

City of Winnipeg
Upgrades to the McPhillips and Tache
Pumping Stations
Tender Opportunity 1070-2019

APPENDIX F

Partial Cable List

Cable ID	Cable Type	From	To	Spacing See Note 7	Length (m)	Routing	Notes	Rev
POWER CABLES								
C-M710-1	3C, 2 AWG, HVTECK, 5kV, 133%	SGR-M1	XFMR-M710	100%	17	Cable Tray	Shielded	00
C-M720-1	3C, 2 AWG, HVTECK, 5kV, 133%	SGR-M1	XFMR-M720	100%	17	Cable Tray	Shielded	00
C-M720-2	2-3C, 350 MCM, TECK90, 1000V	XFMR-M720	MCC-M720	100%	17	Cable Tray		00
C-FN3-1	3C, 10 AWG, TECK90, 1000V	MCC-M710	DS-FN3	0%	30	Cable Tray		00
C-FN3-2	3C, 10 AWG, TECK90, 1000V	DS-FN3	FN3	0%	10	Wall		00
C-M640-1	3C, 500 MCM, TECK90, 1000V	MCC-M710	XFMR-M640	100%	55	Cable Tray		00
C-M640-2	6C, 4/0 AWG, RW90, 2 AWG BND,	XFMR-M640	DP-M640	0%	30	Conduit		00
C-M640-3	3C, 250 MCM, RW90, 4 AWG BND,	DP-M640	DS-M640-1	0%	15	Conduit		00
C-M640-4	3C, 250 MCM, TECK90, 1000V	DS-M640-1	CHLR-M640	0%	10	Direct		00
C-M640-5	3C, 6 AWG, RW90, 8 AWG BND, 1000V	DP-M640	DS-M640-2	0%	30	Conduit		00
C-M640-6	3C, 6 AWG, TECK90, 1000V	DS-M640-2	CDR-M640	0%	10	Direct		00
C-M641-1	3C, 10 AWG, TECK90, 1000V	MCC-M710	DS-M641	0%	55	Cable Tray		00
C-M641-2	3C, 12 AWG, RW90, 12 AWG BND,	DS-M641	P-M641	0%	20	Conduit		00
C-M642-1	3C, 10 AWG, TECK90, 1000V	MCC-M710	DS-M642	0%	55	Cable Tray		00
C-M642-2	3C, 12 AWG, RW90, 12 AWG BND,	DS-M642	P-M642	0%	20	Conduit		00
C-M713	3C, 250 MCM, TECK90, 1000V	MCC-M710	PFC-M713	100%	7	Cable Tray		00
C-T3-1	3C, 6 AWG, RW90, 8 AWG BND, 1000V	MCC-M710	T3	0%	12	Conduit		00
C-JB-R1	3C, 3/0 AWG, RW90, 6 AWG BND,	MCC-M710	JB-R1	0%	75	Conduit		00
C-B701	3C, 3/0 AWG, RW90, 6 AWG BND,	MCC-M710	DP-B701	100%	150	Conduit		00
C-M730E	3C, 250 MCM, TECK90, 1000V	MCC-M710	MCC-M730E	100%	12	Cable Tray		00
C-CRANE-1	3C, 3 AWG, TECK90, 1000V	MCC-M710	DS-CRANE	0%	15	Cable Tray		00
C-CRANE-2	3C, 3 AWG, TECK90, 1000V	DS-CRANE	CRANE	0%	20	Wall		00
C-M710-2	2-3C, 350 MCM, TECK90, 1000V	XFMR-M710	MCC-M710	0%	17	Cable Tray		00
C-M601	3C, 3/0 AWG, RW90, 6 AWG BND,	MCC-M720	HCE-M601	0%	30	Conduit		00
C-M720-11	3C, 1 AWG, TECK90, 1000V	MCC-M720	RCPT-M720-1	0%	10	Cable Tray		00
C-M721-1	3C, 6 AWG, RW90, 8 AWG BND, 1000V	MCC-M720	XFMR-M721	0%	10	Conduit		00
C-M721-2	4C, 2/0 AWG, TECK90, 1000V	XFMR-M721	PNL-M721	0%	20	Wall		00
C-C710	3C, 3/0 AWG, RW90, 6 AWG BND,	MCC-M720	MCC-C710	0%	75	Conduit		00
C-M1702-1	3C, 12 AWG, TECK90, 1000V	MCC-M720	BYPASS VALVE DISCONNECT	0%	55	Cable Tray		00
C-UH1	3C, 4 AWG, TECK90, 1000V	MCC-M720	UH1	0%	55	Cable Tray		00
C-CH5	3C, 12 AWG, TECK90, 1000V	MCC-M720	CH5	0%	20	Cable Tray		00
C-SHV-2	3C, 12 AWG, RW90, 12 AWG BND,	MCC-M720	SHV-2	0%	35	Conduit		00
C-SHV-3	3C, 12 AWG, RW90, 12 AWG BND,	MCC-M720	SHV-3	0%	40	Conduit		00
C-DHV-2	3C, 12 AWG, TECK90, 1000V	MCC-M720	DHV-2	0%	20	Cable Tray		00
C-DHV-3	3C, 12 AWG, TECK90, 1000V	MCC-M720	DHV-3	0%	25	Cable Tray		00
C-ATS-M2E	3C, 250 MCM, TECK90, 1000V	MCC-M720	ATS-M2E	100%	14	Cable Tray		00
C-FN1-1	3C, 10 AWG, TECK90, 1000V	MCC-M730E	DS-FN1	0%	35	Cable Tray		00
C-FN1-2	3C, 10 AWG, TECK90, 1000V	DS-FN1	FN1	0%	10	Wall		00
C-FN2-1	3C, 10 AWG, TECK90, 1000V	MCC-M730E	DS-FN2	0%	35	Cable Tray		00
C-FN2-2	3C, 10 AWG, TECK90, 1000V	DS-FN2	FN2	0%	10	Wall		00
C-M731-1	3C, 8 AWG, RW90, 10 AWG BND,	MCC-M730E	XFMR-M731E	0%	17	Conduit		00
C-M731-2	4C, 2 AWG, RW90, 6 AWG BND, 1000V	XFMR-M731E	LP-B	0%	22	Conduit		00
C-M732-1	3C, 12 AWG, RW90, 12 AWG BND,	MCC-M730E	XFMR-M732E	0%	17	Conduit		00
C-M732-2	4C, 2 AWG, TECK90, 1000V	XFMR-M732E	PNL-M732E	0%	7	Cable Tray		00
C-SHV-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	SHV-1	0%	50	Cable Tray		00
C-SHV-4	3C, 12 AWG, TECK90, 1000V	MCC-M730E	SHV-4	0%	55	Cable Tray		00
C-DHV-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DHV-1	0%	40	Cable Tray		00
C-DHV-4	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DHV-4	0%	45	Cable Tray		00
C-SP1-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DS-SP1	0%	50	Cable Tray		00
C-SP1-2	3C, 12 AWG, TECK90, 1000V	DS-SP1	SP1	0%	10	Wall		00
C-SP2-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DS-SP2	0%	50	Cable Tray		00
C-SP2-2	3C, 12 AWG, TECK90, 1000V	DS-SP2	SP2	0%	10	Wall		00
C-AC1-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DS-AC1	0%	50	Cable Tray		00
C-AC1-2	3C, 12 AWG, TECK90, 1000V	DS-AC1	AC1	0%	7	Strut		00
C-AC2-1	3C, 12 AWG, TECK90, 1000V	MCC-M730E	DS-AC2	0%	50	Cable Tray		00
C-AC2-2	3C, 12 AWG, TECK90, 1000V	DS-AC2	AC2	0%	7	Strut		00
C-M21E	3C, 8 AWG, RW90, 10 AWG BND,	MCC-M730E	XFMR-M21E	0%	22	Conduit		00
C-G766	3C, 8 AWG, RW90, 10 AWG BND,	MCC-M730E	MCC-G766	0%	150	Conduit		00
C-C720	3C, 3/0 AWG, RW90, 6 AWG BND,	MCC-M730E	MCC-C720E	0%	75	Conduit		00
C-M730-B	3C, 250 MCM, TECK90, 1000V	MCC-M710	MCC-M730E	100%	11	Cable Tray		00
C-C711-1	3C, 8 AWG, RW90, 10 AWG BND,	MCC-C710	XFMR-C711	0%	5	Conduit		00
C-C711-2	4C, 2 AWG, TECK90, 1000V	XFMR-C711	PNL-C711	0%	3	Wall		00
C-HOIST	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	DS-HOIST	0%	25	Conduit		00
C-C1	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	C1	0%	35	Conduit		00
C-C2	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	C2	0%	30	Conduit		00
C-C4	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	C4	0%	25	Conduit		00
C-C6	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	C6	0%	15	Conduit		00
C-FN4	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C710	FN4	0%	28	Conduit		00
C-C3	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C720E	C3	0%	25	Conduit		00
C-C5	3C, 12 AWG, RW90, 12 AWG BND,	MCC-C720E	C5	0%	20	Conduit		00
C-C731-1	3C, 8 AWG, RW90, 10 AWG BND,	MCC-C720E	XFMR-C731E	0%	6	Conduit		00
C-C731-2	4C, 2 AWG, TECK90, 1000V	XFMR-C731E	PNL-C731E	0%	3	Wall		00
C-B1-1	3C, 12 AWG, RW90, 12 AWG BND,	DP-B701	MS-B1	0%	15	Conduit		00
C-B10	3C, 10 AWG, RW90, 10 AWG BND,	DP-B701	DS-AHU-B10	0%	20	Conduit		00
C-B10-1	2C, 2 AWG, TECK90, 1000V	DP-B701	XFMR-B10	0%	10	Wall		00
C-B20-1	2C, 2 AWG, TECK90, 1000V	DP-B701	XFMR-B20	0%	10	Wall		00
C-B30-1	2C, 2 AWG, TECK90, 1000V	DP-B701	XFMR-B30	0%	10	Wall		00
C-Y712-1	2C, 3 AWG, RW90, 1C, NEU, 3 AWG RW90, 1 BND, 8 AWG, RW90	PANEL A	MTS-Y712	0%	11	Conduit		00
C-Y712-2	2C, 3 AWG, RW90, 1C, NEU, 3 AWG RW90, 1 BND, 8 AWG, RW90	UPS-Y712	MTS-Y712	0%	7	Conduit		00
C-Y712-3	2C, 3 AWG, RW90, 1C, NEU, 3 AWG RW90, 1 BND, 8 AWG, RW90	MTS-Y712	UPS-Y712	0%	7	Conduit		00
C-Y712-4	2C, 3 AWG, RW90, 1C, NEU, 3 AWG RW90, 1 BND, 8 AWG, RW90	MTS-Y712	PNL-Y712U	0%	10	Conduit		00
C-EF-G1	3C, 12 AWG, TECK90, 1000V	MCC-G766	EF-G1	0%	15	Wall		00
C-EF-G2	3C, 12 AWG, TECK90, 1000V	MCC-G766	EF-G2	0%	15	Wall		00
C-EF-G3	3C, 12 AWG, TECK90, 1000V	MCC-G766	EF-G3	0%	15	Wall		00
C-EF-G4	3C, 12 AWG, TECK90, 1000V	MCC-G766	EF-G4	0%	15	Wall		00
C-XFMR-B40E	3C, 12 AWG, RW90, 12 AWG BND,	MCC-G766	CB-XFMR-B40E	0%	20	Conduit		00
C-G767-1	4C, 1 AWG, RW90, 6 AWG BND, 1000V	SWBD-G1	CB-G767	0%	20	Conduit		00
C-G767-2	4C, 1 AWG, TECK90, 1000V	CB-G767	LDB-G767	0%	15	Underground		00
C-S702-1	3C, 6 AWG, RW90, BND 8 AWG, RW90, 1000V	DP-S701	XFMR-S702	0%	10	Conduit		00
C-S702-2	4C, 2/0 AWG, RW90, BND 6 AWG, RW90, 1000V	XFMR-S702	PNL-S702	0%	10	Conduit		00

Acronym	Description
ACIC	Armoured Control & Instrumentation Cable
CIC	Control & Instrumentation Cable
ISOS	Individually Shilded Pairs (or Triads) & Overall Shielded Cable
OS	Overall Shielded Cable
2C, 3C, etc	2 Conductor, 3 Conductor, etc
1PR, 2PR,	Twisted Pairs,1 Pair, 2 Pairs, etc
BND	Bond

- General Notes:**
1. This cable schedule is a general guideline and does not include every cable required for the construction of the facilities. The contractor is responsible for including all cabling for a complete and working installation.
 2. The cable schedule does not include all cables, and is principally focused on cables at or above 600V, and those cables that have been specifically allocated cable tags on the drawings.
 3. The cable schedule does not include: Fire Alarm cabling, cables from 120V panelboards, ground cables, lighting and emergency lighting cables, and other various other cabling.
 4. It is the responsibility of the contractor to account for every cable as indicated, or as inferred on the drawings and specifications. The Contractor shall perform cable length take-offs from the drawings / from actual site measurements & to include all cabling in the tender price. Any cable lengths indicated herein are approximate only and shall not be construed as accurate. Extras costs will not be entertained due to discrepancies between actual installation requirements and cable lengths shown in the cable list. The responsibility for the correct quantity and cable length take-offs remains with the contractor.
 5. Not all cables supplied by instrument vendors are included in this cable list. The Contractor to coordinate the required instrument cable length required, and to provide additional lengths as needed.
 6. The contractor is responsible for completing and modifying this cable list (in excel format) with all cables that are installed. The contractor is responsible for accurately entering / correcting the cable lengths of all cables in this cable list, and submitting this list as part of the as-built submittal.
 7. 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.
 8. All conductors are copper, unless indicated otherwise.

Cable ID	Cable Type	From	To	Spacing See Note 7	Length (m)	Routing	Notes	Rev
AUTOMATION CABLES								
CA-PP-1-1	16C, 16 AWG, CIC, 300V	MCC-M710	LCP-1	0%	15	Conduit	6C Spare	00
CA-PP-1-2	10C, 16 AWG, CIC, 300V	MCC-M710	MAIN CONTROL PANEL	0%	35	Conduit	2C Spare	00
CA-PP-2-1	16C, 16 AWG, CIC, 300V	MCC-M710	LCP-2	0%	15	Conduit	6C Spare	00
CA-PP-2-2	10C, 16 AWG, CIC, 300V	MCC-M710	MAIN CONTROL PANEL	0%	35	Conduit	2C Spare	00
CA-PP-3-1	16C, 16 AWG, CIC, 300V	MCC-M710	LCP-3	0%	15	Conduit	6C Spare	00
CA-PP-3-2	10C, 16 AWG, CIC, 300V	MCC-M710	MAIN CONTROL PANEL	0%	35	Conduit	2C Spare	00
CA-M6000	1PR, 16 AWG, CIC, 300V, OS	TT-M6000	MAIN CONTROL PANEL	0%	22	Conduit		00
CA-M0401	1PR, 16 AWG, CIC, 300V, OS	FIT-M0401	MAIN CONTROL PANEL	0%	22	Conduit		00
CA-M0402	2PR, 16 AWG, CIC, 300V, OS	LIT-M0402	MAIN CONTROL PANEL	0%	22	Conduit	1PR Spare	00
CA-M7101	2C, 16 AWG, CIC, 600V	ESL-M7101	MAIN CONTROL PANEL	0%	35	Conduit		00
CA-M9220	4C, 16 AWG, CIC, 300V	FACP-M922	MAIN CONTROL PANEL	0%	10	Conduit		00
POWER CABLES								
C-PP-1	3C, 3/0 AWG, RW90, 1000V, 6 AWG, RW90, BND, 1000V	MCC-M710	PP-1	0%	24	Conduit		00
C-PP-2	3C, 3/0 AWG, RW90, 1000V, 6 AWG, RW90, BND, 1000V	MCC-M710	PP-2	0%	20	Conduit		00
C-PP-3	3C, 3/0 AWG, RW90, 1000V, 6 AWG, RW90, BND, 1000V	MCC-M710	PP-3	0%	20	Conduit		00
C-M0412	3C, 12 AWG, RW90, 1000V, 12 AWG, RW90, BND, 1000V	MCC-M710	DV-1	0%	25	Conduit		00
C-M0422	3C, 12 AWG, RW90, 1000V, 12 AWG, RW90, BND, 1000V	MCC-M710	DV-2	0%	22	Conduit		00
C-M0432	3C, 12 AWG, RW90, 1000V, 12 AWG, RW90, BND, 1000V	MCC-M710	DV-3	0%	22	Conduit		00
C-M0610	3C, 12 AWG, RW90, 1000V, 12 AWG, RW90, BND, 1000V	MCC-M710	TSA SPILL VALVE	0%	25	Conduit		00
C-M10	2C+G, 10 AWG, RW90, 1000V, 10 AWG, RW90, BND, 1000V	MCC-M710	XFMR-M10	0%	15	Conduit		00
C-M711	3C, 6 AWG, RW90, 1000V, 8 AWG, RW90, BND, 1000V	MCC-M710	WELDING RECEPTACLE	0%	12	Conduit		00
C-M712-1	2C, 6 AWG, RW90, 1000V, 8 AWG, RW90, BND, 1000V	MCC-M710	XFMR-M12	0%	22	Conduit		00
C-M712-2	3C, 1 AWG, RW90, 1000V, 6 AWG, RW90, BND, 1000V	XFMR-M12	PNL-M712	0%	5	Conduit		00
C-M710	3-4C, 4/0 AWG, RW90, 1000V, 4 AWG, RW90, BND, 1000V	CSTE-M701	MCC-M710	0%	25	Conduit		00
C-M702	4C, 250 MCM, RW90, 1000V, 4 AWG, RW90, BND, 1000V	JB-M702	MCC-M710	0%	12	Conduit		00

Acronym	Description
ACIC	Armoured Control & Instrumentation Cable
CIC	Control & Instrumentation Cable
ISOS	Individually Shilded Pairs (or Triads) & Overall Shielded Cable
OS	Overall Shielded Cable
2C, 3C, etc	2 Conductor, 3 Conductor, etc
1PR, 2PR,	Twisted Pairs,1 Pair, 2 Pairs, etc
BND	Bond

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