SHEET: COW-A1 (03/2005)

LEGEND

DMS – DIGITAL METERING SYSTEM
50/51/51G = SOLID STATE LONG-SHORT-INSTANTANEOUS GROUND RELAY (L.S.I.G.)
(K) = KEY INTERLOCK
◇1 = TRIP,CLOSE AND BLOCK INTERLOCK

FEEDER SCHEDULE	
1	1600A. 600V. FEEDER BUS DUCT
2	2 SETS OF 3-1C. # 3/0 R90 TECK
3	3-1C. # 500 MCM R90 TECK
4	100mm. DIA. C. 4 # 500 MCM RW90 XLPE
5	50mm. DIA. C. 4 # 3/0 RW90 XLPE
6	4-1C. # 1/0 R90 TECK
7	4-1C. # 2 R90 TECK
8	40mm. DIA. C. 3 # 2 RW90 XLPE
9	25mm. DIA. C. 3 # 2 RW90 XLPE
10	65mm. DIA. C. 4 # 250 MCM RW90 XLPE
11	40mm. DIA. C. 4 # 2 RW90 XLPE
12	20mm. DIA. C. 4 # 10 RW90 XLPE
13	25mm. DIA. C. 4 # 6 RW90 XLPE
14	1200A. 600V. FEEDER BUS DUCT
15	3-1C #250 MCM R90 TECK
16	3-1C # 4/0 R90 HL TECK

MANITOBA HYDRO
12.6kV FEEDER BY MAN. HYDRO FROM HEADINGLEY SUB-STN.
UTILITY METERING
GANG OPERATED FUSED SWITCH
OVERHEAD LINE
200A
UNDERGROUND FEEDERS
2500/3300kVA PADMOUNT TRANSFORMER 600/347V,3 PHASE 4W
600/347V
49 63
10-100mm PVC DUCTS 5 DUCTS TO EACH CONTAIN: 3-500MCM, 1-1/0 NEUTRAL,1-1/0 GND. RW90-XLPE
5- DUCTS SPARE 2 50mm PVC DUCTS , 1 WITH 4 #10 RW90 XLPE TO CONTROL PANEL FROM 30A. 3P. BREAKER IN PANEL UA TO FEED TRANSFORMER COOLING FANS &1 WITH 4 #14 FROM TRANSFORMER TEMPERATURE SENSOR & SUDDEN PRESSURE RELAY CONTACTS.
2M BKR
52-B 2000AT 4000AF
600/120
27/47
50/51 51G
DMS
4000A BUS
TVSS
TEMPERARY POWER FACTOR CORRECTION UNIT 1 X 100 VARS
2PF BKR 1000AT 1600AF
2U BKR 600AT 800AF
UTILITY BUILDING MCC-2U
2SB BKR 250AT 800AF
BIOREACTOR MCC-2SB
2S BKR 400AT 800AF
SECONDARY MCC-2S
2H BKR 400AT 800AF
SHUNT TRIP BKR. SEE NOTE 1
HEADWORKS BUILDING MCC-2H
H.W. MCC-2HA
DAF MCC-2T
2AB BKR 1600AT 2000AF
AIR BLOWER MCC-A
2UAA BKR 400AT 800AF
2000AT 4000AF
N.C.
T BKR
1UAA BKR 400AT 800AF
1H BKR 400AT 800AF
HEADWORKS BUILDING MCC-1H
H.W. MCC-1HA
DAF MCC-1T
M1 BKR
52-A 2000AT 4000AF
1S BKR 400AT 800AF
SECONDARY MCC-1S
1SB BKR 250AT 800AF
BIOREACTOR MCC-1SB
1U BKR 600AT 800AF
UTILITY BUILDING MCC-1U
1AB BKR 1600AT 2000AF
AIR BLOWER MCC-B
1PF BKR 1000AT 1600AF
TEMPERARY POWER FACTOR CORRECTION UNIT 1 X 100 VARS
400A. 3P. TRANSFER SWITCH
TR SW-2
2UAA CDP
800A BUSSING
3P 200AT 225AF
3P 150AT 225AF
3P 100AF SPACE
3P 225AF SPACE
HEADWORKS NORMAL POWER PANEL HAA
208/120V PANEL HA
208/120V PANEL PA
30kVA TRANSFORMER HA
SECONDARY NORMAL POWER PANEL SAA
208/120V PANEL SA
30kVA TRANSFORMER SA
ADMIN. BLDG. PANEL AA
ADMIN. BLDG. 208/120V PANEL A
CAR HEATER RECEPTACLE PANEL AP
75kVA TRANSFORMER A
UTILITY BLDG. PANEL UAA
208/120V PANEL UA
75kVA TRANSFORMER UA
CITY OWNED
200A.
GANG OPERTATED FUSED SWITCH
12.6kV FEEDER FROM RANNOCK SUB-STN.
GANG OPERATED SWITCH (EXISTING)
10-100mm PVC DUCTS 5 DUCTS TO EACH CONTAIN: 3-500MCM, 1-1/0 NEUTRAL, 1-1/0 GND. RW90-XLPE
5- DUCTS SPARE AND 2 50mm PVC DUCTS , 1 WITH 4 #10 RW90 XLPE TO CONTROL PANEL FROM 30A. 3P. BREAKER IN PANEL UA TO FEED TRANSFORMER COOLING FANS &1 WITH 4 #14 FROM TRANSFORMER TEMPERATURE SENSOR & SUDDEN PRESSURE RELAY CONTACTS.
EXISTING CITY-OWNED OVERHEAD 12.6kV 3 PHASE POWER LINE
POLE MOUNTED SERVICE TO DISTRIBUTION CHAMBER
POLE MOUNTED SERVICE TO ABANDONED BLOWER BLDG.
EXISTING 1500kVA 12.6/600/347V TRANS.
TR SW
EMG BKR
3P-200A-4W NORM. EM.
100kW/125kVA STANDBY GENERATOR 600V Y / 347V 3ø 4W.
EM GN
15 KVA TRANSFORMER HEA
HEADWORKS ESSENTIAL MCC-HE
HEADWORKS ESSENTIAL PANEL HEAA
208/120V PANEL HEA
ESSENTIAL POWER CDP
SECONDARY ESSENTIAL PANEL SEAA
208/120V PANEL SEA
15kVA TRANSFORMER SEA
UTILITY BLDG. ESSENTIAL MCC-UE
UTILITY BLDG. ESSENTIAL PANEL EUAA
208/120V PANEL EUA
2EUAA CDP
1200A BUSSING
100A-3P SPACE
225A-3P SPACE
15kVA TRANSFORMER EUA

NOTE:

1. PROVIDE SHUNT TRIPS ON BREAKERS AND CONTACTORS IN HEADWORKS MOTOR CONTROL CENTRES TO SHUT DOWN EQUIPMENT ON GAS DETECTION AS INDICATED ON INSTRUMENTATION 'HEADWORKS GAS DETECTION SHUNT TRIP BLOCK DIAGRAM' DRAWING NO SK-01 AND AS INDICATED IN MOTOR CONTROL SCHEDULE.

SINGLE LINE DIAGRAM
SCALE: NTS

AECOM
As of January 3, 2009, EarthTech became AECOM Canada Ltd.

AECOM AS-CONSTRUCTED
SIG..... DATE.....

APEGM Certificate of Authorization
AECOM Canada Ltd.
No. 4671 Date: 2006/04/26
Original dated on:

NO.	REVISIONS	DATE	BY
01	AS CONSTRUCTED	09/01/09	DS

B.M.
ELEV.

EarthTech
A Tyco International Ltd. Company

DESIGNED BY	GSN	CHECKED BY	PS
DRAWN BY	DS	APPROVED BY	JEH
HOR. SCALE: NTS VERTICAL SCALE:		RELEASED FOR CONSTRUCTION BY: J. VEILLEUX	
DATE	2009/09/01	DATE	2006/04/26

ENGINEER'S SEAL
ORIGINAL SIGNED BY
P. STRYK
2006/04/26
CONSULTANT DRAWING NO.
LE1.04

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WEWPCC
BIOLOGICAL NUTRIENT REMOVAL UPGRADE
CONTRACT No. 3

ELECTRICAL
AREA L – GENERAL
MODIFIED SINGLE LINE DIAGRAM (SHEET 2 OF 2)

CITY FILE NUMBER
SHEET OF
CITY DRAWING NUMBER
1-0103A-E0003-002

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