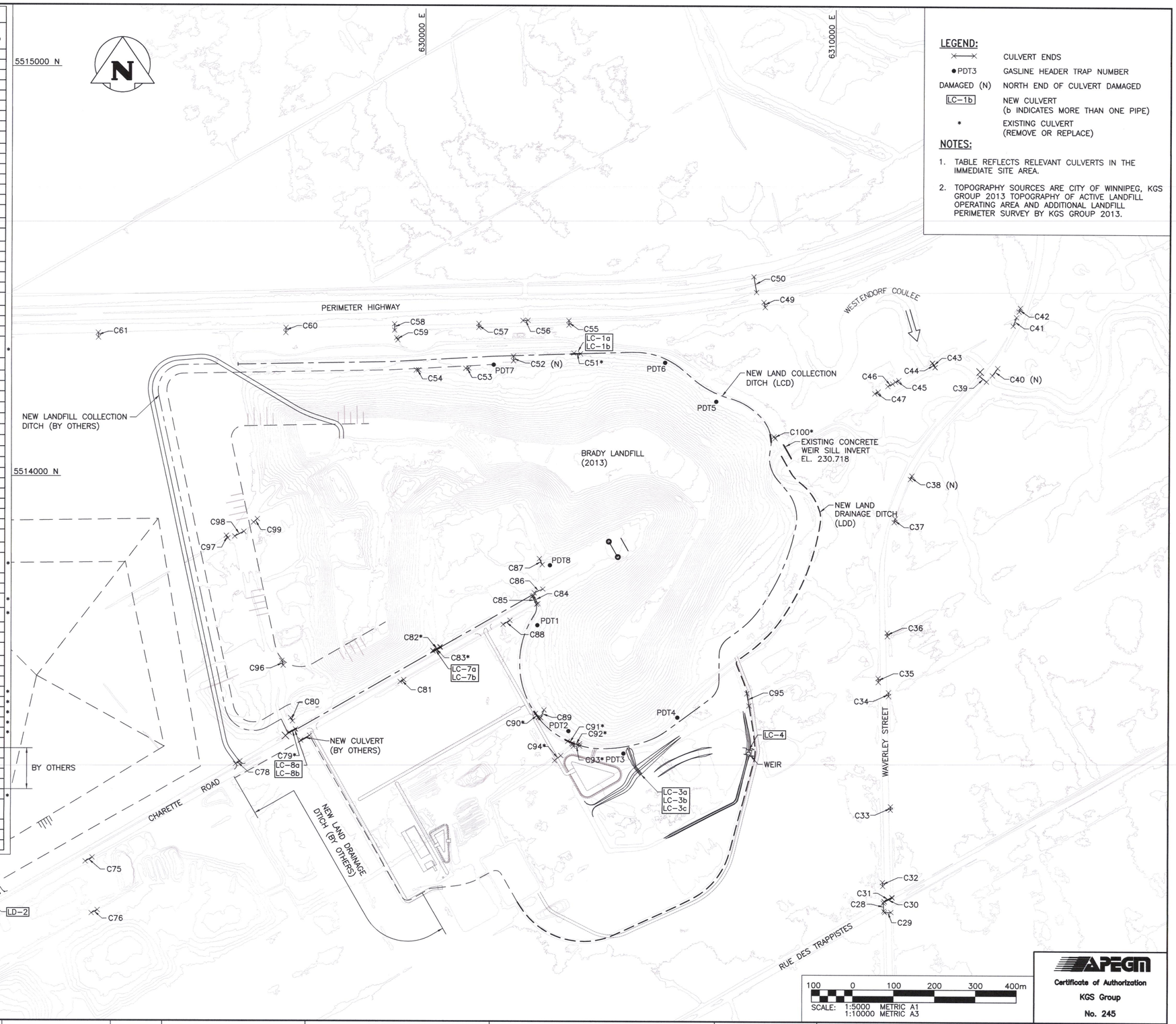
TABLE OF CULVERTS (AS SURVEYED BY KGS 2013)

CULVERT	INLET NORTHING (m)	INLET EASTING (m)	OUTLET NORTHING (m)	OUTLET EASTING (m)	INLET INVERT (m)	OUTLET INVERT (m)	CULVERT LENGTH (m)	DIAMETER (mm)	CROSSING TYPE	WORK REQUIRED
C01	5512798.893	628671.087	5512788.776	628650.786	232.364	232.362	22.7	1800mm	ROAD	NONE
C02	5512795.910	628673.578	5512784.053	628652.050	232.554	232.274	24.6	700mm	ROAD	NONE
C03	5512768.929	628677.940	5512794.226	628675.182	233.815	233.1450	25.5	500mm	ROAD	NONE
C05	5512808.347	628688.511	5512813.897	628699.272	232.246	232.207	12.1	1400mm	ACCESS	NONE
C06	5512811.295	628697.300	5512807.005	628689.239	232.326	232.152	9.1	1200mm	ACCESS	NONE
C28	5512962.899	631124.261	5512943.022	631125.628	232.211	231.957	19.9	800mm	ROAD	NONE
C29	5512940.097	631142.969	5512939.657	631127.578	232.278	232.039	15.4	500mm	ROAD	NONE
C30	5512965.698	631127.011	5512975.389	631146.120	231.690	231.638	21.4	1400mm	ROAD	NONE
C31	5512966.848	631126.358	5512976.973	631145.224	231.602	231.593	21.4	800mm UNDER WATER	ROAD	NONE
C32	5513013.177	631122.212	5513003.584	631122.802	232.460	232.368	9.6	400mm	APPROACH	NONE
C33	5513198.481	631141.048	5513189.816	631141.159	232.210	232.179	8.7	400mm	APPROACH	NONE
C34	5513467.671	631134.829	5513476.833	631134.663	232.252	232.201	9.2	400mm	APPROACH	NONE
C35	5513501.952	631109.867	5513511.901	631109.489	232.023	231.902	10.0	400mm	ACCESS	NONE
C36	5513622.450	631130.921	5513613.857	631131.319	232.142	232.015	8.6	400mm	APPROACH	NONE
C37	5513892.592	631147.057	5513901.691	631149.518	231.707	231.686	9.4	400mm	APPROACH	NONE
C38	5514006.506	631189.888	5513998.108	631186.240	232.250	231.277	9.2	400mm DAMAGED (N)	APPROACH	NONE
C39	5514236.675	631371.225	5514250.110	631354.530	229.840	229.720	21.4	1600mm	ROAD	NONE
C40	5514269.243	631398.559	5514251.767	631385.438	231.260	231.028	21.9	500mm DAMAGED (N)	ROAD	NONE
C41	5514372.878	631435.881	5514393.601	631443.924	231.740	231.613	22.2	500mm	ROAD	NONE
C42	5514416.575	631453.182	5514407.447	631450.242	232.056	231.736	9.6	400mm	APPROACH	NONE
C43	5514281.676	631239.755	5514271.267	631246.266	231.014	230.914	12.3	900mm	APPROACH	NONE
C44	5514281.246	631239.000	5514270.756	631245.622	230.871	230.860	12.4	600mm	APPROACH	NONE
C45	5514235.325	631149.214	5514239.252	631157.089	232.154	232.062	8.8	500mm	ROAD	NONE
C46	5514230.648	631142.000	5514244.768	631130.406	232.033	232.000	16.0	300mm BURIED (W)	ROAD	NONE
C47	5514211.183	631106.808	5514206.837	631098.740	232.323	232.199	9.2	300mm BURIED	ROAD	NONE
C49	5514428.038	630827.666	5514415.637	630830.949	232.000	231.097	14.0	1000mm	ROAD	NONE
C50	5514490.350	630803.122	5514452.230	630809.473	232.000	231.009	38.7	1000mm	ROAD	NONE
C51 LC–1a LC–1b	5514300.852 5514301.195 5514299.171	630380.430 630356.936 630357.002	5514302.597 5514301.992 5514299.968	630364.261 630381.624 630381.689	233.000 232.810 232.810	232.485 232.790 232.790	16.3 25.7 25.7	600mm BURIED (E) 1350mm 1350mm	APPROACH	UPGRADE NEW NEW
C52	5514283.134	630217.116	5514294.702	630216.819	233.000	232.771	11.6	500mm DAMAGED INLET	APPROACH	NONE
C53	5514264.755	630100.579	5514265.007	630108.198	233.092	233.040	7.6	900mm	APPROACH	NONE
C54	5514260.199	629979.949	5514260.692	629985.629	233.795	233.711	5.7	900mm	APPROACH	NONE
C55	5514370.698	630352.055	5514382.141	630351.751	232.416	232.214	11.5	500mm	SERVICE RD.	NONE
C56	5514381.839	630239.586	5514382.238	630251.997	231.753	231.728	12.4	700mm	SERVICE RD.	NONE
C57	5514364.325	630132.027	5514374.032	630131.894	232.413	232.335	9.7	500mm	SERVICE RD.	NONE
C58	5514356.989	629926.811	5514372.426	629926.462	232.575	232.106	15.4	500mm	SERVICE RD.	NONE
C59	5514338.693	629931.709	5514333.317	629934.843	232.687	232.675	6.2	700mm	SERVICE RD.	NONE
C60	5514350.135	629661.303	5514362.810	629661.609	232.896	232.639	12.7	400mm	SERVICE RD.	NONE
C61	5514337.644	629204.460	5514349.640	629203.831	232.628	232.438	12.0	500mm	SERVICE RD.	NONE
C62	5514369.410	628961.770	5514407.810	628962.888	232.530	233.250	38.4	900mm	ROAD	NONE
C71	5512826.303	628766.781	5512842.304	628761.127	233.768	233.262	17.0	500mm	ROAD	NONE
C72	5512825.481	628768.511	5512833.741	628787.545	233.815	233.747	20.7	300mm	ROAD	NONE
C73	5512914.176	628873.66	5512939.425	628914.786	232.465	232.357	48.3	1400mm	ROAD	NONE
C74	5512912.398	628874.741	5512937.703	628915.837	232.443	232.319	48.3	1400mm	ROAD	NONE
C75	5513058.821	629175.550	5513068.438	629192.271	233.958	233.717	19.3	600mm	APPROACH	NONE
C76	5512940.416	629204.859	5512932.713	629190.237	235.250	234.929	16.5	300mm BURIED (E)	ACCESS	NONE
C78	5513304.837	629552.490	5513298.362	629541.806	231.993	231.972	12.5	1000mm	APPROACH	NONE
C79 LC–8a LC–8b	5513374.967 5513374.050 5513385.770	629672.625 629668.780 629690.570	5513383.088 5513372.260 5513383.990	629687.724 629669.780 629691.530	232.033 232.010 232.010	231.915 232.000 232.000	17.1 24.7 24.7	1000mm 1350mm 1350mm	ACCESS	REPLACE *
C80	5513402.953	629680.403	5513410.829	629675.535	232.699	232.483	9.3	400mm	APPROACH	NONE
C81	5513499.601	629942.989	5513504.265	629951.577	232.509	232.444	9.8	400mm	APPROACH	NONE
C82 LC–7a	5513585.307 5513573.414	630040.162 630021.000	5513575.825 5513585.720	630022.286 630042.430	232.043 231.770	232.013 213.750	20.2 24.7	1200mm 1350mm	ACCESS	REPLACE NEW *
C83 LC–7b	5513574.532 5513571.660	630022.966 630022.010	5513583.812 5513583.970	630040.014 630043.440	232.068 231.770	232.042 231.750	19.4 24.7	900mm 1350mm	ACCESS	REPLACE * NEW
C84	5513690.857	630278.327	5513710.320	630267.136	231.507	231.463	22.5	1400mm	ACCESS	NONE
C85	5513689.370	630274.939	5513709.058	630264.361	231.680	231.626	22.4	1400mm	ACCESS	NONE
C86	5513726.925	630290.120	5513717.184	630269.216	233.500	231.474	23.1	500mm PLUGGED (E)	ACCESS	NONE
C87	5513801.070	630281.700	5513786.576	630288.666	233.296	233.062	16.1	500mm	ACCESS	NONE
C88	5513639.936	630193.672	5513650.076	630210.181	231.959	231.943	19.4	1000mm	APPROACH	NONE
C89	5513431.616	630294.048	5513412.736	630286.091	233.353	232.018	20.5	300mm	ACCESS	NONE
C90	5513423.153	630273.507	5513413.299	630280.452	231.528	231.494	12.1	1200mm	ACCESS	REMOVE *
C91	5513350.224	630362.443	5513355.266	630352.470	231.436	231.363	11.2	900mm	ACCESS	REMOVE *
C92	5513349.223	630381.080	5513348.097	630364.551	231.371	231.153	16.6	900mm	ACCESS	REMOVE *
C93	5513343.467	630365.996	5513344.042	630381.291	231.824	231.517	15.3	600mm	ACCESS	REMOVE *
C94	5513308.073	630320.451	5513320.392	630335.633	231.692	231.625	19.6	500mm	ACCESS	BURY *
C95	5513443.435	630794.747	5513473.274	630789.539	230.756	230.593	30.3	1200mm	ACCESS	NONE
C96	5513538.650	629657.226	5513550.344	629653.964	233.182	233.176	12.1	400mm	APPROACH	REMOVE
C97	5513849.502	629521.251	5513855.756	629517.433	233.287	233.262	7.3	800mm	ACCESS	REMOVE
C98	5513865.534	629560.244	5513853.948	629538.030	233.331	233.021	25.1	400mm	ACCESS	REMOVE
C99	5513896.602	629592.884	5513888.301	629583.756	234.086	234.000	12.3	200mm	APPROACH	REMOVE
C100	5514101.026	630853.338	5514096.621	630855.869	231.918	231.869	5.0	600mm	ACCESS	REMOVE *
LC–3a LC–3b LC–3c	5513291.400 5513293.190 5513294.910	630514.760 630516.840 630518.920	5513273.300 5513275.000 5513276.730	630529.800 630531.880 630533.960	231.250 231.250 231.250	231.250 231.250 231.250	23.6 23.6 23.6	1800mm 1800mm 1800mm	ACESS	NEW NEW NEW
LC–4	551337.036	630788.733	5513334.3740	630802.113	231.250	231.250	13.5	600mm	DIKE	NEW
LD–1	5512933.799	628860.188	5512956.080	628898.941	233.000	232.7500	44.7	600mm	ROAD	NEW
LD–2	5512969.247	628939.690	5512958.454	628946.191	232.750	232.700	12.6	600mm	DIKE	NEW

TABLE OF EXISTING GASLINE TRAPS ALONG 450 DIA HEADER

Culvert	NORTHING (m)	EASTING (m)	ELEVATION (m)
PDT1	5513638.355	630277.205	231.446
PDT2	5513380.213	630353.896	229.403
PDT3	5513325.842	630488.426	230.189
PDT4	5513414.027	630619.667	228.699
PDT5	5514185.893	630711.750	231.061
PDT6	5514279.793	630587.327	230.083
PDT7	5514273.696	630168.904	231.000
PDT8	5513785.176	630307.444	231.399

AS PROVIDED BY "COMCOR"



LEGEND:

- CULVERT ENDS
- ●PDT3 GASLINE HEADER TRAP NUMBER
- DAMAGED (N) NORTH END OF CULVERT DAMAGED
- LC–1b NEW CULVERT (b INDICATES MORE THAN ONE PIPE)
- * EXISTING CULVERT (REMOVE OR REPLACE)

NOTES:

1. TABLE REFLECTS RELEVANT CULVERTS IN THE IMMEDIATE SITE AREA.
2. TOPOGRAPHY SOURCES ARE CITY OF WINNIPEG, KGS GROUP 2013 TOPOGRAPHY OF ACTIVE LANDFILL OPERATING AREA AND ADDITIONAL LANDFILL PERIMETER SURVEY BY KGS GROUP 2013.

SCALE: 1:5000 METRIC A1 / 1:10000 METRIC A3 (100 0 100 200 300 400m)

APEGM Certificate of Authorization KGS Group No. 245

COWLEGEND

EXISTING	LEGEND–PLAN	PROPOSED	EXISTING	LEGEND–PLAN	PROPOSED	EXISTING	LEGEND–PROFILE	PROPOSED
150 WM	WATERMAIN	150 WM		HYDRO				
	HYDRANT			M.T.S.				
	VALVE			PROPERTY LINE				
300 LDS	LAND DRAINAGE SEWER	300 LDS		SURVEY BAR				
250 WWS	WASTE WATER SEWER	250 WWS		LIGHT STANDARD				
	MANHOLE			HYDRO POLE				
	CATCH BASIN			GUY WIRE				
	CURB INLET			SIGN				
	JUNCTIONS			BUSH LINE				
	CULVERT			FENCE				
	GAS		231.334	ELEVATION	32.231			

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE — DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. XX–XXX
ELEV. XXX.XXX

NO.	REVISIONS	DATE	BY
0	BID OPPORTUNITY AND CONSTRUCTION	21/03/14	

KGS GROUP — CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG (204) 896–1209
THUNDER BAY (807) 345–2233

DESIGNED BY jS | CHECKED BY TK
DRAWN BY PwD | APPROVED BY RDS
HOR. SCALE: 1:10,000
VERTICAL: 1:10,000
RELEASED FOR CONSTRUCTION:
DATE 17/07/13 | DATE

ENGINEER'S SEAL: PROVINCE OF MANITOBA — R.D. SINCLAIR — REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO. 13–0107–015_DWG 01

Winnipeg

THE CITY OF WINNIPEG
WATER & WASTE DEPARTMENT

BRADY LANDFILL–
SURFACE WATER MANAGEMENT
CULVERT LOCATIONS AND INVERTS

SHEET 02 OF 12
CAD FILE DRAWING NUMBER
CITY DRAWING NUMBER SWD–D–417