THE CITY OF Edmonton
ASSET MANAGEMENT AND PUBLIC WORKS

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May 30, 2008

Mr. David Curran, P.Eng.
Northeast Boreal Region
Alberta Environment
111 Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta T6B 2X3

Dear Mr. Curran:

Re: 2007 Annual Wastewater Report as Required by Alberta Environment Approval 639-02-00

Approval 639-02-00 requires the submission of an Annual Wastewater Report. This report is contained in the following five attachments:

1. Attachment 1: Table of Contents outlining reporting requirements and location of data which meets that reporting requirement
2. Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
3. Attachment 3: Collection System Monitoring and Assessment Details
4. Attachment 4: Collection System Operational Details
5. Attachment 5: Snow Storage Sites Operational Details

Yours truly,

John Hodgson, Ph.D., P. Eng.
Manager, Drainage Services

Enclosures

c. J. Tan, Director, Drainage Planning
V. Corkery, Director, Drainage Wastewater Treatment
A. Bowen, Director, Drainage Operations

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Attachment 1: Table of Contents for Approval to Operate 639-02-00 2007 Annual Report Submission to Alberta Environment

Annual Wastewater Report Requirement	**Location of information**
The monthly arithmetic mean, including maximum and minimum values of each parameter monitored, excluding E.coli counts, as outlined in Table 6-1	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
The monthly geometric mean of E. Coli counts	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
The name of the supervising operator responsible for the operation of the wastewater system	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
A summary of any incidents which required reporting in accordance with 2.1.1	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
A summary of any operational problems	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details
The monitoring requirements as outlined in operations plans listed in 4.1.4 and 4.1.5	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details Attachment 3: Collection System Monitoring and Assessment Details Attachment 4: Collection System Operational Details Attachment 5: Snow Storage Sites Operational Data
The name and monthly quantity of any chemical added to the wastewater in the wastewater treatment process	Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details

Attachment 2: Wastewater Treatment Plant Performance Data and Operating Details

The 2007 Gold Bar Wastewater Treatment Plant Performance Data and Operating Details provides a summary of the plant performance as required under sections 4.1.4 and 6.1.4 of the Approval to Operate No. 639-02-00. All analytical data included in the report were developed by the Gold Bar Wastewater Laboratory, which has been accredited for specific tests listed in the scope of accreditation approved by Canadian Association for Environmental Analytical Laboratories (CAEAL). Chronic and acute toxicity bioassays were conducted by contract laboratories that were accredited for these tests. The report consists of the following tables:

- Table 1 - "2007 Plant Performance Summary" provides a summary of the Gold Bar Wastewater Treatment Plant performance as required under section 6.1.4 (a) and (b) of the Approval. A total of 95,939 megalitres (ML) of wastewater came to the Gold Bar Wastewater Treatment Plant and 100% of the flow received primary treatment during 2007. Secondary/tertiary treatment was provided to 91,268 ML (95.1%) of the flow.

  All analytical data in the table were developed on 24-hour composite samples collected by autosamplers at the sampling locations specified in Table 6.1 of the Approval. The 24-hour composite samples were retained in locked refrigerators until the Laboratory staff removed them the following morning. The discrete samples for *E. coli* determinations were collected randomly every day. All conditions and limits specified in the Table 5-1 of the Approval were met during 2007.

- Table 2 - "Environmental Release Reports & Administrative Notifications Made to Alberta Environment and Environment Canada", followed by "2007 Wastewater Treatment Annual Operational Summary", as required under section 6.1.4(c), (d) and (e) of the Approval.

- Table 3 - "Gold Bar Wastewater Treatment Plant Chemical Use by Plant Operations" summarizes, as required under section 6.1.4 (g), all chemicals used in 2007 to operate the Wastewater Treatment Plant. The table includes the name and monthly quantity of chemicals added to the wastewater in the wastewater treatment process.

- Table 4 - "2007 Effluent Toxicity" provides a summary of chronic and acute toxicity testing as outlined in the Approval to Operate, section 6.1.4 (f) and 4.1.4 (d). Both acute and chronic toxicity testing were carried out by contract laboratories in accordance with the Environment Canada Biological Tests Methods (Environment Canada 1990 and 1992). The acute testing included 96-hour rainbow trout static toxicity, 48-hour static toxicity using *Daphnia magnia* and 15-minute Microtox tests using luminescence bacteria. Seven-

day *Ceriodaphnia dubia*, fathead minnows survival and reproductive impairment tests, and 76-hour *Selenastrum* (*Ps. subcapitata*) growth inhibition tests were used to determine chronic toxicity. The three samples tested in 2007 appeared to be nontoxic to all organisms used for the acute and chronic testing.

- Table 5 – "2007 Recycled Water Quality" provides data developed on the recycled water samples as required under section 6.1.4 (f) and 4.1.4 (e) of the Approval. All parameters except for coliforms and Silt Density Index (SDI) were developed on daily 24-hour composite samples of the recycled water. The total and fecal coliforms and SDI analyses were conducted on discrete samples collected on a daily basis.

- Table 6 - "2007 Summary of Gold Bar Wastewater Laboratory Proficiency Testing" summarizes quality assurance data as required under sections 6.1.4 (f) and 4.1.4 (h), and includes the Laboratory z-scores achieved from analyzing proficiency testing (PT) samples for constituents required by the Approval. The 2007 PT samples were provided by CAEAL, Alberta Research Council (ARC) and Clinical Microbiology Proficiency Testing (CMPT). The number of rejects in the table indicates the data with z-scores equal or greater than 3.0. The PT data indicates that the instruments and the methodology used by the Laboratory were under control during the testing.

Table 1: 2007 Plant Performance Summary

GOLD BAR WASTEWATER TREATMENT PLANT
2007 Plant Performance Summary

Month		FLOW (ML)					$BOD_5/CBOD_5$ (mg/L)			TSS (mg/L)			TP (mg P/L)		NH_3-N (mg N/L)		*E. coli* CFU/100 mL		Total Digested Sludge (ML)
		PBP	Raw	SBP	SEF	MPW	TBP	Raw	SEF	TBP	Raw	SEF	TBP	SEF	TBP	SEF	TBP x 10^6	SEF	
January	Avg	0.00	219.86	0.00	217.64	2.23	---	311	3.5	---	305	6.7	---	0.68	—	5.01	---	5	80.1
	Min	0.00	195.11	0.00	192.50	1.63	---	260	2.1	---	208	3.1	---	0.31	---	1.16	—	—	
	Max	0.00	243.39	0.00	241.10	2.90	—	367	7.2	---	388	25.0	—	4.42	—	17.10	—	—	
February	Avg	0.00	237.86	0.00	235.22	2.64	---	297	3.3	---	303	6.2	---	0.68	---	4.05	—	7	70.9
	Min	0.00	228.90	0.00	226.53	1.62	---	244	2.2	---	160	3.0	—	0.35	---	1.84	—	---	
	Max	0.00	250.84	0.00	248.40	3.00	---	372	5.9	---	392	18.0	---	1.25	---	7.06	—	---	
March	Avg	0.00	282.87	30.65	249.62	2.60	199	246	4.1	241	315	9.3	7.83	0.86	24.4	4.94	—	12	75.3
	Min	0.00	235.88	0.00	216.30	1.20	149	159	2.2	118	228	2.9	5.72	0.37	19.1	1.32	—	—	
	Max	0.00	356.13	106.70	283.30	3.20	298	333	7.2	464	488	27.0	10.20	1.59	34.5	8.28	—	—	
April	Avg	0.00	270.08	18.43	249.53	2.12	191	243	4.5	173	283	8.6	8.24	0.91	23.7	3.47	1.9	13	73.0
	Min	0.00	109.80	0.00	107.20	0.60	134	154	2.6	90	178	4.9	6.30	0.48	1.7	0.50	—	—	
	Max	0.00	461.50	217.60	278.20	3.30	263	346	6.8	344	408	22.0	9.49	1.95	35.1	8.96	—	—	
May	Avg	0.02	308.69	41.20	265.65	1.82	165	238	5.2	186	342	11.9	7.02	0.99	23.8	1.05	1.5	32	74.4
	Min	0.00	181.90	0.00	169.60	0.00	97	79	2.8	106	212	5.1	3.41	0.40	10.4	0.08	---	—	
	Max	0.70	747.10	465.40	290.10	2.60	336	480	11.0	680	904	49.0	9.25	3.09	31.7	3.35	---	---	
June	Avg	0.00	287.29	13.24	271.75	2.30	149	258	4.3	195	370	11.5	7.03	0.90	20.5	0.75	0.8	13	68.9
	Min	0.00	249.30	0.00	247.00	1.33	100	170	2.4	94	236	4.3	4.57	0.37	13.4	0.18	—	---	
	Max	0.00	366.60	84.30	318.00	2.60	291	321	8.0	570	710	44.0	11.20	2.13	34.8	1.68	—	---	
July	Avg	0.00	289.71	9.17	278.25	2.3	115	245	3.7	121	301	6.3	5.26	0.77	16.5	0.38	1.2	10	71.5
	Min	0.00	260.50	0.00	248.70	1.3	68	165	2.1	74	180	3.4	2.57	0.21	6.8	0.04	—	---	
	Max	0.00	411.00	88.60	321.30	3.0	151	344	5.4	144	484	14.0	7.60	4.81	26.2	1.47	—	---	
August	Avg	0.00	266.64	4.12	260.07	2.45	130	248	3.5	105	283	6.5	5.79	0.71	23.9	0.39	1.7	10	77.1
	Min	0.00	245.40	0.00	243.30	1.40	94	175	2.4	81	188	3.9	4.99	0.36	20.1	0.07	—	---	
	Max	0.00	316.30	56.40	286.20	3.39	211	300	5.5	192	393	11.0	7.35	1.70	25.9	1.10	—	---	
September	Avg	0.00	264.04	5.11	256.27	2.66	126	248	3.5	124	304	6.4	5.21	0.74	20.2	0.38	1.7	12	66.5
	Min	0.00	241.70	0.00	238.60	2.00	104	196	0.5	68	226	3.8	4.16	0.31	14.0	0.08	—	—	
	Max	0.00	386.90	94.10	290.60	3.20	158	348	5.6	188	624	15.0	5.98	1.63	25.4	0.98	—	---	
October	Avg	0.00	245.18	0.00	241.98	3.20	—	289	5.3	---	303	11.4	—	0.65	---	0.38	—	7	73.4
	Min	0.00	233.30	0.00	230.10	2.80	---	204	2.8	—	232	3.2	---	0.26	---	0.06	—	—	
	Max	0.00	268.50	0.00	265.60	3.70	---	438	26.0	---	408	132.0	---	6.33	---	1.28	—	---	
November	Avg	0.00	240.64	0.00	237.73	2.92	---	291	4.6	---	321	10.3	---	0.52	---	0.79	—	3	75.2
	Min	0.00	225.55	0.00	222.30	1.10	---	211	2.6	---	256	3.4	---	0.24	---	0.22	—	---	
	Max	0.00	248.80	0.00	245.70	3.56	—	355	11.0	---	830	56.0	—	1.69	---	1.51	—	—	
December	Avg	0.00	239.22	0.00	235.95	3.27	---	281	3.9	---	317	5.6	---	0.44	---	1.60	—	2	78.6
	Min	0.00	205.40	0.00	202.20	3.00	—	197	2.9	---	176	3.8	—	0.14	---	0.34	---	---	
	Max	0.00	255.40	0.00	252.30	3.60	—	348	5.8	---	456	8.8	—	1.28	---	3.14	—	—	
Total Flow (ML)		0.70	95,939	3,743	91,268	928									Total Digested Sludge (ML)				885
2007	Avg	0.00	262.7	10.2	249.97	2.54	154	266	4.1	164	312	8.4	6.62	0.74	21.9	1.93	1.5	10	
2006	Avg	0.38	255.9	8.1	247.80	2.23	195	253	3.4	215	287	4.0	8.17	0.59	23.0	3.15	1.6	4	

PBP – Plant Bypass
TBP – Total Bypass Plant (including plant and secondary)
SBP – Secondary Bypass Plant
SEF – Secondary Effluent Final
BOD_5 – 5-day Biological Oxygen Demand
$CBOD_5$ – 5-day Inhibited BOD
TSS – Total Suspended Solids
TP – Total Phosphorus
NH_3-N – Ammonia as nitrogen
MPW – Membrane Product Water

Table 2: Environmental Release Reports and Administrative Notifications and 2007 Wastewater Treatment Annual Operational Summary

2007 ENVIRONMENTAL RELEASE REPORTS TO ALBERTA ENVIRONMENT
WASTEWATER TREATMENT

AE REFERENCE NO. DATE, TIME & LOCATION	AMOUNT & TYPE OF RELEASE	CAUSE OF RELEASE	IMMEDIATE RESPONSE	PLANS TO PREVENT SIMILAR RELEASE? WRITTEN REPORT REQUESTED?
ASSET MANAGEMENT & PUBLIC WORKS DEPARTMENT –WASTEWATER TREATMENT				
AE 181439 January 17 @ 09:00-11:30 am 10977 – 50 Street Goldbar Wastewater Treatment Plant	Indeterminate Amount Digester Biogas (Not contained)	While investigating an H2S odour in the plant control room, the on duty operator discovered that biogas was being released to the atmosphere through a faulty valve in the piping system.	Immediately after the leak was discovered, the flare piping system and the leaking valve were isolated. The release was stopped at 11:30 am.	The faulty valve will be replaced. The replacement valve will be thoroughly tested prior to the flare being returned to service. AE: Yes EC: Yes
AE 182161 February 8 @ 14:30 – 18:15 10977 – 50 Street Goldbar Wastewater Treatment Plant	Unknown Amount Digester Biogas (Contained)	While conducting nitrogen purge in the biogas line in preparation for repair work, water was inadvertently blown out of the water trap, providing an open conduit for the release of gas.	The old biogas flare line was removed from service, the biogas line was locked out, the water trap was inspected and re-filled with water, and the biogas line was restored to normal operation.	AE: Yes EC: Yes
AE 186034 April 18 @ 15:04 10977 – 50 Street Goldbar Wastewater Treatment Plant	1.1 ML Partially Treated Sewage (Not contained)	The main power feeder to the wastewater treatment plant went off line. The backup power feeder came on line. However, the disruption caused the UV disinfection system to shut down.	As power was restored throughout the plant, the UV system gradually came back on. Within 5 minutes of the initial power disruption, the UV system was back in full operation.	EPCOR has not provided an explanation of the cause of the power failure. All of the relevant wastewater treatment emergency procedures were activated without issue during this event, and all of the emergency backup equipment functioned properly and as expected. AE: Yes EC: Yes
AE 186049 April 19 @ 07:36 10977 – 50 Street Goldbar Wastewater Treatment Plant	1.4 ML Partially Treated Sewage (Not contained)	Planned power outage for GB WWTP to switch from backup electrical power feeder to the main feeder. The backup power feeder was on line due to an unplanned power outage at the EPCOR Hardisty Station 2007-04-18. See AE #186034.	As power was restored throughout the plant, the UV system gradually came back on. Within 8 minutes of the initial power disruption, the UV system was back in full operation.	Emergency response procedures are in place to respond to unplanned power disruptions. Emergency backup equipment is maintained and regularly tested. AE: Yes EC: No
AE 187041 May 18 @ 15:55 10977 – 50 Street Goldbar Wastewater Treatment Plant	100 millilitres Unknown Hydrocarbon (Not contained)	A rainbow film was observed on pooled rainwater leading from the asphalt roadway to the storm drain manhole.	Operations staff isolated the manhole using containment booms. A hydrocarbon absorbent material was then used to pick up the remaining hydrocarbon substance.	Vehicles that would normally be parked in the area will be inspected for leaks. AE: Yes EC: Yes
AE 187002 May 18 @ 14:50 10977 – 50 Street Goldbar Wastewater Treatment Plant	Unknown Partially Treated Sewage (Not contained)	During a rain event, increased wastewater flows exceeded the capacity of the plant's secondary treatment process. As a result, partially treated sewage was released via a secondary bypass.	Normal secondary bypass procedures were in effect which includes increasing the flow through all secondary bioreactors. These reached capacity and then the flow was directed to the bypass outfall.	During the final stages of the EPT commissioning phase, the new bypass gate will remain fully raised whenever above normal flows are expected. AE: Yes EC: Yes
AE 187339 May 29 @ 11:30 10977 – 50 Street Goldbar Wastewater Treatment Plant	Unknown Partially Treated Sewage (Not contained)	During the commissioning of the process control system of the Enhanced Primary Treatment (EPT) process units, bypass gate FG2749 failed at the 9% open position.	The bioreactor influent pump speed was increased. This led to a decrease in the primary effluent level and allowed the bypass gate to be manually closed to 0% open.	The bypass gate will remain fully closed position except during controlled tests required for completing the commissioning of the gate and its control system. AE: Yes

2007 ENVIRONMENTAL RELEASE REPORTS TO ALBERTA ENVIRONMENT
WASTEWATER TREATMENT

				EC: No
AE 188593 June 26 @ 02:15 10977 – 50 Street Goldbar Wastewater Treatment Plant	300 cubic metres Partially Treated Sewage (Not contained)	Primary effluent channel set point was changed by shift operator in Control Room, resulting in bypass weir gate open @ >30% for 10 minutes duration.		AE: Yes EC: No
AE 188457 June 27 @ 09:55 10977 – 50 Street Goldbar Wastewater Treatment Plant	20 cubic metres Filtered Cement Truck Washings (Not contained)	Contractor's cement truck operator was carrying out an interior tank washing after unloading cement. Operator discharged some of the filtered wash water to the catch basin.	No action – the discharge was not retained by the catch basin.	The contractor was advised of the release and reminded of established procedures for cement trucks. All cleaning discharges, after unloading cement, are to be released to a designated location only. AE: Yes EC: Yes
AE 192724 September 18 @ 07:42 Goldbar Wastewater Treatment Plant 10977- 50 Street -	3,050,000 Litres Partially Treated Municipal Wastewater (Not contained)	Planned power outage for electrical maintenance activities. Switch from the main Hardisty feeder to the back-up Kennedale feeder.	As power was being restored throughout the wastewater plant, the UV system came back on. Within 33 minutes of the initial power disruption, the UV system was back in full operation.	This power outage was planned to occur for the purpose of performing UV system maintenance. AE: Yes EC: Yes
AE 192732 September 19 @ 07:33 Goldbar Wastewater Treatment Plant 10977- 50 Street	1,000,000 Litres Partially Treated Municipal Wastewater (Not contained)	Planned power outage for electrical maintenance activities. Switch from the back-up Kennedale feeder to the main Hardisty feeder. See AE 192724.	As power was being restored throughout the wastewater plant, the UV system came back on.	This power outage was planned to occur for the purpose of performing UV system maintenance. AE: Yes EC: Yes
AE 194670 November 13 @ 16:40 Goldbar Wastewater Treatment Plant 10977- 50 Street	900 m^3 Digester Biogas (Not contained)	Biogas was released to the atmosphere due to a biogas chiller failure. The failure occurred due to the closing of the chiller utility water drain line, which prevented circulation of cooling water to the chiller unit.	The north flare was put back into service. The north flare was previously out of service due to construction.	The chiller drain valve will be identified as a critical control point in the biogas system. The valve has been tagged to always remain open. AE: Yes
AE 195386 November 21 @ 09:15 Goldbar Wastewater Treatment Plant 10977- 50 Street	15 ft^3 Natural Gas (Not contained)	Planned release to accommodate the insertion of a blind flange in the natural gas system as part of the flare upgrade piping modifications.	None.	None – this was a planned release. AE: Yes
AE 195971 December 26 @ 15:00 Edmonton Waste Management Centre 137 Avenue & Meridian Street	5 Litres Potable Water (Contained)	Potable water feed line found "open" and spilling potable water to north of Struvite Quonset. Draining water migrated to the north and west of Quonset along drainage ditches.	Potable water line was isolated as soon as the source of the spill was determined.	Review water isolation procedure. Implement a tag out procedure for all lines. AE: Yes

Releases Reported by Regulatory Services – Non-City Releases

AE 182349 – February 9; Capital Packers, 12907 – 57 Street; Unknown amount of Total Phosphorus @ 138 mg/L.
AE 182609 – February 12; Raylin Manufacturers and Distributors Ltd., 12542 – 125 Street; Unknown amount of Total Phosphorus @ 804 mg/L.
AE 183959 – March 29; Ostrem Chemical Ltd., 2410 – 80 Avenue; Unknown amount of Total Phosphorus @ 344 mg/L.
AE 184377 – April 5; Cloverbar Wastewater Transfer Station, 53317 – RR 232, Strathcona County; <10,000 L of Wastewater containing elevated levels of Nickel (58 mg/L from 2 loads of wastewater discharged by 2 vacuum trucks.
AE 184775 –April 16; Quality Fast Foods, 12251 – William Short Road; Unknown amount of Total Phosphorus @ 318ppm.
AE 184791 – April 17; Ontime Express, #105, 8712 – 48 Avenue; Unknown amount of Diesel spilled and collected in the storm catch basin.
AE 184630 – April 18 Wood Group Pressure Control Inc., 8743 – 50 Avenue; Unknown amount of Phosphorous @ 333 mg/L.
AE 186032 – April 18; CCTF Corporation, 5407 – 53 Avenue; Unknown amount of unknown type of Hydrocarbon under unknown circumstances.
AE 186423 – May 4; Building Complex, 2220 – 80 Avenue; Unknown amount of Total Phosphorus @ 272 mg/L.
AE 186422 – May 4; Maple Leaf Poultry, 2619 – 91 Avenue; Unknown amount of Total Phosphorus @ 414 mg/L.
AE 184977 – May 7; Universe Machine Corporation, 5546 – 89 Street; Unknown amount of Varsol identified in shop interceptor.
AE 186858 – May 25; Private property, 14335 – 141 Street; Citizen report of oil storage tank that was in drainage ditch – no oil leaked from tank into the ditch.
AE 187354– May 31; Westcan Bulk Transport Ltd., 12110 – 17 Street; Unknown amount of Toluene @ 0.83 mg/L.
AE 187327 – May 29; Shaw Pipe Protection, 6010 – 30 Street; Unknown amount of Phosphorus @ 5,430 mg/L – from wastewater holding tank.
AE 188366 – June 22; Antrim Industries, 8025 Davies Road; Unknown amount of Nickel @ 8.8 mg/L in interceptor sump.
AE 187798 – June 26; Yellowhead Casino, 12464 – 153 Street; Unknown amount of Total Phosphorus @ 230 mg/L.
AE 188432 – June 26; Quality Fast Foods, 12251 – William Short Road; Unknown amount of Total Phosphorus @ 248 mg/L.
AE 187806 – June 26; Cloverbar Wastewater Transfer Station, 53317 – RR 232, Strathcona County; 20 cubic metres of Wastewater containing elevated levels of Lead (14.9 mg/L & 12.9 mg/L from 2 loads of wastewater discharged by 2 vacuum trucks.
AE 191176 – August 10; Poundmaker Transfer Station, 10810 – 186 Street; Unknown amount of Wastewater containing Lead @ 17.5 mg/L and Iron @ 1490 mg/L from loads of wastewater discharged by Tristar Underground Services Ltd.
AE 191508 – August 14; Spring Air, 15114 – 116A Avenue; 400 gallons of Process Wastewater containing Total Phosphorous @ 945 mg/L.
AE 191856 – August 28; Northern Alberta Processing, 1930 – 121 Avenue; Wastewater containing Oil and Grease.
AE 192077 – August 31; Select Ready Foods, 8310 – Yellowhead Trail; Unknown amount of Wastewater containingTotal Phosphorous @ 121 mg/L.
AE 192078 – August 31; Bonnie Doon Mall Complex, 8330 – 82 Avenue; Unknown amount of Wastewater containingTotal Phosphorous @ 533 mg/L.
AE 192179 – September 17; Select Ready Foods, 8310 – Yellowhead Trail; Unknown amount of Wastewater containingTotal Phosphorous @ 264 mg/L.
AE 192745 – September 21; Ostrem Chemical, 2310 – 80 Avenue; Unknown amount of Wastewater containingTotal Phosphorous @ 275 mg/L.
AE 193819 – October 3; Anvil Machine Ltd., 9539 – 56 Avenue; Unknown amount of Wastewater containing Nickel @ 11.1 mg/L.
AE 193901 – October 16; Poundmaker Transfer Station, 10810 – 186 Street; Unknown amount of Wastewater containing Cadmium @ 7.5 mg/L and Lead @ 1.09 mg/L from loads of wastewater discharged by unknown generator.
AE 193988 – October 22; Telco Battery and Supply, 5731 – 92 Street; Unknown amount of Wastewater containing Lead @ 12.4 mg/L.
AE 195239 – November 5; Dynamic Transport, 9229 – 58 Avenue; Unknown amount of Wastewater containing 0.97 mg/L of Xylene.
AE 195510 – November 10; Poundmaker Transfer Station, 10810 – 186 Street; Unknown amount of Wastewater containing Lead @ 6.6 mg/L and Lead @ 11.6 mg/L from loads of wastewater discharged by Canessco Inc. and Suck U Sump Services, respectively.
AE 194925 – November 15; Cloverbar Wastewater Transfer Station, 53317 – RR 232; 10,500 Litres of Wastewater containing Nickel @ 10.4 mg/L from loads of wastewater discharged by unconfirmed generator.
AE 194922 – November 15; Alberta Oil Tool, 9530 – 60 Avenue; Unknown amount of Wastewater containing Phosphorus @ 328 mg/L.
AE 194923 – November 15; Aurora Machine Ltd., 5630 – 92 Street; Unknown amount of Wastewater containing Flammable Liquid with a flashpoint of 53C.
AE 194946 – November 16; Ostrem Chemical Ltd., 2310 - 80 Avenue; Unknown amount of Wastewater containing Phosphorus @ 228 mg/L.
AE 194947 – November 16; Sanjel Cementers Ltd., 2424 – 91 Avenue; Unknown amount of Wastewater containing Phosphorus @ 294 mg/L.
AE 194554 – November 16; Poundmaker Transfer Station, 10810 – 186 Street; Unknown amount of Wastewater containing Nickel @ 6.23 mg/L, and Lead @ 5.41 & 9.43 mg/L from loads of wastewater discharged by unknown generator.
AE 195596 – November 22; OEM Remanufacturing, 13315 – 156 Street; Unknown amount of Wastewater containing Ethylbenzene @ 0.61 mg/L and Xylene @ 0.7 mg/L.
AE 196170 – December 13; Trimac Transportation, 15410 Yellowhead Trail; Unknown amount of Wastewater containing Toluene @ 0.56mg/L, Ethylbenzene @ 5.0 mg/L and Xylene @ 5.1 mg/L.

City of Edmonton
Asset Management and Public Works Department
Drainage Services Branch
Wastewater Treatment Section

DRAINAGE SERVICES

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
January 2007

Supervising Operators	• Vince Corkery • Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• No instances of Secondary By-pass occurred • No instances of Main Plant By-pass occurred • South weir gate out-of-service; North gate available for bypass
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Nutri-Gold activities shutdown for winter season
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• Digester 3 out of 6 remains out-of-service for cleaning and inspection purposes • High-efficiency flares in-service. Enclosure installed around south high-efficiency flare to address freeze-up issues
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements
C-WW-FER Fermentation	Out of Service	• Fermenter is out of service pending Blend Tank Process Control System revisions. System will be out of service until upgrades completed as part of the Fermenter Capital Project
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Raw influent and final effluent composite samples met Approval requirements.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Winter Mode	
C-WW-PTR Pretreatment	Normal Winter Mode	
C-WW-SEC Secondary	Normal	• 5 out of 10 in-service bioreactors operating in winter mode (cell 3 aerated); remaining 5 bioreactors operated in summer mode (cell 3 not aerated) • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	February 27, 2007

City of Edmonton
Asset Management and Public Works Department
Drainage Services Branch
Wastewater Treatment Section

DRAINAGE SERVICES

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
February 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• No instances of Secondary By-pass occurred • No instances of Main Plant By-pass occurred • South weir gate out-of-service; North gate available for bypass
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Nutri-Gold activities shutdown for winter season
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• Digester 3 filled with final effluent and heated • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements
C-WW-FER Fermentation	Out of Service	• Fermenter is out of service pending Blend Tank Process Control System revisions. System will be out of service until upgrades completed as part of the Fermenter Capital Project
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Raw influent and final effluent composite samples met Approval requirements.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Winter Mode	
C-WW-PTR Pretreatment	Normal Winter Mode	
C-WW-SEC Secondary	Normal	• 5 out of 10 in-service bioreactors operating in winter mode (cell 3 aerated); remaining 5 bioreactors operated in summer mode (cell 3 not aerated) • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	March 28, 2007

City of Edmonton
Asset Management and Public Works Department
Drainage Services Branch
Wastewater Treatment Section

DRAINAGE SERVICES

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
March 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• 18 instances of Secondary By-pass occurred (>2 hours in duration); there was one instance (March 25th) where a grab sample for E.coli was not collected by Operations staff for a >2 hour event. This was reported to Alberta Environment as an Administrative Notification. • No instances of Main Plant By-pass occurred
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Nutri-Gold activities shutdown for winter season
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• Digester 3 back in service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements
C-WW-FER Fermentation	Out of Service	• Fermenter is out of service pending Blend Tank Process Control System revisions. System will be out of service until upgrades completed as part of the Fermenter Capital Project
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Raw influent and final effluent composite samples met Approval requirements.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Winter Mode	
C-WW-PTR Pretreatment	Normal Winter Mode	
C-WW-SEC Secondary	Normal	• 11 bioreactors in service; 4 operating in winter mode. • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	April 26, 2007

City of Edmonton
Asset Management and Public Works Department
Drainage Services Branch
Wastewater Treatment Section

DRAINAGE SERVICES

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
April 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• 10 instances of Secondary By-pass occurred greater than 2 hours in duration. • No instances of Main Plant By-pass occurred
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Nutri-Gold activities shutdown for winter season
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements • Unplanned power interruption to UV system on April 18th – Reference no. 186034 • Planned power interruption to UV system on April 19th – Reference no. 186049
C-WW-FER Fermentation	Out of Service	• Fermenter is out of service pending Blend Tank Process Control System revisions. System will be out of service until upgrades completed as part of the Fermenter Capital Project
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Raw influent and final effluent composite samples met Approval requirements.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	
C-WW-PTR Pretreatment	Normal Summer Mode	
C-WW-SEC Secondary	Normal	• 10 bioreactors in service; 3 operating in winter mode. • Clarifier 8 – out-of-service (13 days) due to broken chain • Clarifier 10 – out-of-service (9 days) due to preventative maintenance on flight/chain system • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	May 17, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
AND PUBLIC WORKS

DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
EDMONTON, AB
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FAX: (780) 496-4694

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
May 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• 9 instances of Secondary By-pass occurred greater than 2 hours in duration. • A wet-weather secondary bypass release on May 18th through new EPT outfall was reported (Ref#187002). • A dry-weather secondary bypass release on May 29th was through new EPT outfall was reported (Ref#187339). • 1 instance of Main plant bypass (May 3rd)
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Preparation of Clover Bar Lagoon Cell 3W commenced in late May to prepare for biosolids to farmland application program.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements
C-WW-FER Fermentation	Out of Service	• Fermenter is out of service pending Blend Tank Process Control System revisions. System will be out of service until upgrades completed as part of the Fermenter Capital Project
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Raw influent and final effluent composite samples met Approval requirements. • Bypass samples for May 4th and 5th overflowed due to intensity and duration of event. Sample data estimated.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	• Primary 6 – out-of-service (7 days) due to maintenance activities. • Primary 7 – out-of-service (11 days) due to maintenance activities.
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 3 – out-of-service (17 days) • Screen 5 – out-of-service (31 days) • Grit tank 3 – out-of-service (17 days) due to cleaning of Grit tank 4 and 5 • Grit tanks 4 and 5 – out-of-service (31 days) due to cleaning activities
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode as of May 12th. • Bioreactor/Clarifier 9 – out-of-service (11 days) due to preventative maintenance on flight/chain system • Bioreactor/Clarifier 10 – out-of-service (20 days) due to preventative maintenance on flight/chain system • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	June 28, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
AND PUBLIC WORKS

DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
EDMONTON, AB
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FAX: (780) 496-4694

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
June 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• 9 instances of Secondary By-pass occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Biosolids application to farmland commenced on June 4th.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements • Temporary UV shutdown on June 5th and 6th for scheduled maintenance activities by Epcor on Hardisty main feeder to GBWWTP. Notification given to D.Curran on May 31, 2007.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• June 14th and 15th - Raw sampler refrigerator failure; sample temperatures greater than 10°C. • June 19th - By-pass samplers failed to collect sufficient sample for analyses (<1 L of sample); results reported as estimates. • June 21st – By-pass samplers failed to collect sample due to blown fuse (AE ref#188186).
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 3 – out-of-service (30 days) • Screen 5 – out-of-service (30 days) • Grit tank 3 – out-of-service (30 days) due to cleaning of Grit tank 4 and 5 • Grit tanks 4 and 5 – out-of-service (30 days) due to cleaning activities
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 1 – out-of-service (20 days) due to demand maintenance and preventative maintenance on flight/chain system • Bioreactor/Clarifier 9 – out-of-service (10 days) due to preventative maintenance on flight/chain system • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	July 25, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
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DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
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Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
July 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• Six (6) Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Biosolids application to farmland commenced on June 4th. Target of 10,000 dry tones to be removed from Clover Bar Lagoons.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• July 7 and 8thth - Bypass samplers failed to collect sufficient sample for analyses (~0.5 L of sample); results reported as estimates. No sample collected on July 9th as part of July 8th Secondary Bypass event (AE ref#188900). • July 18th - Bypass samplers failed to collect sufficient sample for analyses; results reported as estimates (AE ref#190301).
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 3 – out-of-service (20 days) • Screen 4 – out-of-service (3 days) • Screen 5 – out-of-service (31 days) • Screen 6 – out-of-service (8 days) • Grit tank 3 – out-of-service (20 days) due to cleaning of Grit tank 4 and 5 • Grit tanks 4 and 5 – out-of-service (31 days) due to cleaning activities
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 1 – out-of-service (31 days) due to demand maintenance and preventative maintenance on flight/chain system • Bioreactor/Clarifier 6 – out-of-service (3 days) due to preventative maintenance on flight/chain system • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	August 24, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
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DRAINAGE SERVICES
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Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
August 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• Four (4) Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Shutdown	• Biosolids application to farmland commenced on June 4th. Target of 10,000 dry tones to be removed from Clover Bar Lagoons. Target end date is October 5th.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	• Secondary Bypass: August 3, 4, 9 and 10 – grab samples were collected by Operations and composited by lab.
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 3 – out-of-service (14 days) • Screen 4 – out-of-service (4 days) • Screen 5 – out-of-service (16 days) • Screen 6 – out-of-service (15 days) • Screen 7 – out-of-service (2 days) • Screen 8 – out-of-service (29 days) • Grit tank 3 – out-of-service (14 days) due to cleaning of Grit tank 4 and 5 • Grit tanks 4 and 5 – out-of-service (31 days) due to cleaning activities • Grit tank 6 and 7 – out-of-service (1 day)
C-WW-SEC Secondary	Normal Summer Mode	• 9 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 1 – out-of-service (10 days) due to demand maintenance and preventative maintenance on flight/chain system • Bioreactor/Clarifier 4 – out-of-service (15 days) due to demand maintenance on RAS system • Bioreactor/Clarifier 6 – out-of-service (31 days) due to preventative maintenance on flight/chain system • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	September 20, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
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DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
EDMONTON, AB
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Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
September 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• Three (3) Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Normal	• Biosolids application to farmland ended on October 12th. Target of 10,000 dry tones was met.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares in-service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	

Functional Location & Description	Operating Condition	Comments
C-WW-LAB-(Process Samplers) Laboratory	Normal	
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 5 – out-of-service (2 days) • Screen 8 – out-of-service (30 days) • Grit tank 4 - out-of-service (6 days) due to cleaning activities • Grit tank 5 – out of service (26 days) due to cleaning activities • Grit tank 6 – out-of-service (27 days) due to mechanical failure of auger system
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 4 – out-of-service (10 days) due to maintenance on RAS system • Bioreactor/Clarifier 6 – out-of-service (15 days) due to preventative maintenance on flight/chain system • Bioreactor/Clarifier 8 – out-of-service (9 days) • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	October 25, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
AND PUBLIC WORKS

DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
EDMONTON, AB
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Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
October 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• No Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Normal	• Biosolids application to farmland ended on October 12th. Target of 10,000 dry tones was met.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares out-of-service due to construction activities to mitigate winter operation issues; stand-by flares in service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	
C-WW-LAB-(Process Samplers) Laboratory	Normal	
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	

Functional Location & Description	Operating Condition	Comments
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 1 – out-of-service (3 days) • Screen 2 – out-of-service (16 days) • Screen 3 – out-of-service (31 days) • Screen 8 – out-of-service (31 days) • Grit tank 1 – out-of-service (3 days) • Grit tank 2 – out-of-service (16 days) • Grit tank 3 – out-of-service (31 days) • Grit tank 5 - out-of-service (30 days) • Grit tank 6 – out-of-service (31 days) due to mechanical failure of auger system
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 1 – out-of-service (2 days) • Bioreactor/Clarifier 8 – out-of-service (12 days) • Bioreactor/Clarifier 11 – out-of-service (18 days) due to flight/chain adjustment • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	November 15, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
AND PUBLIC WORKS

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Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
November 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• No Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Normal	• Biosolids application to farmland ended on October 12th. Target of 10,000 dry tones was met.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares out-of-service due to construction activities to mitigate winter operation issues; stand-by flares in service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	
C-WW-LAB-(Process Samplers) Laboratory	Normal	
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	

Functional Location & Description	Operating Condition	Comments
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 1 – out-of-service (7 days) • Screen 2 – out-of-service (7 days) • Screen 3 – out-of-service (14 days) • Screen 7 – out-of-service (20 days) • Screen 8 – out-of-service (9 days) • Grit tank 1 – out-of-service (7 days) • Grit tank 2 – out-of-service (7 days) • Grit tank 3 – out-of-service (14 days) • Grit tank 4 – out-of-service (2 days) • Grit tank 5 – out-of-service (30 days) • Grit tank 6 – out-of-service (25 days) • Grit tank 7 – out-of-service (1 days)
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 3 – out-of-service (14 days) • Bioreactor/Clarifier 5 – out-of-service (7 days) • Bioreactor/Clarifier 11 – out-of-service (10 days) due to flight/chain adjustment • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise	December 17, 2007

THE CITY OF Edmonton

ASSET MANAGEMENT
AND PUBLIC WORKS

DRAINAGE SERVICES
WASTEWATER TREATMENT SECTION
10977 – 50 STREET
EDMONTON, AB
T6A 2E9
FAX: (780) 496-4694

Approval 639-02-00
Wastewater Treatment Monthly Operational Summary
Prepared for Alberta Environment
December 2007

Supervising Operators	• Geoff Heise • Ken Grossell
Level IV Operators	• Ray Gale • Lonnie Waterhouse

Functional Location & Description	Operating Condition	Comments
C-WW-BLD Buildings	Normal	
C-WW-BYP Bypass	Normal	• No Secondary Bypass Events occurred greater than 2 hours in duration.
C-WW-CBF Clover Bar Biosolids Recycling Facility	Normal	• Biosolids application to farmland ended on October 12th. Target of 10,000 dry tones was met.
C-WW-CEX Centre of Excellence	Normal	
C-WW-DIG Digesters	Normal	• All digesters in-service • High-efficiency flares out-of-service due to construction activities to mitigate winter operation issues; stand-by flares in service
C-WW-DIS Disinfection	Normal	• Disinfection process (as measured by Fecal Coliforms and E.coli) performed within Approval requirements.
C-WW-FER Fermentation	Out of Service	• Blend Tanks and Fermenter will be out-of-service until upgrades are completed as part of the Fermenter Capital Project (Fall 2008)
C-WW-LAB Laboratory	Normal	
C-WW-LAB-(Process Samplers) Laboratory	Normal	
C-WW-OUT Outfall	Normal	
C-WW-PCS Process Control System	Normal	
C-WW-PRI Primary	Normal Summer Mode	

Functional Location & Description	Operating Condition	Comments
C-WW-PTR Pretreatment	Normal Summer Mode	• Screen 7 – out-of-service (15 days) • Grit tank 4 – out-of-service (31 days) • Grit tank 5 – out-of-service (31 days)
C-WW-SEC Secondary	Normal Summer Mode	• 10 bioreactors in service; all operating in summer mode • Bioreactor/Clarifier 3 – out-of-service (31 days) • Total Suspended Solids, Biochemical Oxygen Demand and Nitrogen/Phosphorus Removal Processes (Nitrification and Denitrification) performed within Approval requirements
C-WW-SSP Sludge /Supernatant Piping	Normal	• Supernatant Piping Systems and Decant Systems have been in service. Available system in full operation to return as much supernatant as possible.
C-WW-UTL Utilities	Normal	
C-WW-WAS Waste Activated Sludge Thickening Facility	Normal	

Prepared by	Date
Geoff Heise General Supervisor, Process Operations	January 24, 2008

Table 3: Goldbar Wastewater Treatment Plant Chemical Use by Plant Operations

Gold Bar Wastewater Treatment Plant Chemical Use by Plant Operations

Chemical Name	Alum	Caustic Soda (Bagged)	Caustic Soda (Liquid)		Citric Acid	Hydrogen Peroxide	Liquid Nitrogen	Polymer	Sodium Bisulfite	Sodium Hypochlorite		Softner Salt
Chemical Formula	$Al_2(SO4)_3 \cdot 14H_2O$	NaOH	NaOH		$C_6H_8O_7$	H_2O_2	N_2	Zetag 7689 / 8180	$NaHSO_3$	NaOCl		NaCl
Chemical Supplier	ClearTech Industries Inc.	ClearTech Industries Inc.	ClearTech Industries Inc.		ClearTech Industries Inc.	US Peroxide LLC	Air Liquide Canada Inc.	CIBA Specialty Chemicals	ClearTech Industries Inc.	ClearTech Industries Inc.	ClearTech Industries Inc.	Various-City Stores Inventory
Purpose Used/ Dosage point	Phosphate trimming in secondary effluent / Mixed liquor channel to secondary clarifier	Chemical cleaning of sludge lines	Odour Control - pH adjustment / Odour Control Facilties	Membrane cleaning - pH adjustment / Membrane tanks	Chemical cleaning of ultrafiltration membranes - reverses inorganic fouling / Membrane tanks	Odour Control - oxidizes H_2S / Plant Influent Channels 1 and 2	Purging of biogas system / Digester Headspace and biogas piping	Flocculating agent for Waste Activated Sludge (WAS) / Dissolved Air Flotation Thickening Facility	Chlorine neutralizing agent for ultrafiltration membrane cleaning / Membrane tanks	Odour Control - oxidizes of H_2S / Odour Control Facilities	A. Chemical cleaning of ultrafiltration membranes - reverses biofouling of membranes / Membrane tanks B. Maintain chlorine residual in product water distribution to Strathcona County / Contact tanks	Water Softening for Odour Control Chemical Solution / Odour Control Facilities
Concentration Used	48.5%	50% NaOH - diluted with H_2O and heated	50%		50%	.50% by Weight	100%	0.25% to 0.35% (introduced as solution)	38 to 44%	12%		Dry Weight
Feed Rate	Used when effluent phosphate concentration >0.5 mg/L P	Applied Sparingly as required	Intermittent	Intermittent		Continuous Feed	Continuous Feed	Continuous Feed		Intermittent	A. Intermittent B. Continuous	Intermittent
Minimum	8 mg/L					500 kg/day	N/A			Function of Sulphide Loading	B. 0.3 mg/L	Function of Sulphide Loading
Maximum	100 mg/L					2000 kg/day	As controlled by feed equipment			Controlled by PID loop and PLC controlled		Controlled by PID loop and PLC controlled
Months	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**	**Total Used**
	litres	**kg**	**litres**	**litres**	**litres**	**kg**	**sm3**	**kg**	**litres**	**litres**	**litres**	**kg**
January	27,253	91.0	2,098		0	15,851	0	2,597	0	15,044	8,770	820
February	62,530	0.0	1,749		0	6,342	0	1,344	0	8,045	3,051	680
March	192,311	0.0	1,284		0	10,893	0	1,360	0	9,378	4,672	640
April	159,684	0.0	1,024		0	14,051	0	2,581	0	16,721	5,471	820
May	143,673	0.0	962		0	2,443	0	2,359	0	396	7,231	557
June	143,876	0.0	592		7	0	0	2,517	0	7,995	3,522	563
July	175,734	0.0	2,368		13	0	0	3,276	188	9,306	7,480	2,048
August	250,745	0.0	2,812		20	0	0	2,525	0	34,482	7,618	586
September	148,505	0.0	370		112	0		1,780	0	9,980	10,808	810
October	155,748	0.0	888		42	0	625	2,263	0	11,853	6,035	1,193
November	154,660	240.0	814		0	1,432	0	2,260	1	7,285	6,921	360
December	91,319	0.0	370		0	0	208	2,263	2	8,660	10,226	1,013
2007 - Annual Total	**1,706,038**	**331**	**15,331**	**0**	**194**	**51,012**	**833**	**27,125**	**191**	**139,125**	**79,805**	**10,090**

Table 4: 2007 Effluent Toxicity

2007 EFFLUENT TOXICITY

(Samples collected on July 12, October 11/25 and December 13, 2007)

Type of Test	Acute	Chronic
Microtox	All non-toxic	-
Daphnia magna	All non-toxic; 0% mortality. LC 50 > 100%	-
Rainbow Trout	All non-toxic. LC 50 > 100%	-
Ceriodaphnia dubia	-	Survival: All LC 50 >100% Growth: All IC 50 >100%
Selenastrum spp *(P. subcapitata)*	-	Growth: All IC 50 >100% All IC 50 > 100%
Fathead minnows	-	Survival: LC 50 >100% Growth: All IC 50 >100%
n	3	3

n – number of samples analyzed during the year.

Table 5: 2007 Recycled Water Quality

GOLD BAR WASTEWATER TREATEMENT PLANT
2007 RECYCLED WATER QUALITY

Month		FLOW (ML)	Total Alkalinity (mg CaCO3/L)	Ammonia (mg N/L)	Biochemical Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg Cl-/L)	Conductivity (mS/cm)	Fecal Coliforms (CFU/100mL)	pH (pH)	Total Coliforms (CFU/100mL)	Total Suspended Solids (mg/L)	Dissolved Organic Carbon (mg/L)	Total Phosphorus (mg P/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Silt Density Index (% Fouling/min)
January	Avg	2.2	197	4.78	< 2.0	25	85	957	<1	7.86	5	1.20	8.20	0.549	566	0.208	1.6
	Max	2.9	247	18.7	< 2.0	34	109	1090	<1	8.34	5	1.20	9.10	4.31	630	0.659	2.2
	Min	1.6	158	0.317	< 2.0	16	71	859	<1	7.36	5	<0.700	7.64	0.100	514	0.101	0.3
February	Avg	2.6	173	3.57	< 2.0	30	88	908	<1	7.89	2	0.700	8.70	1.62	529	0.292	1.7
	Max	3.0	194	8.74	2.1	37	96	943	<1	8.85	5	0.700	9.29	2.27	557	0.605	3.7
	Min	1.6	142	0.034	< 2.0	19	67	833	<1	7.17	1	< 0.700	7.77	0.167	473	0.128	0.7
March	Avg	2.6	188	7.16	< 2.0	30	116	1002	<1	8.00	2	0.594	8.44	0.714	559	0.392	2.2
	Max	3.2	239	20.2	2.1	37	215	1200	<1	8.24	2	2.60	9.41	1.93	666	1.06	5.6
	Min	1.2	136	0.026	< 2.0	24	75	892	<1	7.54	2	< 0.200	7.86	0.061	475	0.164	0.5
April	Avg	2.1	173	3.34	< 2.0	25	99	1125	<1	8.00	< 1	0.341	8.26	0.592	732	0.256	2.9
	Max	3.3	203	16.5	< 2.0	34	145	1320	<1	8.12	< 1	0.800	8.94	2.88	855	0.941	5.6
	Min	0.6	146	<0.005	< 2.0	19	81	961	<1	7.63	< 1	< 0.200	7.18	0.063	591	0.145	1.7
May	Avg	1.8	176	0.060	< 2.0	26	90	1222	<1	8.03	1	0.426	9.33	0.965	815	0.517	5.2
	Max	2.6	194	0.284	2.6	29	105	1540	<1	8.23	1	0.800	9.64	1.98	1100	1.06	11.9
	Min	0.0	160	<0.005	< 2.0	25	78	916	<1	7.79	1	< 0.200	9.06	0.314	583	0.171	2.4
June	Avg	2.3	136	0.329	< 2.0	24	76	1000	<1	8.02	3	0.300	8.41	0.748	641	0.411	3.5
	Max	2.6	156	2.00	< 2.0	32	90	1090	<1	8.14	4	0.800	9.11	1.86	730	1.93	10.0
	Min	1.3	112	0.011	< 2.0	19	64	854	<1	7.84	1	< 0.200	7.71	0.118	317	0.142	0.9
July	Avg	2.3	220	0.533	< 2.0	26	70	927	<1	7.96	< 1	0.433	7.58	0.653	581	0.345	3.5
	Max	3.0	420	4.91	< 2.0	31	113	1060	<1	8.21	< 1	1.00	8.45	3.75	755	1.48	7.5
	Min	1.3	151	<0.005	< 2.0	21	59	841	<1	7.35	< 1	< 0.200	6.58	0.094	338	0.150	1.3
August	Avg	2.5	138	0.076	< 2.0	20	69	866	9	8.00	111	0.494	6.98	0.370	547	0.228	4.1
	Max	3.4	160	0.350	< 2.0	22	79	903	9	8.17	220	2.60	7.10	0.915	585	0.334	7.8
	Min	1.4	111	0.028	< 2.0	18	53	747	9	7.64	1	< 0.200	6.72	0.103	472	0.156	1.5
September	Avg	2.7	124	0.092	5.4	19	68	838	1	8.00	4	0.342	6.50	0.549	491	0.411	5.8
	Max	3.2	155	0.821	24.0	21	74	880	1	8.24	11	0.800	7.97	1.46	564	1.35	15.4
	Min	2.0	108	0.018	< 2.0	16	57	753	1	7.24	1	< 0.200	3.02	0.117	316	0.146	1.2
October	Avg	3.2	139	0.056	< 2.0	23	67	816	3	8.01	15	0.400	6.74	0.204	502	0.341	4.5
	Max	3.7	157	0.253	< 2.0	30	81	865	4	8.21	72	0.800	7.44	1.13	624	1.70	19.8
	Min	2.8	125	<0.005	< 2.0	20	60	778	1	7.10	1	< 0.200	6.19	0.081	353	0.158	2.2
November	Avg	2.9	131	0.341	< 2.0	20	72	833	3	7.96	6	0.325	7.13	0.124	474	0.275	4.1
	Max	3.6	144	1.80	< 2.0	28	83	881	7	8.18	17	0.600	8.67	0.417	601	1.19	13.7
	Min	1.1	121	0.032	< 2.0	12	35	776	1	7.48	1	< 0.200	6.19	0.058	307	0.146	1.3
December	Avg	3.3	138	1.23	< 2.0	23	102	937	3	7.96	20	0.429	7.50	0.269	530	0.346	7.2
	Max	3.6	141	5.49	< 2.0	25	162	1060	10	8.09	128	0.600	10.4	0.785	635	2.75	18.8
	Min	3.0	131	0.020	< 2.0	21	75	859	1	7.40	1	< 0.200	6.78	0.071	353	0.159	2.7
Annual Summary	Avg	25	163	1.80	< 2.0	24	83	950	2	7.97	15	0.420	7.97	0.599	576	0.332	3.9
	Max	36.7	420	20.2	24.0	37	215	1540	10	8.85	220	2.60	10.4	4.31	1100	2.75	19.8
	Min	0.0	108	<0.005	< 2.0	12	35	747	<1	7.10	1	< 0.200	3.02	0.058	307	0.101	0.3

Notes:

1) Average calculated as a weighted average with the results at detection as included in the average as one-half the detection limits
2) NTU – Nephelometric turbidity units
3) CFU/100mL – Colony forming units per 100 mL of sample
4) ML – Megaliters (1,000,000 liters)

Table 6: 2007 Summary of Goldbar Wastewater Laboratory Proficiency Testing

2007 SUMMARY OF GOLD BAR WASTEWATER LABORATORY PROFICIENCY TESTING

	BOD/ CBOD	TSS	NH3-N	TP	E.coli
Mean Analyte Recovery (%)	116.2/ 110.9	101.5	98.1	101.1	78.4
z-score	1.273/ 0.925	0.526	0.912	0.482	1.473
n	18/10	18	18	18	11
# of Rejects	0	0	0	0	0

n - number of proficiency testing samples (CAEAL, ARC and CMPT) analyzed during the year.

Attachment 3: Collection System Monitoring and Assessment Details

The Collection System Monitoring and Assessment Details are submitted as required under section 6.1.4 of the Approval to Operate No. 639-02-00.

The monthly volumes discharged to the North Saskatchewan River (NSR) are indicated on the attached plot (Attachment 1) for the following locations:

- 30 Avenue Storm Outfall
- Groat Road Storm Outfall
- Quesnell Storm Outfall
- Kennedale Storm Outfall
- Rat Creek CSO
- Highlands CSO
- Capilano CSO

The total volumes from the storm and combined sewer system discharged to the NSR are shown on Attachment 2. A tabular summary of the flow volumes and estimations of total monthly volumes discharged is also attached (Attachment 3). Of the total Storm and Combined volumes discharged to the NSR, the storm and combined system contribute 98% and 2% of the total volume, respectively.

For the storm sewer system, the total storm flow volume discharged to the NSR in 2007 was 66.9 million m^3 (12% more than 2006 total storm volume). For the 30th Avenue, Groat Road, Quesnell, and Kennedale storm outfalls, flow volumes in 2007 were 12.8, 3.9, 15.1 and 10.8 million m^3, respectively.

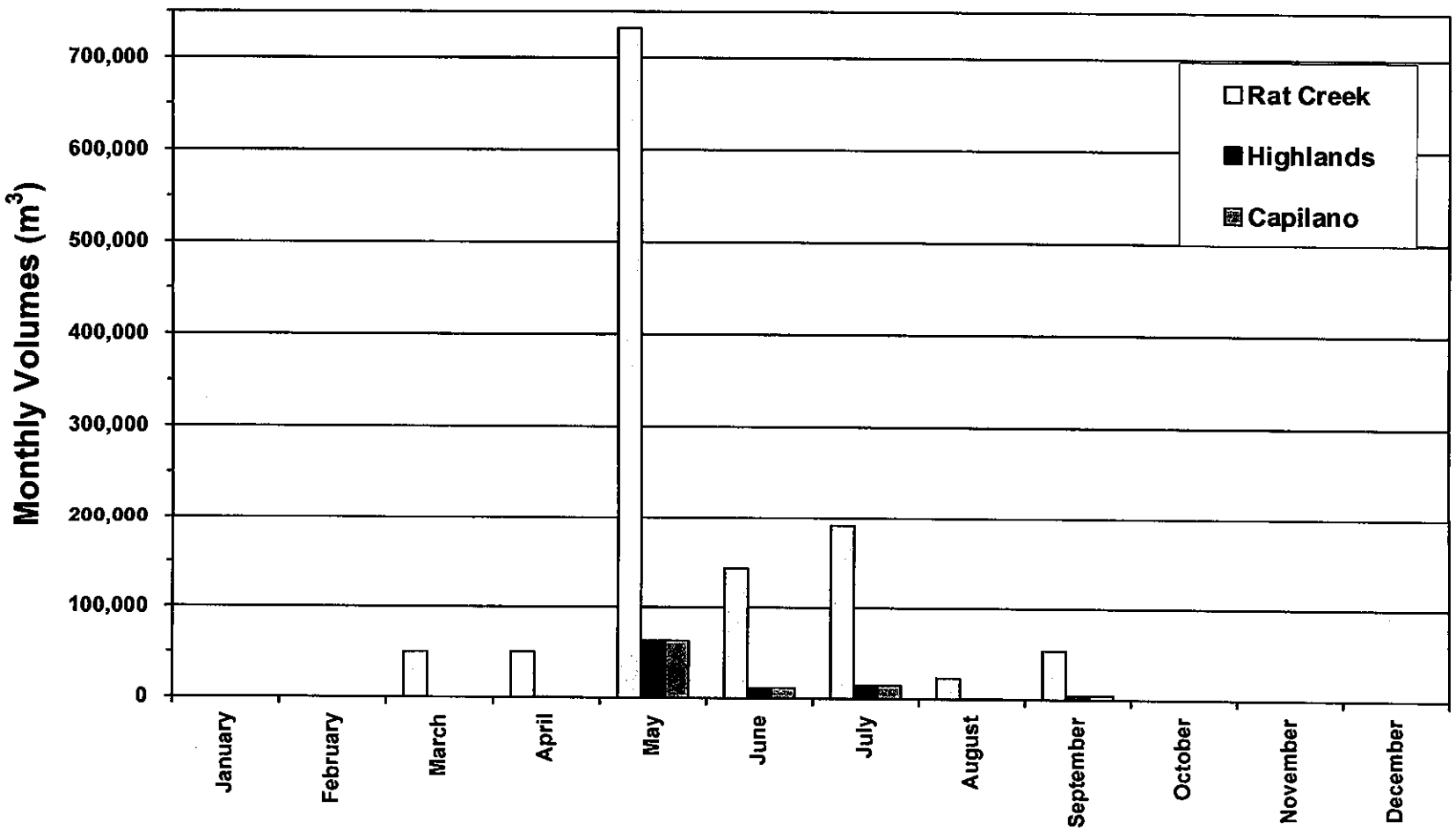
For the combined sewer system, the total CSO flow volume discharged to the NSR in 2007 was 1.5 million m^3 (33% less then 2006 total CSO volume). For the Rat Creek and Highlands and Capilano CSOs, flow volumes in 2007 were 1.24, and 0.09 million m^3, respectively. The Capilano monitoring and sampling station was under construction throughout 2007 and flow discharged from this site is assumed to be equal to Highlands flow, based on previous years' records.

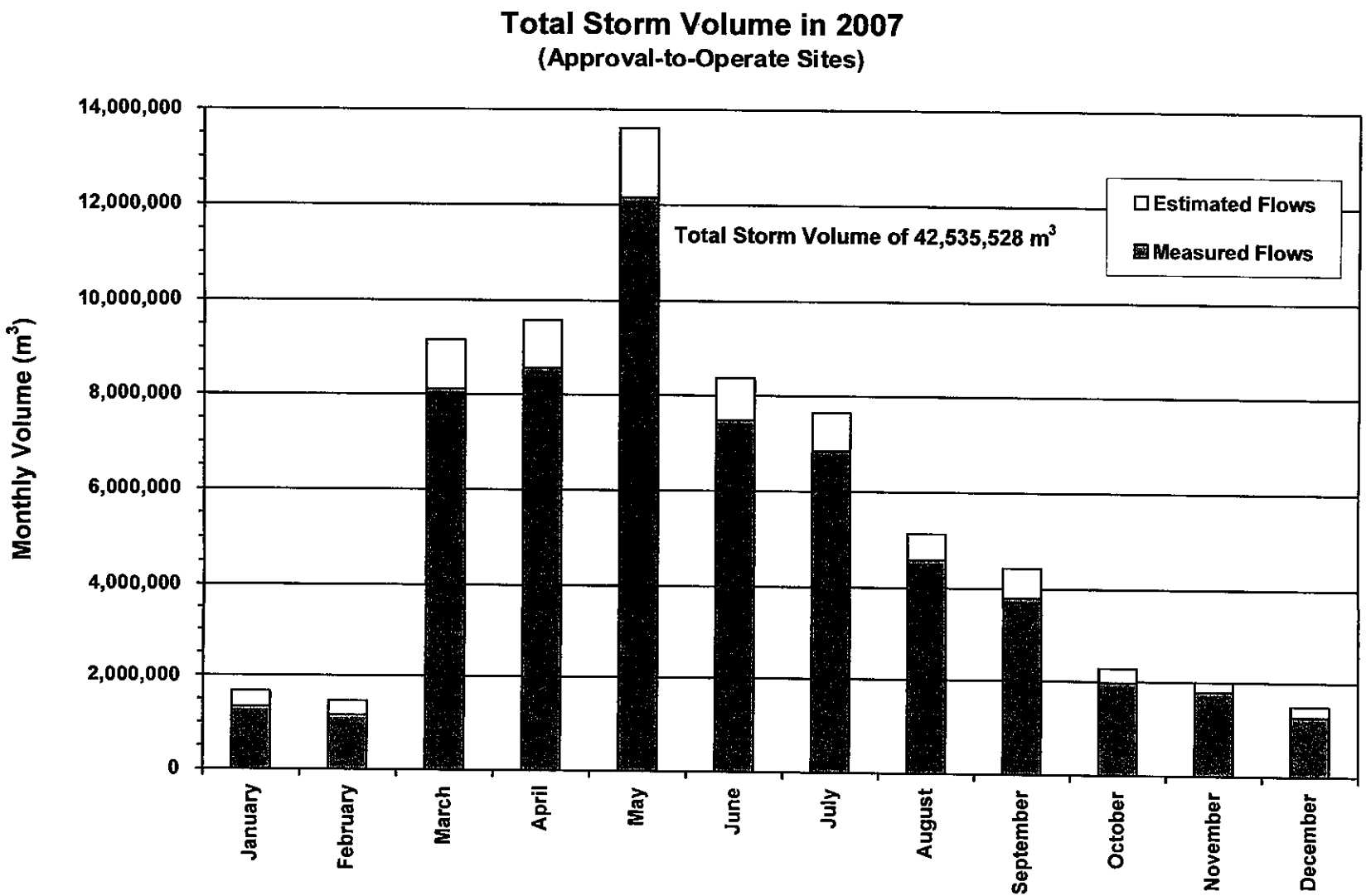
Water quality samples were obtained for almost all of the significant discharge events during 2007. As well, a total of 82 dry-weather (baseflow) water quality samples were obtained from the storm sewer system. Attachment 4 provides a tabular summary of calculated flow-weighted mean monthly and annual concentrations for different constituents and the number of events sampled for water quality analysis.
In accordance with our Approval to Operate requirements, total monthly loadings to the North Saskatchewan River have been calculated. Summaries of measured loads and estimated total loads for the entire City of Edmonton's storm and combined sewer system are included (Attachment 5). The reported loads were calculated using daily constituent concentrations, including storm sewer baseflow data, and the measured or estimated flow volumes. With regard

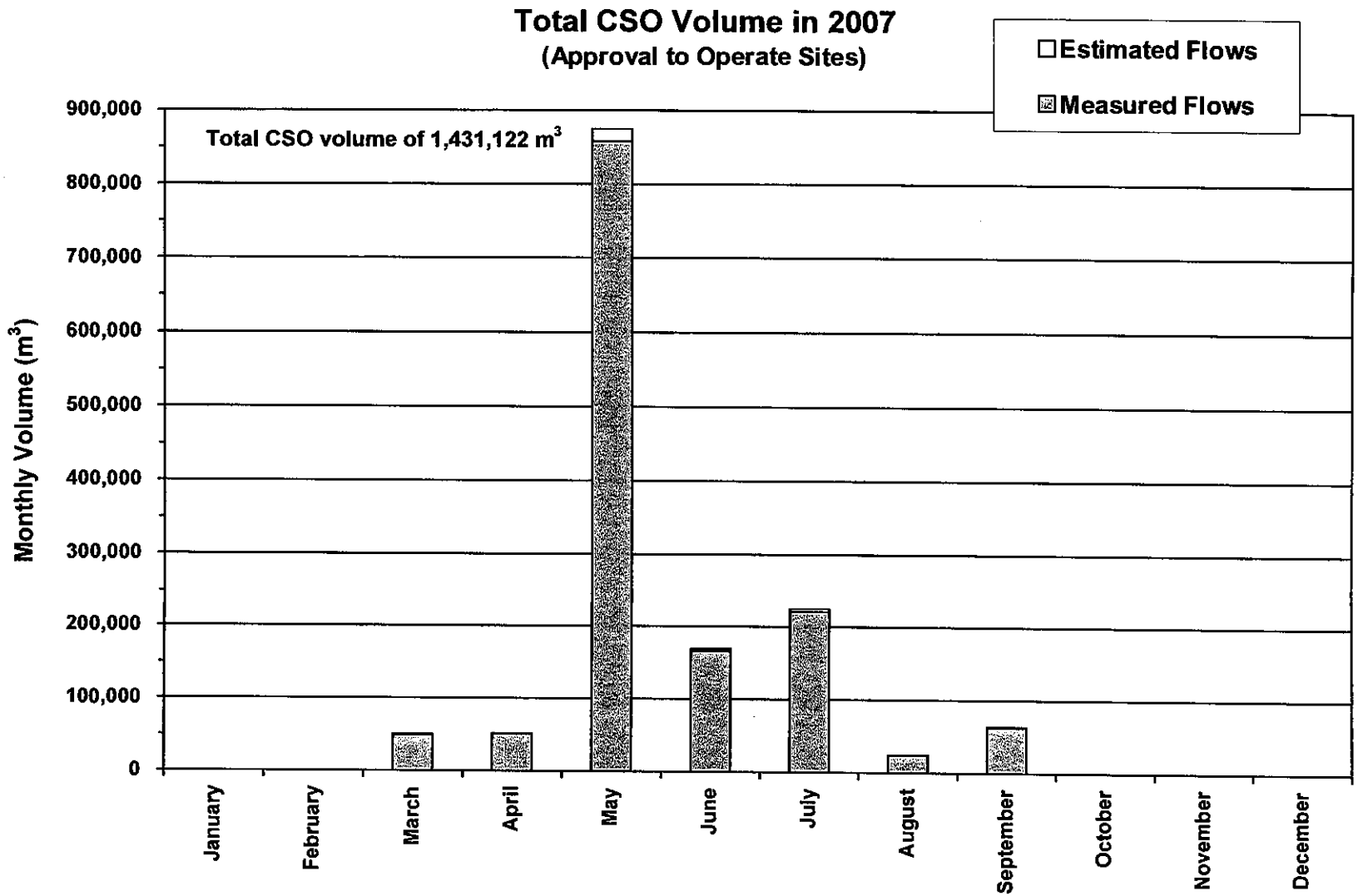
to storm and CSO total loadings to the NSR, the storm outfalls contributed 10,107 tonnes of total suspended solids (TSS), 773 tonnes of biochemical oxygen demand (BOD), 38 tonnes of total phosphorous (TP), 125 tonnes of nitrite and nitrate (NO_2 + NO_3), 48 tonnes of ammonia (NH_3), and 169 tonnes of total Kjeldahl nitrogen (TKN).

Also include in this submission is the Annual Interconnection Report

Total (Measured + Estimated) CSO Volume in 2007




Total Storm Volume in 2007
(Approval-to-Operate Sites)
Monthly Volume (m3)
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Storm Volume of 42,535,528 m3
Estimated Flows
Measured Flows
January
February
March
April
May
June
July
August
September
October
November
December


Total CSO Volume in 2007
(Approval to Operate Sites)
Estimated Flows
Measured Flows
Total CSO volume of 1,431,122 m3
Monthly Volume (m3)
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
January
February
March
April
May
June
July
August
September
October
November
December

2007 Annual Discharge Volumes

(in Cubic Meters)

Site / Month	Storm Sewers				Combined Sewers Overflows		
	30th Avenue	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano
January	666,875	5,193	448,073	199,608	0	0	0
February	622,085	19,982	309,605	195,624	0	0	0
March	1,666,389	1,099,128	1,731,493	2,129,987	49,456	0	0
April	1,253,331	488,412	1,347,930	1,420,132	50,257	473	473
May	1,461,296	665,807	2,185,744	1,941,479	732,185	62,752	62,752
June	1,506,066	594,434	2,045,128	1,701,318	143,089	11,405	11,405
July	1,437,283	486,231	2,028,214	1,387,984	190,981	14,530	14,530
August	1,136,923	314,938	1,573,253	711,773	22,956	570	570
September	927,972	242,954	1,295,300	565,842	53,514	4,631	4,631
October	742,417	14,600	861,120	186,385	0	0	0
November	679,723	14,673	765,102	192,557	0	0	0
December	653,803	3,019	486,035	122,364	0	0	0
Total	**12,754,163**	**3,949,371**	**15,076,997**	**10,755,053**	**1,242,438**	**94,361**	**94,361**

Note: For Approval-to-Operate sites, estimated flows were added to measured flows to give the reported flow volume totals.

Site / Month	[1]Measured Flows		[2]Estimated Flows		Total Flow	
	Storm	CSO	Storm	CSO	Storm	CSO
January	1,322,463	0	349,656	0	1,672,119	0
February	1,147,985	0	310,361	0	1,458,346	0
March	8,108,586	49,451	1,059,270	989	9,167,856	50,440
April	8,563,319	51,200	1,027,598	1,024	9,590,917	52,224
May	12,152,410	857,685	1,458,289	17,154	13,610,699	874,839
June	7,479,023	165,889	897,483	3,318	8,376,506	169,207
July	6,834,382	220,032	820,126	4,401	7,654,508	224,433
August	4,587,302	24,093	550,476	482	5,137,778	24,575
September	3,803,683	62,772	631,162	1,255	4,434,845	64,027
October	1,972,241	0	310,253	0	2,282,494	0
November	1,784,450	0	214,134	0	1,998,584	0
December	1,261,515	0	230,034	0	1,491,549	0
Total	**59,017,359**	**1,431,122**	**7,858,842**	**28,622**	**66,876,201**	**1,459,744**

Note: [1]Measured Storm flows are actual flow volumes measured from Storm outfalls: 30th Ave, Quesnell, Groat Road, Kennedale, Mill Creek and Belgravia .

[1]Measured CSO flows are actual flow volumes measured from CSOs: Rat Creek, Capilano and Highlands.

[2]Estimated flow volumes include estimates from monitored sites when measurements not available in addition to other remaining sites.

Site / Month	[1]Approval-to-Operate Sites		[2]Remaining Sites		Total Flow	
	Storm	CSO	Storm	CSO	Storm	CSO
January	1,319,749	0	352,370	0	1,672,119	0
February	1,147,296	0	311,050	0	1,458,346	0
March	6,626,997	49,451	2,540,859	989	9,167,856	50,440
April	4,509,805	51,200	5,081,112	1,024	9,590,917	52,224
May	6,254,270	857,685	7,356,429	17,154	13,610,699	874,839
June	5,846,946	165,889	2,529,560	3,318	8,376,506	169,207
July	5,339,712	220,032	2,314,796	4,401	7,654,508	224,433
August	3,736,887	24,093	1,400,891	482	5,137,778	24,575
September	3,032,068	62,772	1,402,777	1,255	4,434,845	64,027
October	1,804,522	0	477,972	0	2,282,494	0
November	1,652,055	0	346,529	0	1,998,584	0
December	1,265,221	0	226,328	0	1,491,549	0
Total	**42,535,528**	**1,431,122**	**24,340,673**	**28,622**	**66,876,201**	**1,459,744**

Note: [1]Total of measured and estimated flows for Approval-to-Operate flow sites, including:

- for Storm outfalls: 30th Ave, Quesnell, Groat Road and Kennedale Storm outfalls
- for CSOs: Rat Creek, Capilano, and Highlands CSOs.

[2]Estimated flows for other sites not monitored.

Water quality monitoring sites include: 30th Ave, Quesnell, and Groat Road Storm outfalls; and Rat Creek and Capilano CSOs.

Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2007

Total Suspended Solids (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Avenue	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano	Storm	CSO
January	6	23	4	66	0	0	0	7	0
February	6	2	7	380	0	0	0	8	0
March	238	403	232	178	401	0	0	107	18
April	111	439	135	96	397	396	0	51	11
May	113	282	137	87	341	350	195	52	11
June	207	361	121	240	423	385	385	79	13
July	93	160	319	73	339	333	333	56	8
August	23	249	452	84	169	142	0	36	5
September	93	248	117	117	392	0	0	36	4
October	152	14	8	50	0	0	0	9	0
November	23	22	17	44	0	0	0	10	0
December	9	102	7	10	0	0	0	9	4
Mean Annual FWC =	**110**	**323**	**177**	**133**	**353**	**352**	**248**	460	74
	Mean Annual FWC for all Storm =			**159**	Mean Annual FWC for all CSO =		**346**		

Biochemical Oxygen Demand (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Avenue	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano	Storm	CSO
January	11.2	3.4	6.8	5.1	0	0	0	7	0
February	4.6	0.5	17.4	18.9	0	0	0	8	0
March	17.7	21.7	16.6	15.1	161	0	0	107	18
April	9.4	17.4	9.4	9.4	183	177	0	51	11
May	8.4	9.9	7.7	10.1	92	92	57	52	11
June	11.2	21.2	7.6	20.7	115	110	110	79	13
July	11.7	16.6	11.1	13.6	132	127	127	56	8
August	8.5	16.0	9.0	16.0	161	153	0	36	5
September	13.3	21.8	10.0	10.9	160	0	0	36	4
October	4.9	1.7	6.2	13.4	0	0	0	9	0
November	9.6	8.8	11.9	16.4	0	0	0	10	0
December	8.1	21.1	7.6	7.2	0	0	0	9	4
Mean Annual FWC =	**10.6**	**17.8**	**9.9**	**13.8**	**111**	**103**	**79**	460	74
	Mean Annual FWC for all Storm =			**11.8**	Mean Annual FWC for all CSO =		**109**		

Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2007

Total Phosphorus (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Ave	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano	Storm	CSO
January	0.37	0.07	0.25	0.25	0	0	0	7	0
February	0.40	0.01	0.34	0.80	0	0	0	8	0
March	0.88	1.01	0.69	0.68	4.20	0	0	107	18
April	0.41	0.79	0.39	0.42	4.00	4	0	51	11
May	0.46	0.58	0.36	0.32	2.65	2.68	1.52	52	11
June	0.53	0.79	0.30	0.54	3.30	3.10	3.10	79	13
July	0.41	0.43	0.59	0.30	3.61	3.48	3.48	56	8
August	0.27	0.56	0.67	0.32	3.84	4	4	36	5
September	0.52	0.65	0.38	0.28	3.80	4	4	36	4
October	0.80	0.10	0.32	0.43	0	0	0	9	0
November	0.37	0.29	0.27	0.49	0	0	0	10	0
December	1.26	0.50	0.48	0.37	0	0	0	9	4
Mean Annual FWC =	**0.55**	**0.74**	**0.45**	**0.45**	**3.06**	**2.91**	**2.12**	460	74
	Mean Annual FWC for all Storm =			**0.51**	Mean Annual FWC for all CSO =		**2.99**		

Nitrite + Nitrate (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Ave	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano	Storm	CSO
January	1.93	0.72	1.07	1.66	0	0	0	7	0
February	2.32	0.20	0.76	2.53	0	0	0	8	0
March	0.94	0.78	0.91	0.99	0.39	0	0	107	18
April	2.00	1.11	1.35	1.02	0.96	1	0	51	11
May	4.05	1.17	1.58	0.75	5.83	6	5	52	11
June	2.22	0.65	0.90	0.95	0.09	0.09	0.09	79	13
July	2.29	0.81	1.01	1.05	0.19	0.23	0.23	56	8
August	3.21	0.71	1.17	1.02	0.02	0.02	0	36	5
September	1.96	0.60	0.95	1.22	0.29	0	0	36	4
October	1.67	0.65	1.56	0.89	0	0	0	9	0
November	2.52	0.59	1.15	1.36	0	0	0	10	0
December	2.17	0.72	1.11	1.26	0	0	0	9	4
Mean Annual FWC =	**2.29**	**0.85**	**1.15**	**1.05**	**3.54**	**3.77**	**3.24**	460	74
	Mean Annual FWC for all Storm =			**1.60**	Mean Annual FWC for all CSO =		**3.54**		

Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2007

Ammonia Nitrogen (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Ave	Groat Road	Quesnell	Kennedale	Rat Creek	Highlands	Capilano	Storm	CSO
January	1.55	1.12	0.71	0.21	0	0	0	7	0
February	1.95	0.44	1.73	0.66	0	0	0	8	0
March	0.95	1.01	0.86	1.00	14.2	0	0	107	18
April	0.44	0.47	0.45	0.53	12.6	13	0	51	11
May	0.57	0.31	0.36	0.24	6.05	5.97	3.73	52	11
June	0.51	0.45	0.24	0.31	8.5	8.24	8.24	79	13
July	0.51	0.44	0.37	0.35	8.18	7.78	7.78	56	8
August	0.49	0.30	0.42	0.44	11.96	11.18	11	36	5
September	1.65	0.55	0.52	0.26	7.69	7	7	36	4
October	1.30	1.14	1.01	0.76	0	0	0	9	0
November	0.69	1.88	0.64	0.67	0	0	0	10	0
December	9.23	2.54	1.34	0.72	0	0	0	9	4
Mean Annual FWC =	**1.28**	**0.59**	**0.55**	**0.50**	**7.44**	**6.62**	**5.07**	460	74
	Mean Annual FWC for all Storm =			**0.76**	Mean Annual FWC for all CSO =		**7.23**		

Total Kjeldahl Nitrogen (mg/L)

Month	Storm outfalls				CSO outfalls			No. of Samples	
	30th Ave	Groat Road		Quesnell	Rat Creek	Highlands	Capilano	Storm	CSO
January	2.33	1.58	1.48	0.95	0	0	0	7	0
February	2.77	0.64	3.17	2.81	0	0	0	8	0
March	3.51	3.87	3.06	3.16	26.6	0	0	107	18
April	2.13	2.90	2.15	2.16	24.3	24	1	51	11
May	2.22	2.30	2.04	1.98	15.2	15	9	52	11
June	2.39	3.12	1.49	2.86	18.4	17.6	17.6	79	13
July	1.98	2.31	2.21	2.05	19.3	18.6	18.6	56	8
August	1.62	2.34	2.37	2.10	23.7	22.7	22.7	36	5
September	3.55	3.26	1.92	1.97	19.9	19	19	36	4
October	3.54	1.50	1.96	2.88	0	0	0	9	0
November	1.67	2.76	1.60	3.23	0	0	0	10	0
December	11.26	4.29	2.39	1.96	0	0	0	9	4
Mean Annual FWC =	**2.96**	**2.99**	**2.13**	**2.42**	**17.4**	**16.2**	**12.15**	460	74
	Mean Annual FWC for all Storm =			**2.53**	Mean Annual FWC for all CSO =		**16.96**		

Notes: Flow data monitoring sites include: 30th Ave, Quesnell, Groat Road and Kennedale Storm outfalls; and Rat Creek, Capilano, and Highlands CSOs.
Water quality monitoring sites include: 30th Ave, Quesnell, Groat Road and Kennedale Storm outfalls; and Rat Creek and Capilano CSOs.
For water quality monitored sites, loads are based on observed and estimated daily flows, and baseflow and wet-weather event sampled constituent concentrations.
FWC (mg/L) = 1000 x Constituent load (kg) / Volume (m3) per site for a monthly or annual period.
Contaminant loadings from storm and CSOs not monitored during wet-weather events for water quality were calculated based on average constituent concentrations measured from 1991-2006 and interpolation between measured concentrations.
No. of samples includes the wet-weather event sampling and dry-weather (baseflow) sampling. Samples taken for QA/QC purposes are not included.

Constituent Loads for 2007

Total Suspended Solids (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	4,112	120	1,910	13,183	19,325	4,737	**24,062**	0	0	0	0	0	**0**
February	3,903	45	2,281	74,287	80,516	20,655	**101,171**	0	0	0	0	0	**0**
March	396,297	442,701	401,819	378,726	1,619,542	353,974	**1,973,517**	19,834	0	0	19,834	372	**20,032**
April	138,903	214,341	181,625	136,918	671,787	714,290	**1,386,077**	19,943	187	12	20,142	404	**20,752**
May	165,472	187,499	299,846	168,031	820,848	873,718	**1,694,566**	249,358	21,935	12,244	283,537	4,673	**292,334**
June	311,026	214,476	246,575	408,464	1,180,541	454,862	**1,635,403**	60,468	4,390	4,390	69,249	1,385	**69,941**
July	134,272	77,746	646,864	100,726	959,607	409,211	**1,368,818**	64,671	4,846	4,846	74,363	1,594	**75,106**
August	26,457	78,263	710,403	59,853	874,975	330,604	**1,205,579**	3,888	81	81	4,049	82	**4,090**
September	86,256	60,257	151,112	66,303	363,929	135,758	**499,686**	20,997	1,812	1,812	24,621	492	**25,114**
October	112,503	210	6,910	9,295	128,917	31,011	**159,928**	0	0	0	0	0	**0**
November	15,474	323	13,004	8,401	37,202	7,951	**45,153**	0	0	0	0	0	**0**
December	6,065	309	3,511	1,256	11,141	1,735	**12,876**	0	0	0	0	0	**0**
Total	**1,400,741**	**1,276,291**	**2,665,859**	**1,425,441**	**6,768,331**	**3,338,505**	**10,106,837**	**439,159**	**33,252**	**23,385**	**495,796**	**9,002**	**507,369**

Total Load From Storm and CSO = 10,614,206

Biochemical Oxygen Demand (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	7,461	18	3,027	1,015	11,521	2,773	**14,294**	0	0	0	0	0	**0**
February	2,847	9	5,395	3,705	11,956	2,923	**14,878**	0	0	0	0	0	**0**
March	29,553	23,848	28,828	32,261	114,490	31,641	**146,131**	7,943	0	0	7,257	145	**8,023**
April	11,831	8,488	12,616	13,305	46,240	59,598	**105,839**	9,173	84	2	9,160	186	**9,538**
May	12,298	6,591	16,768	19,704	55,362	76,866	**132,229**	67,204	5,777	3,568	58,129	1,263	**78,912**
June	16,900	12,575	15,632	35,139	80,245	31,572	**111,817**	16,471	1,256	1,256	18,983	380	**19,173**
July	16,766	8,093	22,471	18,855	66,185	28,702	**94,888**	25,215	1,839	1,839	30,949	619	**29,182**
August	9,651	5,043	14,154	11,389	40,238	13,671	**53,908**	3,697	87	87	3,709	74	**3,910**
September	12,341	5,294	12,950	6,147	36,733	13,557	**50,290**	8,548	707	707	9,962	199	**10,161**
October	3,651	25	5,347	2,494	11,516	2,787	**14,303**	0	0	0	0	0	**0**
November	6,511	128	9,076	3,151	18,866	3,871	**22,738**	0	0	0	0	0	**0**
December	5,293	64	3,684	876	9,917	1,562	**11,479**	0	0	0	0	0	**0**
Total	**135,103**	**70,175**	**149,949**	**148,041**	**503,268**	**269,525**	**772,793**	**138,252**	**9,749**	**7,458**	**138,148**	**2,866**	**158,898**

Total Load From Storm and CSO = 931,691

Total Phophorus (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	249	0	111	50	411	101	**512**	0	0	0	0	0	**0**
February	247	0	107	157	511	133	**644**	0	0	0	0	0	**0**
March	1,470	1,115	1,202	1,445	5,233	2,311	**7,544**	207	0	0	190	4	**210**
April	514	387	521	592	2,014	7,086	**9,101**	201	2	0	195	45	**209**
May	670	383	784	622	2,459	3,464	**5,922**	1,942	168	96	1,798	39	**2,273**
June	797	467	606	911	2,780	1,096	**3,876**	472	35	35	543	11	**548**
July	595	211	1,200	416	2,421	1,017	**3,438**	690	50	50	814	16	**799**
August	311	177	1,061	230	1,779	644	**2,422**	88	2	2	89	2	**93**
September	480	157	488	158	1,282	487	**1,770**	203	17	17	237	5	**242**
October	597	2	277	80	956	232	**1,188**	0	0	0	0	0	**0**
November	249	4	205	94	553	106	**659**	0	0	0	0	0	**0**
December	824	2	232	45	1,103	158	**1,261**	0	0	0	0	0	**0**
Total	**7,003**	**2,904**	**6,793**	**4,800**	**13,332**	**16,836**	**38,336**	**3,803**	**275**	**201**	**3,865**	**121**	**4,374**

Total Load From Storm and CSO = 42,710

Nitrite + Nitrate (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	1,287	4	481	525	2,297	562	**2,859**	0	0	0	0	0	**0**
February	1,446	4	236	363	2,049	540	**2,590**	0	0	0	0	0	**0**
March	1,570	855	1,575	2,051	6,052	2,790	**8,842**	19	0	0	17	0	**19**
April	2,509	541	1,815	2,748	7,613	13,470	**21,084**	48	1	0	49	1	**50**
May	5,915	779	3,443	4,245	14,383	26,339	**40,722**	4,268	349	300	5,166	106	**5,066**
June	3,348	387	1,845	2,186	7,766	3,232	**10,998**	13	1	1	15	0	**15**
July	3,288	394	2,054	2,027	7,764	2,861	**10,625**	37	3	3	47	1	**44**
August	3,647	222	1,846	1,112	6,828	2,424	**9,252**	1	0	0	1	0	**1**
September	1,818	145	1,237	870	4,069	1,527	**5,596**	15	2	2	20	0	**19**
October	1,242	10	1,346	741	3,339	809	**4,148**	0	0	0	0	0	**0**
November	1,714	9	879	726	3,328	639	**3,967**	0	0	0	0	0	**0**
December	1,419	2	540	433	2,394	361	**2,756**	0	0	0	0	0	**0**
Total	**29,204**	**3,352**	**17,298**	**18,028**	**67,882**	**55,555**	**123,437**	**4,402**	**356**	**306**	**5,316**	**109**	**5,215**

Total Load From Storm and CSO = 128,652

Ammonia Nitrogen (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	1,034	6	316	42	1,398	345	**1,744**	0	0	0	0	0	**0**
February	1,214	9	537	130	1,889	494	**2,383**	0	0	0	0	0	**0**
March	1,582	1,111	1,489	2,123	6,305	2,504	**8,809**	704	0	0	637	13	**711**
April	548	228	608	756	2,141	3,925	**6,065**	636	6	0	632	13	**661**
May	837	204	780	473	2,295	3,483	**5,777**	4,430	374	234	4,629	99	**5,193**
June	762	270	492	523	2,046	843	**2,889**	1,220	94	94	1,408	28	**1,422**
July	738	216	754	484	2,191	907	**3,098**	1,563	113	113	1,923	38	**1,807**
August	557	95	659	312	1,623	553	**2,176**	275	6	6	273	5	**290**
September	1,535	134	678	145	2,493	948	**3,441**	411	31	31	473	9	**483**
October	963	17	868	141	1,990	487	**2,476**	0	0	0	0	0	**0**
November	467	28	487	129	1,111	206	**1,317**	0	0	0	0	0	**0**
December	6,035	8	654	88	6,784	911	**7,695**	0	0	0	0	0	**0**
Total	**16,272**	**2,325**	**8,321**	**5,347**	**32,265**	**15,606**	**47,871**	**9,238**	**625**	**478**	**9,974**	**207**	**10,567**

Total Load From Storm and CSO = 58,438

Total Kjeldahl Nitrogen (kg)

Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	AENV Storm Sub-Total	Remaining Storm	Total Storm	Rat Creek CSO	Highlands CSO	Capilano CSO	AENV CSO Sub-Total	Remaining CSO	Total CSO
January	1,553	8	663	189	2,414	594	**3,007**	0	0	0	0	0	**0**
February	1,722	13	981	549	3,265	847	**4,112**	0	0	0	0	0	**0**
March	5,856	4,259	5,294	6,726	22,135	7,342	**29,477**	1,314	0	0	1,204	24	**1,327**
April	2,673	1,415	2,897	3,062	10,047	14,461	**24,508**	1,223	11	0	1,221	25	**1,272**
May	3,239	1,531	4,466	3,849	13,085	19,616	**32,702**	11,126	952	576	11,116	239	**13,045**
June	3,601	1,854	3,049	4,857	13,360	5,357	**18,718**	2,636	200	200	3,036	61	**3,067**
July	2,849	1,123	4,472	2,841	11,284	4,709	**15,994**	3,683	270	270	4,449	89	**4,265**
August	1,841	737	3,735	1,496	7,809	2,729	**10,538**	544	13	13	543	11	**575**
September	3,297	793	2,492	1,113	7,694	2,915	**10,609**	1,063	86	86	1,236	25	**1,261**
October	2,630	22	1,686	537	4,874	1,185	**6,059**	0	0	0	0	0	**0**
November	1,133	41	1,227	621	3,022	581	**3,603**	0	0	0	0	0	**0**
December	7,363	13	1,162	239	8,777	1,207	**9,984**	0	0	0	0	0	**0**
Total	**37,757**	**11,808**	**32,124**	**26,079**	**107,767**	**61,544**	**169,311**	**21,589**	**1,533**	**1,146**	**22,805**	**474**	**24,812**

Total Load From Storm and CSO = 194,123

INTERCONNECTION CONTROL STRATEGY

2007 Annual Report

to Alberta Environment

City of Edmonton
Asset Management and Public Works
Drainage Services
May 2008

EXECUTIVE SUMMARY

In response to a requirement in the 1995 Approval to Operate, the City of Edmonton embarked on its Interconnection Control Strategy, consisting of mitigation and monitoring in the context of "perpetual monitoring and assessment".

An interconnection is designed to allow sanitary or combined sewage to overflow into the storm system, in order to relieve the sewer system under high flow conditions. Since 1998, a program is in place to minimize the contamination of stormwater with sanitary sewage by monitoring, assessing and eliminating or mitigating all interconnections between the two systems. This will reduce the total loading of stormwater contaminants to the North Saskatchewan River.

Under its new Approval to Operate (639-02-00), issued in 2005, the City intends to continue with the existing processes and reporting through the Collection Systems Monitoring Protocol. This submission is the tenth annual report. It presents summaries of: status and mitigative activities for known and newly discovered interconnections (I/Cs); results of the 2007 monitoring program; and status of the Interconnection Rectification Assessment project.

Interconnection Status

As of December 31, 2006 there were a total of 390 I/Cs. This consists of 151 open I/Cs and 239 corrected (closed) I/Cs. During 2007, five sites were closed. In addition, four sites closed previously were confirmed closed. Therefore, the I/C count for December 31, 2007 stands at 142 open I/Cs and 248 corrected sites (total 390). Other construction works, such as one new sewer installation and surface restoration for the closure works completed in 2007, were carried out. Mitigation works (e.g. raising weirs to reduce overflow frequency) have been carried out at 12 I/C sites since 1997. The total monies spent on remedial construction for I/C control in 2007 was $100,259.

Interconnection Monitoring

As of December 31, 2007, 126 of the 142 open I/Cs (about 89%) had operational monitoring devices (most of the other sites were either newly found, very difficult to monitor or on the closure list). Sites were characterized by their highest likelihood to discharge during 2007 as follows: 2% dry weather overflow (DWO), 17% low rainfall correlate (overflow in response to very little rain), 68% non-active and 13% unverified overflow. Sites with DWOs received the most attention (i.e. a letter of notification was sent to Alberta Environment for one of the sites that had a confirmed DWO). In 2007, the overflows from 21 sites were found to be caused by small rainfall events.

Interconnection Rectification Assessment Project

Two consultants were hired in 2002 and 2003 to carry out the rectification assessment of about 90 and 40 sites, respectively. Their work focused mainly on active I/Cs and I/Cs with DWOs. Previous studies and monitoring data were utilized to quantify I/Cs activity, support sewer system assessment, and provide conceptual and preliminary design for remedial works. These assessment studies were completed in 2004 and we have begun to follow up with the recommended mitigative works. A long list of construction works has been identified that will absorb the funding for the next several years. New assessments will begin once this construction is largely completed.

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1.0 INTRODUCTION

An Interconnection Control Strategy was prepared by the City of Edmonton in response to a requirement by Alberta Environment, as part of the 1995 Approval to Operate. This program, to minimize the contamination of stormwater by sanitary sewage, has been in effect since 1998.

A key commitment of the Interconnection Control Strategy is perpetual monitoring and assessment for all unmitigated interconnections (see Figure ES-1). This consists of identification, maintenance of data, evaluation, monitoring, correction, elimination and mitigation.

The focus of interconnection monitoring activities is to collect information on the frequency and duration of discharges from all interconnection (I/C) sites. The evaluation of the data for all sites is the core component of the assessment. All sites are to be evaluated annually for further action. More detailed monitoring will be conducted at highly active sites. Corrective measures will be taken at inactive sites or active sites where sufficient data has been collected and analyzed to show that they can be safely closed. Monitoring information will be used as the basis for decisions in terms of remedial activity.

As part of the Approval to Operate (639-02-07), first issued in 2005 and last revised April 30th, 2008 (expires May 31, 2015), the City provides an annual Interconnection Control Strategy report to Alberta Environment, as required by the Collection System Monitoring Protocol. The I/C report documents flow data from open (active) interconnection sites.

Through this Protocol, the City has committed to continue with the Interconnection Control strategy and annual reporting of the I/C status by May 31 of each year. The intent of the annual report is to document changes and status of the I/Cs, including any corrections or closures, and to provide an updated I/C database. The following report documents the I/C status for 2007.

2.0 MITIGATIVE MEASURES

As of December 31, 2006 there were 151 I/Cs in operation in the sewerage system in the City of Edmonton. At that time there were an additional 239 I/C sites that had been closed for a total of 390 I/Cs.

During the course of 2007, 5 I/C sites were closed (numbers 105, 108, 109, 236, and 263) and 4 I/C sites previously closed were confirmed to be closed (numbers 54, 121, 130, and 166) and are documented in this report.

Therefore, as of December 31, 2007 there are 142 I/Cs known to be in operation (open) in the sewerage system in the City of Edmonton. A total of 248 I/Cs have been corrected (closed), for a total count of 390 I/Cs. Mitigation works (e.g. raising weirs to reduce overflow frequency) have been carried out at 12 I/C sites since 1997. The enclosed plan "**2007 Monitoring and Data Analysis Summary**" shows the locations of all of the open I/Cs in the City. A database of I/C sites is located in **Appendix A**. **Figure 1** shows the cumulative number of I/Cs over time.

2.1 2007 Mitigative Measures

The mitigative measures undertaken in 2007 included a new sewer installation for the closure work of site 236.

2.2 Costs

The total budget of $1,580,000 in 2007 consisted of approximately: $500,000 for monitoring and $1,080,000 for remediation. The amount actually spent in 2007 was $241,376, including $137,920 for monitoring and $100,259 for construction of mitigative measures. The unspent construction funds have been carried forward to 2008 for remediation.

In summary, the expenditures for the Interconnection Control Strategy each year from 1994 to 2007 include (Table 1):

- Monitoring program – approximately $106,000 annually.
- Investigations consisting of personnel entry to the sewers to confirm or refute the occurrence of overflows – approximately $4,000 annually, paid for under regular operating budget (repair, blockage removal or bypass pumping costs are not included).
- Correcting the interconnections based on I/C monitoring and assessment. This can involve closure of an interconnection to eliminate overflow or raising the weir to reduce overflow frequency - approximately $498,000 annually.
- Assessing I/C sites for possible closure – approximately $120,000 annually (although the assessments are conducted on an intermittent basis).

Table 1 – Interconnection Control Strategy Expenditure Summary

Year	Dollars Spent				Total
	Monitoring	**Investigation**	**Correcting**	**Assessing**	
1994	$0	N/A	$195,000	$50,000	$245,000
1995	$40,000	N/A	$0	$960,000	$1,000,000
1996	$50,000	N/A	$30,000	$0	$80,000
1997	$213,000	N/A	$634,000	$0	$847,000
1998	$140,000	$2,205	$197,500	$0	$339,705
1999	$104,600	$5,760	$762,200	$0	$872,560
2000	$103,000	$8,100	$834,000	$0	$945,100
2001	$122,000	$5,265	$319,000	$168,000	$614,265
2002	$149,204	$3,360	$210,000	$133,319	$495,883
2003	$145,047	$2,340	$1,055,000	$367,897	$1,570,284
2004	$97,910	$3,350	$1,221,300	$1,033	$1,323,593
2005	$91,280	$3,600	$1,067,400	$16,896	$1,179,176
2006	$92,871	$2,600	$350,000	$0	$445,471
2007	$137,920	$3,197	$100,259	$0	$241,376
Total	$1,486,832	$39,777	$6,975,659	$1,697,145	$10,199,413
Annual Ave.	**$106,202**	**$3,978**	**$498,261**	**$121,225**	**$728,530**
Proportion	**14.6%**	**0.5%**	**68.4%**	**16.6%**	

2.3 2008-2010 Mitigative Measures

Depending on availability of funding and construction crews, the proposed mitigative measures to be undertaken in 2008-2010 to control discharges through I/C sites at various locations are listed in **Table 2**.

Table 2 – Proposed 2008-2010 Mitigative Measures

Year	I/C#	Location	Proposed Works
2008	*1	In the area from 105 to 109 St. and 62 to 74 Ave.	New storm sewer and catch basin re-connections
	*1	Lane N. of 77 Ave. 115 St. W. (Lane W. of 115 St., Lane N. of 70 Ave. 112 St., Lane S. of 70 Ave. from 98 to 99 St., and Lane S. of 79 Ave. from 87 to 89 St.	New storm sewer and catch basin re-connections
	264	130 Ave. 105 St. (Lane N. of Lauderdale Rd)	Closure of I/C
2009	*1	Lane west of 109A St. from 61 to 63 Ave.	New relief sewer (main diversion)
	122, 128, 131, 132 & 125	In the area from 95 to 96 St. and 71 to 75 Ave.	Closure of I/Cs
	159, 161, 162 & 163	85 St. lane north of 79 Ave to 83 Ave.	New relief sewer and closure of I/Cs
2010	94	57 Ave. from 87 to 89 St.	Flow diversion and closure of I/C
	95	111 St. 61 Ave.	Closure of I/C
	98 & 99	67 Ave. 112 to 112A St	Closure of I/Cs
	114, 116, 117, 118, 119 & 120	109 St. from 61 to 67 Ave.	Closure of I/Cs
	*1	In the area from 77 to 89 St and 76 to 78 Ave.	New storm sewer and catch basin re-connections

*1: Remedial works or construction precedes closure of other I/Cs

3.0 2007 MONITORING AND ASSESSMENT RESULTS

In the I/C Control Strategy, the City committed to perpetual monitoring and assessment of all I/Cs. As of December 31, 2007, 126 of the 142 I/Cs had Virtual Level Gauge (VLG) type monitors installed. The following section documents the activities at these 126 I/Cs.

Based on the information received from the monitors in 2007, each site was classified into the following categories in order of precedence. The highest category that a site operated at during the year is the classification for the year.

- Dry Weather Overflow (DWO)
- Low Rainfall Correlate (LRT)
- Medium Rainfall Correlate (MRT)
- High Rainfall Correlate (HRT)
- Inactive (NNA)
- Unverified Overflow (UVO)

Figure 2 shows the distribution of I/Cs between each category for 2007. Please note that there were no I/C sites classified as "high rainfall correlate" or "moderate rainfall correlate" in 2007.

3.1 Dry Weather Overflows (DWOs)

In 2007 there were 2 I/Cs where a confirmed DWO occurred. These I/C sites were:

- I/C site 136 (MH229992) – 91 St. and 77 Ave.
- I/C site 143 (MH243161) – 93 St. and L.N. 82 Ave.

Copies of the communication to Alberta Environment regarding site 136 are provided in Appendix B. Alberta Environment did not request a Written Report letter regarding the DWO at site 143, as the release was small.

The above I/Cs were observed to be discharging as a result of a plugged sewer. The blockage was quickly cleared, and the sewer returned to normal operation. Early detection of DWOs is one of the major benefits of the I/C monitoring program.

3.2 Rainfall Correlation to I/C Activity (LRT, MRT, and HRT)

Sites that were found to be active only during periods of wet weather are classified as rainfall correlates. These are further sub-divided into low, moderate and high rainfall thresholds (LRT, MRT and HRT). LRT is defined as sites activating for rainfall volumes less than 15 mm in one hour. MRT is for sites activating for rainfall volumes between 15 and 25 mm in one hour. HRT is for sites activating for rainfall volumes greater than 25 mm in one hour. In 2007 there were a total of 21 sites that could be correlated to rainfall. These were distributed by rainfall thresholds as follows:

- Low Rainfall Correlate (LRT) 21
- Medium Rainfall Correlate (MRT) 0
- High Rainfall Correlate (HRT) 0

The sites that can be correlated to rainfall in 2007 represent 17% of the I/Cs in the City. As can be observed from the attached plan, the majority of sites activated by rainfall with low intensity are located in Bonnie Doon, Oliver, and Rossdale. There are currently capital projects underway in these areas to reduce the frequency of activity at these locations. In 2007, "high rainfall correlate" and "medium rainfall correlate" I/C activities were not observed.

Table 3 provides a prioritized listing of sites correlated to rainfall. These are sorted by number of overflows, total overflow duration and rainfall threshold volume required to activate the site. An overflow is considered an event only if the duration is equal to or greater than 4 minutes.

As shown in Table 3, the most active sites are 234, 176, and 178. Sites 234 and 176 were not included in Figure 3 due to equipment errors, causing false readings at these two locations. Site 178 (MH244347) is located on 92nd Street and 98 Ave. There were 21 overflow events recorded at this location between May 1 and October 31 in 2007. Rainfall correlated overflows at this site have occurred for a total of approximately 8.3 hours during the period. As can be observed from the data in Figure 3, this site is very active, even for relatively small rainfall volumes (as low as 2.4 mm in 1 hour).

3.3 Inactive (NNA)

Inactive I/Cs are defined as those sites where no overflows were observed during 2007. There were a total of 87 (68%) inactive I/Cs in 2007. This number was 70 in 2006 and the average number was about 84 between 1997 and 2007. These I/Cs will continue to be tracked over time to establish a possible minimum rainfall threshold and to justify a decision to abandon (close) the I/C site.

3.4 Unverified Overflows (UVO)

Sites classified as having unverified overflow activity comprise 16 of the 126 I/Cs (13%) being monitored. The UVO sites classified in 2007 include all locations that have recorded data indicating overflow activity during periods of dry weather but could not be verified by follow up site investigations. Many of these sites are suspected of having equipment maintenance issues causing inaccurate or false activity readings.

Table 3- Rainfall Correlation

Report Period: May 1, 2007 to October 31,2007
Sorted by: No. of Overflows, Total Overflow Duration, and Rainfall Threshold

Site No.	Manhole	No. of Events	No. of Overflows	Maximum Event Duration (min)	Total Event Durations (min)	Total Overflow Durations (min)	Rainfall Threshold
234	246738	48	59	19714	47438	47420	9.1
176	244348	29	29	3024	4488	4488	1.1
178	244347	21	21	48	500	500	2.4
13	241881	21	21	28	228	228	1.9
191	246377	13	13	200	556	556	0.7
150	243860	11	11	80	300	300	1.3
204	245216	6	9	814	1020	1014	3.5
28	255512	7	7	2690	3418	3418	5.6
221	227702	3	4	28	56	54	4.0
201	245013	3	3	586	814	814	3.7
153	246506	2	2	18	28	28	9.1
36	265684	2	2	12	24	24	8.5
156	246570	2	2	10	16	16	9.1
38	316715	2	2	8	16	16	8.5
139	229990	1	1	10	10	10	9.1
106	224867	1	1	8	8	8	9.1
154	229777	1	1	8	8	8	9.1
224	243209	1	1	8	8	8	9.1
183	245040	1	1	8	8	8	8.5
194	246808	1	1	4	4	4	9.1
19	255954	1	1	4	4	4	4.9

3.5 Interconnection Site Activity Characteristics Summary

As shown in Table 4 below, about 3% of the sites were found to have dry weather overflows each year during the eleven years of monitoring from 1997 to 2007. These are the events of critical concern to the environment. Although only 3% of the sites experience dry weather overflow in a given year, different sites spill each year. A total of 26% of the I/Cs (37 sites) have had dry weather overflow. About 27% of the I/C sites were found to be correlated to rainfall. These sites are candidates for infiltration/inflow or other hydraulic studies. Inactive sites account for about 54% of all I/Cs and are considered for closure. If a sufficient period of inactivity persists through several significant rainfall events, the site is scheduled for closure. Unverified overflow sites (17%) are I/Cs that present difficulties to the monitoring program. The monitors indicate dry weather overflow but follow-up site inspection finds no evidence for confirmation.

Table 4 – Interconnection Site Activity Characteristics Summary

Year	Known I/C Sites	I/C Sites Monitored	Dry Weather Overflow	Rainfall Correlated	Inactive Sites	Unverified Overflows
1997	186	182	N/A	65	109	8
1998	188	179	3	72	64	43
1999	188	176	6	48	92	29
2000	186	173	6	36	76	56
2001	185	174	7	37	75	55
2002	179	161	6 (*1)	29	110	16
2003	167	153	5 (*1)	34	102	12
2004	155	139	5	64	51	19
2005	150	131	9	16	88	18
2006	151	131	5	39	70	17
2007	142	126	2	21	87	16
Average	**171**	**157**	**5**	**42**	**84**	**26**
Proportion of Monitored Sites =			**3%**	**27%**	**54%**	**17%**

*1: Excluded site(s) not being monitored.

3.6 Interconnection Probe Replacements

Through 1999 and 2001 investigations into malfunctioning monitoring probes found maintenance issues that seemed to be attributable to the age of the Virtual Level Gauge (VLG) probe. This is consistent with the design life of the original probe (considered to be 3 to 4 years). To address this issue, the recorded activity and maintenance records for each site were evaluated to determine a priority list for replacing the probes. As of December 31, 2007, almost all I/C sites have been upgraded to include improved monitoring sensors.

The new probes are a modified version of the original VLG probe with alterations made to reduce recording of data due to condensation in the manhole and splashing from incoming leads. These two problems have been suspected of being the cause of errant readings for many sites. The probe replacements have cut down on errant data and the need for maintenance investigations. The new probes reduced the number of errors and UVO from more than 1000 days per month in 2000 to about 30 in 2006. However, a

high number of sites read errant data and increased the number of errors and UVO in January to April of 2007 to 228 days per month. This was due to cold weather and aging probes and transmitters. Repairs were made and batteries were replaced later in the year, reducing the number of errors and UVO from May to December of 2007 to 84 days per month.

4.0 RECTIFICATION ASSESSMENT PROJECT SUMMARY

Two consultants were hired in 2002 and 2003 to carry out the second phase of a large-scale Interconnection Rectification Assessment project. The first project included about 90 I/C sites and the second included about 40 sites. Their work was focused mainly on active and DWO I/Cs. This work identified many I/Cs that could be closed when funds are available. A complete list of the I/C sites covered by the current studies is provided in Table 5 and Table 6.

Previous studies and monitoring data collected between 1998 and 2003 were utilized to quantify interconnection activity, support sewer system assessment, and provide conceptual and preliminary design for remedial works. Major work requirements for this rectification assessment included:

- Perform sewer system data collection and field surveys
- Carry out sewer condition and hydraulic assessment
- Evaluate various remedial measures
- Develop conceptual and preliminary design plans
- Provide Cost estimates

A computer model called MOUSE (Model For Urban Sewers) developed by DHI (Danish Hydraulics Institute) was employed in these studies to simulate the existing system and recommend remedial measures under various wet weather flow conditions. Simulation results such as hydraulic grade line and by-pass volume were summarized and evaluated to ensure that an improved level of control can be achieved, and that proposed improvements would not cause other system problems.

These two assessment projects were completed in 2004 and we have begun to follow up with the recommended mitigative works. The assessments identified a long list of construction works that will absorb the funding for the next several years. New assessment projects will be started once this construction is largely complete.

5.0 PLANS FOR 2008

In summary, plans for 2008 include:

- Continue the interconnection monitoring program.
- Install new probes with higher data storage capacity and transmission strength at select sites for testing.
- Install detailed depth and/or velocity monitors at critical locations, such as DWO sites.
- Complete mitigative works as recommended by the Assessment Projects carried out in 2002 and 2003.

Table 5- Interconnection Rectification Assessment Phase IB Site List: Identified for Closure

I/C #	Manhole #	Address	Type of I/C	Model Area
26	255697	W122 St and 102 Ave	Low Pipe	Downtown 1
27	255840	W121 St and 102 Ave	Low Pipe	Downtown 1
28	255587	W120 St and 102 Ave	Low Pipe	Downtown 1
30	255607	W118 St and 102 Ave	Low Pipe	Downtown 1
31	255618	W117 St and 102 Ave	Low Pipe	Downtown 1
32	255625	W116 St and 102 Ave	Low Pipe	Downtown 1
33	255650	W114 St and 102 Ave	Low Pipe	Downtown 1
34	265676	W113 St and 102 Ave	Low Pipe	Downtown 1
35	265740	W112 St and 102 Ave	Low Pipe	Downtown 1
36	265653	112 St and 102 Ave	Low Pipe	Downtown 1
37	265754	111 St and 102 Ave	Low Pipe	Downtown 1
38	265728	114 St and N101 Ave	Low Pipe	Downtown 1
39	245736	114 St and S101 Ave	Low Pipe	Downtown 1
40 (closed)	239411	114 St and 100 Ave	Low Pipe	Downtown 1
46	245582	113 St and S99 Ave	Low Pipe	Downtown 1
47	239302	115 St and 100 Ave	Overflow	Downtown 1
48	239381	116 St and S101 Ave	Low Pipe	Downtown 1
49	257004	114 St and 104 Ave	Low Pipe/Weir	Downtown 1
50	256981	W 116 St and 106 Ave	Low Pipe	Downtown 1
51	256992	W115 St and 106 Ave	Low Pipe	Downtown 1
57	272618	W 123 St and 129 Ave	Overflow	Calder
59	272636	W 121 St and 129 Ave	Overflow	Calder
60	272723	129 Ave and W 120 St	Overflow	Calder
75	263753	W87 St. and 114 Ave.	Overflow	Parkdale
76	263758	W86 St. and 114 Ave.	Overflow	Parkdale
78	263708	W84 St. and 114 Ave.	Overflow	Parkdale
79	263709	W83 St. and 114 Ave.	Overflow	Parkdale
80	261662	W82 St. and 114 Ave.	Overflow	Parkdale
81	261672	W80 St. and 113 Ave.	Overflow	Parkdale
83	261660	W79 St. and 113 Ave.	Overflow	Parkdale
94	227272	110 St. and 57 Ave.	Low Pipe	McKernan
95	227592	111 St. and S60 Ave.	Overflow	McKernan
97	227670	111 St. and LS67 Ave.	Overflow	McKernan
99	224790	112 St. and 67 Ave.	Low Pipe	McKernan
102	228099	111 St. and 74 Ave.	Overflow	McKernan
103	228087	111 St. and 75 Ave.	Overflow	McKernan
105 (closed)	228152	111 St. and N76 Ave.	Low Pipe	McKernan
106	224867	112 St. and N76 Ave.	Overflow	Parkallen
107	224927	112 St. and N75 Ave.	Low Pipe	McKernan
109 (closed)	224875	112 St. and N72 Ave.	Overflow	McKernan
114	227757	109 St. and 67 Ave.	Overflow	McKernan
116	227604	109 St. and 65 Ave.	Overflow	McKernan
117	227631	109 St. and 64 Ave.	Overflow	McKernan
118	227633	109 St. and 63 Ave.	Overflow	McKernan
119	227636	109 St. and 62 Ave.	Overflow	McKernan
122	229960	98 St. and S72 Ave.	Overflow	Mill Creek

I/C #	Manhole #	Address	Type of I/C	Model Area
125	229520	96 St. and S71 Ave.	Low Pipe	Mill Creek
128	229914	95 St. and 71 Ave.	Low Pipe/Weir	Mill Creek
131	229883	95 St. and 74 Ave.	Overflow/Weir	Mill Creek
132	229875	95 St. and 75 Ave.	Overflow/Weir	Mill Creek
134	246519	89 St and S77 Ave	Overflow	Bonnie Doon
136	229992	91 St and 77 Ave	Low Pipe/Weir	Bonnie Doon
139	229990	91 St and S80 Ave	Low Pipe/Weir	Bonnie Doon
143	243879	93 St and S83 Ave	Overflow/Weir	Bonnie Doon
144	243904	W93 St and LS84 Ave	Low Pipe	Bonnie Doon
147	243180	87 St and S83 Ave	Low Pipe/Weir	Bonnie Doon
149	243858	89 St and 82 Ave	Low Pipe	Bonnie Doon
150	246489	89 St and S82 Ave	Overflow	Bonnie Doon
153	246506	89 St and S78 Ave	Overflow	Bonnie Doon
154	229777	87 St and 76 Ave	Low Pipe/Weir	Bonnie Doon
155	229778	87 St and S77 Ave	Low Pipe/Weir	Bonnie Doon
156	246590	87 St and 77 Ave	Low Pipe/Weir	Bonnie Doon
157	246533	87 St and 81 Ave	Low Pipe	Bonnie Doon
159	251782	85 St and S80 Ave	Overflow	Bonnie Doon
161	251618	85 St and S79 Ave	Overflow	Bonnie Doon
162	251797	85 St and S78 Ave	Overflow	Bonnie Doon
163	231913	85 St and S77 Ave	Overflow	Bonnie Doon
164	251779	83 St and S82 Ave	Overflow/Weir	Bonnie Doon
165	251786	81 St and S81 Ave	Overflow	Bonnie Doon
167	251795	81 St and S79 Ave	Overflow	Bonnie Doon
169	251975	81 St and S77 Ave	Overflow/Weir	Bonnie Doon
170	251796	79 St and S79 Ave	Overflow/Weir	Bonnie Doon
171	251791	79 St and S80 Ave	Overflow/Weir	Bonnie Doon
172	251787	79 St and S81 Ave	Overflow	Bonnie Doon
173	251711	77 St and S82 Ave	Overflow	Bonnie Doon
175	251718	77 St and S80 Ave	Overflow	Bonnie Doon
206	243177	W87 St and S83 Ave	Low Pipe	Bonnie Doon
220	242107	113 St. and LN79 Ave.	Low Pipe	Parkallen
224	243209	89 St. and 83 Ave.	Low Pipe	Bonnie Doon
227 (not exist)	-	116 St and 106 Ave	Overflow	Downtown 1
229	270363	North of Borden Park	Low Pipe	Parkdale
230	270510	North of Borden Park	Low Pipe	Parkdale
236 (closed)	242092	112 St and S78 Ave.	Overflow	McKernan
237 (not exist)	242084	113 St. and N78 Ave.	Overflow	McKernan
239 (not exist)	246519	89 St and S77 Ave	New	Bonnie Doon
240	255527	119 St and S102 Ave	Low Pipe	Downtown 1
241 (not exist)	265734	113 St and 102 Ave	Low Pipe	Downtown 1
242	265734	113 St and 102 Ave	Low Pipe	Downtown 1

Summary of Interconnections to be evaluated in Phase 1B- Carried over from Phase 1A

25	255832	125 St and S Jasper Ave	Low Pipe	Downtown 1
29	255596	W 119 St and 102 Ave	Low Pipe	Downtown 1
41	245620	W 113 St and 99 Ave	Low Pipe	Downtown 1

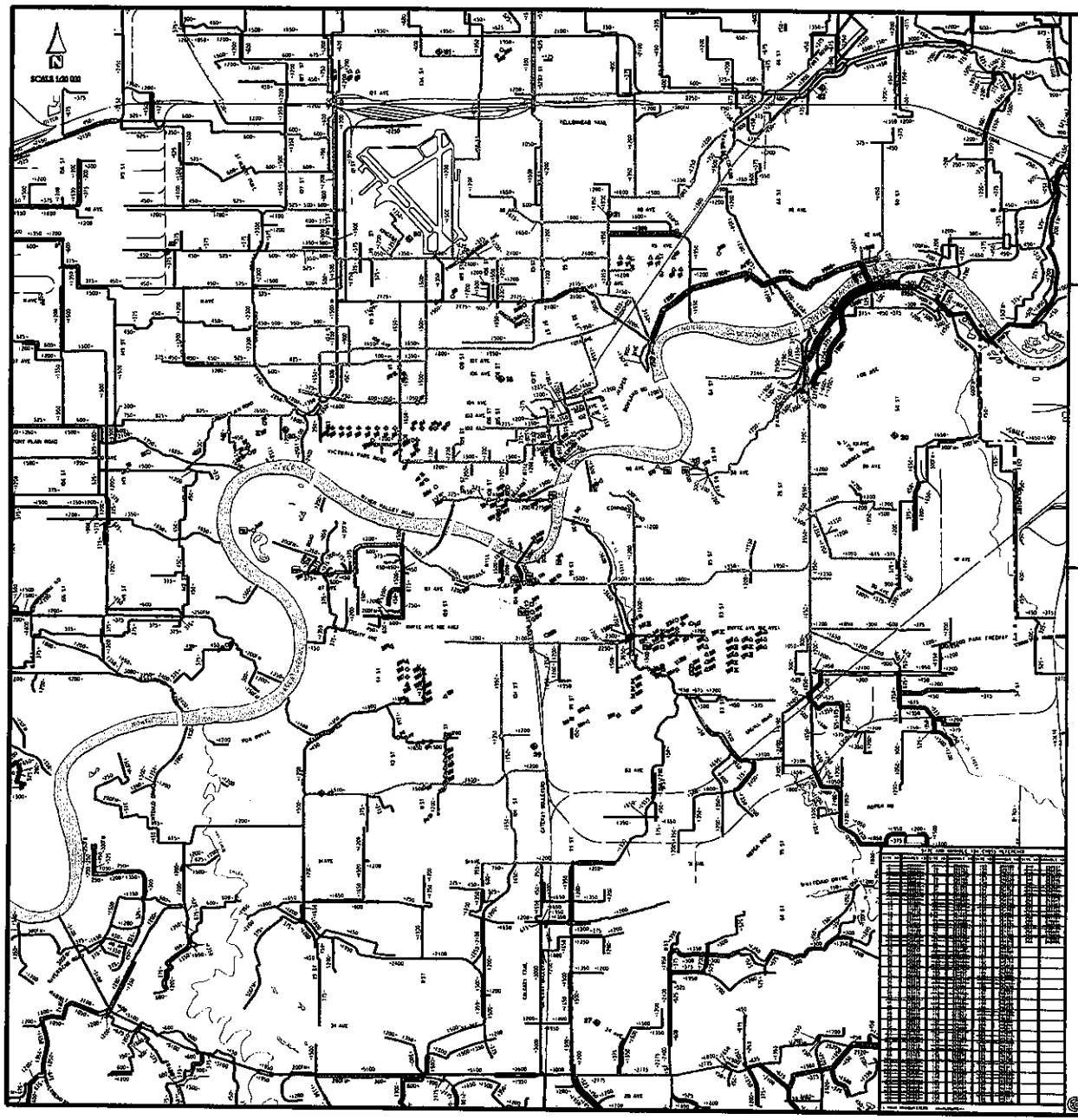
Table 6- Interconnection Rectification Assessment Phase II Site List: Identified for Closure

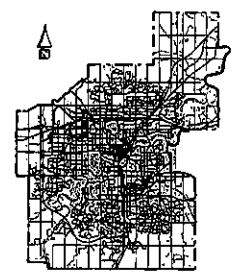
I/C #	Manhole #	Address	Type of I/C	Model Area
12	241869	146 St. - Summit Drv.	High Pipe	Summit Drive
13	241881	W148 St. - 99 Ave.	TBC	Crestwood
14	315813	E142 St. N Ravine Drv.	Overflow	Glenora
15	256174	136 St. - S102 Ave.	Overflow	Glenora
16	239447	E135 St. - St. Georges Cr.	Low Pipe	Glenora
17	239449	E134 St. – S. Victoria Drv.	TBC	Glenora
18	255955	134 St. - St. Georges Cr.	High Pipe	Glenora
19	255954	W133 St. - St. Georges Cr.	Overflow	Glenora
20	316420	3 Tweedsmuir Cr.	Overflow/Weir	Glenora
21	255983	E132 St. - S103 Ave.	TBC	Glenora
52	263239	102 St. - 111 Ave.	Flow Split	Royal Alex
53	266055	RCMP Kingsway Ave.	TBC	Kingsway
84	270533	W72 St. - 113 Ave.	TBC	Bellview
85	270523	E71 St. - 113 Ave.	TBC	Bellview
86	270376	E71 St. - 113 Ave.	TBC	Bellview
180	244671	103 St. - 97 Ave.	Low Pipe	Rossdale
181	245429	104 St. - S98 Ave.	Low Pipe	Rossdale
182	245174	104 St. - 97 Ave.	Low Pipe	Rossdale
183	245040	105 St. - 97 Ave.	TBC	Rossdale
184	245170	106 St. - 97 Ave.	TBC	Rossdale
186	262009	95 St. - 101 Ave.	Low Pipe	Riverdale
187	262749	95 St. - 102A Ave.	Low Pipe	Riverdale
188	262747	95 St. - 103 Ave.	Low Pipe	Riverdale
198	244681	105 St. - S96 Ave.	Dual	Rossdale
199	245068	105 St. - 96 Ave.	Low Pipe	Rossdale
200	245204	101 St. - 94 Ave.	Low Pipe	Rossdale
201	245013	101 St. - S94 Ave.	Overflow/Weir	Rossdale
202	245209	100A St. - 97 Ave.	TBC	Rossdale
203	244717	100 St. - 97 Ave.	Low Pipe	Rossdale
204	245216	E100 St. - 97 Ave.	TBC	Rossdale
205	321318	E101 St. - 96 Ave.	TBC	Rossdale
225	243209	89 St. - 83 Ave.	Low Pipe	Bonnie Doon
226	245511	111 St. - 97 Ave	TBC	Downtown
228 (not exist)	241889	145 Street Summit Drive	TBC	Downtown
235	262142	100 St. - S. of Jasper Ave	TBC	Downtown

TBC= To Be Confirmed

INTERCONNECTION CONTROL STRATEGY

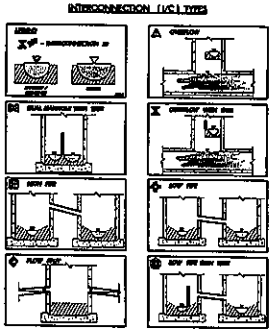
2007 MONITORING AND DATA ANALYSIS SUMMARY





LOCATION PLAN
(NOT TO SCALE)

INTERCONNECTION (I/C) TYPES



OTHER TYPES

- PUMPWELL / CHAMBER
- FLOW MONITOR
- CSO
- MANHOLE
- NON-DERNED
- PIPE SIZE AND FLOW DIRECTION
- RAINGAUGE

INTERCONNECTION ACTIVITY CLASSIFICATION

- DRY WEATHER OVERFLOW (DWO)
- LOW RAINFALL CORRELATE (LRT) (<15mm OR UP TO 1 IN 2 YEAR 1 HOUR STORM)
- MODERATE RAINFALL CORRELATE (MRT) (15-25mm OR 1 IN 2 TO 5 YEAR 1 HOUR STORM)
- UNMONITORED OVERFLOW (UWO)
- INACTIVE
- NOT MONITORED
- IC CLOSURE

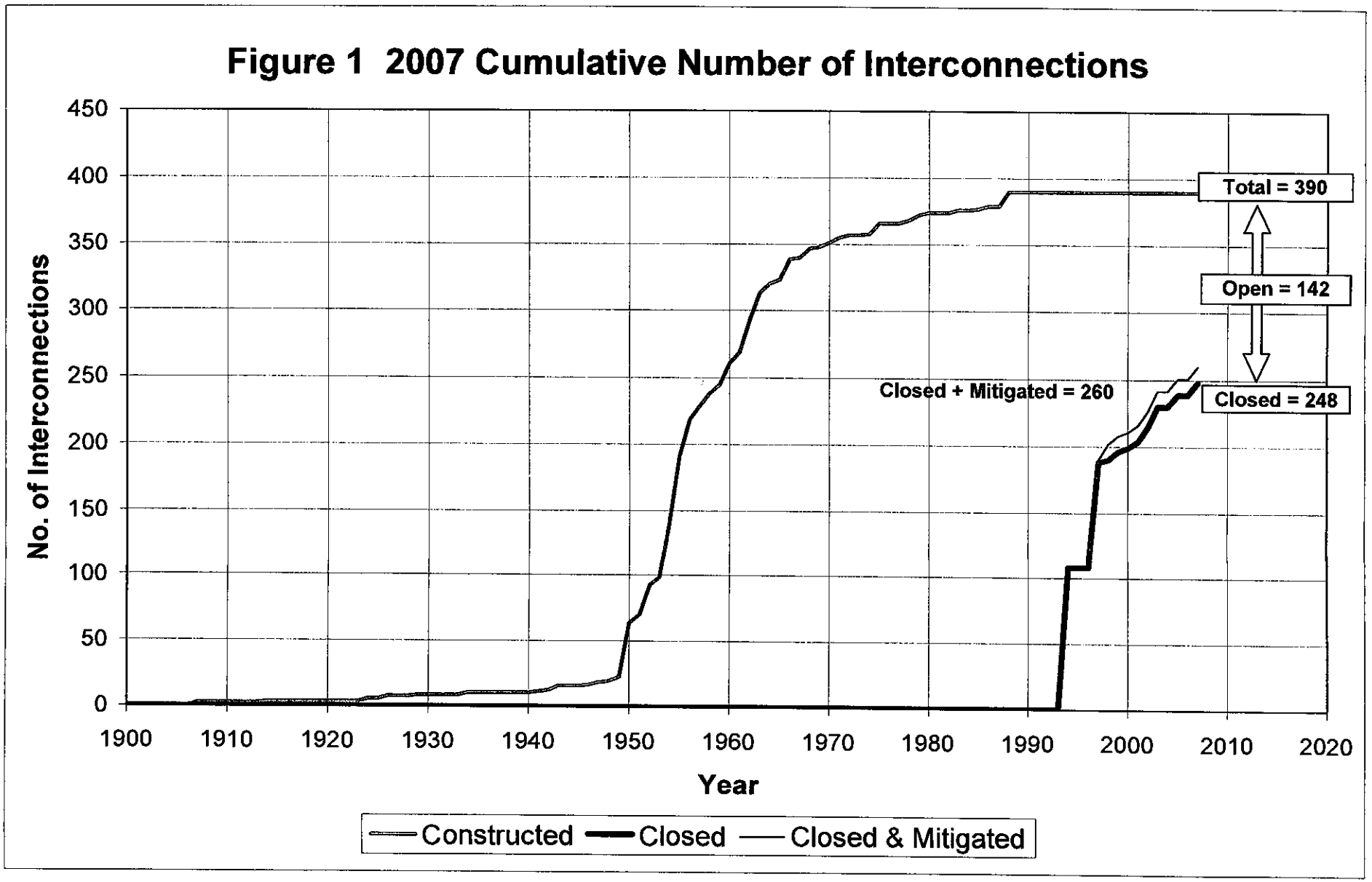
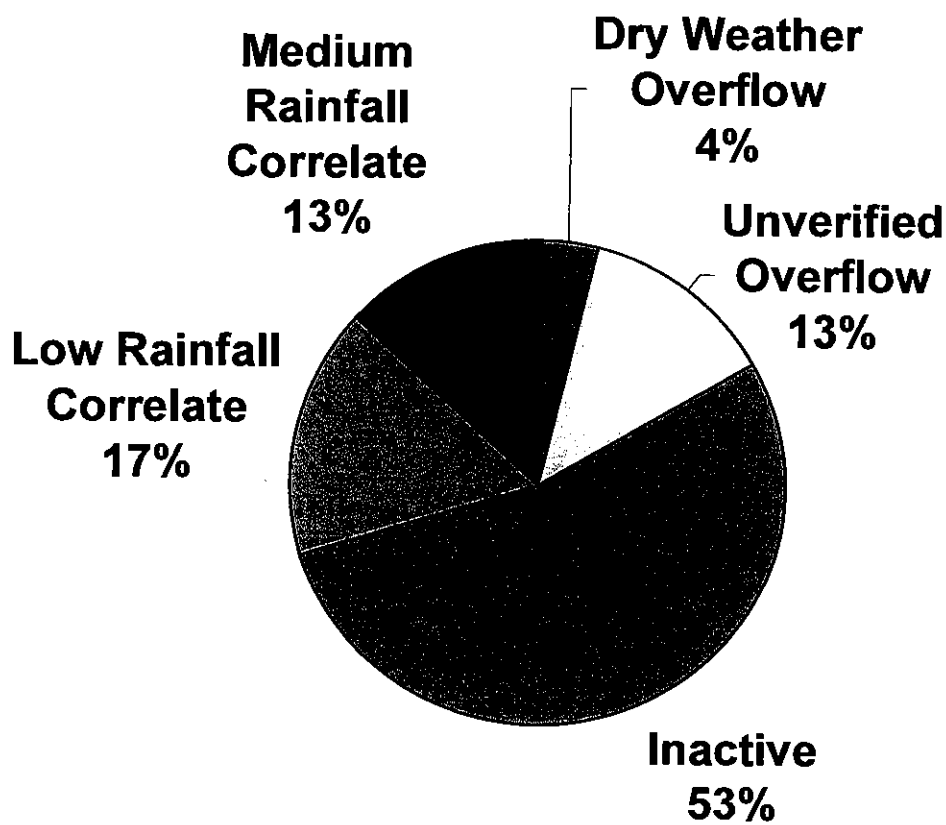


Figure 1 2007 Cumulative Number of Interconnections
No. of Interconnections
450
400
350
300
250
200
150
100
50
0
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
Year
Total = 390
Open = 142
Closed + Mitigated = 260
Closed = 248
Constructed
Closed
Closed & Mitigated

Figure 2
2006 SITE ANALYSIS BY CATEGORY



Interconnection Hourly Rainfall
Site 178 - May 1 to October 31, 2007

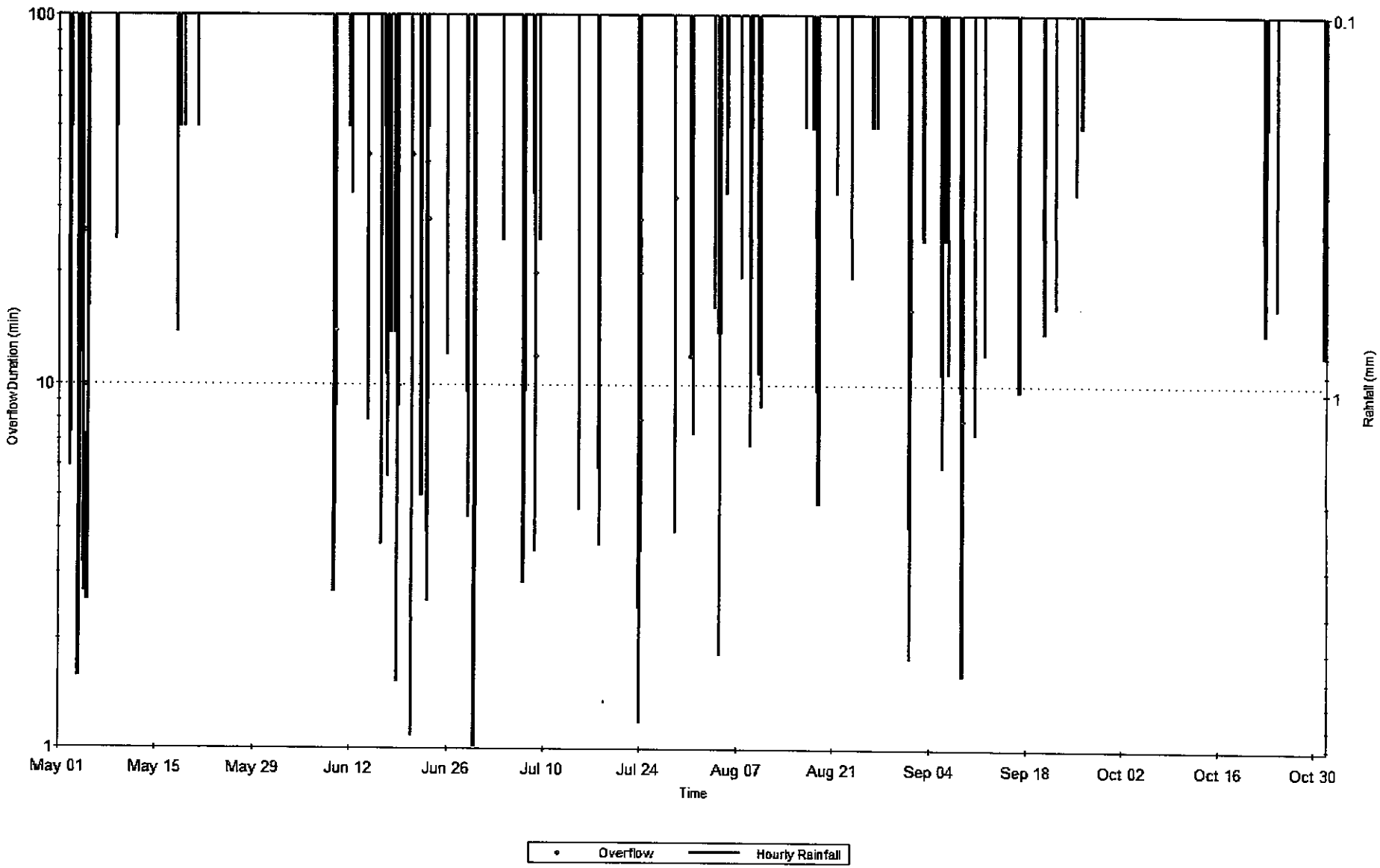
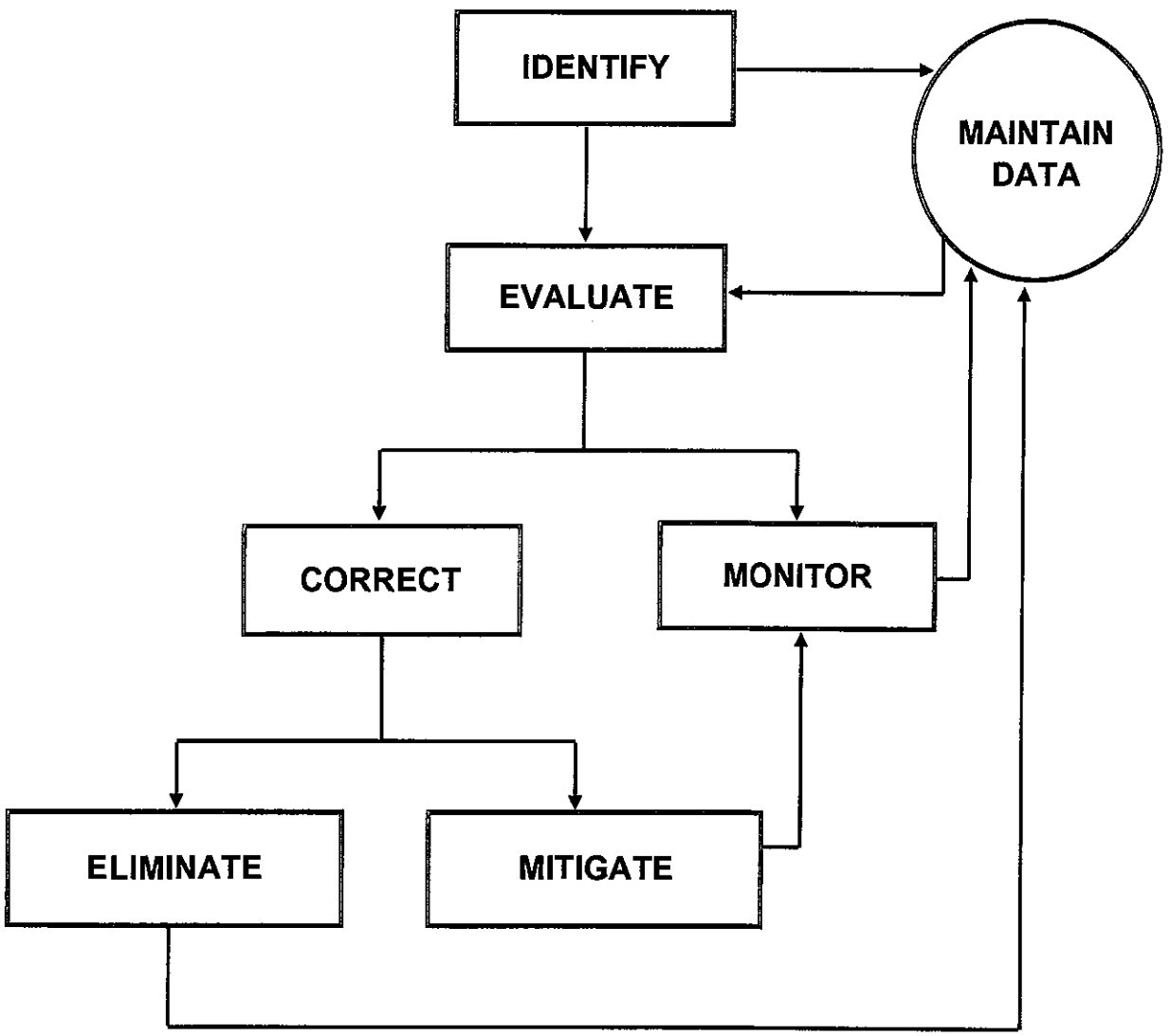


Figure ES1

INTERCONNECTION CONTROL STRATEGY
PERPETUAL MONITORING AND ASSESSMENT



APPENDIX A

Interconnection Database
December 31, 2007

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
INTERCONNECTIONS (sorted by IC Sites nos.)																						
12	97-177	241869	313225	046	T3	146	SUMMIT DR	321	10	01	30	71	30	49	HIGH PIPE	FALSE	RIVER	LEFT	1650	Crestwood	3.9	1
13	97-230	241881				W148	99					49				FALSE						2
14	96-041	315813	313224	803		W142	S. SUMMIT DR	303	28	02	30	61	55	61	OVERFLOW	FALSE	RIVER	LEFT	1650	Glenora	3.9	3
15	97-174	256174	343204	880		136	S102	303	28	07	138	43	43		OVERFLOW	FALSE	CREEK	LEFT	375	Glenora	3.5	4
16	96-040	239447	313223	801		ST GEORGE		303	28	03	122	55	29	55	LOW PIPE	FALSE	RIVER	LEFT	200	Glenora	3.8	5
17	97-176	239449	313223	802		E135	SVICTORIA DR	303	28	16	123	43				FALSE						6
18	96-085	255955	343203	813	435	134	ST GEORGE	303	28	05	124	64	29	64	HIGH PIPE	FALSE	CREEK	LEFT	200	Glenora	3.5	7
19	96-084	255954	343203	812	404	133	ST GEORGE	303	28	06	126	55	55	55	OVERFLOW	FALSE	CREEK	LEFT	200	Glenora	3.5	8
20	96-086	316420	343203	826		132	TWEEDSMUIR	303	28	09	134	49	29	49	OVERFLOW/V	FALSE	CREEK	LEFT	200	Glenora	3.5	9
21	96-088	255983	343203	839		E132	S103	303	22	10		54				FALSE						10
25	97-128	255832	343202	820	445	W123	102	231	14	06	46	50	52	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	11
26	97-127	255697	343202	827	456	W122	102	231	14	05	46	50	9	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	12
27	97-126	255840	343202	832	506	W121	102	231	14	04	46	50	78	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	13
28	97-125	255512	343201	805	402	W120	102	231	14	03	46	50	90	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	14
29	97-124	255520	343201	816	411	W119	102	231	14	02	46	50	13	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	15
30	97-123	255525	343201	830	416	W118	102	231	14	01	46	50	12	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	16
31	97-120	255534	343201	843	425	W117	102	231	12	11	46	50	11	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	17
32	97-119	255539	343201	855	431	W116	102	231	12	10	46	50	11	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	18
33	97-118	255562	343201	884	448	W114	102	231	12	08	46	50	8	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	19
34	97-117	265676	343605	805	805	W113	102	231	12	07	46	50	8	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	20
35	97-116	265685	343605	817	430	W112	102	231	12	05	46	50	8	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	21
36	97-115	265684	343605	821	412	112	102	231	12	04	46	50	30	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	22
37	97-114	265754	343605	833	414	111	102	231	12	03	46	50	46	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	23
38	97-113	316715	343605	801	405	114	N101	231	12	02	46	50	7	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	24
39	97-112	265677	343605	803	406	114	S101	231	12	01	46	50	7	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	25
41	97-142	245620	313625	871		W113	99	261	16	03	46	50	10	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	26
46	97-141	245707	313625	839	410	113	S99	261	16	02	46	50	13	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	27
47	97-144	239410	313221	815		115	100	261	16	05	46	54	30	54	OVERFLOW	FALSE	RIVER	LEFT	1275	Oliver	0.0	28
48	97-145	255558	343201	869	440	116	S101	261	16	06	46	54	7	54	LOW PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	29
49	97-122	257004	343606	803		114	104	231	12	13	46	50	27	50	LOW PIPE/WE	FALSE	RIVER	LEFT	1275	Oliver	0.0	30
50	97-109	256913	343210	835	404	W116	106	231	10	02	54	64	64	64	LOW PIPE	FALSE	RIVER	LEFT	3000	Queen Mary Park	0.0	31
51	97-108	256922	343210	846	412	W115	106	231	10	01	54	83	64	83	LOW PIPE	FALSE	RIVER	LEFT	3000	Queen Mary Park	0.0	32
52	97-107	263239	343617	857		102	111	205	12	02	54	68	14	68	FLOW SPLIT	FALSE	RIVER	LEFT	3000	Spruce Avenue	0.0	33
53	96-090	266055				RCMP	Kingsway					55				FALSE						34
57	97-132	272618	373219		440	W123	129	245	12	04	31	55	55	55	OVERFLOW	FALSE	RIVER	LEFT	2400	Calder	3.1	35
59	97-130	272636	373219		452	W121	129	245	12	02	31	55	55	55	OVERFLOW	FALSE	RIVER	LEFT	2400	Calder	3.1	36
60	97-129	272723	373220		401	W120	129	245	12	01	31	55	55	55	OVERFLOW	FALSE	RIVER	LEFT	2400	Calder	3.1	37
75	97-099	263753	343622		416	W87	114	141	10	05		56	56	13	OVERFLOW	FALSE						38
76	97-098	263758	343622		422	W86	114	141	10	04		56	56	13	OVERFLOW	FALSE						39
78	97-096	263708	343621		401	W83	114	141	10	02		56	56	13	OVERFLOW	FALSE						40
79	97-095	263709	343621		406	W82	114	141	10	01		56	56	13	OVERFLOW	FALSE						41
80	97-080	261662	343621		423	W80	113	125	10	03		56	56	13	OVERFLOW	FALSE						42
81	97-078	261672	343621		430	W79	113	125	10	01		56	56	13	OVERFLOW	FALSE						43
83	97-081	261660	343621		422	W80	114	125	10	04		56	56	13	OVERFLOW	FALSE						44
94	96-008	227272	283606	803	412	110	57	601	10	01	22	52	46	52	LOW PIPE	FALSE	RIVER	RIGHT	1500	Pleasantview	7.5	45
95	96-010	227234	283615		420	111	S60	601	10	02	22	54	54	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Pleasantview	7.5	46
98	96-002	224786	283220	807	418	112A	67	585	12	04	22	54	54	54	LOW PIPE	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	47
99	96-001	224790	283220	811	421	112	67	585	12	03	22	51	51	51	LOW PIPE	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	48
106		224867	283221		445	112	N76	585	12	15	22	54	47	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	49
107	96-007	224927	283221	813	448	112	N75	585	12	14	22	86	48	54	LOW PIPE	FALSE	RIVER	RIGHT	1500	McKernan	7.5	50
110	97-021	242851	313212	009	471	SASK DR	89	565	10	01	23D	53	48	50	LOW PIPE/WE	FALSE	RIVER	RIGHT	375	Windsor Park	5.7	51
111	97-022	242711	313212	008	443	W120	89	565	10	02	23D	53	49	50	LOW PIPE	FALSE	RIVER	RIGHT	375	Windsor Park	5.7	52
113	97-029	228112	283625		429	109	73	585	10	01	22	54	14	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	McKernan	7.5	53
114	96-018	227757	283616	842		109	67	585	14	06	22	51	46	51	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	54
116	96-009	227604	283615		406	109	65	585	14	04	22	54	49	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	55
117	96-011	227631	283615		428	109	64	585	14	03	22	54	50	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	56
118	96-012	227633	283615		429	109	63	585	14	02	22	54	49	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	57

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
119	96-013	227636	283615		431	109	62	585	14	01	22	54	49	54	OVERFLOW	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	58
120	97-045	227702	283615	842		109	61	601	10	03	22	54	54	54	DUAL	FALSE	RIVER	RIGHT	1500	Pleasantview	7.5	59
122	97-027	229960	283623	833		98	S72	581	12	07	92B	61	49	61	OVERFLOW	FALSE	CREEK	RIGHT	750	Hazeldean	0.0	60
124 (n/m)	97-028	229388	283618	819		98	S70	581	12	09	92B	61	50	61	OVERFLOW	FALSE	CREEK	RIGHT	750	Hazeldean	0.0	61
125	96-023	229520	283619	806	402	96	S71	581	12	05	92B	60	50	60	LOW PIPE	FALSE	CREEK	RIGHT	750	Hazeldean	0.0	62
128	96-030	229914	283622	855	457	95	71	581	12	02	92B	60	50	60	LOW PIPE/WE	FALSE	CREEK	RIGHT	750	Hazeldean	0.0	63
131	96-028	229883	283622	821	426	95	74	581	10	03	100	55	14	55	OVERFLOW/V	FALSE	CREEK	RIGHT	300	Ritchie	0.0	64
132	96-027	229875	283622	812	420	95	75	581	10	02	100	55	14	55	OVERFLOW/V	FALSE	CREEK	RIGHT	300	Ritchie	0.0	65
134	97-195	229993	313601	861	473	89	S77	541	16	02	44	55	49	55	LOW PIPE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	66
135	96-059	246571	313601	859	471	91	S77	541	16	01	44	55	28	55	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	67
136	96-057	229992	313601	856	464	91	77	545	10	01	44	55	28	55	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	68
139	96-053	229990	313601	828	435	91	S80	545	10	06	44	55	28	55	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	69
140	96-046	246491	313601	818	425	91	S81	545	10	07	44	55	22	55	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	70
141	97-005	246486	313601	806	415	91	S82	545	10	09	44	55	31	55	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	71
143	96-064	243161	313610	859		93	S83	545	10	14	116	55	39	55	OVERFLOW/V	FALSE	CREEK	RIGHT	750	Bonnie Doon	0.0	72
144	96-062	243904	313609	869	870	W93	L. S. 84	541	16	27	116	55	30	55	LOW PIPE	FALSE	CREEK	RIGHT	750	Bonnie Doon	0.0	73
147	96-066	243180	313610	867	437	87	S83	541	16	22	116	50	50	50	LOW PIPE/WE	FALSE	CREEK	RIGHT	750	Bonnie Doon	0.0	74
149	96-051	243858	313601	802	403	89	82	541	16	25	254	52	50	52	LOW PIPE	FALSE	CREEK	RIGHT	1050	Bonnie Doon	0.0	75
150	96-044	243860	313601	809		89	S82	541	16	24	44	55	46	55	LOW PIPE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	76
151	97-004	246493	313601	820		89	S81	545	10	08	44	55	46	55	LOW PIPE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	77
153	97-003	246506	313601		460	89	S78	545	10	03	44	55	28	55	LOW PIPE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	78
154	96-025	229777	283621	804	436	87	76	541	16	03	44	55	49	54	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	79
155	96-060	246574	313601	864	477	87	S77	541	16	04	44	55	49	55	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	80
156	96-058	246570	313601	857		87	77	541	16	05	44	55	49	55	LOW PIPE/WE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	81
157	96-045	246533	313601	815	421	87	81	541	16	21	44	55	49	55	LOW PIPE	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	82
158 (n/m)	97-212	251782	314005		416	85	S81	541	16	33		55	55	49	OVERFLOW	FALSE						83
159	97-211	251618	314005		423	85	S80	541	16	32		55	55	49	OVERFLOW	FALSE						84
161	97-210	251792	314005		432	85	S79	541	16	31		55	55	49	OVERFLOW	FALSE						85
162	97-209	251797	314005		437	85	S78	541	16	30		55	55	49	OVERFLOW	FALSE						86
163	97-208	231913	314005		442	85	S77	541	16	29		55	55	49	OVERFLOW	FALSE						87
164	97-205	251779	314005	804	408	83	S82	541	16	18	44	55	49	55	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	88
165	97-200	251786	314005	813	459	81	S81	541	16	11	44	55	50	55	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	89
167	97-198	251795	314005	824	435	81	S79	541	16	09	44	55	49	55	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	90
168 (n/m)	97-197	252003	314005	828	438	81	S78	541	16	08	44	55	49	55	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	91
169	97-196	231975	314005	832	443	81	S77	541	16	07	44	55	52	55	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	92
170	96-078	251764	314005	626	436	79	S79	541	16	12	44	56	49	56	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	93
171	96-075	251759	314005	818	431	79	S80	541	16	13	44	56	50	56	OVERFLOW/V	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	94
172	97-201	251787	314005	813	422	79	S81	541	16	14	44	56	50	56	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	95
173	97-204	251711	314004	808	404	77	S82	541	16	17	44	56	50	56	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	96
174 (n/m)	97-203	251466	314004	816	412	77	S81	541	16	16	44	56	50	56	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	97
175	97-202	251758	314004	826	415	77	S80	541	16	15	44	56	50	56	OVERFLOW	FALSE	RIVER	RIGHT	3800	King Edward Park	0.0	98
176	97-001	244348	313621	811	409	87	98	543	10	07	52	52	52	52	OVERFLOW	FALSE	RIVER	RIGHT	900	River Valley Riverside	0.0	99
177	97-218	244318	313621	809	406	88	98	543	10	06	52	52	52	52	HIGH PIPE	FALSE	RIVER	RIGHT	900	River Valley Riverside	0.0	100
178	97-217	244347	313621	804	401	92	98	543	10	05	256	52	52	52	OVERFLOW	FALSE	RIVER	RIGHT	500	Cloverdale	0.0	101
179	97-214	244406	313622	807	420	97	N97	543	10	01	50	69	68	69	OVERFLOW	FALSE	RIVER	RIGHT	1500	Cloverdale	0.0	102
180	97-161	244671	313617	808	418	103	97	281	10	17	46	50	5	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Rossdale	0.0	103
181	97-159	245429	313624	869	447	104	S98	281	10	15	46	41	7	41	LOW PIPE	FALSE	RIVER	LEFT	1275	Rossdale	0.0	104
182	97-158	245174	313617	807	416	104	97	281	10	14	46	50	5	50	LOW PIPE	FALSE	RIVER	LEFT	1275	Downtown	0.0	105
183	97-157	245040	313617	805		105	97					50				FALSE						106
184	97-156	245170	313617	806		106	97					70				FALSE						107
185	97-138	262096	343603	913	442	99	101	261	12	02	243	50	8		LOW PIPE	FALSE	RIVER	LEFT	1980	Downtown	0.0	108
191	97-002	246377	313613	813		100	SASK DR	543	10	08	188	52	12	52	CHAMBER	FALSE	RIVER	RIGHT	1200	Strathcona	0.0	109
192 (n/m)	97-015	246867	313613	843	412	100	89	561	12	04	188	53	53	53	LOW PIPE/WE	FALSE	RIVER	RIGHT	1200	River Valley Walterdale	0.0	110
193	97-014	246787	313608	848	405	102	85	561	12	03	37	79	13	79	HIGH PIPE	FALSE	RIVER	RIGHT	900	Strathcona	0.0	111
194	97-013	246808	313608	863	406	102	83	561	12	02	37	79	35	79	HIGH PIPE	FALSE	RIVER	RIGHT	900	Strathcona	0.0	112
195	97-012	246799	313608	876	407	102	84	561	12	01	37	79	35	79	HIGH PIPE	FALSE	RIVER	RIGHT	900	Strathcona	0.0	113
198	97-152a	244681	313617	024	818	105	S96	281	10	08	47	52	23	52	DUAL	FALSE	RIVER	LEFT	1050	Rossdale	0.0	114
199	97-151	245152	313617	818	502	105	96	281	10	07	47	52	23	52	LOW PIPE	FALSE	RIVER	LEFT	1050	Rossdale	0.0	115
200	97-146	245204	313613	821	443	101	94	281	10	01	188	52	11	52	LOW PIPE	FALSE	RIVER	RIGHT	1200	Rossdale	0.0	116

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
201	97-148	245009	313613	802	416	101	S94	281	10	03	145	52	11	52	OVERFLOW/V	FALSE	RIVER	LEFT	300	Rossdale	0.0	117
202	97-163	245209	313618	805		100A	97					50				FALSE				Rossdale		118
204	97-221	245216				E101	96					57				FALSE				Rossdale		119
206	97-213	243177	313610	866		W87	S83	541	16	34		49			LOW PIPE	FALSE				Bonnie Doon		120
220	96-006	242107	313201	807	438	113	L. N. 79	585	12	16	22	54	47	54	LOW PIPE	FALSE	RIVER	RIGHT	1500	Parkallen	7.5	121
221		227702	283615			109	61	601	10	04	22	54	54	54	OVERFLOW/V	FALSE	RIVER	RIGHT		Pleasantview		122
223		246523	313601	814		93	81	545	10	15		55			LOW PIPE	FALSE				Bonnie Doon		123
224		243209				89	83	541	16			56			LOW PIPE	FALSE				Bonnie Doon		124
226		245511	313625	801		111	97	281	10	10	46	50	5	50	HIGH PIPE	FALSE	RIVER	LEFT	1275	Oliver	0.0	125
230 (n/m)		270510	344005				n. Borden Park	125	10			56				FALSE				Edmonton Northlands		126
234		246738	313614			102 (Tommy Ba	Saskatchewan Drv.	561	12		37	71				FALSE				Strathcona		127
235		262142	343603			100	S. Jasper AVE	281	10		47	26				FALSE				Downtown		128
238		246111	313608			101	81					79				FALSE				River Valley Walterdale		129
240 (n/m)		255527				119	S102					71				FALSE				Oliver		130
243 (n/m)		263242				102	111					68				FALSE				Central McDougall		131
244 (n/m)		263246				102	110					68				FALSE				Central McDougall		132
245 (n/m)		263247				102	110					68				FALSE				Central McDougall		133
249		242945	313218			Hawrelak Park						66				FALSE				Hawrelak Park		134
250 (03,n/m)		255647				W114	N101					88				FALSE				Oliver		135
254 (03,n/m)		245584				112	98				46	50				FALSE				Oliver		136
255 (03,n/m)		245344				104	98					50				FALSE				Downtown		137
258(03)		247763	313614			103	Sask. Dr					71				FALSE				River Valley Walterdale		138
259 (03,n/m)		270391				73	N112					56				FALSE				Virginia Park		139
262 (05)		255832				Groat	102					47				FALSE				Oliver		140
264 (05, n/m)		278091				105	130					59				FALSE				Lauderdale		141
265 (06, n/m)		240896				137	82					65			DUAL	FALSE				Laurier Heights		142

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
CLOSED INTERCONNECTIONS (sorted by Basin/SubBasin/IC nos.)																						
			344416	809		E34	N102	101	20	02	71	66	66	66	COMMON	TRUE	RIVER	LEFT	1200	Rundle Heights	0.0	1
			344416	808		35	102	101	20	03	71	66	66	66	COMMON	TRUE	RIVER	LEFT	1200	Rundle Heights	0.0	2
			344416	807		36	102	101	20	04	71	66	66	66	COMMON	TRUE	RIVER	LEFT	1200	Rundle Heights	0.0	3
			344020		411	37	103	101	20	05	71	66	66	66	COMMON	TRUE	RIVER	LEFT	1200	Rundle Heights	0.0	4
			344416	803		E34	103	101	20	07	71	66	66	66	COMMON	TRUE	RIVER	LEFT	1200	Rundle Heights	0.0	5
			374011	011	420	W38	123	101	24	01	88	80	80	80	HIGH PIPE	TRUE	CREEK	LEFT	1350	Bergman	0.0	6
			374414	PW		HOOKE RD	HERMITAGE	103	10	01	74	64	64	64	PUMPWELL	TRUE	RIVER	LEFT	7620	Canon Ridge	0.0	7
			344023	869		55	S ADA BLVD	121	10	01	62	65	65	65	OVERFLOW	TRUE	RIVER	LEFT	1200	River Valley Highlands	0.0	8
			343621		417	W81	114	125	10	05		56	56	13	OVERFLOW	TRUE						9
			343602	832		94	CAMERON	125	14	01	148	51	51	51	DUAL	TRUE	RIVER	LEFT	450	Riverdale	0.0	10
			343602	831		W94	CAMERON	125	14	02	148	51	51	51	DUAL	TRUE	RIVER	LEFT	450	Riverdale	0.0	11
			343602	830		E95	CAMERON	125	14	03	148	51	51	51	DUAL	TRUE	RIVER	LEFT	450	Riverdale	0.0	12
			343602	829		E95	CAMERON	125	14	04	148	51	51	51	DUAL	TRUE	RIVER	LEFT	450	Riverdale	0.0	13
			343610	804	404	88	102	125	14	05	53	52	50	52	LOW PIPE	TRUE	RIVER	LEFT	675	Riverdale	0.0	14
			343610	810	405	87	102	125	14	06	53	67	52	67	LOW PIPE	TRUE	RIVER	LEFT	675	Riverdale	0.0	15
			343609	868	411	89	ROWLAND RD	125	14	07	152	43	11	42	LOW PIPE	TRUE	RIVER	LEFT	450	Riverdale	0.0	16
			343609	874		88	104	125	14	08	155B	24	10	24	LOW PIPE	TRUE	RIVER	LEFT	600	Riverdale	0.0	17
			343609	873		88	104	125	14	09	155A	24	10	24	HIGH PIPE	TRUE	RIVER	LEFT	600	Riverdale	0.0	18
			343602	858	435	94	ROWLAND RD	125	14	10	148	42	11	42	LOW PIPE	TRUE	RIVER	LEFT	450	River Valley Kinnaird	0.0	19
			373602	835	411	89	117	143	16	01	56	14	14	14	CHAMBER	TRUE	RIVER	LEFT	1950	Parkdale	0.0	20
			373601		429	N RACE TRK	NORTHLANDS	143	18	01	56	64	64	64	OVERFLOW	TRUE	RIVER	LEFT	1950	Edmonton Northlands	0.0	21
			373601		411	E80	S116	143	18	02	56	57	57	57	OVERFLOW C	TRUE	RIVER	LEFT	1950	Edmonton Northlands	0.0	22
			373619	802		86	127	161	14	01	74	58	58	58	DROP MANHC	TRUE	RIVER	LEFT	7620	Killarney	0.0	23
			373919	410		90	127	161	16	01	74	58	58	58	LOW PIPE TE	TRUE	RIVER	LEFT	7620		0.0	24
			373601	870	411	E80	116	163	10	01	56	57	57	57	CHAMBER	TRUE	RIVER	LEFT	1950	Parkdale	0.0	25
			343617	835		105	KINGSWAY	205	12	01	54	68	68			TRUE	RIVER	LEFT	3000	Central McDougall	0.0	26
			343211		418	116	107	231	10	03	54	72	72	72	MEMBRANE F	TRUE	RIVER	LEFT	3000	Queen Mary Park	0.0	27
			343605	811		113	102	231	12	06	46	50	30	50	OVERFLOW	TRUE	RIVER	LEFT	1275	Oliver	0.0	28
			343201	874	441	W115	102	231	12	09	46	50	8	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Oliver	0.0	29
			343605	001	T1	114	N103	231	12	12	46	64	64	50	LOW PIPE TE	TRUE	RIVER	LEFT	1275	Oliver	0.0	30
			343223	007		E133	S116	241	16	01	31	54	54	54	COMMON	TRUE	RIVER	LEFT	2400	Woodcroft	3.1	31
			373215	802		143	N YELLOWHD	243	16	01	30	61	61	61	COMMON	TRUE	RIVER	LEFT	1650	Brown Industrial	3.9	32
			373224	007		ST ALBERT	130	243	18	01	31	66	66	66	COMMON	TRUE	RIVER	LEFT	2400	Bonaventure Industrial	3.1	33
			373215	801		149	SYELLOW HD	243	20	01	31	63	63	63	COMMON	TRUE	RIVER	LEFT	2400	Brown Industrial	3.1	34
			373219		427	W124	129	245	12	06	31	55	55	55	OVERFLOW	TRUE	RIVER	LEFT	2400	Calder	3.1	35
			373219		417	W126	129	245	12	07	31	55	55	55	OVERFLOW	TRUE	RIVER	LEFT	2400	Calder	3.1	36
			433202	PW		E DUNLUCE	161	247	12	01	75	78	78	78	PUMPWELL	TRUE	RIVER	LEFT	2250	Calder	0.0	37
			343603	854	417	100	101	261	12	01	48	26	5	26	LOW PIPE	TRUE	RIVER	LEFT	1500	Downtown	0.0	38
			343602	049		96	GRIERSON	261	12	03	49	62	62	62	OVERFLOW C	TRUE	RIVER	LEFT	1200	Downtown	0.0	39
			343603	862		100	101	261	16	01	48	70	66	50	OVERFLOW	TRUE	RIVER	LEFT	1500	Downtown	0.0	40
			313613	PW		101	S94	281	10	02	145	52	11	52	PUMPWELL	TRUE	RIVER	LEFT	300	Rossdale	0.0	41
			313618	821	443	101	94	281	10	04	145	52	11	52	LOW PIPE	TRUE	RIVER	LEFT	300	Rossdale	0.0	42
			313618	836	OF	E100	95	281	10	05	241	57	57	57	OVERFLOW	TRUE	RIVER	LEFT	375	Rossdale	0.0	43
			313617	007	479	106	95	281	10	06	42	85	85	58	LOW PIPE	TRUE	RIVER	LEFT	600	Downtown	0.3	44
			313617	504		103	96	281	10	09	47	52	33	52	OVERFLOW	TRUE	RIVER	LEFT	1050	Rossdale	0.0	45
			313616	803	402	110	97	281	10	11	46	50	15	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Oliver	0.0	46
			313617	805	414	106	97	281	10	12	46	50	5	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Downtown	0.0	47
			313617	806	415	105	97	281	10	13	46	50	5	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Downtown	0.0	48
			313624	905	417	BELLAMY H	N97	281	10	16	46	50	50	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Rossdale	0.0	49
			313617	838	419	102	97	281	10	18	46	50	5	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Rossdale	0.0	50
			313618	802	402	101	97	281	10	19	46	50	5	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Rossdale	0.0	51
			313618	805	405	100A	97	281	10	20	46	50	5	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Rossdale	0.0	52
			313618	806	OF	100	97	281	10	21	45	50	5	50	OVERFLOW/V	TRUE	RIVER	LEFT	600	Rossdale	0.0	53
			313625	843		112	98	281	10	22	46	50	5	50	LOW PIPE TE	TRUE	RIVER	LEFT	1275	Downtown	0.0	54
			313623	827		W100	99	281	10	23	109	7	5	7	LOW PIPE TE	TRUE	RIVER	RIGHT	500	Rossdale	0.0	55
			313623	828	511	100	99	281	10	24	109	7	5	7	LOW PIPE	TRUE	RIVER	RIGHT	500	Rossdale	0.0	56
			313623	828	511	100	99	281	10	25	109	7	7	7	LOW PIPE	TRUE	RIVER	RIGHT	500	Rossdale	0.0	57

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
			313623	831	OF	SW LOW LVL	BRIDGE	281	10	26	48	29	5	29	HOLE	TRUE	RIVER	LEFT	1500	Rossdale	0.0	58
			313617	873	417	BELLAMY RD	97	281	10	27	46	62	62	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Rossdale	0.0	59
			313623	819	497	E100	MCDONALD	281	10	28	48	57	10	29	LOW PIPE	TRUE	RIVER	LEFT	1500	Downtown	0.0	60
			343214	801		137	N108	303	14	01	31	53	53	53	DUAL	TRUE	RIVER	LEFT	2400	North Glenora	3.1	61
			343213	4		133	N109A	303	14	02	31	52	52	52	HIGH PIPE	TRUE						62
			343218	819		133	N110A	303	14	03	31	52	52	52	LOW PIPE	TRUE						63
			343214	29		139	N107A	303	20	01	31	52	52	52	LOW PIPE	TRUE						64
			343214	56		135	N107A	303	20	02	31	52	52	52	LOW PIPE	TRUE						65
			343213	18		133	107A	303	20	03	31	52	52	52	LOW PIPE	TRUE						66
			343208	826		E132	STONY PLAIN RD	303	22	02		48	48	15		TRUE						67
			343202	17		125	SJASPER	303	26	02	46	34			PUMPWELL	TRUE						68
			313224	811		W139	RAVINE DR	303	28	01	30	61	55	61	OVERFLOW	TRUE	RIVER	LEFT	1650	River Valley Capitol Hill	3.9	69
			313223	PW		ST GEORGE	VICTORIA C	303	28	04	123	64	29	55	PUMPWELL	TRUE	CREEK	LEFT	200	Glenora	3.5	70
			343203	SOF		W132	TWEEDSMUIR	303	28	08	135	50	50	50	OUTFALL	TRUE	CREEK	LEFT	100	Glenora	3.5	71
			343203	839		E132	S103	303	28	10	125	54	54		DUAL	TRUE	CREEK	LEFT	200	Glenora	3.5	72
			343204	841		139	101	303	28	15		65	65	51		TRUE						73
			342823	PW		163	116	341	16	01	18	75	74	75	PUMPWELL	TRUE	RIVER	LEFT	2400	Norwester Industrial	8.9	74
			372810	PW		154	123	341	16	02	18	80	80	80	PUMPWELL	TRUE	RIVER	LEFT	2400	Mitchell Industrial	8.9	75
			342807	014		170	105	343	16	01	18	75	75	75	OVERFLOW	TRUE	RIVER	LEFT	2400	McNamara Industrial	8.9	76
			312820	PW		151	N94	361	12	01	29	58			PUMPWELL	TRUE	RIVER	LEFT	1650	Sherwood	4.9	77
			282819	PW		WOLF WIL R	WOLF WIL C	367	12	01	13	75	75	75	PUMPWELL	TRUE	RIVER	LEFT	1950	Westridge	10.8	78
			252420	PW		E WEDGEWOO	WEAVER DR	369	20	01	257	88			PUMPWELL	TRUE	CREEK	LEFT	900	Wedgewood Heights	16.2	79
			313204	075		BV RD	81	375	12	02	21	59	57	58	LOW PIPE TE	TRUE	RIVER	LEFT	1350	Laurier Heights	7.3	80
			313204	PW		BV RD	VAL VIEW C	375	12	03	21	58	57	58	PUMPWELL	TRUE	RIVER	LEFT	1350	Parkview	7.3	81
			313204	803		N BV RD	VAL VIEW C	375	12	04	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	82
			313207	085		VAL VIEW C		375	12	05	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	83
			313207	511		VAL VIEW C		375	12	06	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	84
			313207	087		VAL VIEW C		375	12	07	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	85
			313208	003		VAL VIEW C		375	12	08	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	86
			313208	002		VAL VIEW C		375	12	09	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	87
			313208	001		VAL VIEW C		375	12	10	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	88
			313207	088		E136	VAL VIEW C	375	12	11	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	89
			313204	077		VAL VIEW C	86	375	12	12	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	90
			313204	076		VAL VIEW C	86	375	12	13	21	60	60	60	COMMON	TRUE	RIVER	LEFT	1350	Parkview	7.3	91
			344018		414	W65A	109	501	10	01	65	57	56	57	FLOW SPLIT	TRUE	RIVER	RIGHT	900	Capilano	0.0	92
			344007	850		W FULTON D	106	501	12	01	58	59	59	59	DROP MANH(	TRUE	RIVER	RIGHT	1350	Fulton Place	0.0	93
			344007	467		E CAPILANO	106	501	12	02	58	59	59	59	CHAMBER	TRUE	RIVER	RIGHT	1350	Capilano	0.0	94
			313601	858		85	82	541	16	20	254	52	49	52		TRUE	CREEK	RIGHT	1050	Bonnie Doon	0.0	95
			313622	819	408	96A	98	543	10	02	51	60	26	60	OVERFLOW/V	TRUE	RIVER	RIGHT	600	Cloverdale	0.0	96
			313621	802	401	92	98	543	10	03	256	59	46	59	LOW PIPE	TRUE	RIVER	RIGHT	500	Cloverdale	0.0	97
			313621	814	401	92	S98	543	10	04	256	46	46	46	LOW PIPE	TRUE	RIVER	RIGHT	500	Cloverdale	0.0	98
			313602	848		W94	S81	545	10	10	254	83	58	83	DROP MANH(	TRUE	CREEK	RIGHT	1050	Mill Creek Ravine	0.0	99
			283620		436	91	70	545	14	01	92B	54		61	OUTFALL - NE	TRUE	CREEK	RIGHT	750	Mill Creek Ravine	0.0	100
			283620		457	90	70	545	14	02	192	54			OUTFALL - NE	TRUE	CREEK	RIGHT	300	Mill Creek Ravine	0.0	101
			283621		415	91	72	545	14	03	191	54		54	OUTFALL - NE	TRUE	CREEK	RIGHT	525	Mill Creek Ravine	0.0	102
		229761?	283621		450	W87	73	545	14	04	93	56		56	OUTFALL - NE	TRUE	CREEK	RIGHT	675	Mill Creek Ravine	0.0	103
			283620		420	91	66	545	14	05	91	54	54	54	OUTFALL - NE	TRUE	CREEK	RIGHT	750	Mill Creek Ravine	0.0	104
			283611		419	92	63	545	16	01	194	54	54		OUTFALL - NE	TRUE	CREEK	RIGHT	750	Mill Creek Ravine	0.0	105
			283611		423	91	63	545	16	02	193	61		54	OUTFALL - NE	TRUE	CREEK	RIGHT	300	Mill Creek Ravine	0.0	106
		229112?	283611		416	90	65	545	16	03	91B	54	54		OUTFALL - NE	TRUE	CREEK	RIGHT	600	Mill Creek Ravine	0.0	107
		229130?	283611		433	90	65	545	16	04	91A	54	54	54	OUTFALL - NE	TRUE	CREEK	RIGHT	900	Mill Creek Ravine	0.0	108
			283621		413	W93	67	545	16	05	195	54			OUTFALL - NE	TRUE	CREEK	RIGHT	750	Mill Creek Ravine	0.0	109
			283610	004	403	92	60	545	18	01	90	68	68	68	LOW PIPE	TRUE	CREEK	RIGHT	750	Coronet Industrial	0.0	110
			283610		403	92	60	545	18	02	90	68	68	68	LOW PIPE	TRUE	CREEK	RIGHT	750	Coronet Industrial	0.0	111
			313609	867	TUN	92	84	561	10	01	116	55	30	55	OUTFALL	TRUE	CREEK	RIGHT	750	Mill Creek Ravine	0.0	112
			313614	835	463	N QE RD		563	12	01	39	55	55	55	LOW PIPE	TRUE	RIVER	RIGHT	600	River Valley Walterdale	0.0	113
			313614	PW		E104	N SASK DR	563	12	02	37	56	56	51	PUMPWELL	TRUE	RIVER	RIGHT	900	River Valley Walterdale	0.0	114
			313614	PW		E104	N SASK DR	563	12	03	37	56	56	51	PUMPWELL	TRUE	RIVER	RIGHT	900	River Valley Walterdale	0.0	115
			313614	003		102	SASK RIVER	563	12	04	38	56	56	56	CHECK VALV	TRUE	RIVER	RIGHT	750	River Valley Walterdale	0.0	116

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
			313613	424		LAVIGNE RD	91	563	12	06	188	88	90			TRUE	RIVER	RIGHT	1200	River Valley Walterdale	0.0	117
			313219	PW		118	SASK DR	565	10	03	32	53	53	53	PUMPWELL	TRUE	RIVER	RIGHT	1200	Windsor Park	2.6	118
			313219		446	116	N SASK DR	565	10	05	32	55	40	55	LOW PIPE TE	TRUE	RIVER	RIGHT	1200	Windsor Park	2.6	119
			283619	803	403	97	S71	581	12	06	92B	60	50	60	LOW PIPE	TRUE	CREEK	RIGHT	750	Hazeldean	0.0	120
			283625	840	428	E111	73	585	12	06	22	54	48	54	LOW PIPE/WE	TRUE	RIVER	RIGHT	1500	McKernan	7.5	121
			283221	818		112	74	585	12	17	22	54	49	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	122
			283221	808		112	N76	585	12	18	22	47	47	47	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	123
			283219	801		BELGRAVIA	N68	603	12	01	22	59	59	59	COMMON	TRUE	RIVER	RIGHT	1500	Lendrum Place	7.5	124
			253221	038		113A	46	607	10	01	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	125
			253221	502		112	46	607	10	02	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	126
			253221	040		111A	46	607	10	03	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	127
			253221	505		111A	N46	607	10	04	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	128
			253221	022		111A	S48	607	10	05	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	129
			253625		496	111A	N48	607	10	06	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	130
			253221	806		W111A	48	607	10	07	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	131
			253221	807		W111A	48	607	10	08	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	132
			253221	808		W111A	48	607	10	09	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	133
			253221	504		113A	46	607	10	10	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Malmo Plains	8.7	134
			253212	051		E121	FAIRWAY	609	10	01	2	66	66	66	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	135
			253212	489		E121	FAIRWAY	609	10	02	2	66	66	66	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	136
			253212	053		E121	FAIRWAY	609	10	03	2	66	66	66	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	137
			253219	808		ASPEN DR	40	609	10	04	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	138
			253219	055		ASPEN DR	N40	609	10	05	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	139
			253219	056		ASPEN DR	N40	609	10	06	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	140
			253219	054		ASPEN DR	S41A	609	10	07	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	141
			253219	053		ASPEN DR	S41A	609	10	08	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	142
			253219		480	ASPEN DR	41A	609	10	09	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	143
			253219	052		ASPEN DR	N41A	609	10	10	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	144
			253219	057		ASPEN DR	N41A	609	10	11	2	63	63	63	COMMON	TRUE	CREEK	RIGHT	2100	Aspen Gardens	8.7	145
			253202		466	WESTBRK DR		609	12	01	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	146
			253202		465	WESTBRK DR		609	12	02	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	147
			253202		468	WESTBRK DR		609	12	03	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	148
			253202		464	WESTBRK DR		609	12	04	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	149
			253202		467	WESTBRK DR		609	12	05	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	150
			253203	018		WESTBRK DR		609	12	06	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	151
			253203		424	WESTBRK DR		609	12	07	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	152
			253203	022		WESTBRK DR		609	12	08	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	153
			253203	021		WESTBRK DR		609	12	09	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	154
			253203	020		WESTBRK DR		609	12	10	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	155
			253203	019		WESTBRK DR		609	12	11	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	156
			253203		423	WESTBRK DR		609	12	12	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	157
			253208	019		WESTBRK DR		609	12	13	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	158
			253208		417	WESTBRK DR		609	12	14	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	159
			253208		416	WESTBRK DR		609	12	15	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	160
			253208	016		WESTBRK DR		609	12	16	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	161
			253208	015		WESTBRK		609	12	17	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	162
			253208		413	WESTBRK DR		609	12	18	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	163
			253208	013		WESTBRK	FAIRWAY DR	609	12	19	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	164
			253208	012		WESTBRK	W FAIRWAY	609	12	20	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	165
			253208		410	WESTBRK	W FAIRWAY	609	12	21	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	166
			253208	010		WESTBRK DR		609	12	22	1	62	62	62	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	167
			253208	001	401	WESTBRK	MARLBORO	609	12	26	1	64	64	61	HIGH PIPE	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	168
			253213		422	MARLBORO R		609	12	31	1	66	66	66	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	169
			253214	006		MARLBORO R		609	12	32	1	66	66	66	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	170
			253214	005		MARLBORO R		609	12	33	1	66	66	66	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	171
			253214	004		MARLBORO R		609	12	34	1	66	66	66	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	172
			253213	038		MARLBORO R		609	12	35	1	66	66	66	COMMON	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	173
			282810	002	403	E WHITEMUD	58	621	14	02	12	74	71	72	HIGH PIPE	TRUE	RIVER	RIGHT	750	River Valley Whitemud	10.9	174
			282811	011	405	FORT EDM		621	16	01	14	70	70	70	PUMPWELL	TRUE	RIVER	RIGHT	1050	River Valley Whitemud	10.0	175

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
			252819	PW		RODNEY CR		623	14	01	101	80			PUMPWELL	TRUE	RIVER	RIGHT	1500	Rhatigan Ridge	13.3	176
			253613	801		101	N39	643	10	01	9	75	75	66	COMMON	TRUE	RIVER	RIGHT	5100	Strathcona Industrial Park	12.8	177
			253618	801		101	S41	643	10	02	9	66	66	66	COMMON	TRUE	RIVER	RIGHT	5100	Strathcona Industrial Park	12.8	178
			253602	012		W97	30	645	10	01	9	75	75	75	MEMBRANE I	TRUE	RIVER	RIGHT	5100	Parsons Industrial	12.8	179
			253602	013		97	30	645	10	02	9	75	75	75	MEMBRANE I	TRUE	RIVER	RIGHT	5100	Parsons Industrial	12.8	180
			253602	014		E97	30	645	10	03	9	75	75	75	MEMBRANE I	TRUE	RIVER	RIGHT	5100	Parsons Industrial	12.8	181
			253603		445		30	645	10	04	9	71			MEMBRANE I	TRUE	RIVER	RIGHT	5100	Parsons Industrial	12.8	182
			253203		412	E125	29A	687	16	02	9	78	78	78		TRUE	RIVER	RIGHT	5100	Blue Quill Estates	12.8	183
						E101	96					57				TRUE						184
						100	90					52				TRUE						185
							n. Borden Park					56				TRUE						186
146 (98)	97-207	243102	313610	856	438	87	S84	541	16	23	116	56	56	56	LOW PIPE/WE	TRUE	CREEK	RIGHT	750	Bonnie Doon	0.0	187
160 (98)	96-054	246554	313601	836	424	85	79	541	16	06	44	55	49	55	LOW PIPE/WE	TRUE	RIVER	RIGHT	3800	King Edward Park	0.0	188
152 (98)	96-048	246559	313601	842	447	89	S79	545	10	05	44	55	53	55	LOW PIPE	TRUE	RIVER	RIGHT	3800	King Edward Park	0.0	189
222 (98)		246649	313602	876		94	81	545	10	11	254	55	22	55	OVERFLOW	TRUE	CREEK	RIGHT	1050	Mill Creek Ravine	0.0	190
137 (99)	96-056	246564	313601	850	457	91	S78	545	10	02	44	55	28	55	LOW PIPE/WE	TRUE	RIVER	RIGHT	3800	King Edward Park	0.0	191
138 (99)	96-055	246552	313601	840	445	91	S79	545	10	04	44	55	53	55	LOW PIPE/WE	TRUE	RIVER	RIGHT	3800	King Edward Park	0.0	192
145 (99)	96-063	243986	313610	852		93	S84	541	16	26	116	55	30	50	OVERFLOW/V	TRUE	CREEK	RIGHT	750	Bonnie Doon	0.0	193
231 (99)		255784	343209			127	Villa Ave	303	26			88				TRUE						194
232 (99)		278099	403604			101	132	201	16			54				TRUE						195
233 (99)		293599	403604			101	134	201	16			54				TRUE						196
127 (00)	96-022	229524	283619	809		95	S71	581	12	03	92B	60	50	60	OVERFLOW	TRUE	CREEK	RIGHT	750	Hazeldean	0.0	197
126 (00)	96-024	229513	283619	817		95	S70	581	12	04	92B	60	50	60	OVERFLOW	TRUE	CREEK	RIGHT	750	Hazeldean	0.0	198
142 (00)	96-061	243861	313602	883	431	94	82	545	10	12	245	52	50	52	LOW PIPE	TRUE	RIVER	RIGHT	225	Mill Creek Ravine	0.0	199
23 (01)	96-089	256682	343208	826		132	S. Stony Plain Rd.	303	22	02	129	50	28	50	FLOW SPLIT	TRUE	CREEK	LEFT	250	Glenora	3.5	200
115 (01)	96-017	227606	283616		437	109	66	585	14	05	22	54	49	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	Parkallen	7.5	201
123 (01)	96-020	229418	283618	815		98	L..S. 71	581	12	08	92B	61	50	61	OVERFLOW	TRUE	CREEK	RIGHT	750	Hazeldean	0.0	202
129 (01)	96-031	229911	283621	856	448	95	72	581	12	01	191	54	50	54	LOW PIPE/WE	TRUE	CREEK	RIGHT	525	Hazeldean	0.0	203
197 (01)	97-020	247820		820	504	Walterdale Rd.	Queen Elizabeth Hill					52				TRUE						204
112 (02)	97-024	242968	313219	006		118	EDINBORO R	565	10	04	32	53	53	53	LOW PIPE	TRUE	RIVER	RIGHT	1200	Windsor Park	2.6	205
237 (02)		242084	313201			113	N78					54				TRUE						206
2 (02)	97-051	209501	253208	801		WESTBRK DR		609	12	23	1	88	62	62	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	207
3 (02)	97-052	209500	253207	802		WESTBRK DR		609	12	24	1	88	62	62	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	208
4 (02)	97-053	209498	253207	801		WESTBRK DR		609	12	25	1	88	62	62	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	209
5 (02)	97-055	209510	253208	804		MARLBORO R		609	12	27	1	88	66	66	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	210
6 (02)	97-056	209548	253208	803		MARLBORO R		609	12	28	1	88	66	66	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	211
7 (02)	97-057	209545	253208	802		MARLBORO R		609	12	29	1	88	66	66	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	212
8 (02)	97-058	303873	253213	801		MARLBORO R		609	12	30	1	88	66	66	DUAL	TRUE	CREEK	RIGHT	900	Westbrook Estate	8.7	213
133 (02)	96-026	229869	283622	806	409	95	76	581	10	01	100	55	14	55	OVERFLOW/V	TRUE	CREEK	RIGHT	300	Ritchie	0.0	214
196 (02)	97-224	247806	313614	006		E104	N SASK DR	563	12	05	38	56	56	51	DUAL	TRUE	RIVER	RIGHT	750	River Valley Walterdale	0.0	215
10 (03)	97-179	240041	313207	013		142	BUENA VIST	321	14	01	24	58	57	58	HIGH PIPE	TRUE	RIVER	LEFT	1500	Parkview	5.6	216
22 (03)	96-087	255979	343203	836		E132	N103	303	22	01	130	54	54	54	DUAL	TRUE	CREEK	LEFT	300	Glenora	3.5	217
24 (03)	97-171	255675	343202	16		125	SJASPER	303	26	01	46	34			LOW PIPE	TRUE						218
55 (03)	97-136	272597	373219		421	W125	129	245	12	08	31	55	55	55	OVERFLOW	TRUE	RIVER	LEFT	2400	Calder	3.1	219
56 (03)	97-133	272607	373219		433	W123A	129	245	12	05	31	55	55	55	OVERFLOW	TRUE	RIVER	LEFT	2400	Calder	3.1	220
58 (03)	97-131	272633	373219		449	W122	129	245	12	03	31	55	55	55	OVERFLOW	TRUE	RIVER	LEFT	2400	Calder	3.1	221
77 (03)	97-097	263772	343622		433	W84	114	141	10	03		56	56	13	OVERFLOW	TRUE						222
82 (03)	97-079	261664	343621		429	W79	114	125	10	02		56	56	13	OVERFLOW	TRUE						223
91 (03)	97-194	268186	344011	801	412	43	106B	501	16	02	105	58	58	58	LOW PIPE/WE	TRUE	RIVER	RIGHT	1500	Gold Bar	0.0	224
92 (03)	97-193	268200	344011	802		E42	106B	501	16	01	105	58	58	58	DUAL	TRUE	RIVER	RIGHT	1500	Gold Bar	0.0	225
93 (03)	97-069	231340	253624	005	405	106	N47	681	10	01	2	63	61	63	LOW PIPE	TRUE	CREEK	RIGHT	2100	Empire Park	8.7	226
40 (03)	97-143	239392	313625	816	402	114	100	261	16	04	46	50	7	50	LOW PIPE	TRUE	RIVER	LEFT	1275	Oliver	0.0	227
229 (03)		270363	344005				n. Borden Park	125	10			56				TRUE						228
257 (03)		245306				100	McDonald					57				TRUE						229
260 (03)		240920				Buena Vista Rd	81					58				TRUE						230
84 (05)	97-225	270533		207533		W72	113					57				TRUE						231
96 (05)	97-030	227748	283616		425	110	N66	585	12	01	22	54	50	54	OVERFLOW/V	TRUE	RIVER	RIGHT	1500	Parkallen	7.5	232
97 (05)	96-015	227670	283616		415	111	L. S. 67	585	12	02	22	54	50	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	Parkallen	7.5	233
100 (05)	96-034	228096	283625		415	111	72	585	12	05	22	54	47	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	Parkallen	7.5	234

IC Site#	Plan	IC MH#	CADAS-TRAL	SAN_ MH	STRM_ MH	STREET	AVENUE	BASIN	SUB-BASIN	IC_ NUM-BER	OF_ NUM	IC_ AGE	SAN_ AGE	STRM_ AGE	ICTYPE	COR-RECTED	OF_ LOC1	OF_ LOC2	OF_ DIA	NHOOD	DIS-TANCE	COUNT
101 (05)	96-036	228103	283625		421	111	73	585	12	07	22	54	48	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	235
102 (05)	97-033	228099	283625		420	111	74	585	12	08	22	54	48	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	236
103 (05)	97-034	228154	283625		407	111	75	585	12	09	22	54	48	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	237
104 (05)	97-035	228082	283625		426	111	76	585	12	10	22	54	47	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	238
261 (05)		238144				151	95					58				TRUE						239
130 (07)	96-029	229891	283622	829	470	95	73	581	10	04	100	55	47	55	OVERFLOW/V	TRUE	CREEK	RIGHT	300	Ritchie	0.0	240
166 (07)	97-199	251790	314005	817	430	81	S80	541	16	10	44	55	49	55	OVERFLOW/V	TRUE	RIVER	RIGHT	3800	King Edward Park	0.0	241
105 (07)	96-038	228152	283625	802	401	111	N76	585	12	11	22	54	47	54	LOW PIPE	TRUE	RIVER	RIGHT	1500	McKernan	7.5	242
108 (07)	96-004	224871	283221		451	112	N73	585	12	13	22	54	47	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	243
109 (07)	96-005	224875	283221		454	112	N72	585	12	12	22	54	49	54	OVERFLOW	TRUE	RIVER	RIGHT	1500	McKernan	7.5	244
236 (07)		242092	313201			112	S78					86			OVERFLOW	TRUE				Parkallen		245
263 (07)		278090				105	130					59				TRUE				Lauderdale		246
121 (07)	96-019	229419	283618	816		99	70	581	12	10	92B	61	50	61	DUAL	TRUE	CREEK	RIGHT	750	Hazeldean	0.0	247
54 (07)	97-180	254704	342821	025	410	156	116	341	14	01	18	75	58	75	LOW PIPE/WE	TRUE	RIVER	LEFT	2400	Alberta Park Industrial	8.9	248
Removed from database (emergency pump overflow)																						
1 (02)	97-070	208392	253203	007	412	125	29A	687	16	01	1	76			LOW PIPE		CREEK	RIGHT	900	Blue Quill Estates	8.7	
9 (02)	97-059	223283	282810	PW	403	E WHITEMUD	58	621	14	01	12	72	70	72	PUMPWELL		RIVER	RIGHT	750	River Valley Whitemud	10.9	
11 (02)	97-187	223504	283223	006		S133	BV RD	375	12	01	21	58	59	58	DUAL		RIVER	LEFT	1350	Laurier Heights	7.3	
87 (02)	97-072	270916	344416	053	469	29	102	101	20	01	71	66	66	66	OVERFLOW		RIVER	LEFT	1200	Rundle Heights	0.0	
Removed from database (not exist)																						
227 (03)		256917	343211		407	116	106	231	10	04	54	72	72	72	DROP MANHOLE STRUC		RIVER	LEFT	3000	Queen Mary Park	0.0	
228 (03)		241889	343205		436	145	SUMMIT DR	321	10	02	30	50					RIVER	LEFT	1650	Crestwood	3.9	
239 (03)		246519				89	S77															
241 (03)		265734				113	102															
242 (03)		265734				113	102															
85 (04)	97-226	270523		270523		E71	113					51										
86 (04)	97-227	270376		270376		E71	113					51										
203 (04)	97-170	244717	313618	806	407	100	97	281	10	29	45	50	5	50	LOW PIPE		RIVER	LEFT	600	Rossdale	0.0	
205 (04)	97-220	321318				E101	96					85										
225 (n/m) (04)		245210	313623			100	97	281	10			50										
248 (n/m) (04)		266011				W109	111					68										
256 (03,n/m) (04)		262720				96	103					49										
Removed from database (discharge back to combined system)																						
186 (04)	97-082	262009	343609	815	814	95	101	125	12	01	152	49	7	49	LOW PIPE		RIVER	LEFT	450	Boyle Street	0.0	
187 (04)	97-083	262749	343609	810	402	95	102A	125	12	02	152	49	7	49	LOW PIPE		RIVER	LEFT	450	Boyle Street	0.0	
188 (04)	97-084	262747	343609	809	401	95	103	125	12	03	152	49	7	49	LOW PIPE		RIVER	LEFT	450	Boyle Street	0.0	
246 (n/m) (04)		262534				W105	106					69										
247 (n/m) (04)		262495				W106	106					69										

Notes:

n/m = not monitored

(xx) indicates the year of discovery or closure of the I/C, if known

APPENDIX B

Release Reports to Alberta Environment 2007

Date: **October 03, 2007**

☒ **Alberta Environment**
Environmental Response Area
111 Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta
T6B 2X3
FAX: 427-3178

☐ **Environment Canada**
Environmental Protection Branch
Room 200, Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta
T6B 2X3
FAX: 495-2451

RE: Written Report for AE# 194030

Date of release: October 03, 2007

Approximate time of release: 01:30 pm

Location of release: 91 St & 77 Ave Plugged combined mainline overflowed into the storm mainline.

Estimated duration of release (if applicable): unknown

Substance released: sewage

Estimated weight, quantity or amount released: unknown

Concentration of substance released (if applicable): n.a.

Circumstances leading up to the release: Electronically monitored interconnection site alarmed, site investigation identified a plugged combined mainline which overflowed into the storm mainline.

Steps taken to minimize, control or stop the release: Plugged combined mainline was released by high pressure flushing. Outfall # 44 to be inspected and cleaned of sewage debris.

Steps that will be taken to prevent similar releases: Combined mainline to be televised to inspect for any additional required maintenance.

Additional information (if applicable): Sample taken to PBR laboratory for analysis.

.../2

If you have any questions please contact Des Wood at phone: (780) 496-1609 or email: des.wood@edmonton.ca.

Sincerely,

Des Wood
Drainage Supervisor
Environmental Services

cc: Office of the Environment
Asset Management & Public Works Department

Branch Enviso Coordinator

Appendix B-1: I/C Site 136 (MH229992)

APPENDIX C

Interconnection Database Updates Since 2006

Appendix C

Please make note of the following Interconnection sites that have been updated from Appendix A in the Interconnection Control Strategy 2006 Annual Report to Alberta Environment. These changes were not due to construction in 2007, but rather to database corrections. Please refer to the text below the table for an explanation for the update:

IC Site# 2006	MH# 2006	IC Site# 2007	MH# 2007	Status 2006	Corrected Status 2007
54	254704	54	254704	Open	Closed
121	229419	121	229419	Open	Closed
130	229891	130	229891	Open	Closed
166	251790	166	251790	Open	Closed

* These sites, marked as open in 2006, should have been denoted as closed. This has been corrected in the 2007 Annual Report to Alberta Environment in Appendix A.

106	242107	106	224867	Open	Open
220	224867	220	242107	Open	Open

* The locations of sites 106 and 220 were interchanged in 2006. This has been corrected in the 2007 Appendix A.

151	246492	151	246493	Open	Open
262	255681	262	255832	Open	Open

* The manhole numbers of these interconnection sites have been updated to show the real location of the probe and interconnection. Previous (incorrect) manhole numbers were close, in physical location, to the updated manhole numbers.

Attachment 4: Collection System Operational Details

The Collection System Operational Details are submitted as required under section 6.1.4 of the Approval to Operate No. 639-02-00. These details are a summary of the chemical usage in the collection system

In 2007, 843 litres of Aquashade and 352 litres of Reward were used in 36 applications to manage the algae in the stormwater management lakes. 3.525 kilograms of potassium permanganate were used at 211 locations as a dye to trace the flow patterns. 3373 lbs of RootX were used at 832 locations to control roots in the sanitary sewers. 4796 pounds of salt were used to deice outfalls.

Four tables are included which detail this information. These are Table 1: Aquashade and Reward Usage, Table: Potassium Permanganate Usage, Table 3: RootX Usage and Table 4: Salt Usage.

Table 1: Aquashade and Reward Herbicide Use for 2007

Record #	Application Date	Type of Herbicide	Lake	Location of Application	Quantity Applied	Unit of Quantity
	05/11/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		8	Gallons (gal)
	05/11/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		12	Gallons (gal)
	05/11/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		16	Gallons (gal)
	05/11/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		26	Gallons (gal)
24	06/08/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		32	Litres (l)
31	06/08/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		24	Litres (l)
32	06/08/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		32	Litres (l)
33	06/08/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		24	Litres (l)
96	06/22/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		32	Litres (l)
97	06/22/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		32	Litres (l)
129	07/24/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		32	Litres (l)
130	07/24/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		32	Litres (l)
131	07/24/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		32	Litres (l)
132	07/24/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		48	Litres (l)
151	08/03/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		24	Litres (l)
152	08/03/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		24	Litres (l)

153	08/03/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		24	Litres (l)
154	08/03/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		32	Litres (l)
180	08/16/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		20	Litres (l)
181	08/16/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		24	Litres (l)
182	08/16/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		20	Litres (l)
183	08/16/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		24	Litres (l)
197	08/30/2007	Aqua Shade - 33068-1	Belle Rive Facility 1 (88 St & 161 Ave) 371799		24	Litres (l)
198	08/30/2007	Aqua Shade - 33068-1	Hollick Kenyon Facility (54 St & 156 Ave) 322514		24	Litres (l)
199	08/30/2007	Aqua Shade - 33068-1	Bearspaw Facility (109 St & 11 Ave) 323666		24	Litres (l)
200	08/30/2007	Aqua Shade - 33068-1	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		24	Litres (l)
34	06/07/2007	Reward - 26271	Ellerslie Facility (87 St & 5 Ave SW) 393647		47	Litres (l)
35	06/07/2007	Reward - 26271		Hawrelak Park Lake	121	Litres (l)
98	07/03/2007	Reward - 26271	Carlton Facility (137 St & 155 Ave) 385039		32	Litres (l)
99	07/03/2007	Reward - 26271	Mayliewan Facility 1 (77 St & 162 Ave) 378103		32	Litres (l)
100	07/04/2007	Reward - 26271	Twin Brooks Facility 1 (117 St & 9 Ave) 371545		32	Litres (l)
101	07/04/2007	Reward - 26271	Terra Losa Facility (174 St & 95 Ave) 312097		16	Litres (l)
102	07/10/2007	Reward - 26271	Valencia (93 St & 177 Ave) 362238		16	Litres (l)
123	07/13/2007	Reward - 26271	Oxford Facility (130 St & 162 Ave) 322011		16	Litres (l)
124	07/13/2007	Reward - 26271	Belle Rive Facility 2 (88 St & 157 Ave) 322313		16	Litres (l)
179	08/15/2007	Reward - 26271	Bearspaw Facility (109 St & 11 Ave) 323666		24	Litres (l)

Table 2: Potassium Permanganate Usage

Address	Date Applied	# of Tests
10012-29A ave	Apr 02 / 07	
10016-29A ave	Apr 02 / 07	2 Tests
10020-29A ave	Apr 02 / 07	2 Tests
10024-29A ave	Apr 02 / 07	
10025-29A ave	Apr 02 / 07	
9985-29A ave	Apr 02 / 07	
9993-29A ave	Apr 03 / 07	
146-Mayfair Mews	Apr 04 / 07	
305-Northgate Terrace	Apr 04 / 07	
331-Northgate Terrace	Apr 04 / 07	
361-Northgate Terrace	Apr 04 / 07	
445-Knottwood Rd	Apr 04 / 07	
104-Mayfair Mews	Apr 10 / 07	2 Tests
132-Mayfair Mews	Apr 10 / 07	
8455-36 ave	Apr 10 / 07	
104-Mayfair Mews	Apr 11 / 07	
150-Mayfair Mews	Apr 11 / 07	
3207-104 ave	Apr 11 / 07	
363-Northgate Terrace	Apr 11 / 07	
9992-29 ave	Apr 11 / 07	
165-Mayfair Mews	Apr 12 / 07	
327-Northgate Terrace	Apr 12 / 07	
334-Northgate Terrace	Apr 12 / 07	
358-Northgate Terrace	Apr 12 / 07	
362-Northgate Terrace	Apr 12 / 07	
7310-154A st	Apr 12 / 07	
102-Mayfair Mews	Apr 13 / 07	
103-Mayfair Mews	Apr 13 / 07	
310-Northgate Terrace	Apr 13 / 07	
316-Northgate Terrace	Apr 13 / 07	
322-Northgate Terrace	Apr 13 / 07	
8808-30 ave	Apr 13 / 07	
111-Mayfair Mews	Apr 16 / 07	
133-Mayfair Mews	Apr 16 / 07	
134-Mayfair Mews	Apr 16 / 07	
152-Mayfair Mews	Apr 16 / 07	
307-Northgate Terrace	Apr 16 / 07	
308-Northgate Terrace	Apr 16 / 07	
8404-10 ave	Apr 16 / 07	
138-Mayfair Mews	Apr 17 / 07	
145-Mayfair Mews	Apr 17 / 07	
339-Northgate Terrace	Apr 17 / 07	
350-Northgate Terrace	Apr 17 / 07	
125-Mayfair Mews	Apr 18 / 07	
159-Mayfair Mews	Apr 18 / 07	
161-Mayfair Mews	Apr 18 / 07	
313-Northgate Terrace	Apr 18 / 07	

3307-42 ave	Apr 18 / 07	
3311-42ave	Apr 18 / 07	
340-Northgate Terrace	Apr 18 / 07	
162-Mayfair Mews	Apr 19 / 07	
2006-Millwoods Rd E	Apr 19 / 07	
337-Northgate Terrace	Apr 19 / 07	
364-Northgate Terrace	Apr 19 / 07	
4512-20 ave	Apr 19 / 07	
112-Mayfair Mews	Apr 20 / 07	
114-Mayfair Mews	Apr 20 / 07	
160-Mayfair Mews	Apr 22 / 07	
173-Mayfair Mews	Apr 22 / 07	
175-Mayfair Mews	Apr 22 / 07	
312-Northgate Terrace	Apr 22 / 07	
318-Northgate Terrace	Apr 22 / 07	
335-Northgate Terrace	Apr 22 / 07	
336-Northgate Terrace	Apr 22 / 07	
342-Northgate Terrace	Apr 22 / 07	
3611-75 st	Apr 22 / 07	
4105-33A ave	Apr 22 / 07	
900-Lakewood Rd	Apr 22 / 07	
904-Lakewood Rd	Apr 22 / 07	
10831-124 st	Apr 23 / 07	
127-Mayfair Mews	Apr 23 / 07	
128-Mayfair Mews	Apr 23 / 07	
153-Mayfair Mews	Apr 23 / 07	
155-Mayfair Mews	Apr 23 / 07	
168-Mayfair Mews	Apr 23 / 07	
172-Mayfair Mews	Apr 23 / 07	
3136-41 ave	Apr 27 / 07	
3211-104 ave	Apr 27 / 07	
3303-104 ave	Apr 27 / 07	
3307-104 ave	Apr 27 / 07	
2116-78 st	Apr 30 / 07	
711 Hooke Place	Aug 22 / 07	3 Tests
7635-127A ave	Aug 22 / 07	
15311-87 ave	Aug 28 / 07	
15315-87 ave	Aug 28 / 07	
1658-Hector Rd	Feb 09 / 07	
1660-Hector Rd	Feb 09 / 07	
1662-Hector Rd	Feb 09 / 07	
1661-Hector Rd	Feb 12 / 07	
1665-Hector Rd	Feb 13 / 07	
7115-74 ave	Feb 13 / 07	
1681-Hector Rd	Feb 14 / 07	
7103-44 ave	Feb 14 / 07	
7104-44 ave	Feb 14 / 07	
7120-44 ave	Feb 14 / 07	
7304-44 ave	Feb 14 / 07	
4823-104A st	Feb 15 / 07	
4827-104A st	Feb 15 / 07	
4831-104A st	Feb 15 / 07	

4835-104A st	Feb 15 / 07	
3304-103 ave	Feb 16 / 07	
7328-44 ave	Feb 16 / 07	
7332-44 ave	Feb 16 / 07	
7128-44 ave	Feb 16 / 07	
1663-Hector Rd	Feb 18 / 07	
1667-Hector Rd	Feb 18 / 07	
1671-Hector Rd	Feb 18 / 07	
1674-Hector Rd	Feb 18 / 07	
1675-Hector Rd	Feb 18 / 07	
1676-Hector Rd	Feb 18 / 07	
1678-Hector Rd	Feb 18 / 07	
1679-Hector Rd	Feb 18 / 07	
1682-Hector Rd	Feb 18 / 07	
1670-Hector Rd	Feb 20 / 07	
3112-103 ave	Feb 20 / 07	
3116-103 ave	Feb 20 / 07	
3120-103 ave	Feb 21 / 07	
3204-103 ave	Feb 21 / 07	
3311-104 ave	Feb 21 / 07	2 Tests
3315-104 ave	Feb 21 / 07	
7108-44 ave	Feb 21 / 07	
7316-44 ave	Feb 21 / 07	
4319-73 st	Feb 22 / 07	
7124-44 ave	Feb 22 / 07	
7311-44 ave	Feb 22 / 07	
7320-44 ave	Feb 22 / 07	
7324-44 ave	Feb 22 / 07	
7111-44 ave	Feb 23 / 07	
7116-44 ave	Feb 23 / 07	
7127-44 ave	Feb 23 / 07	
7307-44 ave	Feb 23 / 07	
10304-31 st	Feb 26 / 07	
4827-104A st	Feb 27 / 07	2 Tests
7107-44 ave	Feb 27 / 07	
7108-43 ave	Feb 27 / 07	
7123-44 ave	Feb 27 / 07	
14883- 41 ave	Jan 24 / 07	
9046-58 st	Jan 25 / 07	2 Tests
237 Running Creek Lane	Jul 16 / 07	
3203-104 ave	Jun 04 / 07	
15711-89 ave	Jun 05 / 07	
9719-152 st	Jun 05 / 07	
4035-30 st	Jun 07 / 07	
1680-Hector Rd	Mar 01 / 07	
7112-43 ave	Mar 01 / 07	
8445-36 ave	Mar 01 / 07	
8449-36 ave	Mar 01 / 07	
1665-Hector Rd	Mar 02 / 07	
8443-36 ave	Mar 02 / 07	
8447-36 ave	Mar 02 / 07	
1672-Hector Rd	Mar 09 / 07	

4323-73 st	Mar 09 / 07	
8453-36 ave	Mar 12 / 07	
8420-34A ave	Mar 15 / 07	
3103-104 ave	Mar 16 / 07	
8604-34A ave	Mar 20 / 07	
1665-Hector Rd	Mar 21 / 07	2 Tests
3307-104 ave	Mar 21 / 07	
178 Lee Ridge Rd	Mar 23 / 07	
2919-30 st	Mar 23 / 07	
3308-103 ave	Mar 23 / 07	
3319-104 ave	Mar 23 / 07	
920 Lakewood Rd	Mar 23 / 07	
237 Running Creek Lane	Mar 26 / 07	
10020-29 ave	Mar 28 / 07	
10022-29 ave	Mar 28 / 07	
2903-101 st	Mar 28 / 07	
9976-29 ave	Mar 28 / 07	
9978-29 ave	Mar 28 / 07	
9980-29 ave	Mar 28 / 07	
9988-29 ave	Mar 28 / 07	
9994-29 ave	Mar 28 / 07	
10004-29A ave	Mar 29 / 07	2 Tests
10012-29A ave	Mar 29 / 07	
238-Greenoch Cr	Mar 29 / 07	
9930-29A ave	Mar 29 / 07	
9961-29A ave	Mar 29 / 07	
2103-85 st	May 07 / 07	
922-Lakewood Rd	May 07 / 07	
9926-29 ave	May 07 / 07	
9928-29 ave	May 07 / 07	
9930-29 ave	May 07 / 07	
9937-29 ave	May 07 / 07	
334-Knottwood Rd S	May 08 / 07	
9620-152 st	May 09 / 07	
15417-Rio Terrace Dr	May 10 / 07	
7617-153 st	May 10 / 07	
9107-143 st	May 10 / 07	
331-Knottwood Rd	May 11 / 07	
9512-150 st	May 11 / 07	
9735-153 st	May 11 / 07	
24-Riverside Cr	May 14 / 07	
9115-151 st	May 14 / 07	
9207-151 st	May 14 / 07	
9717-150 st	May 15 / 07	
9103-143 st	May 16 / 07	
9110-150 st	May 16 / 07	
9111-143 st	May 17 / 07	
9750-153 st	May 17 / 07	
9801-153 st	May 17 / 07	
14410-96 ave	May 31 / 07	
13535-120 st	Nov 27 / 07	
14-Riverside Cr	Oct 19 / 07	3 Tests

10101-Sask Dr	Oct 29 / 07	
1130-Tory Rd	Sep 05 / 07	5 Tests
15523-95 ave	Sep 10 / 07	
1130-Tory Rd	Sep 13 / 07	5 Tests
319-Cutts Court	Sep 17 / 07	3 Tests
9111-156 st	Sep 18 / 07	
6311-148 ave	Sep 26 / 07	2 Tests
317-Cutts Court	Sep 27 / 07	
11604 - 104 Avenue NW	Aug 23 / 07	
16704 - 111 Avenue NW	Aug 24 / 07	
16726 - 111 Avenue NW	Aug 24 / 07	
12531 - 126 Street NW	Feb 8 / 07	
7424 - 118 Avenue NW	Jan 4 / 07	
12516 - 132 Avenue NW	Jan 8 / 07	
4350 - 111 Street NW	Nov 27 / 07	
9797 - Jasper Avenue NW	Oct 0 / 07	

Table 3: RootX Herbicide Use for 2007

Record #	Application Date	Type of Herbicide	Lake	Location of Application	Quantity Applied	Unit of Quantity
	01/03/2007	RootX - 68464-1		9829 - 84 Ave	4	Pounds (lbs)
	01/03/2007	RootX - 68464-1		9016 - 88 St	4	Pounds (lbs)
	01/03/2007	RootX - 68464-1		9627 - 87 St	4	Pounds (lbs)
	01/04/2007	RootX - 68464-1		7804 - 154 St	4	Pounds (lbs)
	01/04/2007	RootX - 68464-1		10230 - 132 St.	4	Pounds (lbs)
	01/04/2007	RootX - 68464-1		9731 - 154 St	4	Pounds (lbs)
	01/04/2007	RootX - 68464-1		13614 - 100 Ave	4	Pounds (lbs)
	01/04/2007	RootX - 68464-1		15305 - 75 Ave	4	Pounds (lbs)
	01/05/2007	RootX - 68464-1		10649 - 85 Ave	4	Pounds (lbs)
	01/05/2007	RootX - 68464-1		10628 - 65 Ave	4	Pounds (lbs)
	01/05/2007	RootX - 68464-1		10603 - 60 Ave	4	Pounds (lbs)
	01/05/2007	RootX - 68464-1		9651 - 81 Ave	4	Pounds (lbs)
	01/05/2007	RootX - 68464-1		3521 - 60 St	4	Pounds (lbs)
	01/08/2007	RootX - 68464-1		6420 - Fulton Dr	4	Pounds (lbs)
	01/08/2007	RootX - 68464-1		14104 - 51 Ave	4	Pounds (lbs)
	01/08/2007	RootX - 68464-1		7703 - 70 Ave	4	Pounds (lbs)
	01/08/2007	RootX - 68464-1		1015 Knottwood Rd	4	Pounds (lbs)
	01/08/2007	RootX - 68464-1		10711 - 76 Ave	4	Pounds (lbs)
	01/09/2007	RootX - 68464-1		14320 - 92A Ave	4	Pounds (lbs)
	01/09/2007	RootX - 68464-1		11303 - St. Albert Trail	4	Pounds (lbs)
	01/09/2007	RootX - 68464-1		16211 - 78 Ave	4	Pounds (lbs)
	01/09/2007	RootX - 68464-1		4230 - 117 Ave	4	Pounds (lbs)
	01/09/2007	RootX - 68464-1		12020 - 41 St	4	Pounds (lbs)
	01/10/2007	RootX - 68464-1		12209 - 38 St	4	Pounds (lbs)
	01/10/2007	RootX - 68464-1		3205 - 130A Ave	4	Pounds (lbs)
	01/10/2007	RootX - 68464-1		6215 - 147 Ave	4	Pounds (lbs)
	01/10/2007	RootX - 68464-1		11034 - 92 St	4	Pounds (lbs)
	01/10/2007	RootX - 68464-1		4238 - 117 Ave	4	Pounds (lbs)
	01/11/2007	RootX - 68464-1		16611 - 92A Ave	4	Pounds (lbs)
	01/11/2007	RootX - 68464-1		13804 - 87 St	4	Pounds (lbs)
	01/11/2007	RootX - 68464-1		9746 - 83 Ave	4	Pounds (lbs)
	01/12/2007	RootX - 68464-1		5619 - Whitemud Rd	4	Pounds (lbs)
	01/12/2007	RootX - 68464-1		5103 - 142 St	4	Pounds (lbs)
	01/12/2007	RootX - 68464-1		10749 - 72 Ave	4	Pounds (lbs)
	01/15/2007	RootX - 68464-1		10105 - 125 St	4	Pounds (lbs)
	01/15/2007	RootX - 68464-1		9624 - 153 St	4	Pounds (lbs)
	01/15/2007	RootX - 68464-1		9540 - 150 St	4	Pounds (lbs)
	01/15/2007	RootX - 68464-1		12811 - 113 Ave	4	Pounds (lbs)

01/15/2007	RootX - 68464-1	16111 - Patricia Dr	4	Pounds (lbs)
01/16/2007	RootX - 68464-1	10950 - 65 Ave	4	Pounds (lbs)
01/16/2007	RootX - 68464-1	10938 - 72 Ave	4	Pounds (lbs)
01/16/2007	RootX - 68464-1	10415 - 87 Ave	4	Pounds (lbs)
01/16/2007	RootX - 68464-1	7204 - 114A St	4	Pounds (lbs)
01/16/2007	RootX - 68464-1	10137 - 74 St	4	Pounds (lbs)
01/17/2007	RootX - 68464-1	12810 - 58 St	4	Pounds (lbs)
01/17/2007	RootX - 68464-1	12021 - 40 St	4	Pounds (lbs)
01/17/2007	RootX - 68464-1	11853 - 40 St	4	Pounds (lbs)
01/17/2007	RootX - 68464-1	11909 - 54 St	4	Pounds (lbs)
01/17/2007	RootX - 68464-1	4426 - 116 Ave	4	Pounds (lbs)
01/18/2007	RootX - 68464-1	9202 - 117 St	4	Pounds (lbs)
01/18/2007	RootX - 68464-1	6812 - 92 Ave	4	Pounds (lbs)
01/18/2007	RootX - 68464-1	7619 - 110 St	4	Pounds (lbs)
01/18/2007	RootX - 68464-1	3229 - 108 St	4	Pounds (lbs)
01/18/2007	RootX - 68464-1	5508 - 37 Ave	4	Pounds (lbs)
01/22/2007	RootX - 68464-1	10433 - 85 Ave	4	Pounds (lbs)
01/22/2007	RootX - 68464-1	9856 - 89 Ave	4	Pounds (lbs)
01/22/2007	RootX - 68464-1	14362 - Park Dr	4	Pounds (lbs)
01/22/2007	RootX - 68464-1	10013 - 152 St	4	Pounds (lbs)
01/22/2007	RootX - 68464-1	8116 - 144A St	4	Pounds (lbs)
01/23/2007	RootX - 68464-1	14911 - 61 St	4	Pounds (lbs)
01/23/2007	RootX - 68464-1	9613 109A Ave	4	Pounds (lbs)
01/23/2007	RootX - 68464-1	3627 - 114 Ave	4	Pounds (lbs)
01/23/2007	RootX - 68464-1	9514 - 102A Ave	4	Pounds (lbs)
01/23/2007	RootX - 68464-1	11045 - 163A Ave	4	Pounds (lbs)
01/24/2007	RootX - 68464-1	9709 - 81 Ave	4	Pounds (lbs)
01/24/2007	RootX - 68464-1	10119 - 73 St	4	Pounds (lbs)
01/24/2007	RootX - 68464-1	11524 - 43 Ave	4	Pounds (lbs)
01/24/2007	RootX - 68464-1	10955 - 79 Ave	4	Pounds (lbs)
01/25/2007	RootX - 68464-1	8708 - 136 St	4	Pounds (lbs)
01/25/2007	RootX - 68464-1	15105 - 84 Ave	4	Pounds (lbs)
01/25/2007	RootX - 68464-1	9103 - 186 St	4	Pounds (lbs)
01/25/2007	RootX - 68464-1	8108 - 160 St	4	Pounds (lbs)
01/25/2007	RootX - 68464-1	14012 - 89A Ave	4	Pounds (lbs)
01/26/2007	RootX - 68464-1	9030 - 75 Ave	4	Pounds (lbs)
01/26/2007	RootX - 68464-1	15403 - 76 Ave	4	Pounds (lbs)
01/26/2007	RootX - 68464-1	12015 - Aspen Dr W	4	Pounds (lbs)
01/26/2007	RootX - 68464-1	5307 - 35 Ave	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	11412 - 48 St	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	10060 - 93 St	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	10863 - 74 St	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	12010 - 40 St	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	12010 - 44 St	4	Pounds (lbs)
01/29/2007	RootX - 68464-1	5806 - 110 St	4	Pounds (lbs)

01/30/2007	RootX - 68464-1	6420 - 148 Ave	4	Pounds (lbs)
01/30/2007	RootX - 68464-1	12029 - 40 St	4	Pounds (lbs)
01/30/2007	RootX - 68464-1	3417 - 120 Ave	4	Pounds (lbs)
01/30/2007	RootX - 68464-1	9306 - 120 Ave	4	Pounds (lbs)
01/30/2007	RootX - 68464-1	9924 - 106 St	4	Pounds (lbs)
01/31/2007	RootX - 68464-1	11119 - University Ave	4	Pounds (lbs)
01/31/2007	RootX - 68464-1	3527 - 105 A St	4	Pounds (lbs)
01/31/2007	RootX - 68464-1	10939 - 38 Ave	4	Pounds (lbs)
01/31/2007	RootX - 68464-1	5008 - 115 St	4	Pounds (lbs)
01/31/2007	RootX - 68464-1	9803 - 75 ave	4	Pounds (lbs)
02/01/2007	RootX - 68464-1	11902 - 68 St	4	Pounds (lbs)
02/01/2007	RootX - 68464-1	10808 - 68 Ave	4	Pounds (lbs)
02/01/2007	RootX - 68464-1	10425 - 64 Ave	4	Pounds (lbs)
02/01/2007	RootX - 68464-1	9818 - 92 Ave	4	Pounds (lbs)
02/01/2007	RootX - 68464-1	9431 - 75 St	4	Pounds (lbs)
02/02/2007	RootX - 68464-1	4904 - 11 Ave	4	Pounds (lbs)
02/02/2007	RootX - 68464-1	11468 - 44A Ave	4	Pounds (lbs)
02/02/2007	RootX - 68464-1	13907 - 53 ave	4	Pounds (lbs)
02/02/2007	RootX - 68464-1	707 - 108 St	4	Pounds (lbs)
02/05/2007	RootX - 68464-1	4003 - 122 ave	4	Pounds (lbs)
02/05/2007	RootX - 68464-1	12033 - 39 St	4	Pounds (lbs)
02/05/2007	RootX - 68464-1	9526 - 110 Ave	4	Pounds (lbs)
02/05/2007	RootX - 68464-1	3816 - 108 Ave	4	Pounds (lbs)
02/06/2007	RootX - 68464-1	6614 - 19 ave	4	Pounds (lbs)
02/06/2007	RootX - 68464-1	15271 - 43 ave	4	Pounds (lbs)
02/06/2007	RootX - 68464-1	10827 - 73 ave	4	Pounds (lbs)
02/06/2007	RootX - 68464-1	10938 - 72 ave	4	Pounds (lbs)
02/06/2007	RootX - 68464-1	11159 - 77 ave	4	Pounds (lbs)
02/07/2007	RootX - 68464-1	9424 - 143 st	4	Pounds (lbs)
02/07/2007	RootX - 68464-1	16803 - 83 ave	4	Pounds (lbs)
02/07/2007	RootX - 68464-1	15432 - 76A Ave	4	Pounds (lbs)
02/07/2007	RootX - 68464-1	7915 - 167 st	4	Pounds (lbs)
02/08/2007	RootX - 68464-1	4115 - 125 st	4	Pounds (lbs)
02/08/2007	RootX - 68464-1	10628 - 75 ave	4	Pounds (lbs)
02/08/2007	RootX - 68464-1	5608 - 141 st	4	Pounds (lbs)
02/08/2007	RootX - 68464-1	5503 - 111A st	4	Pounds (lbs)
02/08/2007	RootX - 68464-1	5432 - 114 B St	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	9633 - 155 st	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	10906 - 150 st	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	8103 - 171 st	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	11915 - 122 st	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	7715 - 157 st	4	Pounds (lbs)
02/09/2007	RootX - 68464-1	10710 - 38 st	4	Pounds (lbs)
02/12/2007	RootX - 68464-1	16322 - 87 ave	4	Pounds (lbs)
02/12/2007	RootX - 68464-1	14515 - 84 ave	4	Pounds (lbs)

02/12/2007	RootX - 68464-1	12152 - 129 st	4	Pounds (lbs)
02/12/2007	RootX - 68464-1	8915 - 156 st	4	Pounds (lbs)
02/12/2007	RootX - 68464-1	10402 - 144 st	4	Pounds (lbs)
02/13/2007	RootX - 68464-1	10723 - 64 ave	4	Pounds (lbs)
02/13/2007	RootX - 68464-1	10953 - 75 ave	4	Pounds (lbs)
02/13/2007	RootX - 68464-1	11106 - 80 ave	4	Pounds (lbs)
02/13/2007	RootX - 68464-1	9818 - 92 ave	4	Pounds (lbs)
02/13/2007	RootX - 68464-1	12810 - 58 st	20	Pounds (lbs)
02/14/2007	RootX - 68464-1	6216 - 148 ave	4	Pounds (lbs)
02/14/2007	RootX - 68464-1	5452 - 144 B ave	4	Pounds (lbs)
02/14/2007	RootX - 68464-1	3605 - 116 ave	4	Pounds (lbs)
02/14/2007	RootX - 68464-1	9347 - 105 ave	4	Pounds (lbs)
02/14/2007	RootX - 68464-1	4246 - 117 ave	4	Pounds (lbs)
02/15/2007	RootX - 68464-1	10418 - 32a ave	4	Pounds (lbs)
02/15/2007	RootX - 68464-1	10504 - 78 ave	4	Pounds (lbs)
02/15/2007	RootX - 68464-1	9809 - 92 ave	4	Pounds (lbs)
02/15/2007	RootX - 68464-1	3324 - 118 st	4	Pounds (lbs)
02/15/2007	RootX - 68464-1	4607 - 116a st	4	Pounds (lbs)
02/20/2007	RootX - 68464-1	16306 -83 ave	4	Pounds (lbs)
02/20/2007	RootX - 68464-1	11045 - 150 st	4	Pounds (lbs)
02/20/2007	RootX - 68464-1	1004 - 87 a ave	4	Pounds (lbs)
02/20/2007	RootX - 68464-1	7609 - 154 st	4	Pounds (lbs)
02/21/2007	RootX - 68464-1	5820 - 144 st	4	Pounds (lbs)
02/21/2007	RootX - 68464-1	10955 - 85 ave	4	Pounds (lbs)
02/21/2007	RootX - 68464-1	10811 - 73 ave	4	Pounds (lbs)
02/21/2007	RootX - 68464-1	10803 - 66 ave	4	Pounds (lbs)
02/21/2007	RootX - 68464-1	10709 - 58 ave	4	Pounds (lbs)
02/22/2007	RootX - 68464-1	12006 - 40 st	4	Pounds (lbs)
02/22/2007	RootX - 68464-1	17208 - 96 st	4	Pounds (lbs)
02/22/2007	RootX - 68464-1	4010 - 115 ave	4	Pounds (lbs)
02/22/2007	RootX - 68464-1	3212 - 106 ave	4	Pounds (lbs)
02/23/2007	RootX - 68464-1	9738 - 151 st	4	Pounds (lbs)
02/23/2007	RootX - 68464-1	8731 - 162 st	4	Pounds (lbs)
02/23/2007	RootX - 68464-1	16016 - 78a ave	4	Pounds (lbs)
02/23/2007	RootX - 68464-1	8216 - 148 st	4	Pounds (lbs)
02/23/2007	RootX - 68464-1	13912 - 109 ave	4	Pounds (lbs)
02/26/2007	RootX - 68464-1	5806 - 107 st	4	Pounds (lbs)
02/26/2007	RootX - 68464-1	7404 - 108 st	4	Pounds (lbs)
02/26/2007	RootX - 68464-1	10835 - 79 ave	4	Pounds (lbs)
02/26/2007	RootX - 68464-1	9534 - 95 ave	4	Pounds (lbs)
02/27/2007	RootX - 68464-1	10319 - 131 a ave	4	Pounds (lbs)
02/27/2007	RootX - 68464-1	12208 - 47 st	4	Pounds (lbs)
02/27/2007	RootX - 68464-1	4409 - 116 ave	4	Pounds (lbs)
02/27/2007	RootX - 68464-1	11823 - 48 st	4	Pounds (lbs)
02/27/2007	RootX - 68464-1	11101 - 38 st	4	Pounds (lbs)

02/28/2007	RootX - 68464-1	11143 - 63 ave	4	Pounds (lbs)
02/28/2007	RootX - 68464-1	10949 - 69 ave	4	Pounds (lbs)
02/28/2007	RootX - 68464-1	4908 - 126 st	4	Pounds (lbs)
02/28/2007	RootX - 68464-1	3324 - 118 st	4	Pounds (lbs)
02/28/2007	RootX - 68464-1	3535 - 104 st	4	Pounds (lbs)
03/01/2007	RootX - 68464-1	9508 - 151 st	4	Pounds (lbs)
03/01/2007	RootX - 68464-1	16203 - 87 ave	4	Pounds (lbs)
03/01/2007	RootX - 68464-1	16706 - 91ave	4	Pounds (lbs)
03/01/2007	RootX - 68464-1	13620 - 110 ave	4	Pounds (lbs)
03/01/2007	RootX - 68464-1	15205 - 84 ave	4	Pounds (lbs)
03/02/2007	RootX - 68464-1	3835 - 115 ave	4	Pounds (lbs)
03/02/2007	RootX - 68464-1	4002 - 113 ave	4	Pounds (lbs)
03/02/2007	RootX - 68464-1	3811 - 116 ave	4	Pounds (lbs)
03/02/2007	RootX - 68464-1	11002 - 152 st	4	Pounds (lbs)
03/02/2007	RootX - 68464-1	16526 - 115 st	4	Pounds (lbs)
03/05/2007	RootX - 68464-1	12527 - 112 ave	4	Pounds (lbs)
03/05/2007	RootX - 68464-1	#1 Alexander Circle	4	Pounds (lbs)
03/05/2007	RootX - 68464-1	12904 - 125 st	4	Pounds (lbs)
03/05/2007	RootX - 68464-1	8908 - 168 st	4	Pounds (lbs)
03/05/2007	RootX - 68464-1	11915 - 127 st	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	9419 - 58 st	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	9942 - 84 ave	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	9343 - 72 ave	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	10634 - 63 ave	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	3932- 57 st	4	Pounds (lbs)
03/06/2007	RootX - 68464-1	12810 -58 st	28	Pounds (lbs)
03/07/2007	RootX - 68464-1	11047 - 81 ave	4	Pounds (lbs)
03/07/2007	RootX - 68464-1	10923 - 79 ave	4	Pounds (lbs)
03/07/2007	RootX - 68464-1	#848 Knottwood Rd	4	Pounds (lbs)
03/07/2007	RootX - 68464-1	11139 - 63 ave	4	Pounds (lbs)
03/08/2007	RootX - 68464-1	14027 - 104 ave	4	Pounds (lbs)
03/08/2007	RootX - 68464-1	8124 - 167 st	4	Pounds (lbs)
03/08/2007	RootX - 68464-1	9235 - 150 st	4	Pounds (lbs)
03/08/2007	RootX - 68464-1	10307 - 138 st	4	Pounds (lbs)
03/08/2007	RootX - 68464-1	15805 - 89 ave	4	Pounds (lbs)
03/09/2007	RootX - 68464-1	13119 - 30 st	4	Pounds (lbs)
03/09/2007	RootX - 68464-1	14504 - 20 st	4	Pounds (lbs)
03/09/2007	RootX - 68464-1	10050 - 93 st	4	Pounds (lbs)
03/09/2007	RootX - 68464-1	13512 - 71 st	4	Pounds (lbs)
03/12/2007	RootX - 68464-1	10927 - 89 ave	4	Pounds (lbs)
03/12/2007	RootX - 68464-1	10826 66 ave	4	Pounds (lbs)
03/13/2007	RootX - 68464-1	9222 - 168 st	4	Pounds (lbs)
03/13/2007	RootX - 68464-1	13535 - 110 a ave	4	Pounds (lbs)
03/13/2007	RootX - 68464-1	16203 - 87 ave	4	Pounds (lbs)
03/13/2007	RootX - 68464-1	7819 - 142 st	4	Pounds (lbs)

03/13/2007	RootX - 68464-1	14208 - 75 ave	4	Pounds (lbs)
03/14/2007	RootX - 68464-1	10814 - 68 ave	4	Pounds (lbs)
03/14/2007	RootX - 68464-1	10018 - 86 ave	4	Pounds (lbs)
03/14/2007	RootX - 68464-1	10827 - 80 ave	4	Pounds (lbs)
03/14/2007	RootX - 68464-1	9834 - 84 ave	4	Pounds (lbs)
03/14/2007	RootX - 68464-1	9733 - 90 ave	4	Pounds (lbs)
03/16/2007	RootX - 68464-1	10905 - 73 ave	4	Pounds (lbs)
03/16/2007	RootX - 68464-1	10019 - 87 ave	4	Pounds (lbs)
03/16/2007	RootX - 68464-1	10929 - University Ave	4	Pounds (lbs)
03/19/2007	RootX - 68464-1	14002 - 106 ave	4	Pounds (lbs)
03/19/2007	RootX - 68464-1	9843 - 179 st	4	Pounds (lbs)
03/19/2007	RootX - 68464-1	13620 - 122 ave	4	Pounds (lbs)
03/19/2007	RootX - 68464-1	8815 - 140 st	4	Pounds (lbs)
03/19/2007	RootX - 68464-1	15226 - 81 ave	4	Pounds (lbs)
03/20/2007	RootX - 68464-1	3626 - 116 ave	4	Pounds (lbs)
03/20/2007	RootX - 68464-1	8031 - 181 st	4	Pounds (lbs)
03/20/2007	RootX - 68464-1	11412 - 133 ave	4	Pounds (lbs)
03/20/2007	RootX - 68464-1	11036 - 153 st	4	Pounds (lbs)
03/21/2007	RootX - 68464-1	1144 - 49 st	4	Pounds (lbs)
03/21/2007	RootX - 68464-1	10965 - 76 ave	4	Pounds (lbs)
03/21/2007	RootX - 68464-1	10819 - 73 ave	4	Pounds (lbs)
03/21/2007	RootX - 68464-1	3139 - 74 st	4	Pounds (lbs)
03/22/2007	RootX - 68464-1	#440 - Olsen Close	4	Pounds (lbs)
03/22/2007	RootX - 68464-1	10847 - 33 ave	4	Pounds (lbs)
03/22/2007	RootX - 68464-1	14335 - 60 ave	4	Pounds (lbs)
03/22/2007	RootX - 68464-1	10863 - 21 ave	4	Pounds (lbs)
03/26/2007	RootX - 68464-1	4010 - 112 ave	4	Pounds (lbs)
03/26/2007	RootX - 68464-1	10886 - 76 st	4	Pounds (lbs)
03/26/2007	RootX - 68464-1	3413 - 120 ave	4	Pounds (lbs)
03/26/2007	RootX - 68464-1	4407 - 115 ave	4	Pounds (lbs)
03/27/2007	RootX - 68464-1	4107 - 124 st	4	Pounds (lbs)
03/27/2007	RootX - 68464-1	11216 - 48 ave	4	Pounds (lbs)
03/27/2007	RootX - 68464-1	9049 - 91 st	6	Pounds (lbs)
03/27/2007	RootX - 68464-1	10211 - 75 st	4	Pounds (lbs)
03/28/2007	RootX - 68464-1	9650 - 155 st	4	Pounds (lbs)
03/28/2007	RootX - 68464-1	13552 - 107a ave	4	Pounds (lbs)
03/28/2007	RootX - 68464-1	9804 - 167 st	4	Pounds (lbs)
03/28/2007	RootX - 68464-1	9547 - 155 st	4	Pounds (lbs)
03/29/2007	RootX - 68464-1	12812 - 127 st	4	Pounds (lbs)
03/29/2007	RootX - 68464-1	17408 - 53 ave	4	Pounds (lbs)
03/29/2007	RootX - 68464-1	13409 - 122a ave	4	Pounds (lbs)
03/29/2007	RootX - 68464-1	11208 - 123 st	4	Pounds (lbs)
03/30/2007	RootX - 68464-1	10933 - 73 ave	4	Pounds (lbs)
03/30/2007	RootX - 68464-1	10826 - 65 ave	4	Pounds (lbs)
03/30/2007	RootX - 68464-1	10708 - 59 ave	4	Pounds (lbs)

04/02/2007	RootX - 68464-1	10446 - 77 ave	4	Pounds (lbs)
04/02/2007	RootX - 68464-1	6839 - 112 st	4	Pounds (lbs)
04/02/2007	RootX - 68464-1	8748 - 66 ave	4	Pounds (lbs)
04/03/2007	RootX - 68464-1	14913 - 76 ave	4	Pounds (lbs)
04/03/2007	RootX - 68464-1	10995 - 126 st	4	Pounds (lbs)
04/03/2007	RootX - 68464-1	15105 - 76 ave	4	Pounds (lbs)
04/04/2007	RootX - 68464-1	3626 - 107 ave	4	Pounds (lbs)
04/04/2007	RootX - 68464-1	10971 - 92 st	4	Pounds (lbs)
04/04/2007	RootX - 68464-1	3524 - 103 ave	4	Pounds (lbs)
04/04/2007	RootX - 68464-1	14619 - 59a st	4	Pounds (lbs)
04/05/2007	RootX - 68464-1	7224 - 93 st	4	Pounds (lbs)
04/05/2007	RootX - 68464-1	9436 - 57 st	4	Pounds (lbs)
04/05/2007	RootX - 68464-1	10512 - 66 ave	4	Pounds (lbs)
04/05/2007	RootX - 68464-1	10935 - University Ave	4	Pounds (lbs)
04/10/2007	RootX - 68464-1	11504 - 33a ave	4	Pounds (lbs)
04/10/2007	RootX - 68464-1	12515 - 47 ave	4	Pounds (lbs)
04/10/2007	RootX - 68464-1	10522 - 70 ave	4	Pounds (lbs)
04/10/2007	RootX - 68464-1	9849 - 81 ave	4	Pounds (lbs)
04/11/2007	RootX - 68464-1	13324 - 132 ave	4	Pounds (lbs)
04/11/2007	RootX - 68464-1	15115 - 96 ave	4	Pounds (lbs)
04/11/2007	RootX - 68464-1	7506 - 149 st	4	Pounds (lbs)
04/11/2007	RootX - 68464-1	10819 - 117 st	4	Pounds (lbs)
04/11/2007	RootX - 68464-1	12810 - 58 st	4	Pounds (lbs)
04/12/2007	RootX - 68464-1	4402 - 113 ave	4	Pounds (lbs)
04/12/2007	RootX - 68464-1	8108 - 163 st	4	Pounds (lbs)
04/12/2007	RootX - 68464-1	10820 - 135 st	4	Pounds (lbs)
04/12/2007	RootX - 68464-1	10322 - 132 st	4	Pounds (lbs)
04/13/2007	RootX - 68464-1	11111 - 39 ave	4	Pounds (lbs)
04/13/2007	RootX - 68464-1	11624 - 36 ave	4	Pounds (lbs)
04/13/2007	RootX - 68464-1	9618 - 75 ave	4	Pounds (lbs)
04/13/2007	RootX - 68464-1	9937 - 84 ave	4	Pounds (lbs)
04/13/2007	RootX - 68464-1	9654 - 71 ave	4	Pounds (lbs)
04/16/2007	RootX - 68464-1	13912 - 109a ave	4	Pounds (lbs)
04/16/2007	RootX - 68464-1	139 Quesnell Cres	4	Pounds (lbs)
04/16/2007	RootX - 68464-1	10222 - 162 st	4	Pounds (lbs)
04/16/2007	RootX - 68464-1	15221 - 84 ave	4	Pounds (lbs)
04/16/2007	RootX - 68464-1	9735 - 153 st	4	Pounds (lbs)
04/17/2007	RootX - 68464-1	3224 - 108a st	4	Pounds (lbs)
04/17/2007	RootX - 68464-1	11208 - 39a ave	4	Pounds (lbs)
04/17/2007	RootX - 68464-1	10711 - 59 ave	4	Pounds (lbs)
04/17/2007	RootX - 68464-1	7423 - 119 st	4	Pounds (lbs)
04/18/2007	RootX - 68464-1	5603 - 101a ave	4	Pounds (lbs)
04/18/2007	RootX - 68464-1	10644 - 65 ave	4	Pounds (lbs)
04/18/2007	RootX - 68464-1	5519 - 108 st	4	Pounds (lbs)
04/19/2007	RootX - 68464-1	9325 - 98a st	4	Pounds (lbs)

04/19/2007	RootX - 68464-1	9648 - 81 ave	4	Pounds (lbs)
04/19/2007	RootX - 68464-1	10815 - 73 ave	4	Pounds (lbs)
04/19/2007	RootX - 68464-1	10816 - 72 ave	4	Pounds (lbs)
04/19/2007	RootX - 68464-1	8510 - 104 st	4	Pounds (lbs)
04/20/2007	RootX - 68464-1	142 - Laurier Drive	4	Pounds (lbs)
04/20/2007	RootX - 68464-1	10041 - 155 st	4	Pounds (lbs)
04/20/2007	RootX - 68464-1	15222 - 84 ave	4	Pounds (lbs)
04/20/2007	RootX - 68464-1	16119 - 112 st	4	Pounds (lbs)
04/23/2007	RootX - 68464-1	10818 - 60 ave	4	Pounds (lbs)
04/23/2007	RootX - 68464-1	10910 - 66 ave	4	Pounds (lbs)
04/23/2007	RootX - 68464-1	9804 - 91 ave	4	Pounds (lbs)
04/23/2007	RootX - 68464-1	10849 - 63 ave	4	Pounds (lbs)
04/23/2007	RootX - 68464-1	6604 - 124 st	4	Pounds (lbs)
04/24/2007	RootX - 68464-1	14308 - 32 st	4	Pounds (lbs)
04/24/2007	RootX - 68464-1	17303 - 102 st	4	Pounds (lbs)
04/24/2007	RootX - 68464-1	14712 - 59 st	4	Pounds (lbs)
04/24/2007	RootX - 68464-1	4402 - 116 ave	4	Pounds (lbs)
04/25/2007	RootX - 68464-1	11647 - 77 ave	4	Pounds (lbs)
04/25/2007	RootX - 68464-1	10928 - 73 ave	4	Pounds (lbs)
04/25/2007	RootX - 68464-1	10621 - 60a ave	4	Pounds (lbs)
04/25/2007	RootX - 68464-1	10845 - 65 ave	4	Pounds (lbs)
04/27/2007	RootX - 68464-1	4026 - 115 ave	4	Pounds (lbs)
04/27/2007	RootX - 68464-1	10550 - 126 st	4	Pounds (lbs)
04/27/2007	RootX - 68464-1	11535 - 141 st	4	Pounds (lbs)
04/27/2007	RootX - 68464-1	15003 98 ave	4	Pounds (lbs)
04/30/2007	RootX - 68464-1	10822 - 68 ave	4	Pounds (lbs)
04/30/2007	RootX - 68464-1	9818 - 81 ave	4	Pounds (lbs)
04/30/2007	RootX - 68464-1	8755 - 80 ave	4	Pounds (lbs)
04/30/2007	RootX - 68464-1	8503 - 99 st	4	Pounds (lbs)
05/01/2007	RootX - 68464-1	10339 - 138 st	4	Pounds (lbs)
05/01/2007	RootX - 68464-1	10425 - 133 st	4	Pounds (lbs)
05/01/2007	RootX - 68464-1	7816 - 158 st	4	Pounds (lbs)
05/01/2007	RootX - 68464-1	10844 - 140 st	4	Pounds (lbs)
05/02/2007	RootX - 68464-1	11171 - 62 ave	4	Pounds (lbs)
05/02/2007	RootX - 68464-1	10236 - 71 st	4	Pounds (lbs)
05/02/2007	RootX - 68464-1	3225 - 108 st	4	Pounds (lbs)
05/02/2007	RootX - 68464-1	9056 - 93 st	4	Pounds (lbs)
05/03/2007	RootX - 68464-1	7148 - 82 st	4	Pounds (lbs)
05/03/2007	RootX - 68464-1	10823 - 85 ave	4	Pounds (lbs)
05/03/2007	RootX - 68464-1	10819 - 85 ave	4	Pounds (lbs)
05/03/2007	RootX - 68464-1	8411 - 64 ave	4	Pounds (lbs)
05/04/2007	RootX - 68464-1	14327 - 92a ave	4	Pounds (lbs)
05/04/2007	RootX - 68464-1	13004 - 116 st	4	Pounds (lbs)
05/04/2007	RootX - 68464-1	11011 - 133 st	4	Pounds (lbs)
05/04/2007	RootX - 68464-1	9902 - 111 st	4	Pounds (lbs)

05/07/2007	RootX - 68464-1	15224 - 65 st	4	Pounds (lbs)
05/07/2007	RootX - 68464-1	4417 - 115 ave	4	Pounds (lbs)
05/07/2007	RootX - 68464-1	13308 - 30 st	4	Pounds (lbs)
05/07/2007	RootX - 68464-1	11347 - 69 st	4	Pounds (lbs)
05/08/2007	RootX - 68464-1	9547 - Donnell Rd	4	Pounds (lbs)
05/08/2007	RootX - 68464-1	10931 - 62 ave	4	Pounds (lbs)
05/08/2007	RootX - 68464-1	10115 - 85 ave	4	Pounds (lbs)
05/08/2007	RootX - 68464-1	6404 - 110 st	4	Pounds (lbs)
05/08/2007	RootX - 68464-1	4808 - 144 st	4	Pounds (lbs)
05/09/2007	RootX - 68464-1	9842 - 90 ave	4	Pounds (lbs)
05/09/2007	RootX - 68464-1	14331 - 47 ave	4	Pounds (lbs)
05/09/2007	RootX - 68464-1	10863 - 21 ave	4	Pounds (lbs)
05/09/2007	RootX - 68464-1	6207 - 132 st	4	Pounds (lbs)
05/10/2007	RootX - 68464-1	10608 - 129 st	4	Pounds (lbs)
05/11/2007	RootX - 68464-1	10530 - 79 ave	4	Pounds (lbs)
05/11/2007	RootX - 68464-1	11618 - 76 ave	4	Pounds (lbs)
05/14/2007	RootX - 68464-1	3636 - 73 st	4	Pounds (lbs)
05/14/2007	RootX - 68464-1	10952 - 74 ave	4	Pounds (lbs)
05/14/2007	RootX - 68464-1	11104 - 46 ave	4	Pounds (lbs)
05/15/2007	RootX - 68464-1	11307 - Malmo Rd	4	Pounds (lbs)
05/15/2007	RootX - 68464-1	11504 - 32a ave	4	Pounds (lbs)
05/16/2007	RootX - 68464-1	13308 - 30 st	4	Pounds (lbs)
05/16/2007	RootX - 68464-1	11902 - 37 st	4	Pounds (lbs)
05/17/2007	RootX - 68464-1	11003 - 133 st	4	Pounds (lbs)
05/17/2007	RootX - 68464-1	9008 - 148 st	4	Pounds (lbs)
05/17/2007	RootX - 68464-1	11061 - 151 st	4	Pounds (lbs)
05/22/2007	RootX - 68464-1	10935 - 38 ave	4	Pounds (lbs)
05/22/2007	RootX - 68464-1	4812 - 144 st	4	Pounds (lbs)
05/22/2007	RootX - 68464-1	10811 - 67 ave	4	Pounds (lbs)
05/23/2007	RootX - 68464-1	10846 - 60 ave	4	Pounds (lbs)
05/24/2007	RootX - 68464-1	14440 - 110a ave	4	Pounds (lbs)
05/24/2007	RootX - 68464-1	14403 - 96 ave	4	Pounds (lbs)
05/25/2007	RootX - 68464-1	12001 - 44 st	4	Pounds (lbs)
05/28/2007	RootX - 68464-1	2434 - 106a st	4	Pounds (lbs)
05/28/2007	RootX - 68464-1	12419 - 52 ave	4	Pounds (lbs)
05/28/2007	RootX - 68464-1	5135 - 123 st	4	Pounds (lbs)
05/28/2007	RootX - 68464-1	2516 - 116 st	4	Pounds (lbs)
05/29/2007	RootX - 68464-1	3408 - 114 st	4	Pounds (lbs)
05/29/2007	RootX - 68464-1	11403 - 37b ave	4	Pounds (lbs)
05/29/2007	RootX - 68464-1	3908 - 118 st	4	Pounds (lbs)
05/30/2007	RootX - 68464-1	9302 - 153 st	4	Pounds (lbs)
05/30/2007	RootX - 68464-1	14506 - 103 ave	4	Pounds (lbs)
05/30/2007	RootX - 68464-1	9526 - 155 st	4	Pounds (lbs)
05/30/2007	RootX - 68464-1	7508 - 149 st	4	Pounds (lbs)
05/31/2007	RootX - 68464-1	9106 - 168 st	4	Pounds (lbs)

	05/31/2007	RootX - 68464-1	9622 - 154 st	4	Pounds (lbs)
	06/01/2007	RootX - 68464-1	10704 - 70 ave	4	Pounds (lbs)
	06/01/2007	RootX - 68464-1	10629 - 76 ave	4	Pounds (lbs)
	06/01/2007	RootX - 68464-1	9829 - 83 ave	4	Pounds (lbs)
	06/01/2007	RootX - 68464-1	6704 - 105a ave	4	Pounds (lbs)
1	06/04/2007	RootX - 68464-1	3808 - 110 st	4	Pounds (lbs)
2	06/04/2007	RootX - 68464-1	10832 - 79 ave	4	Pounds (lbs)
3	06/04/2007	RootX - 68464-1	5212 - 111a st	4	Pounds (lbs)
4	06/04/2007	RootX - 68464-1	5716 - 144 st	4	Pounds (lbs)
5	06/05/2007	RootX - 68464-1	8902 - 168 st	4	Pounds (lbs)
6	06/05/2007	RootX - 68464-1	7720 - 157 st	4	Pounds (lbs)
7	06/05/2007	RootX - 68464-1	13312 - 79 ave	4	Pounds (lbs)
8	06/05/2007	RootX - 68464-1	6408 - 187 st	4	Pounds (lbs)
9	06/06/2007	RootX - 68464-1	5515 - 115 st	4	Pounds (lbs)
10	06/06/2007	RootX - 68464-1	11412 - 37B ave	4	Pounds (lbs)
11	06/06/2007	RootX - 68464-1	11131 - 64 ave	4	Pounds (lbs)
12	06/06/2007	RootX - 68464-1	9628 - Austin O'Brien Rd	4	Pounds (lbs)
13	06/07/2007	RootX - 68464-1	9332 - 108 ave	4	Pounds (lbs)
14	06/07/2007	RootX - 68464-1	10744 - 92 st	4	Pounds (lbs)
15	06/07/2007	RootX - 68464-1	13109 - 41a st	4	Pounds (lbs)
16	06/07/2007	RootX - 68464-1	11115 - 40 st	4	Pounds (lbs)
17	06/07/2007	RootX - 68464-1	14023 - 23 st	4	Pounds (lbs)
18	06/08/2007	RootX - 68464-1	9613 - 151 st	4	Pounds (lbs)
19	06/08/2007	RootX - 68464-1	11008 - 132 st	4	Pounds (lbs)
20	06/08/2007	RootX - 68464-1	10906 - 38 st	4	Pounds (lbs)
22	06/11/2007	RootX - 68464-1	10186 - 143 st	4	Pounds (lbs)
23	06/11/2007	RootX - 68464-1	9215 - 168 st	4	Pounds (lbs)
25	06/11/2007	RootX - 68464-1	11133 - 61 st	4	Pounds (lbs)
36	06/12/2007	RootX - 68464-1	6316 - 132 st	4	Pounds (lbs)
37	06/12/2007	RootX - 68464-1	6507 - 104a st	4	Pounds (lbs)
38	06/12/2007	RootX - 68464-1	8773 - 90 ave	4	Pounds (lbs)
39	06/13/2007	RootX - 68464-1	13303 - 65 st	4	Pounds (lbs)
40	06/13/2007	RootX - 68464-1	12220 - 46 st	4	Pounds (lbs)
41	06/13/2007	RootX - 68464-1	12208 - 46 st	4	Pounds (lbs)
42	06/13/2007	RootX - 68464-1	8611 - 137 ave	4	Pounds (lbs)
43	06/14/2007	RootX - 68464-1	10779 - 133 st	4	Pounds (lbs)
44	06/14/2007	RootX - 68464-1	16012 - Patricia Drive	4	Pounds (lbs)
45	06/14/2007	RootX - 68464-1	8323 - 164 st	4	Pounds (lbs)
46	06/15/2007	RootX - 68464-1	9852 - 89 ave	4	Pounds (lbs)
47	06/15/2007	RootX - 68464-1	3616 - 117a st	4	Pounds (lbs)
48	06/18/2007	RootX - 68464-1	13635 - Buena Vista Road	4	Pounds (lbs)
49	06/18/2007	RootX - 68464-1	9722 - 153 st	4	Pounds (lbs)
50	06/18/2007	RootX - 68464-1	9540 - 153 st	4	Pounds (lbs)
51	06/19/2007	RootX - 68464-1	7440 - 33 ave	4	Pounds (lbs)
52	06/19/2007	RootX - 68464-1	10515 - 67 ave	4	Pounds (lbs)

53	06/19/2007	RootX - 68464-1	106 - Fairway Drive	4	Pounds (lbs)
54	06/19/2007	RootX - 68464-1	#35 - Granlea Crescent	4	Pounds (lbs)
55	06/20/2007	RootX - 68464-1	4029 - 115 ave	4	Pounds (lbs)
56	06/20/2007	RootX - 68464-1	3011 - 139 ave	4	Pounds (lbs)
57	06/20/2007	RootX - 68464-1	12013 - 38 st	4	Pounds (lbs)
58	06/20/2007	RootX - 68464-1	11910 - 41 st	4	Pounds (lbs)
59	06/20/2007	RootX - 68464-1	14003 - 72 st	4	Pounds (lbs)
60	06/21/2007	RootX - 68464-1	4252 - 74 st	4	Pounds (lbs)
61	06/21/2007	RootX - 68464-1	9624 - 77 ave	4	Pounds (lbs)
62	06/25/2007	RootX - 68464-1	15715 - 92 ave	4	Pounds (lbs)
63	06/25/2007	RootX - 68464-1	10343 - 137 st	4	Pounds (lbs)
64	06/25/2007	RootX - 68464-1	9104 - 167 st	4	Pounds (lbs)
65	06/26/2007	RootX - 68464-1	11018 - 83 ave	4	Pounds (lbs)
66	06/26/2007	RootX - 68464-1	10820 - 60 ave	4	Pounds (lbs)
67	06/26/2007	RootX - 68464-1	10821 - 60 ave	4	Pounds (lbs)
68	06/26/2007	RootX - 68464-1	11104 - 46 ave	4	Pounds (lbs)
69	06/27/2007	RootX - 68464-1	10924 - 81 ave	4	Pounds (lbs)
70	06/27/2007	RootX - 68464-1	11448 - 37a ave	4	Pounds (lbs)
71	06/27/2007	RootX - 68464-1	9330 - 73 ave	4	Pounds (lbs)
72	06/28/2007	RootX - 68464-1	4028 - 121 st	4	Pounds (lbs)
73	06/28/2007	RootX - 68464-1	17107100 st	4	Pounds (lbs)
74	06/28/2007	RootX - 68464-1	7612 - 149 st	4	Pounds (lbs)
75	07/03/2007	RootX - 68464-1	14312 - 49 ave	4	Pounds (lbs)
76	07/03/2007	RootX - 68464-1	3839 - 117 st	4	Pounds (lbs)
77	07/03/2007	RootX - 68464-1	10567 - 76 ave	4	Pounds (lbs)
78	07/03/2007	RootX - 68464-1	9858 - 87 ave	4	Pounds (lbs)
79	07/04/2007	RootX - 68464-1	11036 - 76 st	4	Pounds (lbs)
80	07/04/2007	RootX - 68464-1	11036 - 76 st	4	Pounds (lbs)
81	07/04/2007	RootX - 68464-1	4820 - 114 ave	4	Pounds (lbs)
82	07/05/2007	RootX - 68464-1	10508 - 74 ave	4	Pounds (lbs)
83	07/05/2007	RootX - 68464-1	3612 - 112a st	4	Pounds (lbs)
84	07/05/2007	RootX - 68464-1	10343 - 150 st	4	Pounds (lbs)
85	07/05/2007	RootX - 68464-1	16815 - 97 ave	4	Pounds (lbs)
86	07/09/2007	RootX - 68464-1	13303 - 116 ave	4	Pounds (lbs)
87	07/09/2007	RootX - 68464-1	9248 - 148 st	4	Pounds (lbs)
88	07/09/2007	RootX - 68464-1	11131 - 127 st	4	Pounds (lbs)
89	07/09/2007	RootX - 68464-1	14334 - 103 ave	4	Pounds (lbs)
90	07/09/2007	RootX - 68464-1	9902 - 150 st	4	Pounds (lbs)
91	07/10/2007	RootX - 68464-1	4034 - 115 ave	4	Pounds (lbs)
92	07/10/2007	RootX - 68464-1	11352 - 70 st	4	Pounds (lbs)
93	07/10/2007	RootX - 68464-1	11434 - 75 ave	4	Pounds (lbs)
94	07/10/2007	RootX - 68464-1	10708 - 72 ave	4	Pounds (lbs)
95	07/10/2007	RootX - 68464-1	7623 - 70 ave	4	Pounds (lbs)
103	07/11/2007	RootX - 68464-1	12525 - 112 ave	4	Pounds (lbs)
104	07/11/2007	RootX - 68464-1	18512 - 89 ave	4	Pounds (lbs)

105	07/11/2007	RootX - 68464-1	18404 - 80 ave	4	Pounds (lbs)
106	07/16/2007	RootX - 68464-1	7703 - 156 st	4	Pounds (lbs)
107	07/16/2007	RootX - 68464-1	11145 - 29a ave	4	Pounds (lbs)
108	07/16/2007	RootX - 68464-1	9539 - 169 st	4	Pounds (lbs)
109	07/16/2007	RootX - 68464-1	9229 - 168 st	4	Pounds (lbs)
110	07/17/2007	RootX - 68464-1	12915 - 28 st	4	Pounds (lbs)
111	07/17/2007	RootX - 68464-1	8102 - 85 st	4	Pounds (lbs)
112	07/17/2007	RootX - 68464-1	9614 79 ave	4	Pounds (lbs)
113	07/18/2007	RootX - 68464-1	10615 - 60 ave	4	Pounds (lbs)
116	07/18/2007	RootX - 68464-1	11154 - 63 ave	4	Pounds (lbs)
117	07/18/2007	RootX - 68464-1	11158 - 63 ave	4	Pounds (lbs)
557	07/18/2007	RootX - 68464-1	8343 - 120 st	4	Pounds (lbs)
558	07/18/2007	RootX - 68464-1	10631 - 68 ave	4	Pounds (lbs)
118	07/23/2007	RootX - 68464-1	10920 - 65 ave	4	Pounds (lbs)
119	07/23/2007	RootX - 68464-1	11403 - 12 ave	4	Pounds (lbs)
120	07/23/2007	RootX - 68464-1	8539 - 64 ave	4	Pounds (lbs)
121	07/23/2007	RootX - 68464-1	10208 - 67 st	4	Pounds (lbs)
122	07/23/2007	RootX - 68464-1	11050 - 83 ave	4	Pounds (lbs)
125	07/24/2007	RootX - 68464-1	13903 - 109B ave	4	Pounds (lbs)
126	07/24/2007	RootX - 68464-1	9512 - 150 st	4	Pounds (lbs)
127	07/24/2007	RootX - 68464-1	15630 - 125 st	4	Pounds (lbs)
128	07/24/2007	RootX - 68464-1	11427 - 125 st	4	Pounds (lbs)
133	07/25/2007	RootX - 68464-1	8742 - 157 st	4	Pounds (lbs)
134	07/25/2007	RootX - 68464-1	10749 - 92 st	4	Pounds (lbs)
135	07/25/2007	RootX - 68464-1	11829 - 46 st	4	Pounds (lbs)
136	07/25/2007	RootX - 68464-1	3813 - 110 ave	4	Pounds (lbs)
137	07/30/2007	RootX - 68464-1	17336 - 86 ave	4	Pounds (lbs)
138	07/30/2007	RootX - 68464-1	6407 - 148 st	4	Pounds (lbs)
139	07/30/2007	RootX - 68464-1	8909 - 160 st	4	Pounds (lbs)
140	07/31/2007	RootX - 68464-1	10702 - 85 ave	4	Pounds (lbs)
141	07/31/2007	RootX - 68464-1	281 Greenoch Crescent	4	Pounds (lbs)
142	07/31/2007	RootX - 68464-1	10817 - 79 ave	4	Pounds (lbs)
143	07/31/2007	RootX - 68464-1	8740 - 67 ave	4	Pounds (lbs)
144	08/01/2007	RootX - 68464-1	5204 - 19 ave	4	Pounds (lbs)
145	08/01/2007	RootX - 68464-1	10709 - 75 ave	4	Pounds (lbs)
146	08/01/2007	RootX - 68464-1	10049 - 87 ave	4	Pounds (lbs)
147	08/02/2007	RootX - 68464-1	1324 - 39 st	4	Pounds (lbs)
148	08/02/2007	RootX - 68464-1	9735 - 83 ave	4	Pounds (lbs)
149	08/02/2007	RootX - 68464-1	9935 - 84 ave	4	Pounds (lbs)
150	08/02/2007	RootX - 68464-1	8403 - 71 st	4	Pounds (lbs)
155	08/07/2007	RootX - 68464-1	11928 - 48 st	4	Pounds (lbs)
156	08/07/2007	RootX - 68464-1	12126 - 39 st	4	Pounds (lbs)
157	08/07/2007	RootX - 68464-1	10776 - 133 st	4	Pounds (lbs)
158	08/07/2007	RootX - 68464-1	9022 - 142 st	4	Pounds (lbs)
159	08/08/2007	RootX - 68464-1	7024 - 105a st	4	Pounds (lbs)

160	08/08/2007	RootX - 68464-1	9650 - 95 ave	4	Pounds (lbs)
161	08/08/2007	RootX - 68464-1	9715 - 83 ave	4	Pounds (lbs)
162	08/08/2007	RootX - 68464-1	10015 - 87 ave	4	Pounds (lbs)
163	08/09/2007	RootX - 68464-1	11175 - 62 ave	4	Pounds (lbs)
164	08/09/2007	RootX - 68464-1	11146 - 70 ave	4	Pounds (lbs)
165	08/09/2007	RootX - 68464-1	6835 - 112 st	4	Pounds (lbs)
166	08/09/2007	RootX - 68464-1	10713 - University ave	4	Pounds (lbs)
167	08/13/2007	RootX - 68464-1	12029 - 38 st	4	Pounds (lbs)
168	08/13/2007	RootX - 68464-1	9208 - 151 st	4	Pounds (lbs)
169	08/13/2007	RootX - 68464-1	13005 - 103 ave	4	Pounds (lbs)
170	08/13/2007	RootX - 68464-1	10767 - 133 st	4	Pounds (lbs)
171	08/14/2007	RootX - 68464-1	#407 - Lee Ridge Road	4	Pounds (lbs)
172	08/14/2007	RootX - 68464-1	5131 - 123 st	4	Pounds (lbs)
173	08/14/2007	RootX - 68464-1	11464 - 39 ave	4	Pounds (lbs)
174	08/14/2007	RootX - 68464-1	6412 - 149 ave	4	Pounds (lbs)
175	08/15/2007	RootX - 68464-1	6315 - 112 st	4	Pounds (lbs)
176	08/15/2007	RootX - 68464-1	10624 - 78 ave	4	Pounds (lbs)
177	08/15/2007	RootX - 68464-1	10920 - University Ave	4	Pounds (lbs)
178	08/15/2007	RootX - 68464-1	9846 - 90 ave	4	Pounds (lbs)
184	08/20/2007	RootX - 68464-1	11331 - 60 st	4	Pounds (lbs)
185	08/20/2007	RootX - 68464-1	11420 - 100 ave	4	Pounds (lbs)
186	08/20/2007	RootX - 68464-1	12133 - 38 st	4	Pounds (lbs)
187	08/20/2007	RootX - 68464-1	#4 - Harrow Circle	4	Pounds (lbs)
188	08/21/2007	RootX - 68464-1	4220 - Aspen Drive East	4	Pounds (lbs)
189	08/21/2007	RootX - 68464-1	10637 - 65 ave	4	Pounds (lbs)
190	08/21/2007	RootX - 68464-1	6240 - 13 ave	4	Pounds (lbs)
191	08/22/2007	RootX - 68464-1	8746 - 64 ave	4	Pounds (lbs)
192	08/22/2007	RootX - 68464-1	10419 - 87 ave	4	Pounds (lbs)
193	08/22/2007	RootX - 68464-1	11424 - 37A ave	4	Pounds (lbs)
194	08/27/2007	RootX - 68464-1	13724 - 115 ave	4	Pounds (lbs)
195	08/27/2007	RootX - 68464-1	15304 - 74 ave	4	Pounds (lbs)
196	08/27/2007	RootX - 68464-1	#10 - Alexander Circle	4	Pounds (lbs)
201	09/04/2007	RootX - 68464-1	10535 - 71 ave	4	Pounds (lbs)
202	09/04/2007	RootX - 68464-1	4108 - 121 st	4	Pounds (lbs)
203	09/04/2007	RootX - 68464-1	1712 - 109 st	4	Pounds (lbs)
204	09/04/2007	RootX - 68464-1	3820 - 112 st	4	Pounds (lbs)
205	09/04/2007	RootX - 68464-1	4912 114B st	4	Litres (l)
206	09/05/2007	RootX - 68464-1	12148 - 129 st	4	Pounds (lbs)
207	09/05/2007	RootX - 68464-1	#22 - Riverside Cresent	8	Pounds (lbs)
208	09/05/2007	RootX - 68464-1	16703 - 98 ave	4	Pounds (lbs)
209	09/05/2007	RootX - 68464-1	13726 - Stony Plain Road	4	Pounds (lbs)
210	09/06/2007	RootX - 68464-1	6059 - 106 st	4	Pounds (lbs)
211	09/06/2007	RootX - 68464-1	4916 - 112 st	4	Pounds (lbs)
212	09/06/2007	RootX - 68464-1	3620 - 107 st	4	Pounds (lbs)
213	09/06/2007	RootX - 68464-1	14840 - 48 ave	4	Pounds (lbs)

219	09/06/2007	RootX - 68464-1	7412 - 33 ave	4	Pounds (lbs)
215	09/07/2007	RootX - 68464-1	10842 - 60 ave	4	Pounds (lbs)
216	09/07/2007	RootX - 68464-1	9806 - 84 ave	4	Pounds (lbs)
217	09/07/2007	RootX - 68464-1	11724 - 37A ave	4	Pounds (lbs)
220	09/10/2007	RootX - 68464-1	16107 - 87 ave	4	Pounds (lbs)
221	09/10/2007	RootX - 68464-1	10538 - 133 st	4	Pounds (lbs)
222	09/10/2007	RootX - 68464-1	10731 - 133 st	4	Pounds (lbs)
224	09/11/2007	RootX - 68464-1	4425 - 116 ave	4	Pounds (lbs)
225	09/11/2007	RootX - 68464-1	11731 - 152B ave	4	Pounds (lbs)
226	09/11/2007	RootX - 68464-1	15243 - 117 st	4	Pounds (lbs)
227	09/11/2007	RootX - 68464-1	9930 - 106 st	4	Pounds (lbs)
228	09/12/2007	RootX - 68464-1	10107 - 87 ave	4	Pounds (lbs)
229	09/12/2007	RootX - 68464-1	9436 - 57 st	4	Pounds (lbs)
230	09/12/2007	RootX - 68464-1	10748 - 43 st	4	Pounds (lbs)
231	09/12/2007	RootX - 68464-1	11131 - 62 ave	4	Pounds (lbs)
232	09/13/2007	RootX - 68464-1	3605 - 111 ave	4	Pounds (lbs)
233	09/13/2007	RootX - 68464-1	11016 - 115 st	4	Pounds (lbs)
234	09/13/2007	RootX - 68464-1	4419 - 114 ave	4	Pounds (lbs)
235	09/13/2007	RootX - 68464-1	13119 - 31 st	4	Pounds (lbs)
236	09/13/2007	RootX - 68464-1	3633 - 107 ave	4	Pounds (lbs)
237	09/14/2007	RootX - 68464-1	15207 - 65 st	4	Pounds (lbs)
238	09/14/2007	RootX - 68464-1	11238 - 117 st	4	Pounds (lbs)
239	09/14/2007	RootX - 68464-1	11928 - 131 st	4	Pounds (lbs)
240	09/14/2007	RootX - 68464-1	10939 - 120 st	4	Pounds (lbs)
241	09/17/2007	RootX - 68464-1	10739 - Hardisty Drive	4	Pounds (lbs)
242	09/17/2007	RootX - 68464-1	10627 - 65 ave	4	Pounds (lbs)
243	09/17/2007	RootX - 68464-1	9721 - 84 ave	4	Pounds (lbs)
244	09/17/2007	RootX - 68464-1	10157 - 73 st	4	Pounds (lbs)
245	09/18/2007	RootX - 68464-1	4720 - 144 st	4	Pounds (lbs)
246	09/18/2007	RootX - 68464-1	11620 - 36 ave	4	Pounds (lbs)
247	09/18/2007	RootX - 68464-1	5708 - 110 st	4	Pounds (lbs)
248	09/18/2007	RootX - 68464-1	7622 - 110 st	4	Pounds (lbs)
249	09/18/2007	RootX - 68464-1	8556 - 64 ave	4	Pounds (lbs)
250	09/19/2007	RootX - 68464-1	14611 78 Ave	4	Pounds (lbs)
251	09/19/2007	RootX - 68464-1	12930 107 St	4	Pounds (lbs)
252	09/19/2007	RootX - 68464-1	10860 73 St	4	Pounds (lbs)
253	09/20/2007	RootX - 68464-1	7750 Jasper Ave	4	Pounds (lbs)
254	09/20/2007	RootX - 68464-1	3622 107 St	4	Pounds (lbs)
255	09/20/2007	RootX - 68464-1	4034 111 Ave	4	Pounds (lbs)
256	09/24/2007	RootX - 68464-1	4716 - 141 st.	4	Pounds (lbs)
257	10/01/2007	RootX - 68464-1	8820 - 88 ave	4	Pounds (lbs)
258	10/01/2007	RootX - 68464-1	9850 - 84 ave	4	Pounds (lbs)
259	10/01/2007	RootX - 68464-1	10823 - 38A ave	4	Pounds (lbs)
260	10/01/2007	RootX - 68464-1	1556 - Knottwood Road North	4	Pounds (lbs)
261	10/02/2007	RootX - 68464-1	4304 - 123 st	4	Pounds (lbs)

262	10/02/2007	RootX - 68464-1	4421 - 117 ave	4	Pounds (lbs)
263	10/02/2007	RootX - 68464-1	12132 - 46 st	3	Pounds (lbs)
264	10/03/2007	RootX - 68464-1	7444 - 33 ave	4	Pounds (lbs)
265	10/03/2007	RootX - 68464-1	3823 - 111B st	4	Pounds (lbs)
266	10/03/2007	RootX - 68464-1	6412 - 103A ave	4	Pounds (lbs)
267	10/03/2007	RootX - 68464-1	10981 - 73 ave	4	Pounds (lbs)
268	10/05/2007	RootX - 68464-1	9536 - 75 ave	4	Pounds (lbs)
269	10/05/2007	RootX - 68464-1	3618 - 110 ave	4	Pounds (lbs)
270	10/05/2007	RootX - 68464-1	4446 - 113 ave	4	Pounds (lbs)
271	10/05/2007	RootX - 68464-1	# 9 - Valleyveiw Crescent	4	Pounds (lbs)
272	10/05/2007	RootX - 68464-1	10847 - 141 st	4	Pounds (lbs)
273	10/09/2007	RootX - 68464-1	# 98 - Harrison Drive	4	Pounds (lbs)
274	10/09/2007	RootX - 68464-1	11401 - 88 st	4	Pounds (lbs)
275	10/09/2007	RootX - 68464-1	9550 - 149 st	4	Pounds (lbs)
276	10/09/2007	RootX - 68464-1	9420 - 148 st	4	Pounds (lbs)
277	10/10/2007	RootX - 68464-1	11704 - 84 st	4	Pounds (lbs)
278	10/10/2007	RootX - 68464-1	10816 - 135 st	4	Pounds (lbs)
279	10/10/2007	RootX - 68464-1	6311 - 148 ave	4	Pounds (lbs)
280	10/11/2007	RootX - 68464-1	10742 - 75 ave	4	Pounds (lbs)
281	10/11/2007	RootX - 68464-1	6051 - 106 st	4	Pounds (lbs)
282	10/11/2007	RootX - 68464-1	6053 - 106 st	4	Pounds (lbs)
283	10/11/2007	RootX - 68464-1	15717 92 ave	4	Pounds (lbs)
284	10/12/2007	RootX - 68464-1	11948 - 152B ave.	4	Pounds (lbs)
285	10/12/2007	RootX - 68464-1	14115 - 120A st.	4	Pounds (lbs)
286	10/12/2007	RootX - 68464-1	16621 - 105 ave.	4	Pounds (lbs)
287	10/12/2007	RootX - 68464-1	14338 - Park Drive	4	Pounds (lbs)
288	10/12/2007	RootX - 68464-1	7512 - 156 st.	4	Pounds (lbs)
289	10/15/2007	RootX - 68464-1	12131 - 46 st	4	Pounds (lbs)
290	10/15/2007	RootX - 68464-1	13832 - 110A ave	4	Pounds (lbs)
291	10/15/2007	RootX - 68464-1	6316 - 147 ave	4	Pounds (lbs)
292	10/15/2007	RootX - 68464-1	11340 - 165 ave	4	Pounds (lbs)
293	10/15/2007	RootX - 68464-1	4034 - 112 ave	4	Pounds (lbs)
294	10/16/2007	RootX - 68464-1	9513 - 74 ave	4	Pounds (lbs)
295	10/16/2007	RootX - 68464-1	14008 - 49 ave	4	Pounds (lbs)
296	10/16/2007	RootX - 68464-1	3508 - 111B st	4	Pounds (lbs)
298	10/16/2007	RootX - 68464-1	9215 - 77 st	4	Pounds (lbs)
556	10/16/2007	RootX - 68464-1	8603 - Strathearn Drive	4	Pounds (lbs)
299	10/17/2007	RootX - 68464-1	10849 - 79 ave	4	Pounds (lbs)
300	10/17/2007	RootX - 68464-1	6708 - 33 ave	4	Litres (l)
301	10/17/2007	RootX - 68464-1	3519 - 61 st	4	Pounds (lbs)
302	10/17/2007	RootX - 68464-1	7204 - 93 ave	4	Pounds (lbs)
303	10/18/2007	RootX - 68464-1	14341 - 103 ave	4	Pounds (lbs)
304	10/18/2007	RootX - 68464-1	3622 - 116 ave	4	Pounds (lbs)
305	10/18/2007	RootX - 68464-1	4401 - 116 ave	4	Pounds (lbs)
306	10/18/2007	RootX - 68464-1	# 7 - Alexander Circle	4	Pounds (lbs)

307	10/18/2007	RootX - 68464-1	10835 - 124 st	4	Pounds (lbs)
308	10/19/2007	RootX - 68464-1	11023 - 85 ave	4	Pounds (lbs)
309	10/19/2007	RootX - 68464-1	10108 - 87 ave	4	Pounds (lbs)
310	10/19/2007	RootX - 68464-1	11216 - 70 ave	4	Pounds (lbs)
311	10/19/2007	RootX - 68464-1	5415 - 113A st	4	Pounds (lbs)
312	10/22/2007	RootX - 68464-1	7008 - 152A ave	4	Pounds (lbs)
313	10/22/2007	RootX - 68464-1	# 129 - Homestead Cres	4	Pounds (lbs)
314	10/23/2007	RootX - 68464-1	13003 - 66 ave	4	Pounds (lbs)
315	10/23/2007	RootX - 68464-1	4216 - 121 st	4	Pounds (lbs)
316	10/23/2007	RootX - 68464-1	7020 - 39 ave	4	Pounds (lbs)
317	10/23/2007	RootX - 68464-1	6515 - 104A st	4	Pounds (lbs)
318	10/24/2007	RootX - 68464-1	11004 - 123 st	4	Pounds (lbs)
319	10/24/2007	RootX - 68464-1	13615 - 86 ave	4	Pounds (lbs)
320	10/24/2007	RootX - 68464-1	10986 - 125 st	4	Pounds (lbs)
321	10/24/2007	RootX - 68464-1	15016 - 75 ave	4	Pounds (lbs)
322	10/25/2007	RootX - 68464-1	11025 - 151 st	4	Pounds (lbs)
323	10/25/2007	RootX - 68464-1	10731 - 163 st	4	Pounds (lbs)
324	10/25/2007	RootX - 68464-1	8104 - 173 st	4	Pounds (lbs)
325	10/25/2007	RootX - 68464-1	10824 - 135 st	4	Pounds (lbs)
327	10/26/2007	RootX - 68464-1	5832 - 141 st	4	Pounds (lbs)
328	10/26/2007	RootX - 68464-1	11607 - 76 ave	4	Pounds (lbs)
330	10/26/2007	RootX - 68464-1	10626 - 64 ave	4	Pounds (lbs)
554	10/26/2007	RootX - 68464-1	10728 - 60 ave	4	Pounds (lbs)
555	10/26/2007	RootX - 68464-1	5109 - 107 st	4	Pounds (lbs)
331	10/30/2007	RootX - 68464-1	7338 - 21 ave	4	Pounds (lbs)
332	10/30/2007	RootX - 68464-1	3219 - 72 st	4	Pounds (lbs)
333	10/30/2007	RootX - 68464-1	5410 - 110 st	4	Pounds (lbs)
334	10/30/2007	RootX - 68464-1	10218 - 74 st	4	Pounds (lbs)
335	10/31/2007	RootX - 68464-1	6216 - 147 ave	4	Pounds (lbs)
336	10/31/2007	RootX - 68464-1	3605 - 107 ave	4	Pounds (lbs)
337	10/31/2007	RootX - 68464-1	7338 - 111 ave	4	Pounds (lbs)
338	10/31/2007	RootX - 68464-1	4001 - 112 ave	4	Pounds (lbs)
339	11/01/2007	RootX - 68464-1	16018 - 93 ave	4	Pounds (lbs)
340	11/01/2007	RootX - 68464-1	11345 - 65 st	4	Pounds (lbs)
341	11/01/2007	RootX - 68464-1	16432 - 99A ave	4	Pounds (lbs)
342	11/01/2007	RootX - 68464-1	13408 - 103 ave	4	Pounds (lbs)
343	11/02/2007	RootX - 68464-1	10955 - 72 ave	4	Pounds (lbs)
344	11/02/2007	RootX - 68464-1	10444 - 64 ave	4	Pounds (lbs)
345	11/02/2007	RootX - 68464-1	5423 - 110 st	4	Pounds (lbs)
346	11/02/2007	RootX - 68464-1	10004 - 84 ave	4	Pounds (lbs)
347	11/02/2007	RootX - 68464-1	12113 - 40 st	4	Pounds (lbs)
348	11/05/2007	RootX - 68464-1	6550 - 112A ST	4	Pounds (lbs)
349	11/05/2007	RootX - 68464-1	5337 - 106 st	4	Pounds (lbs)
350	11/05/2007	RootX - 68464-1	5411 - 143 st	4	Pounds (lbs)
351	11/05/2007	RootX - 68464-1	8703 - 136 st	4	Pounds (lbs)

352	11/06/2007	RootX - 68464-1	17105 - 110 st	4	Pounds (lbs)
353	11/06/2007	RootX - 68464-1	10125 - 143 st	4	Pounds (lbs)
354	11/07/2007	RootX - 68464-1	14007 - 101 ave	4	Pounds (lbs)
355	11/07/2007	RootX - 68464-1	8830 - 88 ave	4	Pounds (lbs)
356	11/07/2007	RootX - 68464-1	10743 - 45 st	4	Pounds (lbs)
357	11/07/2007	RootX - 68464-1	10806 - 69 ave	4	Pounds (lbs)
358	11/07/2007	RootX - 68464-1	11139 - 62 ave	4	Pounds (lbs)
359	11/08/2007	RootX - 68464-1	6315 - 148 ave	4	Pounds (lbs)
360	11/08/2007	RootX - 68464-1	15108 - 80 st	4	Pounds (lbs)
361	11/08/2007	RootX - 68464-1	13330 - 109B ave	4	Pounds (lbs)
362	11/09/2007	RootX - 68464-1	10640 - 47 st	4	Pounds (lbs)
363	11/09/2007	RootX - 68464-1	11522 - 24 ave	4	Pounds (lbs)
364	11/09/2007	RootX - 68464-1	3819 - 110 st	4	Pounds (lbs)
365	11/09/2007	RootX - 68464-1	8722 - 88 ave	4	Pounds (lbs)
366	11/13/2007	RootX - 68464-1	10531 - 68 ave	4	Pounds (lbs)
367	11/13/2007	RootX - 68464-1	6826 - 112A st	4	Pounds (lbs)
368	11/13/2007	RootX - 68464-1	10738 - 75 ave	4	Pounds (lbs)
369	11/13/2007	RootX - 68464-1	6815 - 94B ave	4	Pounds (lbs)
370	11/13/2007	RootX - 68464-1	11142 - 81 ave	4	Pounds (lbs)
371	11/14/2007	RootX - 68464-1	14011 - 101 ave	4	Pounds (lbs)
372	11/14/2007	RootX - 68464-1	13912 - 86 ave	4	Pounds (lbs)
373	11/14/2007	RootX - 68464-1	16612 - 90 ave	4	Pounds (lbs)
374	11/14/2007	RootX - 68464-1	9701 - 152 st	4	Pounds (lbs)
375	11/14/2007	RootX - 68464-1	16706 - 90 ave	4	Pounds (lbs)
376	11/15/2007	RootX - 68464-1	11615 - 76 ave	4	Pounds (lbs)
377	11/15/2007	RootX - 68464-1	10760 - 78 ave	4	Pounds (lbs)
378	11/15/2007	RootX - 68464-1	11441 - University	4	Pounds (lbs)
379	11/15/2007	RootX - 68464-1	10946 - 84 ave	4	Pounds (lbs)
380	11/15/2007	RootX - 68464-1	10946 - 84 ave	4	Pounds (lbs)
381	11/16/2007	RootX - 68464-1	4237 - 114 ave	4	Pounds (lbs)
382	11/16/2007	RootX - 68464-1	10248 - Connaught Drive	4	Pounds (lbs)
383	11/16/2007	RootX - 68464-1	4038 - 114 ave	4	Pounds (lbs)
384	11/16/2007	RootX - 68464-1	10334 - 139 st	4	Pounds (lbs)
385	11/19/2007	RootX - 68464-1	10745 - 72 ave	4	Pounds (lbs)
386	11/19/2007	RootX - 68464-1	6916 - 97 ave	4	Pounds (lbs)
387	11/19/2007	RootX - 68464-1	10024 - 87 ave	4	Pounds (lbs)
388	11/19/2007	RootX - 68464-1	9915 - 87 ave	4	Pounds (lbs)
389	11/19/2007	RootX - 68464-1	7525 - 114 st	4	Pounds (lbs)
390	11/20/2007	RootX - 68464-1	16166 - 107A ave	4	Pounds (lbs)
391	11/20/2007	RootX - 68464-1	15101 - 74 ave	4	Pounds (lbs)
392	11/20/2007	RootX - 68464-1	7735 - 157 st	4	Pounds (lbs)
393	11/20/2007	RootX - 68464-1	9919 - 147 st	4	Pounds (lbs)
394	11/21/2007	RootX - 68464-1	3324 - 118 st	4	Pounds (lbs)
395	11/21/2007	RootX - 68464-1	3146 - 73 st	4	Pounds (lbs)
396	11/21/2007	RootX - 68464-1	4716 - 144 st	4	Pounds (lbs)

397	11/21/2007	RootX - 68464-1	4036 - 110 st	4	Pounds (lbs)
398	11/22/2007	RootX - 68464-1	9540 - 109A ave	4	Pounds (lbs)
399	11/22/2007	RootX - 68464-1	3429 - 120A ave	4	Pounds (lbs)
400	11/22/2007	RootX - 68464-1	12201 - 46 st	4	Pounds (lbs)
401	11/22/2007	RootX - 68464-1	13303 - 109A ave	4	Pounds (lbs)
402	11/23/2007	RootX - 68464-1	11222 - 123 st	4	Pounds (lbs)
403	11/23/2007	RootX - 68464-1	7707 - 157 st	4	Pounds (lbs)
404	11/23/2007	RootX - 68464-1	14715 - 96 st	4	Pounds (lbs)
405	11/23/2007	RootX - 68464-1	12912 - 120 st	4	Pounds (lbs)
406	11/26/2007	RootX - 68464-1	3147 - 74 st	4	Pounds (lbs)
407	11/26/2007	RootX - 68464-1	6707 - 32 ave	4	Pounds (lbs)
408	11/26/2007	RootX - 68464-1	7612 - 41 ave	4	Pounds (lbs)
409	11/26/2007	RootX - 68464-1	3631 - 75 st	4	Pounds (lbs)
410	11/26/2007	RootX - 68464-1	11147 - 39A ave	4	Pounds (lbs)
411	11/28/2007	RootX - 68464-1	10514 - 68 ave	4	Pounds (lbs)
412	11/28/2007	RootX - 68464-1	10945 - 75 ave	4	Pounds (lbs)
413	11/28/2007	RootX - 68464-1	10928 - 79 ave	4	Pounds (lbs)
414	11/28/2007	RootX - 68464-1	11123 - 64 ave	4	Pounds (lbs)
415	11/28/2007	RootX - 68464-1	11752 - Universsity Ave	4	Pounds (lbs)
416	11/29/2007	RootX - 68464-1	4020 - Aspen Drive West	4	Pounds (lbs)
417	11/29/2007	RootX - 68464-1	12312 - 51A ave	4	Pounds (lbs)
418	11/29/2007	RootX - 68464-1	7013 - 86 ave	4	Pounds (lbs)
419	11/29/2007	RootX - 68464-1	9203 - 99 st	4	Pounds (lbs)
420	11/29/2007	RootX - 68464-1	10659 - 61 ave	4	Pounds (lbs)
421	11/30/2007	RootX - 68464-1	6269 - Ada Blvd	4	Pounds (lbs)
422	11/30/2007	RootX - 68464-1	4434 - 116 ave	4	Pounds (lbs)
423	11/30/2007	RootX - 68464-1	4610 - 113 ave	4	Pounds (lbs)
424	11/30/2007	RootX - 68464-1	15103 - 76A ave	4	Pounds (lbs)
425	12/03/2007	RootX - 68464-1	10231 - 74 st	4	Pounds (lbs)
426	12/03/2007	RootX - 68464-1	11135 - 63 ave	4	Pounds (lbs)
427	12/03/2007	RootX - 68464-1	11632 - Edinboro Road	4	Pounds (lbs)
428	12/04/2007	RootX - 68464-1	12905 - 113 st	4	Pounds (lbs)
429	12/04/2007	RootX - 68464-1	7712 - 157 st	4	Pounds (lbs)
430	12/04/2007	RootX - 68464-1	8319 - 165 st	4	Pounds (lbs)
431	12/05/2007	RootX - 68464-1	13536 - 107A ave	4	Pounds (lbs)
432	12/05/2007	RootX - 68464-1	11334 - 52 st	4	Pounds (lbs)
433	12/05/2007	RootX - 68464-1	12020 - 44 st	4	Pounds (lbs)
434	12/05/2007	RootX - 68464-1	11649 - 85 st	4	Pounds (lbs)
435	12/06/2007	RootX - 68464-1	10650 - 61 ave	4	Pounds (lbs)
436	12/06/2007	RootX - 68464-1	#652 - Butchart Wynd	4	Pounds (lbs)
437	12/06/2007	RootX - 68464-1	#19 - Westbrook Drive	4	Pounds (lbs)
438	12/06/2007	RootX - 68464-1	9751 - 83 ave	4	Pounds (lbs)
439	12/07/2007	RootX - 68464-1	6403 - 149 ave	4	Pounds (lbs)
440	12/07/2007	RootX - 68464-1	10945 - 54 ave	4	Pounds (lbs)
441	12/07/2007	RootX - 68464-1	6923 - 92B ave	4	Pounds (lbs)

442	12/07/2007	RootX - 68464-1	9845 - 90 ave	4	Pounds (lbs)
443	12/10/2007	RootX - 68464-1	#43 - Wahstao Cresent	4	Pounds (lbs)
444	12/10/2007	RootX - 68464-1	16004 - 78 ave	4	Pounds (lbs)
445	12/10/2007	RootX - 68464-1	7708 - 154A st	4	Pounds (lbs)
446	12/10/2007	RootX - 68464-1	9103 - 167 st	4	Pounds (lbs)
447	12/11/2007	RootX - 68464-1	14003 - 106 ave	4	Pounds (lbs)
448	12/11/2007	RootX - 68464-1	14342 - Park Drive	4	Pounds (lbs)
449	12/11/2007	RootX - 68464-1	9007 - 168 st	4	Pounds (lbs)
450	12/11/2007	RootX - 68464-1	11914 - 41 st	4	Pounds (lbs)
451	12/11/2007	RootX - 68464-1	11348 - 93 st	4	Pounds (lbs)
452	12/12/2007	RootX - 68464-1	6319 - 112 st	4	Pounds (lbs)
453	12/12/2007	RootX - 68464-1	10703 - 60A AVE	4	Pounds (lbs)
454	12/13/2007	RootX - 68464-1	11158 - 62 ave	4	Pounds (lbs)
455	12/13/2007	RootX - 68464-1	6414 - 111A st	4	Pounds (lbs)
456	12/14/2007	RootX - 68464-1	14345 - 103 ave	4	Pounds (lbs)
457	12/14/2007	RootX - 68464-1	13919 - 92 ave	4	Pounds (lbs)
458	12/14/2007	RootX - 68464-1	9532 - 151 st	4	Pounds (lbs)
459	12/14/2007	RootX - 68464-1	9368 - Cameron Ave	4	Pounds (lbs)
460	12/14/2007	RootX - 68464-1	11243 - 58 st	4	Pounds (lbs)
461	12/18/2007	RootX - 68464-1	3516 - 37 st	4	Pounds (lbs)
462	12/18/2007	RootX - 68464-1	10649 - 85 ave	4	Pounds (lbs)
463	12/18/2007	RootX - 68464-1	10629 - 70 ave	4	Pounds (lbs)
464	12/18/2007	RootX - 68464-1	10819 - 84 ave	4	Pounds (lbs)
465	12/18/2007	RootX - 68464-1	6712 - 112 st #3	4	Pounds (lbs)
466	12/19/2007	RootX - 68464-1	6411 - 148 ave	4	Pounds (lbs)
467	12/19/2007	RootX - 68464-1	4809 - 117 ave	4	Pounds (lbs)
468	12/19/2007	RootX - 68464-1	4445 - 116 ave	4	Pounds (lbs)
469	12/19/2007	RootX - 68464-1	4811 - 115 ave	4	Pounds (lbs)
470	12/19/2007	RootX - 68464-1	12006 - 41 st	4	Pounds (lbs)

Table 4: Salt Usage

	OUTFALL NUMBER	DRAINS EQUIPMENT NUMBER	OUTFALL LOCATION	DIRECT AFFECTED WATERCOURSE	Date Ranges	NUMBER OF APPLICATIONS	TOTAL AMOUNT OF ICE SALT APPLIED (Kg)
1	3	208802	Snow Valley Ski Club Parking Lot	Whitemud Creek	10-01-07 - 04-12-07	8	190 Kg
2	7	266966	N 103 Ave – E 42 st	North Sask River	12-01-07 – 13-02-07	2	50 Kg
3	9	207624	Rooney Cres – Routledge Rd	North Sask River	11-01-07 - 04-12-07	g	400 Kg
5	52	244325	N 98 ave – E 91 st	North Sask River	12-01-07 - 05-12-07	5	80 Kg
6	57	349668	E Gretzky dr N 106 ave	North Sask River	09-02-07	1	20 Kg
7	58	389886	E Gretzky Dr N 106 ave	North Sask River	09-02-07 - 05-12-07	2	40 Kg
8	78	266943	N 103 Ave – E 72 st	North Sask River	13-02-07	1	20 Kg
9	91	229618	W 88 st – 66 ave	Mill creek	10-01-07 – 09-02-07	2	40 Kg
10	91A	229113	E 91 st – 65 ave	Mill creek	10-01-07 – 09-02-07	2	50Kg
11	91B	229130	W 89 st – 65 ave	Mill creek	10-01-07 – 09-02-07	2	50 Kg
12	92B	386013	E 91 st – S 71 ave	Mill creek	09-02-07 – 13-02-07	1	10 Kg
13	93	229761	73 ave – 89 st	Mill creek	09-02-07 – 13-02-07	3	30 Kg
14	99	217503	177 Greenoch Cres	Mill creek	10-01-07 – 13-0207	2	40 Kg
15	100	229849	95 st – 76 ave	Mill creek	09-02-07 - 13-02-07	2	30 Kg
16	120	242159	7833 – Sask Dr	North Sask River	10-01-07	1	20 Kg
17	191	229273	72 ave 91 st	Milll creek	09-02-07 – 13-02-07	3	30 Kg
18	275	327182	111 st – N 12 ave	Blackmud creek	04-01-07 – 26-02-07	12	120 Kg
19	265	366354	W 119 st – N 12 ave	Whitemud Creek	11-01-07 - 05-12-07	3	60 Kg
20	N/A	369072	Esso W 34 st – 92 ave Culvert	North Sask River	05-12-07	1	20 Kg
21	119	423058	100 Country Club Point Culvert	Wolf Willow Creek	10-01-07 – 04-12-07	8	130 Kg
22	126	255877	32 St Georges Cres	Ramsay ravine	12-02-07 - 12-03-07	2	20 kg
23	22	225043	N Keilor Rd - 73 ave	N Sask River	13-02-07	3	60 kg
24	23A	336350	Keillor Rd – 74 ave	N Sask River	11-01-07 - 13-02-07	1	20 kg
25	274	327183	N 12 ave – 111 st	Blackmud Creek	10-01-07 – 01-03-07	5	110 kg
27	257	307284	4003 – 184 st	Wedgewood Creek	11-01-07 – 01-03-07	8	220 kg
28	13	225043	100 Wolfwillow PL	N Sask River	11-01-07 – 13-02-07	3	40 kg
29	238	339875	78 ave – Sask Dr	N Sask River	08-02-07	1	20 kg

Table 4: Salt Usage

	OUTFALL NUMBER	DRAINS EQUIPMENT NUMBER	OUTFALL LOCATION	DIRECT AFFECTED WATERCOURSE	Date Ranges	NUMBER OF APPLICATIONS	TOTAL AMOUNT OF ICE SALT APPLIED (Kg)
30	195	229610	9115 – 67 AVE	Millcreek	09-02-07 – 13-02-07	3	30 kg
31	116	339023	Millcreek Pool parking lot	Millcreek	09-02-07 – 13-02-07	4	50 kg
32	119	220479	300 Wolf Willow Point	Wolf Willow Creek	09-02-07	1	10 kg
33	5	225679	13908 51 Avenue	Whitemud Creek	09-02-07 – 13-02-07	3	30 Kg
34	59	270090	E Grtezky Dr N 106 ave NS of river	North Sask river	09-02-07 – 26-02-07	2	40 Kg
35	156	267311	10236 70 Street	Fulton Cres	13-02-07	1	20 Kg
36	65	389888	56 St Capilano Cres	N Sask River	13-02-07	1	20 Kg
37	21	223526	Buenta Vista Road	N Sask River	12-02-07	1	20 Kg
38	N/A	393831	Catch basin 1646 hector road	N Sask River	22-01-07	1	20 Kg
39	N/A	303883	Manhole – 49 av Lansdowne Dr	Whitemud Creek	12-02-07 – 13-02-07	2	20 Kg

Attachment 5: Snow Storage Sites Operational Details

The Snow Storage Site Operational Details are submitted as required under section 6.1.4 of the Approval to Operate No. 639-02-00. To meet these submission requirements the following reports are attached:

- 2007 Snow Melt Report
- 2007 Groundwater Monitoring Snow Storage Facilities Report

These reports are attached in electronic format due to the size of the reports