterfall Exhibit	25,200	S, Ch, B, Oz, Ht	3x per week	Fresh
		Macrobrachium shrimp	300	Can, Ht		Fresh
IN4000		Fish Exhibit	8,700	UV, S, F, Ch		Fresh
INDIAN RHINO PAVILION						
IR0204		Indian Rhino/Tapir Moat	67,500	Ht, Sc		Fresh
MALAYAN WOODS PAVILION						
MW0100		Fishes Exhibit	2,300	S	1x per week	Exhibit
MW0110		Aquaria Room Holding	empty	Can		
MW02P1		Free Flight Duck Pond 1	1,000	S	1x per week	Exhibit
MW02P2		Free Flight Duck Pond 2	1,000	Recirc.	1x per week	Exhibit
ANIMAL HEALTH CENTRE - RESEARCH WING						
RW1900		Unit 19 - Fish Lab - approx 10 tanks	100-200	Can, Sp		Marine/Fresh
RW2000		Unit 20 - Fish Quar/Holding - approx 25 tanks	40-800	Various		Marine/Fresh
RW2100		Unit 21 - Conservation - approx 30 tanks	100-1000	Various		Marine/Fresh
RW2200		Unit 22 - Fish Quarantine - approx 20	100-1000	Various		Marine/Fresh
INVERTEBRATE BREEDING FACILITY						
IH0400		Aquatic Room - approx 15 aquaria	100-200	Various, Can, Sp		Fresh
PANDA INTERPRETIVE CENTRE						
ST0501		Giant Salamander Exhibit Tank	3,000	S, Ch, Ht		Fresh
EURASIA						
EP2507		Giant Panda Exhibit Pool	16,200	S	Seasonally - Daily	Fresh
OTHER SEASONAL POOLS						
DZ0000		Kids Zoo Stream		S	Daily	Fresh
DZ0220		Splash Island	40,000	S, CL2, UV, PH	4x per day	Fresh

NOTES:

1. Criteria - animals spending > 80% time in water (ie. fishes)

2. Volume (1 Gal Imp = 4.5L)

B. Rabideau staff maintain

LEGEND LIFE SUPPORT SYSTEM

- B Biotower
- Br Bromine
- Can Cannister Filters (Eheim/AquaClear)
- Cart Cartridge Filter
- Cell Cellulose/D.E. Screens
- Ch Chiller
- Cl₂ Chlorine
- D Drum Filter
- Ht Heater
- UV Ultra Violet Lamps
- Oz Ozone (Dell/Hankin)
- P Recirculating pump only
- pH pH regulation (acid pump)
- S Rapid rate sand filters
- Sc Screen
- SK Protein Skimmers
- Sp Sponges

**Mechanical Equipment Replacement Program
As of 2015-03-01**

Area	SIC	Equipment CODE	Unit Type	Unit #	Location	Manufacturer	Model #	Installation Date	Replacment Date	Remarks	PM Man Hours		
Americas Pavilion	AM0000	BLR-AM0000-STM-1	Gas Fired Steam Boiler #1	1	Americas Boiler Room	Bryan	F850-S-15GI	2002	2027	Review at time of Tropical Americas Project	8		
		BLR-AM0000-STM-2	Gas Fired Steam Boiler #2	2	Americas Boiler Room	Bryan	BRYAN#020771 CL210-5-15-GI BRYAN#981291	1999	2024	Review at time of Tropical Americas Project	8		
		PMP-AM0000-FWP	Feed Water Pumps Boiler	1 & 2	Americas Boiler Room	Shipco	110D	1999	2019	Review at time of Tropical Americas Project	1		
		PMP-AM0000-CRP	Condensate Return Pump		Americas Fan Room	Shipco		1999	2019	Review at time of Tropical Americas Project	1		
		BLR-AM0000-DHW	DHW Boiler	1	Americas	Raypak	E1223TB-N2P CRN# 6361-21365049	1999	2024	1,222,500 BTU/HR	4		
		REF-AM0000-1EVP	Evaporator	1	Marine Room	Trenton	TLV180AD-SIB-3154	2010	2030		1		
		REF-AM0000-2EVP	Evaporator	2	Marine Room	Trenton	TLV180AD-SIB-3154	2010	2030		1		
		GEN-AM0000-1	Emergency Generator		Generator Room	Kohler	30R82	1973	2014	30 KW	2		
		REF-AM0000-1CON	AC Unit	1	Americas Rooftop	Tecumseh	AVA9523ZXNHN	2008	2028		4		
		REF-AM0000-2CON	AC Unit	2	Americas Rooftop	Tecumseh	AVA9523ZXNHN	2008	2028		4		
		PMP-AM0000-BLG-1	Duplex Bilge Pump P-1	1	Fan Room	Hydromatic	SB3S300M6-4	1999	2019		1		
		PMP-AM0000-BLG-2	Duplex Bilge Pump P-2	2	Fan Room	Hydromatic	SB3S300M6-4	1999	2019		1		
		PMP-AM0000-SWG-4	Duplex Sewage Pump P-4	4	Fan Room	Hydromatic	SB3S300M6-4	1999	2019		1		
		PMP-AM0000-SWG-5	Duplex Sewage Pump P-5	5	Fan Room	Hydromatic	SB3S300M6-4	1999	2019		1		
		AHU-AM000-STM-1	AHU		Fan Room	Trane	C-CLCH-IOM-2	1973	2019	Replace at time of Tropical Americas Project Supply fan motor rebuilt 2011	8		
Americas Paddock Tundra													
Polar Bear Holding	TT0100	BLR-TT0100-HTG	Heating Boiler	1	Polar Bear Mechanical Room	Fulton	CM	2008	2028	1,000,000 BTU/HR	8		
		AHU-TT0100-HWT	AHU		Polar Bear Mechanical Room	Trane	MCCB06UAOC OUA	2008	2028		8		
		ODH-TT0100-DHT	DHW Heater		Polar Bear Mechanical Room	Takagi	T-M1	2008	2028		2		
		PMP-TT0100-STP-1	Duplex Storm Sewer Pump	SP1	Polar Bear Filtration Room	Barnes	SP33X	2008	2028	1/3 HP	1		
		PMP-TT0100-STP-2	Duplex Storm Sewer Pump	SP2	Polar Bear Filtration Room	Barnes	SP33X	2008	2028	1/3 HP	1		
		PMP-TT0100-SAP-3	Duplex Sanitary Pump	SP3	Polar Bear Filtration Room	Barnes	SP33X	2008	2028	1/3 HP	1		
		PMP-TT0100-SAP-4	Duplex Sanitary Pump	SP4	Polar Bear Filtration Room	Barnes	SP33X	2008	2028	1/3 HP	1		
		PMP-TT0100-SAP-1	Duplex Sanitary Pump	1	Pumping Station 1	Barnes	4SE-5094L	2008	2028	5HP	2		
		PMP-TT0100-SAP-2	Duplex Sanitary Pump	2	Pumping Station 1	Barnes	4SE-5094L	2008	2028	5 HP	2		
		Mayan Temple	MA0000	BLR-MA0000-HTG	Heating Boiler	1	Mayan Temple Keeper Kitchen	Teledyne Laars	JVH225NCAS CRN# F3403.12T367	1986	2012	225,000 BTU/HR	16
				ODH-MA0000-DHW	DHW Tank	1	Mayan Temple Keeper Kitchen	Rinnai	98i	2015	2025	199,000 BTU/HR	2
		Arctic Fox Holding	TT0500	ODH-TT0500-DHW	DHW heater	1	Keeper Corridor	Takagi	T-KD20	2009	2029		2
HTR-TT0500-UNI	Unit heater				Keeper Corridor	Reznor	SCA100	2009	2029		4		
Arctic Wolf Holding	TT0600	ODH-TT0600-DHW	DHW Heater	1	Keeper Corridor	Takagi	T-M1	2008	2028		2		
		HTR-TT0600-UNI	Unit Heater	1	keeper corridor	Reznor	SCA100	2008	2028		4		
Reindeer Holding	TT0300									No mechanical equipment	4		
Snow Goose holding	TT0800	HTR-TT0800-UNI	Unit Heater	1	Unit Heater	Reznor	SCA100	2011	2031				
Caribou Café Restaurant	AP0500	RTU-AP0500-COM-1	HVAC	1	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-2	HVAC	2	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-3	HVAC	3	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-4	HVAC	4	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-5	HVAC	5	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-6	HVAC	6	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-7	HVAC	7	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
		RTU-AP0500-COM-8	HVAC	8	Restaurant roof	AAON	RF05A2E022	2001	2026		4		
Outdoor Holding	OH0100									No mechanical equipment			
African Rainforest Pavilion	AF0000	HRC-AF0000-GLY-1	Heat Recovery Coil	1	Africa Mechanical Room	Aerofin	CO 21TF	1996	2021		16		
		HRC-AF0000-GLY-2	Heat Recovery Coil	2	Africa Mechanical Room	Aerofin	CO 21TF	1996	2021		16		
		FAN-AF0000-BOO-1	Booster Fan	1	Africa Mechanical Room	Twin City Fan & Blower	TCVX 36D5	1996	2021		4		
		FAN-AF0000-BOO-1	Booster Fan	2	Africa Mechanical Room	Twin City Fan & Blower	TCVX 36D5	1996	2021		4		
		PMP-AF0000-GLY	Glycol Pump		Africa Mechanical Room	Dunham Bush	F10-21/2	1996	2021	5 HP	1		
		BLR-AF0000-DHW	DHW Boiler	1	Africa Mechanical Room	Fulton	PHW-1000-160CM	2003	2023		8		
		PMP-AF0000-SWG-2	Duplex Sewage Pump P-2		Africa Mechanical Room	Hydromatic	SB3S300M3-4	1999	2019	3 HP	1		
		PMP-AF0000-SWG-3	Duplex Sewage Pump P-3		Africa Mechanical Room	Hydromatic	SB3S300M3-4	1999	2019	3HP	1		
		PMP-AF0000-BLG-4	Duplex Bilge Pump P-4		Africa Mechanical Room	Hydromatic	SB3S200M6-4	1999	2019	2HP	1		
		PMP-AF0000-BLG-5	Duplex Bilge Pump P-5		Africa Mechanical Room	Hydromatic	SB3S200M6-4	1999	2019	2HP	1		

		PMP-AF0000-SWG-8 PMP-AF0000-SWG-9 PMP-AF0000-BLG-10 PMP-AF0000-SBLG-11 PMP-AF0000-DWB GEN-AF0000-1 AHU-AF0000-MOD-1 AHU-AF0000-MOD-2 FAN-AF0000-SUP-1 FAN-AF0000-SUP-2 AHU-AF0000-GOR-1 AHU-AF0000-GOR-2 RTU-AF0000-CLG PMP-AF0000-SAN PMP-AF0000-STM	Duplex Sewage Pump P-8 Duplex Sewage Pump P-9 Duplex Bilge Pump P-10 Duplex Bilge Pump P-11 Domestic Water Booster Pump Emergency Generator AHU AHU Supply Air Fan Supply Air Fan AHU AHU AHU Cooling Unit Sanitary Pump Storm Pump	1 2 1 2 1 2 1	Africa Mechanical Room Africa Mechanical Room Africa Mechanical Room Africa Mechanical Room Africa Mechanical Room Generator Room Africa Mechanical Room Africa Mechanical Room Africa Mechanical Room Africa Mechanical Room Gorilla Mechanical Room Gorilla Mechanical Room Gorilla Mechanical Room Gorilla Mechanical Room Gorilla Holding Lower Corridor Gorilla Holding Lower Corridor	Hydromatic Hydromatic Hydromatic Hydromatic Leitch Kohler Temprite Temprite Twin City Fan & Blower Twin City Fan & Blower Engineered Air Engineered Air Carrier Barnes Barnes	SB4S300M6-4 SB4S300M6-4 SB4S300M6-4 SB4S300M6-4 3LEC-15 55R88 GTDM-400-0 GTDM-400-0 BIA-DW-200 BIA-DW-200 DJ-40 DJ-40 50HJ006 SGV205 2L 2EH-314L	1999 1999 1999 1999 1999 1973 1973 1973 2003 2003 2000 2000 2006 2000 2000	2019 2019 2019 2019 2019 2015 2014 2014 2023 2023 2025 2025 2031 2020 2020	3 HP 3HP 3HP 3HP 15 HP 55 KW 5,000,000 BTU/Hr - New Heat Exchanger 1999 5,000,000 BTU/Hr - New Heat Exchanger 1999 300,000 BTU/HR 300,000 BTU/HR 2 HP 1/3 HP	1 1 1 1 2 30 20 20 8 8 8 8 4 1 1	
Australasia Pavilion	AU0000	BLR-AU0000-HTG-3 BLR-AU0000-HTG-4 PMP-AU0000-HTG-1 PMP-AU0000-HTG-2 PMP-AU0000-HTG-8A PMP-AU0000-HTG-8B PMP-AU0000-HTG-10 PMP-AU0000-HTG-11 COI-AU0000-HTG-7 COI-AU0000-HTG-8 COI-AU0000-HTG-9 COI-AU0000-HTG-10 BLR-AU0000-DHW GEN-AU0000-1 FAN-AU0000-RAF FAN-AU0000-SAF RTU-AU0000-COM-5 AHU-AU0000-WTR-4 RTU-AU0000-COM-3 RTU-AU0000-COM-2 RTU-AU0000-COM-1	Gas Fired HW Boiler #3 Gas Fired HW Boiler #4 Heating System Pump Heating System Pump Heating System Pump Heating System Pump Heating System Pump Heating System Pump Heating Coil Heating Coil Heating Coil Heating Coil DHW Boiler Emergency Generator Return Air Fan Supply Air Fan AHU AHU AHU AHU	3 4 1 2 8A 8B 10 11 7 8 9 10 1 6 5 5 4 3 2 1	Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Australasia Boiler Room Generator Room Australasia Boiler Room Australasia Boiler Room Rooftop (Tree Kangaroo) Australasia Boiler Room Great Barrier Reef Rooftop Great Barrier Reef Rooftop Great Barrier Reef Rooftop	Bryan Thermal Solutions Taco Taco Taco Taco Taco Taco Aerofin Aerofin Aerofin Aerofin Raypak Kohler Twin City Fan & Blower York Ventrol Lennox Lennox Lennox	CL210-S-15-FW (160) -GI-RC BRYAN#981291 EVA2000BN1-UECMV KV4007 KV4007 KV2007 KV2007 KS3007 KS3007 HW-9.0AW HW-7.0AW HW-10.0AW HW-10.0AW E724TB-N CRN# 6361-21365049 15RY82 BAE-DW 222 ZF180N32J2AAA1B ITF-1-2 LGA060H2BH1Y LGA060H2BH2Y LGA060H2BH2Y	2006 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2002 1973 2007 2011 2007 2007 2007 2007	2031 2032 2027 2027 2027 2027 2027 2027 2032 2032 2032 2032 2022 2015 2032 2036 2032 2032 2032 2032	2100000 BYU/HR 2,000,000 BTU/HR 7.5 HP 7.5 HP 3 HP 3 HP 5 HP 5 HP 1 1 1 1 726,000 BTU/HR 15 KW 4 4 4 4 4 4 4	4 4 2 2 1 1 1 1 1 1 1 4 30 4 4 4 4 4 4	
Indomalaya Pavilion	IN0000	BLR-IN0000-HTG AHU-IN0000-STM1 AHU-IN0000-STM2 PMP-IN0000-HRP-1 PMP-IN0000-HRP-2 RTU-IN0000-CLG TNK-IN0000-DHW BLR-IN0000-DHW GEN-IN0000-1 AHU-IN0000-MOD-1 AHU-IN0000-MOD-2 PMP-IN0000-SWG-11 PMP-IN0000-SWG-12 PMP-IN0000-BLG-13 PMP-IN0000-BLG-14 PMP-IN0000-DWB FAN-IN0000-SUP-1 FAN-IN0000-SUP-2 FAN-IN0000-RTN-1	Heating Boiler AHU AHU Heat Recovery Pump Heat Recovery Pump Rooftop AC DHW Tank DHW Boiler Emergency Generator AHU AHU Duplex Sewage Pump P-11 Duplex Sewage Pump P-12 Duplex Bilge Pump P-13 Duplex Bilge Pump P-14 Domestic Water Booster Pump Supply Air Fan Supply Air Fan Return Air fan	B-1 S-1 EF1 P1 P2 1 1 1 1 1 2 1 1 1 1 1 1 1 1	Orangutan Mechanical Room Orangutan Mechanical Room Orangutan Mechanical Room Orangutan Mechanical Room Orangutan Indomalaya Mechanical Room Indomalaya Mechanical Room Generator Room Indomalaya Mechanical Room Indomalaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room Indo Malaya Mechanical Room	Weil-McLain McQuay McQuay Armstrong Armstrong Trane Bradford White Fulton Kohler Temprite Temprite Hydromatic Hydromatic Hydromatic Leitch Twin City Fan & Blower Twin City Fan & Blower Twin City Fan & Blower	BG-578WF SRN#K5646.5123467907Y MSL 108 LSL108 4030 4030 TTA180B3 NV249J5A PHW1000 45R88 GTDM-350-0 GTDM-350-0 SB4S300M6-4 SB4S300M6-4 SB3S200M6-4 SB3S200M6-4 11/2LCC-10 BIA-DW-200 BIA-DW-200 TCXV	1994 1994 1994 1994 1994 2007 2007 1973 1973 1999 1999 1999 1999 1999 1999 1998 1998 1998	2019 2019 2019 2019 2019 2027 2027 2015 2014 2014 2019 2019 2019 2019 2023 2023 2023	641 MBH BURNER # JR-15-A-10C 3 HP 3 HP 15 Ton 240 Gal 1000 MVH ULC# 203663CC 45 KW 4,300,000 BTU/Hr - New Heat Exchanger 1999 4,300,000 BTU/Hr - New Heat Exchanger 1999 3 HP 3 HP 2HP 2HP 10 HP	8 4 4 1 1 6 1 8 30 8 8 1 1 1 2 8 8 1	
Indo Paddocks												
Conservation Centre	MO0000	FAF-MO0000-1 CLG-MO0000-1	Gas Fired Furnace AC	1	Conservation Connection Conservation Connection	Luxaire Lennox	TM9V100C20 HS29-653-2Y	2016 2007	2036 2032		4 2	
Malayan Woods	MW0000	BLR-MW0000-HWT TNK-MW0000-DHW RTU-MW0000-CLG RTU-MW0000-HTG	Heating Boiler DHW Tank Rooftop AC AHU	1 1 1	Malayan Woods Mechanical Room Malayan Woods Mechanical Room Malayan Woods Rooftop Malayan Woods Rooftop	Raypak Rheem Rudd Universal TM Carrier Enmar	H6 824-N-2P G76-200 50SS-024-301 RB-11-100	2003 2002 1995 2003	2028 2022 2020 2028	825,000 BTU/HR 199,900 BTU/HR Clouded Leopard Area 100,000 BTU/HR	8 2 6 6	

Indian Rhino	IR0000	BLR-IR0000-DHW	DHW Heating Boiler	1	Indian Rhino Keeper Area Indian Rhino Filter Room	Rinnai Teledyne Laars	RU98iRN JVH225NCAS CRN# F3403.12T 367	2016 1996	2036 2018	225,000 BTU/HR - Replace at time of renovation project	4
		BLR-IR0000-HTG	AHU			Indian Rhino Furnace Room	Engineered Air	DG Series	1984		2018
Gaur 1	IP0400	TNK-IP0400-DHW	DHW Tank	1	Gaur House Gaur Rooftop	Rheem Rudd Enmar	RR60-55M RB-11-300	2003 2003	2023 2028	Replaced With Electric 300,000 BTU/HR	1 6
		RTU-IP0400-HTG	AHU								
Gaur 2	IP0400	-	-		-	-	-	-	-	No mechanical equipment	
Sumatran Tiger	IP0500	TNK-IP0500-DHW	Hot Water Tank	1	Keeper Corridor Keeper Corridor			1984	2012	60 Gallon Electric 10 KW Electric	1
		HTR-IP0500-UNI	Unit Heater	1				2003	2023		1
Front Aviary	FA0000	-	-		-	-	-	-	-	No mechanical equipment	
Lion-tailed Macaque	IP0300	HTR-IP0300-UNI	Unit Heaters		Corridor Keeper Area	Wescan		1994	2019	Electric Geothermal Heat pump	12
		TNK-IP0300-DHW	DHW Tank	1		John Woods		2009	2017		8
Himalayan Tahr		-	-		-	-	-	-	-	No mechanical equipment	
African Savanna											
Elephant House	EH0200	RTU-EH0200-HTG	AHU		Elephant House Roof Mechanical Room	Engineered Air	DJ-100-0	1998	2018	1,500,000 BTU/HR To be upgraded during Giraffe renovations	8
		AHU-EH0200-HTG	AHU				Engineered Air	DG-150 SIVN	1982		2013
Hippo House	EH0100	BLR-EH0100-DHW	DHW Boiler	1	Hippo House Hippo House Rooftop	Fulton	PHW-1000-160CM	2004	2024	399,000 BTU/HR	8
		RTU-EH0100-HTG-1	AHU	1		Hippo House Rooftop	Modine	WBP300SF3256	2004		2029
Rhino Hoofstock	AS1000	AHU-AS1000-HTG-5	AHU		Rhino Hoofstock (Rhino Wing) Rhino Hoofstock (Main Wing)	Engineered Air	DJ-100	1998	2018	32,000 BTU/HR	8
		AHU-AS1000-HTG-10	AHU				Engineered Air	DJ-100	1998		2018
Bird/Hoofstock	AS1100	TNK-AS1000-DHW	DHW Tank	1	Rhino Hoofstock	Rheem Rudd	RR30-32M	1998	2018		4
		AHU-AS1100-HTG	AHU		Mechanical Penthouse	Engineered Air	DJ-100	1998	2018	32,000 BTU/HR	8
Cheetah	AS1200	TNK-AS1100-DHW	DHW Tank	1	Mechanical Penthouse	Rheem Rudd	RR30-32M	1998	2018		4
		AHU-AS1200-HTG	AHU		Mechanical Penthouse	Engineered Air	DJ-40	1998	2018	32,000 BTU/HR	6
Lion House	AS1400	TNK-AS1200-DHW	DHW Tank	1	Mechanical Penthouse	Rheem Rudd	RR30-32M	1998	2018		4
		AHU-AS1400-HTG	AHU		Lion House	Engineered Air	DJ-40	1998	2018	32,000 BTU/HR	6
Baboon	AS1300	TNK-AS1400-DHW	DHW Tank	1	Mechanical Penthouse	Rheem Rudd	RR30-32M	1998	2018		4
		AHU-AS1300-HTG	AHU		Baboon House	Engineered Air	DJ-40	1998	2018	38,000 BTU/HR	6
Hyena	AS0200	TNK-AS1300-DHW	DHW Tank	1		Rheem Rudd	RR40-38M	1998	2018		4
		BLR-AS0200-HTG	DHW Tank	1	Hyena House Hyena House	Rheem Rudd Teledyne Laars	PV40-36M JVH160NCAS CRN# F3403.12T367	1998 1986	2018 2016	36,000 BTU/HR 160,000 BTU/HR	6 4
Carical Lynx		BLR-CL0000-DHW	Heating Boiler / DHW Combo	1	Carrical Lynx	Teledyne Laars	JVH50NCAS CRN# F3403.12T367			50,000 BTU/HR	4
Giraffe	AN0800	RTH-AN0800-HTG-1	HE Unit Heater	1	Watusi	Modine		2015	2025	90,000 BTU/HR	4

		RTH-AN0800-HTG-2		HE Unit Heater HE Unit Heater DWH	2 3	Watusi Watusi Watusi	Modine Modine Rinnai	2015 2015 2015	2035 2035 2035	90,000 BTU/HR 90,000 BTU/HR 199,000 BTU/HR	4 4 4	
Penguin	AN1000	AHU-AN1000-COM BLR-AN1000-HTG		AHU Gas Fired Boiler	1 1	Penguin House (Outside) Mechanical Room	Johnson Control Vitodens200 / Viessmann	J082JC00U2B2250001A -	2011 2011	2026 2026	178,000 BTU/HR	1 8
Pelican	AN0100	AXC-AN0100-HTG		AHU	1	Outside	PMI	AW-A-2-9/K	2011	2026	Electric	4
Ostrich	AN0700	HTR-AN0700-UNI		Unit Heater	-	-	Reznor	-	2013	2030	100,000 BTU/HR	2
Twiga	AS2100	FAF-AS2100-HTG		Gas Fired Furnace DWH	1	Twiga	Lennox (Elite Series)	G5OUH-60D-155-03	2002	2022	154,000 BTU	4
First Aid	FC0000	TNK-FC0000-DHW FAF-FC0000-COM		DHW Hweater Furnace AC	1	First Aid Center First Aid Center	John Wood Goodman	JW525TSC CK-24-13	1998	2018	40 gal	1 4
Africa Restaurant	AS1600	RTU-AS1600-COM-1 RTU-AS1600-COM-2 RTU-AS1600-COM-3 RTU-AS1600-COM-4 RTU-AS1600-COM-5 RTU-AS1600-COM-6 RTU-AS1600-COM-7 RTU-AS1600-COM-8 RTU-AS1600-COM-9 RTU-AS1600-COM-10 RTU-AS1600-COM-11 RTU-AS1600-COM-12		HVAC HVAC HVAC HVAC HVAC HVAC HVAC HVAC HVAC HVAC HVAC HVAC	1 2 3 4 5 6 7 8 9 10 11 12	Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof Restaurant roof	AAON AAON AAON AAON AAON AAON AAON AAON AAON AAON AAON AAON	RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022 RF05A2E022	2001 2001 2001 2001 2001 2001 2001 2001 2001 2001 2001 2001	2026 2026 2026 2026 2026 2026 2026 2026 2026 2026 2026 2026	4 4 4 4 4 4 4 4 4 4 4 4	
Restaurant Washrooms												
Canadian Domain												
Raccoon	RC0100	TNK-RC0100-DHW PMP-RC0100-SWG		DHW Tank Duplex Sewage Pump	1 2	Keeper Area Keeper Area	John Woods Hrdromatic	JW8030 S4P1000M3-4	1998	2023	10 HP	1 1
Lynx				-	-	-	-	-	-	-	No mechanical equipment	
Cougar				-	-	-	-	-	-	-	No mechanical equipment	
Grizzley	GR0100	HTR-GR0100-UNI		Unit Heaters	2	Keeper Corridor			1976	2016	Electric	2
Moose				-	-	-	-	-	-	-	No mechanical equipment	
Waterfowl House	WH0100	TNK-WH0100-DHW		DHW Tank	-	Keeper Corridor	John Woods	JW525	1998	2023		1
Eurasia												
Marco Polo	MP0100	HTR-MP0100-UNI		Unit Heaters		Keeper Area	Chromalox		1987	-	To be demolished in 2012	
Camel				-	-	-	-	-	-	-	No mechanical equipment	
Siberian Tiger	ST0100	TNK-ST0100-DHW		DHW Tank	1	Keeper Area	Ruud			2012	Building to be replaced in 2012	
Wisent				-	-	-	-	-	-	-	No mechanical equipment	

Snow Leopard			AHU	1	Mechanical Room	Engineered Air	-	2013	2033	150,000 BTU/HR	8
Dhole	DH0100	TNK-DH0100-DHW	DHW Tank	1	Keeper Area					No mechanical equipment	1
Przewalskis Horse			-	-	-	-	-	-	-	No mechanical equipment	
Oryx 1			-	-	-	-	-	-	-	No mechanical equipment To be demolished in 2012 as part of Eurasia project	
Oryx 2			-	-	-	-	-	-	-	No mechanical equipment	
Reindeer			-	-	-	-	-	-	-	No mechanical equipment	
Dromedary Camel			-	-	-	-	-	-	-	No mechanical equipment	
Sika Deer/Yak	SY0100	HTR-SY0100-UNI	Unit Heater	1	Keeper Corridor	Chromalox	EUH05B24CT	1998	2023	5 KW	1
Mouflon			-	-	-	-	-	-	-	No mechanical equipment	
Chamois			-	-	-	-	-	-	-	No mechanical equipment	
Red Panda	RP0100	HTR-RP0100-UNI	Unit Heater DHW tank	1 1	Wall Keeper Space			2001 2001	2021 2021	Electric Electric	2 1
Barbary Ape	BA0100	TNK-BA0100-DHW HTR-BA0100-UNI	DHW Tank Unit Heater	1	Keeper Space Keeper Space			1993 1993	2013 2013	Electric - replace as part of Eurasia Project Electric - replace as part of Eurasia Project	1 1
Keeper Office	KO0100	TNK-KO0100-DHW HTR-KO0100-UNI	DHW Tank Unit Heater	1	Storage Area Keeper Area	RUUD	EGL 120C	1974 1974	2012 2012	Electric - replace as part of Eurasia Project Electric - replace as part of Eurasia Project	1 1
Discovery Zone											
Waterside Holding	WH0100	TNK-WH0100-DHW HTR-WH0100-UNI	DHW Tank Unit Heater	1 2	Keeper Space Keeper Space	A.O. Smith SHU	DEL 15-S SHU0583C	2003 2003	2023 2023		1 2
Goat & Pig	GP0100	HTR-GP0100-UNI	Unit Heater	2	Keeper Space	SHU	SHU0583C	2003	2023		2
Washroom	DW0100	AHU-DW0100-HTG TNK-DW0100-DHW	AHU DHW Tank	1 1	Service Room Service Room	Engineered Air A.O. Smith	DJ-20 DEL 15-S	2003 2003	2028 2023		8 1
Bird Barn								1983			4
Keeper Office			-	-	-	-	-	-	-	No mechanical equipment	
Education Portable			Incrementals Incrementals	1 2	Claasroom wall Claasroom wall	Bard Bard	-	2010 2010	2025 2025	2 tonne 2 tonne	4 4
Splash Island	SI0100	TNK-SI0100-DHW AHU-SI0100-HTG	DHW Tanks AHU	1 1	Splash Island Pump Room Splash Island Pump Room	A.O. Smith Engineered Air	BT65-108 DJ-20	2003 2003	2028 2028	65 Gallons 65,000 BTU/HR	4 12
Operations Complex	AS1000	BLR-AS1000-HTG-1 BLR-AS1000-HTG-2 BLR-AS1000-HTG-3 BLR-AS1000-HTG-4	Heating Boiler Heating Boiler Heating Boiler Heating Boiler	1 2 3 4	Ops Complex Boiler Room Ops Complex Boiler Room Ops Complex Boiler Room Ops Complex Boiler Room	Thermal Solutions Thermal Solutions Thermal Solutions Teledyne Laars	EVAM-2000 EVAM-2000 EVAM-2000 HH3500IN111K CRN# F1353.1674T3	2007 2007 2007	2037 2037 2037	2,000,000 BTU/HR 2,000,000 BTU/HR 2,000,000 BTU/HR 3,500,000 BTU/HR	8 8 8 4

		Heating Boiler	5	Ops Complex Boiler Room	Teledyne Laars	HH3500IN111K			3,500,000 BTU/HR	
BLR-AS1000-HTG-5						CRN# F1353.1674T3				4
TNK-AS1000-DHW-1		DHW Tank	1	Ops Complex Boiler Room	Rheem Rudd Universal TM	G72-250	2002		250,000 BTU/HR	2
TNK-AS1000-DHW-2		DHW Tank	2	Ops Complex Boiler Room	Rheem Rudd	RF76-250C	1994	2019	250,000 BTU/HR	2
TNK-AS1000-DHW-3		DHW Tank	3	Ops Complex Boiler Room	Rheem Rudd	RF76-250C	1994	2019	250,000 BTU/HR	2
TNK-AS1000-DHW-4		DHW Tank	4	Ops Complex Boiler Room	Rheem Rudd	RF76-250C	1994	2019	250,000 BTU/HR	2
GEN-AS1000-1		Emergency Generator		Generator Room	Onan	DFES 275	1994	2034	275 KW	14
PMP-AS1000-HTR-1		Heat Pump		Telephone Room (Basement)	McQuay	CCH-024	1994	2019	Unit in fitness room	3
PMP-AS1000-HTR-2		Heat Pump		File Storage (Basement)	McQuay	CCH-019	1994	2019	Located in file storage room	3
PMP-AS1000-HTR-3		Heat Pump		Security Manager	McQuay	CCH-012	1994	2019	Unit above ceiling security lockup	3
PMP-AS1000-HTR-4		Heat Pump		Control Hallway	McQuay	CCH-019	1994	2019	Unit above ceiling security report room	3
PMP-AS1000-HTR-5		Heat Pump		Security Supervisor	McQuay	CCH-019	1994	2019	Unit above ceiling security lockup	3
PMP-AS1000-HTR-6		Heat Pump		1'st Floor Hallway (By Reception)	McQuay	CCH-009	1994	2019	Unit above ceiling security	3
PMP-AS1000-HTR-7		Heat Pump		Reception Vestibule	McQuay	CCH-019	1994	2019	Unit above ceiling vestibule	3
PMP-AS1000-HTR-8		Heat Pump		Cafeteria	McQuay	CCH-024	1994	2019	Unit above ceiling cafeteria	3
PMP-AS1000-HTR-9		Heat Pump		Cafeteria	McQuay	CCH-024	1994	2019	Unit above ceiling women's WC	3
PMP-AS1000-HTR-10		Heat Pump		1'st Floor Hallway (By WC)	McQuay	CCH-019	1994	2019	Unit above ceiling women's WC	3
PMP-AS1000-HTR-11		Heat Pump		Society	McQuay	CCH-009	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-12		Heat Pump		Society	McQuay	CCH-012	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-13		Heat Pump		Society	McQuay	CCH-012	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-14		Heat Pump		Society	McQuay	CCH-012	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-15		Heat Pump		Society	McQuay	CCH-012	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-16		Heat Pump		Main Reception Vestibule	McQuay	CCH-009	1994	2019	Unit above ceiling general office area	3
PMP-AS1000-HTR-17		Heat Pump		Special Project Office	McQuay	CCH-009	1994	2019	Unit above ceiling facilities	3
PMP-AS1000-HTR-18		Heat Pump		Projects Area	McQuay	CCH-019	1994	2019	Unit above ceiling facilities	3
PMP-AS1000-HTR-19		Heat Pump		Project Manager	McQuay	CCH-024	1994	2019	Unit above ceiling facilities	3
PMP-AS1000-HTR-20		Heat Pump		Facilities Manager	McQuay	CCH-012	1994	2019	Unit above ceiling facilities	3
PMP-AS1000-HTR-21		Heat Pump		Drawing Area	McQuay	CCH-009	1994	2019	Unit above ceiling facilities	3
PMP-AS1000-HTR-22		Heat Pump		Accounts Supervisor	McQuay	CCH-009	1994	2019	Unit above ceiling accounts general Area	3
PMP-AS1000-HTR-23		Heat Pump		Accounts File Storage	McQuay	CCH-012	1994	2019	Unit above ceiling accounts general Area	3
PMP-AS1000-HTR-24		Heat Pump		Accounts General Area	McQuay	CCH-019	1994	2019	Unit above ceiling accounts general Area	3
PMP-AS1000-HTR-25		Heat Pump		Admin Assistant	McQuay	CCH-012	1994	2019	Unit above ceiling admin office	3
PMP-AS1000-HTR-26		Heat Pump		Computer Services Office	McQuay	CCH-012	1994	2019	Unit above ceiling computer office	3
PMP-AS1000-HTR-27		Heat Pump		Admin Executive Director	McQuay	CCH-012	1994	2019	Unit above ceiling computer office	3
PMP-AS1000-HTR-28		Heat Pump		Financial Manager	McQuay	CCH-024	1994	2019	Unit above ceiling admin office	3
PMP-AS1000-HTR-29		Heat Pump		North Hallway (2'nd Floor)	McQuay	CCH-009	1994	2019	Unit above ceiling admin reception	3
PMP-AS1000-HTR-30		Heat Pump		Board Room	McQuay	CCH-024	1994	2019	Unit above ceiling kitchen	3
PMP-AS1000-HTR-31		Heat Pump		Board Room	McQuay	CCH-024	1994	2019	Unit above ceiling sotrage room	3
PMP-AS1000-HTR-32		Heat Pump		GM Executive Assistant	McQuay	CCH-024	1994	2019	Unit above ceiling GM reception area	3
PMP-AS1000-HTR-33		Heat Pump		General Manager	McQuay	CCH-019	1994	2019	Unit above ceiling GM reception area	3
PMP-AS1000-HTR-34		Heat Pump		General Manager Board Room	McQuay	CCH-019	1994	2019	Unit above ceiling GM boardroom	3
PMP-AS1000-HTR-35		Heat Pump		South Hallway (2'nd Floor)	McQuay	CCH-009	1994	2019	Unit above ceiling HR training office	3
PMP-AS1000-HTR-36		Heat Pump		HR General Area	McQuay	CCH-024	1994	2019	Unit above ceiling HR Reception Area	3
PMP-AS1000-HTR-37		Heat Pump		HR Manager Office	McQuay	CCH-012	1994	2019	Unit above ceiling in managers office	3
PMP-AS1000-HTR-38		Heat Pump		HR Payclerk Office	McQuay	CCH-009	1994	2019	Unit above ceiling in File Storage Room	3
PMP-AS1000-HTR-39		Heat Pump		Photocopy Room (2'nd Floor)	McQuay	CCH-012	1994	2019	Unit above ceiling above back storage room	3
PMP-AS1000-HTR-40		Heat Pump		Training Room	McQuay	CCH-019	1994	2019	Unit above ceiling in training room	3
PMP-AS1000-HTR-41		Heat Pump		Computer Room	McQuay	CCH-019	1994	2019	Unit above ceiling in computer room	3
PMP-AS1000-HTR-42		Heat Pump		Middle Hall East (2'nd Floor)	McQuay	CCH-019	1994	2019	Unit above ceiling in kitchen	3
PMP-AS1000-HTR-43		Heat Pump		Middle Hall West (2'nd Floor)	McQuay	CCH-019	1994	2019	Unit above ceiling in accounts	3
PMP-AS1000-HTR-44		Heat Pump		Library B&C (1'st Floor)	McQuay	CCH-019	1994	2019	Unit above ceiling in library	3
PMP-AS1000-HTR-45		Heat Pump		B&C Meeting Room (1'st Floor)	McQuay	CCH-012	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-46		Heat Pump		Curatorial Lab	McQuay	CCH-012	1994	2019	Unit above ceiling in behaviourist office	3
PMP-AS1000-HTR-47		Heat Pump		Curator Of Botany	McQuay	CCH-012	1994	2019	Unit above ceiling in curators office	3
PMP-AS1000-HTR-48		Heat Pump		Animal Care Manager	McQuay	CCH-019	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-49		Heat Pump		Hallway 1'st Floor Curatorial	McQuay	CCH-009	1994	2019	Unit above ceiling in vestibule	3
PMP-AS1000-HTR-50		Heat Pump		Atrium Glassed In Hallway	McQuay	CCH-019	1994	2019	Unit above ceiling by south entrance door	3
PMP-AS1000-HTR-51		Heat Pump		B&C Hallway 2'nd Floor	McQuay	CCH-012	1994	2019	Unit above ceiling in research area	3
PMP-AS1000-HTR-52		Heat Pump		B&C Research 2'nd Floor	McQuay	CCH-019	1994	2019	Unit above ceiling in research area	3
PMP-AS1000-HTR-53		Heat Pump		Curator Office Mammals	McQuay	CCH-019	1994	2019	Unit above ceiling in curators office	3
PMP-AS1000-HTR-54		Heat Pump		Curator Office Birds	McQuay	CCH-019	1994	2019	Unit above ceiling in curators office	3
PMP-AS1000-HTR-55		Heat Pump		B&C Records and Kitchen	McQuay	CCH-012	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-56		Heat Pump		Assistant Director B&C	McQuay	CCH-019	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-57		Heat Pump		Executive Director B&C	McQuay	CCH-012	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-58		Heat Pump		Conference Room 2'nd Floor B&C	McQuay	CCH-019	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-59		Heat Pump		Health Unit Tech Supervisor	McQuay	CCH-012	1994	2019	Unit above ceiling in supervisor office	3
PMP-AS1000-HTR-60		Heat Pump		Staff Vet	McQuay	CCH-030	1994	2019	Unit above ceiling, staff room health unit	3
PMP-AS1000-HTR-61		Heat Pump		Clinical Lab	McQuay	CCH-030	1994	2019	Unit above ceiling hallway	3
PMP-AS1000-HTR-62		Heat Pump		Senior Vet Office	McQuay	CCH-012	1994	2019	Unit above ceiling hallway	3
PMP-AS1000-HTR-63		Heat Pump		Health Unit Staff Lunch Room	McQuay	CCH-012	1994	2019	Unit above ceiling staff room health unit	3
PMP-AS1000-HTR-64		Heat Pump		Health Unit Nursery	McQuay	CCH-012	1994	2019	Unit above ceiling endocrine lab	3
PMP-AS1000-HTR-65		Heat Pump		Electrical Room	McQuay	CCH-019	1994	2019	Unit above ceiling electrical room	3
PMP-AS1000-HTR-66		Heat Pump		Health Unit Kitchen	McQuay	CCH-012	1994	2019	Unit above ceiling in hallway	3
PMP-AS1000-HTR-67		Heat Pump		General Maintenance Supervisor	McQuay	CCH-009	1994	2019	Unit above ceiling of supervisors office	3
PMP-AS1000-HTR-68		Heat Pump		Utilities Office	McQuay	CCH-019	1994	2019	Unit ceiling mounted utilities shop	3
PMP-AS1000-HTR-69		Heat Pump		Exhibit Design Office	McQuay	CCH-019	1994	2019	Unit above ceiling of exhibit design office	3

		TNK-TR1000-DHW-2 AHU-TR1000-HTG MUA-TR1000-HTG		DHW Tank AHU Makeup Air Direct Fired Units	2 AHU-1E	Garage Mezzanine Garage Garage	Rheem Rudd Engineered Air Air Wise	9V40-36M DJ-60 MN 30	1994 1994 1994	2019 2019 2019	36,000 BTU/HR	2 8 8
Visitor Entrance												
Greenhouse Giftshop	GS0100	HTR-GS0100-UNI-1		Unit Heater Gas		Greenhouse Giftshop	Modine	PV300AE 1030	1986	2016		4
		HTR-GS0100-UNI-2		Unit Heater Gas		Greenhouse Giftshop	Modine	PV300AE 1030	1986	2016		4
		CAC-GS0100-CLG-3		Split AC	3	Greenhouse Giftshop	Comfort-Aire	36-1W WM30/36				4
		CAC-GS0100-CLG-2		Split AC	2	Greenhouse Giftshop	Comfort-Aire	36-1W WM30/36				4
		CAC-GS0100-CLG-1		Split AC	1	Greenhouse Giftshop	Comfort-Aire	36-1W WM30/36				4
Members & Guest Services	MS0100	BLR-MS0100-HTG-1		Heating Boiler	1	Membership Mechanical Room	Raypak	EM624T-N-2P CRN# 6361-21365049	1999	2023	627,000 BTU/HR	4
		BLR-MS0100-HTG-2		Heating Boiler	2	Membership Mechanical Room	Raypak	EM624T-N-2P CRN# 6361-21365049	1999	2023	627,000 BTU/HR	4
		TNK-MS0100-DHW-1		DHW Tank	1	Membership Mechanical Room	John Woods	JW65-95H CAT# G6512	1999	2023	95,000 BTU/HR	4
		TNK-MS0100-DHW-2		DHW Tank	1	Membership Mechanical Room	John Woods	JW65-95H CAT# G6512	1999	2023	95,000 BTU/HR	4
		AHU-MS0100-CLG		AHU Cooling Unit	1	Membership Mechanical Room	Trane	VTO-52-J	1999	2023		12
		TWR-MS0100-CLG		Cooling Tower	1	Membership Mechanical Room	Baltimore Air Coil	30,0EK-15	1973	2016	30 KW	24
		GEN-MS0100-1		Emergency Generator		Generator Room	Onan	R/13807D				30
		RTU-MS0100-COM-1		Unitary AC	1	Membership Rooftop	Carrier	48HJE005---55LHQ	2006	2026		8
		RTU-MS0100-COM-2		Unitary AC	1	Peacock Cafe Rooftop	Carrier	48HJE009---16LHQ	2006	2026		8
Education/Retail Centre	ED0100	BLR-ED0100-HTG-1		Heating Boiler	1	Education Mechanical Room	Laars	9600	2003	2033		4
				Heating Boiler (Electric)	1	Education Mechanical Room	Coates	12HW CAT# 32075HW CRN# D5640.5	1985	2015	BHP7.5 75 KW, 208V	
		BLR-ED0100-HTG-2										4
		TWR-ED0100-CLG		Cooling Tower	1	Roof	Baltimore Air Coil	VX1-27-IR	1985	2015		24
		PMP-ED0100-HTR-1		Heat Pump	1	Mechanical rooms	Enercon	HW/VW	1985	2015		8
		PMP-ED0100-HTR-2		Heat Pump	2	Mechanical rooms	Enercon	HW/VW	1985	2015		8
		PMP-ED0100-HTR-3		Heat Pump	3	Mechanical rooms	Enercon	HW/VW	1985	2015		8
		PMP-ED0100-HTR-4		Heat Pump	4	Mechanical rooms	Enercon	HW/VW	1985	2015		8
		PMP-ED0100-HTR-5		Heat Pump	5	Mechanical rooms	Enercon	HW/VW	1985	2015		8
		PMP-ED0100-SMP-1		Sump Pump	SP-1	Basement	Hydromatic	OSP33A1	1985	2015		1
		PMP-ED0100-SMP-2		Sump Pump	SP-2	Basement	Hydromatic	OSP33A1	1985	2015		1
		PMP-ED0100-CIR-1		Circulating Pump	P-1	Mechanical rooms	Armstrong	85-2728X	1985	2015	5 HP	1
		PMP-ED0100-CIR-2		Circulating Pump	P-2	Mechanical rooms	Armstrong	85-2728X	1985	2015	5 HP	1
Ferret Barn	FB0100	FAF-FB0100-HTG		HE Gas Furnace	1	Ferret Barn	Luxaire	TM9V100C20	2016	2036	100,000 BTU/HR	4
		CAC-FB0100-CLG		Central AC	1	Ferret Barn	Luxaire	JD24	2016	2036	24,000 BTU	4
		TNK-FB0100-DHW		DHW Heater	1	Ferret Barn	Rinnai	RU84iRN	2016	2016	184,000 BTU/HR	4
Marmot Barn	MB0100	FAF-MB0100-HTG		HE Gas Furnace	1	Ferret Barn	Luxaire	TM9V100C20	2016	2036	100,000 BTU/HR	4
		TNK-MB0100-DHW		Central AC	1	Ferret Barn	Luxaire	JD48	2016	2036	48,000 BTU	4
				DWH	1	Ferret Barn	Rinnai	RU84iRN	2016	2036	184,000 BTU/HR	4
Gatehouse	GH0100	BLR-GH0100-HTR		Gas Fired Boiler	1	Gatehouse	Weil McClellin		2016	2036	100,000 BTU/HR	4
				DHW Heater	1	Ferret Barn	Rinnai	RU84iRN	2016	2016	184,000 BTU/HR	4
Main Barn	MB1000	TNK-MB1000-DHW		Gas Furnace	1	East Wing Bird	Luxaire	TM9V100C20	2016	2036	100,000 BTU/HR	4
						West Wing	Luxaire	TM9V100C20	2016	2036	100,000 BTU/HR	4
						North Wing	Luxaire	TM9V100C20	2016	2036	100,000 BTU/HR	4
				DHW Heater	1	Ferret Barn	Rinnai	RU84iRN	2016	2016	184,000 BTU/HR	4
Finch Barn				-	-	-	-	-	-	-	No mechanical equipment	

Valley Halla	VH0100	BLR-VH0100-HTG	Gas Fired Boiler DWH	1 1	Valley Halla Ferret Barn	Weil-Mclain Rinnai	680 WF RU84iRN	2006 2016	2036 2036	450,000 BTU/HR 184,000 BTU/HR	8 4
Panda House	PH0100	AHU-PH0100-COM ODH-PH0100-DHW FAN-PH0100-EXH-1 FAN-PH0100-EXH-2 WKN-PH0100-CLR	HEAT/COOL AHU GAS TANKLESS GAS HEATER Bamboo Walk in Cooler		Outside Panda House Mech Panda House Mech Room Panda Day Room Panda Day Room	Engineered Air Rinnai	94i	2013	2030		8
								2013	2030		4
								2013	2030		3
								2013	2030		3
								2013	2030		4
Panda Giftshop	GS1000	BLR-GS1000-HTG FAN-GS1000-HTG	Wall hung heating/dhw boiler Fan coil heat/cool air handler		Gift shop mech room in ceiling above mech room	Bosch	2013	2030		4	
							2013	2030		6	
Panda Washrooms	PW0100	BLR-PW1000-HTG FAN-PW1000-HTG-1 FAN-PW1000-HTG-2 FAN-PW1000-HTG-3 FAN-PW1000-EXH	Wall hung heating/dhw boiler Fan coil heat/cool air handler Fan coil heat/cool air handler Fan coil heat/cool air handler building exhaust		Washroom mech room In mens room In womens room In mech romm In mens room	Bosch	2013	2030		4	
							2013	2030		2	
							2013	2030		2	
							2013	2030		2	
							2013	2030		2	
Mandrin Restaurant	MR1000	ODH-MR1000-DHW FAN-MR1000-EXH	Tankless water heater Exhaust fan for cooking hood		In Kitchen On roof	Takagi Delhi	2013	2030		4	
							2013	2030		2	
Snow Leopard	SL0100	AHU-SL0100-HTG ODH-SL0100-DHW FAN-SL0100-EXH-1 FAN-SL0100-EXH-2	HEATING AHU GAS TANKLESS GAS HEATER		Outside Snow Leopard Mech Snow Leopard Mech Room Over entrance door bird side Over pens leopard side	Engineered Air Takagi	2013	2030		8	
							2013	2030		4	
							2013	2030		2	
							2013	2030		2	
							2013	2030		2	
Wildlife Health Centre	WHC1000										

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Africa Pavilion

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
Mechanical Room	Elbow Joints	Good	Repaired by Contract 2011
Mechanical Room	Domestic Hot Water Tank	Good	Repaired by contract 2011
Service Corridor	Elbow Joints	Removed	Removed by Contract Jan 2001
Generator Room	Generator Flue Lining	Good	Repaired 2011 by Contract
Public Men's Washroom	Elbows	Good	
Public Women's Washroom	Elbows	Good	
Telephone Room	Elbows	Removed	Removed by Contract Jan 2001



FACILITIES & SERVICES

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Africa Restaurant

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
Men's Washroom, Public Utility Room	Elbows	Good	
Basement	Elbows/valve	Good	Most Elbows taped with silver tape

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Americas Pavilion

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
AM3800 Mechanical Room	Elbows/Joints/Valves	Good	
AM4400 Mechanical Room	Elbow	Good	
AM3802 Mechanical Room	Generator Lining	Good	
AM4300 Air Handling Room	Elbow/Joint/Valve	Good	
AM4100 Lunch Room	Elbow/Joint/Valve	Removed	Removed by Contract Oct 2001
AM2400 Fish Room	Elbows	Removed	Removed by Contract Oct 2001
Hallways	Elbows above lattice	Good	
Vestibule (2)	Elbow	Removed	Removed by Contract Sep 2000
AM3700 Wetlands	Elbows	Removed	Removed by Contract Sep 2000

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Americas Restaurant

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
Basement	Elbows	Good	
Men's staff washroom	Elbows	Good	
Women's staff washroom	Elbows	Good	
Men's washroom utility room	Elbows	Removed	Removed by Contract Jan 2003



**Facilities & Services
Asbestos Inventory
2011-12-20**

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Const.	Asbestos Y/N	Type	Location	Comments
MAIN GATE AREA							
FA0000	Front Aviary	150	1974	N			
VS0800	Zoomobile Ticket Booth	50	1976	N			
VS0100	Members & Visitors Centre	9,000	1974	Y	Chrysotile	VS032, AD-47, VS202, VS123, VS017	Good condition
ZS0100	Education/Retail Centre	13,000	1986	N			
VS1000	Greenhouse Giftshop	1730	1986	N			
VS1400	Parking Booths	150	2000	N			
VS0900	Pagoda (Membership) / MEMBERSHIP KIOSK	100		N			
VS0600	Peacock Café	500	1974	N			
DISCOVERY ZONE							
CZ0000	Bird Barn	1760	1988	N			
DZ0200	Splash Island Change/Mechanical	1430	2002	N			
DZ0300	Washroom Building	1330	2003	N			
DZ0400	Waterside Holding	1140	2003	N			
DZ0809	Donkey/Emu	20	2003	N			
DZ0810	Goat & Pig	290	2003	N			
DZ0700	Backyard Bugs	70	2003	N			
DZ0801	Rabbit Hutch	20	2003	N			
DZ0802	Prairie Dogs	40	2003	N			
DZ0808	Woodchuck	50	2003	N			
DZ0803	Ferret Hutch	20	2003	N			
EC0000	Portable Classroom	1,765	2003	N			
ST0000	Group Events Tent	8,110	2002	N			

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Const.	Asbestos Y/N	Type	Location	Comments
INDO-MALAYA							
IN0000	Indo-Malaya Pavilion	28,800	1974	Y	Amosite	Basement - Generator Room	Generator Insulation
IR0000	Indian Rhino	7,200	1981	N			
MW0000	Malayan Woods	5,000	1974	N			Removed 2002
MO0000	Conservation Connection	1,000	1974	N			
IP0400	Gaur (2 Houses)	3,350	1980	N			
IP0300	Lion-Tailed Macaque	1,100	1974	N			
IP0100	Himalayan Tahr	340	1975	N			
IP0200	Muntjac/Crane	650	1974	N			
IN4000	Trailer, AC Supervisor Office	150		N			
IN1700	Sumatran Tiger	645	1984/02	N			
AFRICA							
FC0000	First Aid	780	1974	Y		FC0101 - Elbow/Joint	Furnace Room
AF4000	Africa Restaurant	6,670	1974	Y		Washroom/Basement - Elbows	
AF0000	African Rainforest Pavilion	46,440	1974/00	Y	Chrysotile	Mechanical Room/Washrooms	DHW/Elbows
EH0100	Hippo (lower elephant)	6,145	1974	N			Removed 2001
EH0200	Elephant House	11,000	1974/98	N			
AN0100	African Fur Seal	700	1974	N			
AN0800	Giraffe	1,200	1974	N			
AN0700	Old White-Tailed Gnu	930	1974	N			Demolished 2011
AN0200	Hyena	1,000	1986	N			
AS0900	Old Baboon Holding	300	1974	N			Demolished 2010
AS1000	Rhino/Hoofstock	8970	1998	N			
AS1100	Hoofstock/Bird	6400	1998	N			
AS1200	Cheetah	1645	1998	N			
AS1300	Baboon	1325	1998	N			
AS1400	Lion	1525	1998	N			
AS1600	Simba Safari Snack Bar/Washrooms	2665	1998	N			
AS1420	Lion Tunnel	150	1974	N			Removed 1998
AS2100	Twiga Retail Store	840	2002	N			
AS2101	Twiga Snack Bar	280	2002	N			
AS1903	Thorntree Café	60		N			
AS1901	Market Bazaar East	200	1998	N			

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Const.	Asbestos Y/N	Type	Location	Comments
AS1902	Market Bazaar West	200	1998	N			
AS2103	Gorilla Kiosk	50		N			
AS2102	Zoomobile Line-up Station	800	2002	N			
AS1800	Kesho Park Headquarters	200	1998	N			
CANADIAN DOMAIN							
CD0100	Waterfowl House & Viewing	980	1976	N			
CD0200	Katta	250	1974	N			
CD0300	Lynx	100	1974	N			
CD0700	Elk (Old Moose)	1,300	1976	N			
CD0600	Grizzly Bear	350	1976	N			
CD0500	Cougar	225	1992	N			
CD0900	Wolf	375	1974	N			Closed 2010
CD1700	Weston Station/Washrooms	1,900	1976	Y		Custodial Room Valve (1)	
CD1800	Zoomobile Stop/Washrooms	1,235	1974	Y		Custodial Closet, Snack Bar	Old Madagascar Snack bar
CD1200	Old Barasingha	375	1974	N			Closed
CD1300	Hist. /White Tailed Deer	375	1974	N			Closed
CD1400	Old /Black Tailed Deer	375	1974	N			Closed
CD1500	White Tailed Deer/Old Car	375	1974	N			Closed
AMERICAS							
AM0000	Americas Pavilion	18,475	1974/02	Y	Chrysotile	AM3800/3802/4300/4400	
AP0500	Americas Restaurant	5,920	1974	Y		Basement/Washrooms	
MA0000	Mayan Temple	4,000	1986	N			
AP0300	Llama /Capybara	460	1974	N			Demolished 2009
AP0400	Mara	230	1974	N			Demolished 2009
AP0100	Polar Bear (2 Houses)	1,100	1974	N			Demolished 2009
AP0600	Zoomobile Station - Beaver Tails	200	2002	N			
AP0601	Zoomobile Station - General Store	200	2002	N			
AP0602	Zoomobile Station - Line-up Structure	650	2002	N			
AP0603	Americas Station (open str.)	1950	1974	N			Closed
AP0118	Filtration Room		1974	Y	Chrysotile		

SIC	AREA / Building Name	Bldg. Size (sq.ft)	Year of Const.	Asbestos Y/N	Type	Location	Comments
OUTDOOR HOLDING							
OH0100	Cheetah House #1 / Area 1	400	1974	N			
OH0200	Cheetah House #2 / Area 2	200	1974	N			
OH0300	Shed / Area 3	200	1974	N			
OH0400	Quonset Hut #2 / Area 4	600		N			
OH0500	Quonset Hut #1 / Area 5	800		N			
OH0900	PCB Trailer / Keeper House	400	1994	N			Decommissioned 2005
OPERATIONS COMPLEX							
HS0100	Hay Shed	1,950	1974	N			
TR0000	Transit Building	10,800	1974/94	Y		TR111, 112, 113	
AD0000	Administrative/Support Centre	33,302	1994	N			
GR0000	Horticulture Centre	21,240	1994	N			
CU0000	Curatorial Wing	8800	1974	N			
IH0000	Invertebrate House	1400	1974	N			
NS0000	Maintenance/Nutrition Centre	28,490	1974	Y	Chrysotile	NS1241, 1242, 1254, 1250, 1271, 1259, 1260, 1252, 1256, 1248, 1205, 1207, 1266, 1272, 1214, 1217, 1220, 1219, 1268, 1218, 1229, 1225, 1230	
RW0000	Animal Health Centre – Research Wing	4,725	1994	N			
SS0000	Animal Health Centre	7900	1974	Y	Chrysotile	SS0201, 0501, 0701, 1006	
AUSTRALASIA/EURASIA							
AU0000	Australasia Pavilion	19,280	1974	Y	Chrysotile	AU4002, 4003, 4005, 4012, 4014, 4016, 1302	
EP2000	Eurasia Snack Bar/Washrooms	1,400	1974	Y		Washroom	
EP0600	Marco Polo Trail	2,000	1987	N			
EP0600	Camel Palace	3,660	1987	N			
EP1300	Siberian Tiger	830	1974	N			
EP0100	Wisent	420	1975	N			
EP0200	Snow Leopard	340	1981	N			
EP0300	Dhole House	1,100	1985	N			
EP0400	Barbary Ape/Macaque	900	1975	N			
EP0500	Przewalski's Horse	1,065	1988	N			
EP0700	Sika Deer	700	2000	N			
EP1000	Mouflon	500	1975	N			

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Australasia Pavilion

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
AU4009 Mechanical Room	Elbows/valve	Removed	Removed by Contract Jan 2001
AU4002 Kitchen	Elbows	Good	
AU4016 Generator Flue	Flue lining	Removed	Non Asbestos Calcium Silicate Insulation Removed 2010
AU4005 Drop Ceiling	Elbows/valve	Good	
AU1302 HWH Lines	Elbows	Good	
AU4003 Hallway	Elbows	Good	
AU4014 Mechanical Room	Elbows/valves	Removed	Removed by Contract Aug 2007
AU4012 Hallway	Elbows	Good	



ENVIRONMENTAL SERVICES

CERTIFICATE OF ASBESTOS WASTE DISPOSAL

Reference: Our Invoice # 9761 - Bill of Lading 2516

Issued to:

Ms. Judy Connor
Ontario Insulation Oshawa Limited
1300 King Street East, P.O. Box 31100
Oshawa, ON L1H 8N9

Generator: Toronto Zoo
361 A Old Finch Ave, Scarborough

Ticket #: 269236 - March 24, 2011

This hereby certifies that the waste was received on March 17, 2011 by TS Environmental Services, Receiver #A680295.

The waste was transported to the Petrolia Landfill Site (C. of A. #A030303), an approved, licensed waste landfill facility, for final disposal as asbestos waste transferred by Waste Management Services (C. of A. #A841728), an approved and licensed hauler.

All waste materials received have been transported to the extent outlined within the Ontario Ministry of Environment Regulations.

Disposal Method: Licensed Landfill
Bulked for Licensed Third Party Transfer

Tony Samson, B.Sc. CRSP, DOHS, C.P.H.I. (c)
President

April 15, 2011

Date

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Eurasia SnackBar

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
Custodial room washroom	Elbows/valve	Good	
Restaurant back room	Elbows	Removed	Removed by contract 2003

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Indo-Malaya Pavilion

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
Mechanical Room	Generator Insulation	Good	
Mechanical Room	Boiler Breaching	Removed	Removed by Contract Nov 1998
Mechanical Room	Elbow/Joint/Valve Insulation	Removed	Removed by Contract Nov 1998



ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12- 20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Madagascar Washroom & SnackBar

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
Custodial Closet Washrooms	Elbow/Joint/Valve Insulation	Good	Fibreglass insulation needs replacing
Back Room SnackBar	Elbows/valve	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Members & Visitors Centre

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
VS0302 Mechanical Room	Elbow/Joint/Valves Insulation	Good	
Guest Services Mechanical Room AD-47 (cash)	Elbow/Joint/Valve Insulation	Good	
VS0202 Electrical Room	Elbow/Joint/Valve Insulation	Good	
Public Washroom Mechanical Room	Elbows/Valve	Good	
VS0123 Valve Room	Elbows/valve	Good	
Above False Ceiling, HHW, DCW, DHW	Elbows	Good	
Generator Room	Flue	Good	
VS0117 Telephone Room	Elbow	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Operations Complex – Maintenance Wing

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
NS1241 Utilities	Elbows	Removed	Removed by Contract Sep 2006
NS1242 Fencing Shop	Elbows	Removed	Removed by Contract Sep 2006
NS1254 West Vestibule	Roof drain elbow	Good	
NS1250 Freezer Area	Above Ceiling Elbows	Good	
NS1271 Freezer Area	Elbows	Good	
NS1259 Cooler Area	Elbows	Good	
NS1260 Stairwell	Elbows	Removed	Removed by contract Sep 2006
NS1252 Food Prep	Elbows	Good	
NS1256 Freezer H	Above freezer – elbows	Good	
NS1253 Delivery Area	Elbows	Removed	Removed by Contract Jan 2003

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Operations Complex – Maintenance Wing

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
NS1248 Office	Above ceiling elbows	Good	
NS1205 Nutrition Lab	Above ceiling elbows	Good	
NS1207 East Storage	Above ceiling elbows	Good	
NS1266 Hallway	Above ceiling elbows	Good	
NS1272 Mechanical Room	Elbow	Good	
NS1214 Stores	Elbow	Good	
NS1217 Stores	Elbow	Good	
NS1220 Restaurant Warehouse	Elbow	Good	
NS1219 Warehouse	Elbow	Good	
NS1268 Stores	Elbows	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Operations Complex – Maintenance Wing

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
NS1218 Graphic Storage	Elbows	Good	
NS1229 Carpenters Shop	Elbows	Good	
NS1225 Exhibit Design	Elbows	Good	
NS1230 Paint shop	Elbows	Good	
NS1231 Paint shop	Elbows	Removed	Removed by Contract Jan 2003

ONTARIO INSULATION

905.404.9663

Q U O T A T I O N

March 4, 2011
Via Email: brabideau@torontozoo.ca

TORONTO ZOO
361A Old Finch Avenue
Scarborough, ON M1B 5K7

Attention: Bob Rabideau

RE: ASBESTOS REMOVAL/RE-INSULATION – African Pavilion

Our quote is based on the following:

- Type 2 glovebag removal and disposal of approximately 8 linear feet of fiberglass insulation and approximately 2 asbestos containing fittings from the diesel generator exhaust piping located in the African Pavilion.
- Supply and install approximately 12 linear feet of 1 ½" thick fibrex pipe insulation with canvas and lagging finish to insulate the diesel generator exhaust piping and fittings where removals have taken place.
- All work to be completed in accordance with Ontario Regulation 278/05 as per the rules and regulations set by the Ministry of Labour.
- All asbestos will be double bagged, sealed and disposed of in accordance with the Ministry of the Environment (Regulation 347).
- This quote does not require and/or include test samples and /or air monitoring.

Quote Removal \$1,100.00 + HST
Quote Re-Insulation \$990.00 + HST

(Based on regular working hours)


We thank you for the opportunity to quote on this project. If you have any questions please do not hesitate to contact us at any time. Should you wish to proceed with this project, kindly sign where indicated below and faxed back to 905-404-8413 or email tball@ontarioinsulation.ca

Sincerely,
ONTARIO INSULATION (OSHAWA) LTD

TAMMY/KAREN
PLEASE PROVIDE COPY OF DISPOSAL
MANIFEST FOR OUR RECORDS.
THANK YOU
Bob Rabideau

Tammy Ball/Karen Hare
TB/KH

ACCEPTED AND APPROVED BY:


SIGNATURE
Bob Rabideau
PRINT

DATE: 2011/03/08

P.O.# 32272

ALL QUOTATIONS VALID FOR 60 DAYS

PR-54899

ASBESTOS INSPECTION CHART**Date of Inspection:** 2011-12-20**Inspected By:** B Rabideau**Unit/Branch:** Utilities / Facilities & Services**Name of Building:** Polar Bear

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
AP0114 Holding	Elbows	Removed	Removed by Contract Jun 2007
AP0118 Pump Room	Elbows and Pump supply pipe	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Operations Complex – South Service Wing

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
SS0701 Treatment	Elbows	Good	
SS0501 Health Unit	Elbows	Good	
SS0201 Health Unit	Elbows	Good	
SS1006 Office	Roof drain elbow	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12- 20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Transit Building

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
TR0101 Monorail Shop	Elbows/valve	Removed	Removed by Contract 2005
TR0112 washroom	Elbow	Good	
TR0113 Hot Water Tank Rm.	Elbows	Good	
TR0111 washroom	Elbows	Good	
TR104 Monorail Instrument Shop	Elbows	Good	Repaired with silver tape
TR0101	Elbows BackFlow	Good	Removed by Contract 2006

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Valley Halla

Location	Type of Material (e.g. elbow)	Condition	Remedial Work Required
VH0306 Mechanical Room	Duct Lining	Good	
Mechanical Room	Elbow/joint/valve Insulation	Removed	Removed by Contract Mid 1990's
Mechanical Room	Corrugated Paper Pipe Insulation	Removed	Removed by Contract Mid 1990's
Pump Room	Elbow/Joint/Valve Insulation	Removed	Removed by Contract Mid 1990's
Pump Room	Corrugated Paper Pipe Insulation	Removed	Removed by Contract Mid 1990's
Kitchenette	Corrugated Paper Pipe Insulation	Removed	Removed by Contract Mid 1990's
VH0110 Storage Room	Elbow	Good	
VH0310 Boiler Room	Duct Lining	Good	

ASBESTOS INSPECTION CHART

Date of Inspection: 2011-12-20

Inspected By: B Rabideau

Unit/Branch: Utilities / Facilities & Services

Name of Building: Weston Station Washrooms

Location	Type of Material <small>(e.g. elbow)</small>	Condition	Remedial Work Required
Custodial Room	Valve (1)	Good	