

 <b>SNC · LAVALIN</b>	<b>CABLE SCHEDULE</b>		Document Code	508955-0000-47EL-0002
			Revision	02
Client City of Winnipeg				
Project MacLean Pumping Station Electrical Upgrades				
Package / Area				
Prepared By	Name	Signature	Date	
	B. Cleven / V. Elimban		2012-07-25	
Checked By	Name	Signature	Date	
	C. Reimer		2012-07-25	
Approved By	Name	Signature	Date	
	C. Reimer		2012-07-25	
Notes / Comments			Seal	

Revisions					
Rev	Description	Date	By	Checked	Approved
00	Issued for Tender	2012-07-25	B. Cleven	C. Reimer	C. Reimer
01	Addendum 1	2012-08-15	B. Cleven	C. Reimer	C. Reimer
02	Addendum 2	2012-08-23	B. Cleven	C. Reimer	C. Reimer

Reference Documents

Cable ID	Cable Type	From	To	Spacing See Note 1	Length (m)	Routing	Notes	Rev
<b>AUTOMATION CABLES</b>								
CA-M911	2C, 16 AWG, ACIC, 600V	XFMR-M1	Station PLC	0%	12	Cable Tray		00
CA-M912	2C, 16 AWG, ACIC, 600V	XFMR-M2	Station PLC	0%	13	Cable Tray		00
CA-M608	1PR, 18 AWG, ACIC, 600V	TT-M608	LCP-M608	0%	7	Surface		00
CA-M601-1	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M601	JB-M601	0%	26	Tray to Surface		00
CA-M601-2	6C, 16 AWG, CIC, 600V	MCC-M3E.MS-M601	LCP-M600	0%	26	Conduit		00
CA-M601-3	4C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	27	Conduit		00
CA-M601-4	2C, 14 AWG, TECK90, 600V	JB-M601	TSL-M601	0%	4	Surface		00
CA-M601-5	2C, 14 AWG, TECK90, 600V	HCC-M601	JB-M601	0%	7	Surface		00
CA-M601-6	2C, 14 AWG, TECK90, 600V	HCC-M601	TSH-M601	0%	8	Surface		00
CA-M601-7	2C, 14 AWG, TECK90, 600V	HCC-M601	FS-M601	0%	8	Surface		00
CA-M601-8	1PR, 18 AWG, ACIC, OS	TT-M601	LCP-M608	0%	13	Surface		00
CA-M601-9	1PR, 18 AWG, ACIC, OS	LCP-M608	HCC-M601	0%	24	Surface		00
CA-M602-1	2C, 14 AWG, TECK90, 600V	MCC-M1.MS-M602	TSL-M602	0%	42	Tray to Surface		00
CA-M602-2	6C, 16 AWG, CIC, 600V	MCC-M1.MS-M602	LCP-M600	0%	18	Conduit		00
CA-M602-3	4C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M603-1	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M603	JB-M603	0%	51	Tray to Surface		00
CA-M603-2	6C, 14 AWG, CIC, 600V	MCC-M3E.MS-M603	LCP-M600	0%	26	Tray to Surface		00
CA-M603-3	4C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M603-4	2C, 14 AWG, TECK90, 600V	JB-M603	TSL-M603	0%	4	Surface		00
CA-M603-5	2C, 14 AWG, TECK90, 600V	HCC-M603	JB-M603	0%	2	Surface		00
CA-M603-6	2C, 14 AWG, TECK90, 600V	HCC-M603	TSH-M603	0%	4	Surface		00
CA-M603-7	2C, 14 AWG, TECK90, 600V	HCC-M603	FS-M603	0%	4	Surface		00
CA-M603-8	1PR, 18AWG, ACIC, OS	TT-M603	LCP-M608	0%	10	Surface		00
CA-M603-9	1PR, 18AWG, ACIC, OS	LCP-M608	HCC-M603	0%	46	Surface		00
CA-M604-1	2C, 14 AWG, TECK90, 600V	MCC-M1.MS-M604	TSL-M604	0%	45	Tray to Surface		00
CA-M604-2	6C, 16 AWG, CIC, 600V	MCC-M1.MS-M604	LCP-M600	0%	15	Conduit		00
CA-M604-3	4C, 16 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M605-1	6C, 16 AWG, CIC, 600V	MCC-M1.MS-M605	LCP-M600	0%	15	Conduit		00
CA-M605-2	4C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M605-3	2C, 16 AWG, ACIC, 600V	MCC-M1.MS-M605	FSL-M605	0%	4	Tray to Surface		00
CA-M609-1	2C, 14 AWG, RW90, 600V	MCC-M1.CON-M609	TSH-M609	0%	17	Tray to Surface		00
CA-M609-1	2C, 14 AWG, RW90, 600V	MCC-M1.CON-M609	FS-M609	0%	17	Tray to Surface		00
CA-M609-3	6C, 16 AWG, CIC, 600V	Johnson Controls Panel	MCC-M1.CON-M609	0%	17	Conduit		00
CA-M609-4	1PR, 18 AWG, CIC, OS, 600V	Johnson Controls Panel	MCC-M1.CON-M609	0%	17	Conduit		00
CA-M681-1	6C, 16 AWG, CIC, 600V	MCC-M3E.MS-M681	LCP-M600	0%	26	Conduit		00
CA-M681-2	2C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M682-1	6C, 16 AWG, CIC, 600V	MCC-M3E.MS-M682	LCP-M600	0%	25	Conduit		00
CA-M682-2	2C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M683-1	6C, 16 AWG, CIC, 600V	MCC-M1.MS-M683	LCP-M600	0%	16	Conduit		00
CA-M683-2	2C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M684-1	6C, 16 AWG, CIC, 600V	MCC-M1.MS-M684	LCP-M600	0%	16	Conduit		00
CA-M684-2	2C, 14 AWG, RW90, 600V	LCP-M600	Johnson Controls Panel	0%	3	Conduit		00
CA-M686	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M686	CL2 Exhaust Fan Ctrl Panel	0%	56	Tray to Surface		01
CA-M689	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M689	CL2 Exhaust Fan Ctrl Panel	0%	56	Tray to Surface		01
CA-M690	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M690	CL2 Exhaust Fan Ctrl Panel	0%	57	Tray to Surface		01
CA-M692	4C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M692	CL2 Exhaust Fan Ctrl Panel	0%	56	Tray to Surface		01
CA-M901-1	6C, 12 AWG, TECK90, 600V	MCC-M1.MS-M901	LCP-M900	0%	74	Tray to Surface		00

Cable ID	Cable Type	From	To	Spacing See Note 1	Length (m)	Routing	Notes	Rev
CA-M901-2	2C, 14 AWG, RW90, 600V	LCP-M900	PS-M901-3	0%	7	Channel to Unistrut		00
CA-M901-4	2C, 14 AWG, RW90, 600V	LCP-M900	KV-M901	0%	7	Channel to Unistrut		00
CA-M901-5	2C, 14 AWG, RW90, 600V	LCP-M900	PS-M901-1	0%	7	Channel to Unistrut		00
CA-M901-6	2C, 14 AWG, RW90, 600V	LCP-M900	PS-M901-2	0%	7	Channel to Unistrut		00
CA-M902-1	6C, 12 AWG, TECK90, 600V	MCC-M3E.MS-M902	LCP-M900	0%	67	Tray to Surface		00
CA-M902-2	2C, 14 AWG, RW90, 600V	LCP-M900	PS-M902-3	0%	6	Channel to Unistrut		00
CA-M902-4	2C, 14 AWG, RW90, 600V	LCP-M900	KV-M902	0%	6	Channel to Unistrut		00
CA-M903-1	2C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M903	JB-M903	0%	68	Tray to Surface		00
CA-M903-2	2C, 14 AWG, TECK90, 600V	JB-M903	HS-M903-1	0%	2	Tray to Surface		00
CA-M903-3	2C, 14 AWG, TECK90, 600V	JB-M903	PS-M903-1, PS-M903-2	0%	4	Surface to Unistrut		00
CA-M913	2C, 16 AWG, ACIC, 600V	MCC-M1.ESL-M913	Station PLC	0%	7	Cable Tray		00
CA-M914	2C, 16 AWG, ACIC, 600V	DP-M2.ESL-M914	Station PLC	0%	16	Cable Tray		00
CA-M915	2C, 16 AWG, ACIC, 600V	MCC-M3E.ESL-M915	Station PLC	0%	18	Cable Tray		00
CA-M916-1	4C, 16 AWG, ACIC, 600V	ATS-M3E	Station PLC	0%	15	Cable Tray		00
CA-M916-2	2C, 14 AWG, TECK90, 600V	ATS-M3E	ATS-M1	0%	65	Cable Tray		00
CA-M941-1	6C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M941	LCP-M940	0%	33	Tray to Surface		00
CA-M941-2	2C, 14 AWG, RW90, 600V	LCP-M940	LIT-M940	0%	2	Conduit		00
CA-M942-1	6C, 14 AWG, TECK90, 600V	MCC-M3E.MS-M942	LCP-M940	0%	33	Tray to Surface		00
CA-M942-2	2C, 14 AWG, RW90, 600V	LCP-M940	LIT-M940	0%	2	Conduit		00
<b>POWER CABLES</b>								
C-ATS-M3E-A	3C, 250 MCM, TECK90, 1000V	DP-M2	ATS-M3E	100%	6	Cable Tray-Overhead		00
C-ATS-M3E-B	3C, 250 MCM, TECK90, 1000V	ATS-M1E	ATS-M3E	0%	65	Cable Tray		00
C-DP-M2	4C, 500 MCM, TECK90, 1000V	XFMR-M2	DP-M2	100%	8	Cable Tray		00
C-M041	3C, 12 AWG, TECK90, 1000V	MCC-M3E	XV-M041	0%	33	Tray to Surface		00
C-M042-1	3C, 12 AWG, TECK90, 1000V	DP-M2	JB-M042	0%	31	Tray to JB		00
C-M042-2	3C, 12 AWG, TC, 1000V	JB-M042	XV-M042	0%	11	JB to Conduit		00
C-M043	3C, 12 AWG, TECK90, 1000V	MCC-M3E	XV-M043	0%	76	Tray to Surface		00
C-M051	3C, 12 AWG, TECK90, 1000V	MCC-M3E	XV-M051	0%	12	Tray to Surface		00
C-M052	3C, 12 AWG, TECK90, 1000V	DP-M2	XV-M052	0%	22	Tray to Surface		00
C-M053	3C, 12 AWG, TECK90, 1000V	DP-M2	XV-M053	0%	41	Tray to Surface		00
C-M054	3C, 12 AWG, TECK90, 1000V	MCC-M3E	XV-M054	0%	64	Tray to Surface		00
C-M608	2C, 12 AWG, RW90, 600V	PNL-B	LCP-M608	0%	22	Conduit		00
C-M601-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M601	DS-M601	0%	25	Tray to Surface		00
C-M601-2	3C, 12 AWG, TECK90, 1000V	DS-M601	AHU-M601	0%	5	Surface		00
C-M601-3	3C, 1 AWG, TECK90, 1000V	DP-M2	HCC-M601	0%	20	Tray to Surface		00
C-M601-4	12C, 12 AWG, RW90, 1000V	HCC-M601	HCE-M601	100%	6	Conduit		02
C-M602-1	3C, 12 AWG, TECK90, 1000V	MCC-M1.MS-M602	DS-M602	0%	26	Tray to Surface		00
C-M602-2	3C, 12 AWG, TECK90, 1000V	DS-M602	AHU-M602	0%	5	Surface		00
C-M603-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M603	DS-M603	0%	53	Tray to Surface		00
C-M603-2	3C, 12 AWG, TECK90, 1000V	DS-M603	AHU-M603	0%	5	Surface		00
C-M603-3	3C, 1 AWG, TECK90, 1000V	MCC-M1	HCC-M603	0%	36	Tray to Surface		00
C-M603-4	12C, 12 AWG, RW90, 1000V	HCC-M603	HCE-M603	100%	6	Conduit		02
C-M604-1	3C, 12 AWG, TECK90, 1000V	MCC-M1.MS-M604	DS-M604	0%	42	Tray to Surface		00
C-M604-2	3C, 12 AWG, TECK90, 1000V	DS-M604	AHU-M604	0%	4	Surface		00
C-M605-1	3C, 12 AWG, TECK90, 1000V	MCC-M1.MS-M605	DS-M605	0%	8	Tray to Surface		00
C-M605-2	3C, 12 AWG, TECK90, 1000V	DS-M605	AHU-M605	0%	3	Surface		00
C-M605-1-1	3C, 10 AWG, TECK90, 1000V	DP-M2	HCC-M605-1	0%	11	Tray to Surface		00
C-M605-2-1	3C, 12 AWG, TECK90, 1000V	DP-M2	HCC-M605-2	0%	9	Tray to Surface		00

Cable ID	Cable Type	From	To	Spacing See Note 1	Length (m)	Routing	Notes	Rev
C-M609	15C, 10 AWG, RW90, 1000V	MCC-M1.CON-M609	HCE-M609	100%	9	Conduit		02
C-M616-1	3C, 12 AWG, TC, 1000V	DP-M2	HCC-M616	0%	31	Tray to Conduit		00
C-M619-1	3C, 10 AWG, TC, 1000V	DP-M2	HCC-M619	0%	35	Tray to Conduit		00
C-M630-1	3C, 3/0 AWG, RW90, 1000V	MCC-M1	DS-M630	100%	32	Conduit		00
C-M631-1	3C, 12 AWG, RW90, 1000V	MCC-M1	DS-M631	0%	30	Conduit		00
C-M632-1	3C, 12 AWG, RW90, 1000V	MCC-M1	DS-M632	0%	29	Conduit		00
C-M633-1	3C, 12 AWG, RW90, 1000V	MCC-M1	JB-M2	0%	24	Conduit		00
C-M634-1	3C, 12 AWG, RW90, 1000V	MCC-M1	DS-M634	0%	27	Conduit		00
C-M635-1-1	3C, 12 AWG, RW90, 1000V	MCC-M1	DS-M635-1	0%	31	Conduit		00
C-M635-2-1	3C, 12 AWG, RW90, 1000V	MCC-M1	DS-M635-2	0%	30	Conduit		00
C-M657-1	3C, 12 AWG, TC, 1000V	MCC-M3E	HCC-M657	0%	29	Tray to Conduit		00
C-M658-1	3C, 10 AWG, TC, 1000V	DP-M2	HCC-M658	0%	35	Tray to Conduit		00
C-M661-1	3C, 8 AWG, TC, 1000V	MCC-M1	HCC-M661	0%	42	Tray to Conduit		00
C-M662-1	3C, 8 AWG, TC, 1000V	MCC-M1	HCC-M662	0%	52	Tray to Conduit		00
C-M663-1	3C, 12 AWG, RW90, 1000V	DP-M2	JB-M2	0%	24	Tray to Surface		00
C-M681-1	3C, 12 AWG, RW90, 1000V	MCC-M3E.MS-M681	JB-M3	0%	24	Conduit		00
C-M682-1	3C, 12 AWG, RW90, 1000V	MCC-M1.MS-M682	JB-M1	0%	12	Conduit		01
C-M683-1	3C, 12 AWG, RW90, 1000V	MCC-M1.MS-M683	JB-M1	0%	12	Conduit		00
C-M684-1	3C, 12 AWG, RW90, 1000V	MCC-M3E.MS-M684	JB-M3	0%	24	Conduit		01
C-M686-1	3C, 12 AWG, RW90, 1000V	MCC-M3E.MS-M686	JB-M3	0%	24	Conduit		00
C-M689-1	3C, 12 AWG, RW90, 1000V	MCC-M3E.MS-M689	JB-M3	0%	24	Conduit		00
C-M690-1	5C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M690	DS-M690	0%	43	Tray to Surface		01
C-M690-2	3C, 12 AWG, TECK90, 1000V	DS-M690	EF-M690	0%	1	Surface		01
C-M692-1	5C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M692	DS-M692	0%	56	Tray to Surface		01
C-M692-2	3C, 12 AWG, TECK90, 1000V	DS-M692	EF-M692	0%	1	Surface		01
C-M901-1	3C, 12 AWG, TECK90, 1000V	MCC-M1.MS-M901	DS-M901	0%	62	Tray to Surface		00
C-M901-2	3C, 12 AWG, TECK90, 1000V	DS-M901	AC-M901	0%	7	Channel to Unistrut		00
C-M902-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M902	DS-M902	0%	66	Tray to Surface		00
C-M902-2	3C, 12 AWG, TECK90, 1000V	DS-M902	AC-M902	0%	6	Channel to Unistrut		00
C-M903-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M903	DS-M903	0%	66	Tray to Surface		00
C-M903-2	3C, 12 AWG, TECK90, 1000V	DS-M903	AC-M903	0%	3	Surface to Unistrut		00
C-M941-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M941	DS-M941	0%	31	Tray to Surface		00
C-M941-2	3C, 12 AWG, TECK90, 1000V	DS-M941	P-M941	0%	5	Conduit		00
C-M942-1	3C, 12 AWG, TECK90, 1000V	MCC-M3E.MS-M942	DS-M942	0%	31	Tray to Surface		00
C-M942-2	3C, 12 AWG, TECK90, 1000V	DS-M942	P-M942	0%	5	Conduit		00
C-M991-1	3C, 12 AWG, RW90, 1000V	MCC-M1	JB-M1	0%	12	Tray to JB to Overhead		00
C-M992-1	3C, 8 AWG, TECK90, 1000V	MCC-M1	DS-M992	0%	26	Tray to Surface		00
C-M996-1	3C, 12 AWG, RW90, 1000V	DP-M2	JB-M2	0%	24	Conduit		00
C-M997-1	3C, 12 AWG, RW90, 1000V	DP-M2	JB-M2	0%	24	Conduit		00
C-MCC-M1	3C, 500 MCM, TECK90, 1000V	XFMR-M1	MCC-M1	100%	11	Cable Tray-Overhead		00
C-MCC-M3E-A	3C, 250 MCM, TECK90, 1000V	ATS-M3E	MCC-M3E	100%	7	Cable Tray-Overhead		00
C-MCC-M3E-B	3C, 250 MCM, TECK90, 1000V	MCC-M1	MCC-M3E	0%	14	Cable Tray-Overhead		00
C-MCC-R1	3C, 3/0 AWG, TECK90, 1000V	DP-M2	MCC-R1	0%	150	Cable Tray to Duct		00
C-PFC-M1	3C, 4/0 AWG, TECK90, 1000V	MCC-M1	PFC-M1	100%	9	Cable Tray		00
C-PNL-B	4C, 2 AWG, RW90, 600V	XFMR-M30E	PNL-B	0%	8	Conduit		00
C-PNL-M10	4C, 2 AWG, TECK90, 600V	XFMR-M10	PNL-M10	100%	3	Surface		00
C-TIE-M1-M2	3C, 500 MCM, TECK90, 1000V	MCC-M1	DP-M2	100%	14	Cable Tray-Overhead		00
C-WELD-RCPT	3C, 2 AWG, TECK90, 1000V	MCC-M1	WELD-RECEPT	0%	30	Tray to Surface		00

Cable ID	Cable Type	From	To	Spacing See Note 1	Length (m)	Routing	Notes	Rev
C-XFMR-M1	3C, 4 AWG, HVTECK, 5kV, Shielded	SGR-M1	XFMR-M1	100%	10	Cable Tray		00
C-XFMR-M10	3C, 6 AWG, TECK90, 1000V	MCC-M1	XFMR-M10	0%	56	Tray to Surface		00
C-XFMR-M2	3C, 4 AWG, HVTECK, 5kV, Shielded	SGR-M1	XFMR-M2	100%	10	Cable Tray		00
C-XFMR-M20	3C, 3 AWG, TECK90, 1000V	DP-M2	XFMR-M20	0%	23	Tray to Surface	Was XFMR-PNL-A	00
C-XFMR-M30E	3C, 6 AWG, TECK90, 1000V	MCC-M3E	XFMR-M30E	0%	24	Tray to Surface	Was XFMR-PNL-B	00
C-XFMR-M31E	2C, 10 AWG, RW90, 1000V	MCC-M3E	XFMR-M31E	0%	9	Conduit		00

**Notes:**

1. The Spacing column refers to the minimum percentage of a cable diameter, that must be between the nearest adjacent cable. Where two cables are adjacent, the spacing between the cables shall be the larger of the two spacings specified. Note that cables with a minimum spacing of 0%, may not be adjacent to existing or new cables with unspecified spacing. Where conduits are specified, the spacing refers to the spacing between conduits.
2. The length is an estimate only, and is not to be utilized for construction. The contractor is responsible for determining the required cable lengths.
3. This schedule is provided for reference only. The potential omission of any cables on this schedule, which may be required, does not reduce the contractor's responsibility in providing a complete installation.
4. All conductors are copper, unless indicated otherwise.
5. Legend:
  - OS Overall Shield
  - ISOS Individual and Overall Shield