



NOTES:
 JB's AND SEAL, SENSOR AND LEAK SWITCHES, ETC SHALL BE PROVIDED AS REQUIRED FOR SLUDGE GATE ACTUATOR AND SUMP PUMP. THESE ARE NOT SHOWN HERE FOR CLARITY.

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 SINGLE LINE DIAGRAM
 SCALE: N.T.S.

KEYNOTES:

1	RE-USED EXISTING UNDERGROUND 3C#3 AWG, Cu TECK 90 WIRE AND CONNECT TO PANEL AA MAIN BREAKER AND BOND. PROVIDE ALL ACCESSORIES AND FITTING.
2	PROVIDE PHASE LOSS PROTECTION. WIRE AND CONNECT OUTPUT STATUS TO RTU CONTROLLER FOR ALARMS MONITORING.
3	PROVIDE SPD C/W CIRCUIT BREAKER. WIRING SHALL BE AS SHORT AS PRACTICABLE. MAXIMUM LENGTH IS 350mm. SPD SHALL BE 145KA PER PHASE.

PANEL "AA" SCHEDULE

LOAD DESCR.	LOAD	BKR	CCT	PH	NO	SIZE	BKR	LOAD	LOAD DESCR.
Watt	SIZE	NO	PH	NO	SIZE	Watt			
SLUDGE GATE ACTUATOR	2,176	20A	1	A	2	20A	3750		TRANSFORMER TX-A
8.75HP AC-01	2,175		3	B	4	2P	3750		7.5KVA
GATE CHAMBER	2,175	3P	5	C	6	15A			SPARE
SUBMERSIBLE PUMP	7,460	60A	7	A	8	20A			SPD
30HP SP-01	7,460		9	B	10				
PUMP CHAMBER	7,460	3P	11	C	12	3P			
PHASE LOSS PROTECTION			13	A	14	15A			SPARE
			15	B	16				
			17	C	18	3P			

DESIGNATION: 'AA' MAIN BKR 100
 VOLT: 347/800 MAINS 200
 PHASE: 3 Connected Load in KW, A
 WIRE: 4 Demand Load in KW, A
 I.C (kA): 25 LOCATION: P&C PANEL
 MOUNTING: surface
 NOTES: Panel to be CSA 1
 NOTES: Fed from existing building, Bottom feed

PANEL "A" SCHEDULE

LOAD DESCR.	WIRE	LOAD	BKR	CCT	PH	NO	SIZE	WIRE	LOAD DESCR.
	AWG	Watt	NO	PH	NO	SIZE	Watt	AWG	
SPARE			15	1	A	2	15		SPARE
SPARE			15	3	B	4	15	500	3C#12AWG TECK 90
LTG - P&C PANEL	2C#12+G	35	15	5	A	6	15		SPARE
SPARE			15	7	B	8	15		SPARE
SPARE			15	9	A	10	20A		2C#12AWG RW90
SPARE			15	11	B	12	2P		SPD

DESIGNATION: 'A' MLO MAIN BKR
 VOLT: 120/240 100 MAINS
 PHASE: 1 Connected Load in KW, A
 WIRE: 3 Demand Load in KW, A
 I.C (kA): 10 LOCATION: P&C PANEL
 MOUNTING: surface
 NOTES: Panel to be CSA 1
 NOTES: Fed from Panel AA via Tx. A

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	LOCATION	AMPS	VOLTS	Ø	BREAKER	CONDUCTOR	CIRCUIT	DIS.	UNIT SUPPLIED & INSTALLED BY	MOTOR STARTER SUPPLIED BY	CONTROL	CONTROL WIRED AND CONNECTED BY	NOTE
SP-01	SUBMERSIBLE PUMP	CHAMBER	32.0	600	3	60A-3P	FACTORY WIRED CABLE IN 53mmØC	AA-7,9,11		MECH'L	ELECTRICAL	FVNR	ELEC.	PUMP CABLE IS FACTORY WIRED AND INSTALLED. WIRE AND CONNECT INTERNAL MOTOR LEAK AND OVERTEMP DETECTOR. PROVIDE LOCKABLE LEVER SWITCH ONTO STARTER.
AC-01	SLUDGE GATE ACTUATOR	PUMP GATE	10.4	600	3	20A-3P	3C#12 AWG, Cu, TECK 90 IN 53mmØC	AA-1,3,5	30A	MECH'L	N/A	BUILT-IN	ELEC.	PROVIDE LOCKABLE DISCONNECT
RTU-1	CONTROL PANEL	WEATHER ENCLOSURE		120	1	15A-1P	2C#12AWG, Cu, RW90 IN 21mmØC	A-4		ELEC.	N/A		ELEC.	

ELECTRICAL LEGEND

SYMBOL	DISCRIPTION
	SWITCH
	CIRCUIT BREAKER
	FUSE AS SHOWN
	TRANSFORMER
	FUSED SWITCH
	E-STOP PB
	PUMP MOTOR
	LEVEL TRANSDUCER
	LEAK SEAL
	JUNCTION BOX
	START - STOP PUSH BUTTONS
	REMOTE - OFF LOCAL SWITCH
	OPEN-STOP-CLOSE SWITCH
	ELAPSED TIME METER
	TRANSIENT VOLTAGE SURGE SUPPRESSOR (SURGE PROTECTION DEVICE)

ENGINEERS GEOSCIENTISTS MANITOBA
 Certificate of Authorization
 WSP Canada Inc.
 No. 5750

DESIGNED BY: AE	CHECKED BY: ES
DRAWN BY: AE	APPROVED BY: ES
ISSUED FOR TENDER: 14/09/18 ES	ISSUED FOR REVIEW: 15/09/18 ES
ISSUED FOR REVIEW: 12/12/16 HP	ISSUED FOR REVIEW: 12/12/16 HP
NO. REVISIONS	DATE BY DATE
3	14/09/18 ES
2	15/09/18 ES
1	12/12/16 HP

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ENGINEER'S SEAL
 E.N. SAZNU
 MEMBER 226
 10/09/2018

DESIGNED BY: AE
 CHECKED BY: ES
 DRAWN BY: AE
 APPROVED BY: ES
 HOR. SCALE: AS NOTED
 VERTICAL: AS NOTED
 RELEASED FOR CONSTRUCTION: Signed by KZ September 14, 2018
 BID OPPORTUNITY: 865-2018
 PLOT DATE: 10/09/2018

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

OUTFALL GATE CHAMBER UPGRADES
 AUBREY STREET
 SRS OUTFALL GATE CHAMBER
 ELECTRICAL SINGLE LINE DIAGRAM
 AND PANEL SCHEDULE

CONSULTANT DRAWING NUMBER: 5516047 - E04
 SHEET OF: 15 OF 33
 CITY DRAWING NUMBER: LD-8027

See US... 2-16-18...
 L:\Projects\2018\1815-237-00 nby & subby st. outfall upgrades (r.m.)\03 - shop\02 working_dwg\08 Elec\AUBREY\sheet\EA.dwg - tab E-4

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