



1 SINGLE LINE DIAGRAM
E4 SCALE: N.T.S.

NOTES:
JBS 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.

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	CCT	BKR	LOAD	LOAD DESCR.
	Watt	SIZE	NO	PH	NO	SIZE	
SLUDGE GATE ACTUATOR	2,176	20A	1	A	2	3750	TRANSFORMER TX-A
8.75HP AC-01	2,175		3	B	4	2P	7.5kVA
GATE CHAMBER	2,175	3P	5	C	6	15A	SPARE
SUBMERSIBLE PUMP	6216	60A	7	A	8	20A	SPD
25HP SP-01	6216		9	B	10		
PUMP CHAMBER	6217	3P	11	C	12	3P	
PHASE LOSS PROTECTION		15A	13	A	14	15A	SPARE
			15	B	16		
			17	C	18	3P	

DESIGNATION: "AA" MAIN BKR 100
VOLT: 347/600 MAINS 200
PHASE: 3 Connected Load in kW, A
WIRE: 4 Demand Load in kW, A
I.C (kA): 25 LOCATION: P&C PANEL
NOTES: Panel to be CSA 1 MOUNTING: surface
NOTES: Fed from existing building. Bottom feed

PANEL "A" SCHEDULE

LOAD DESCR.	WIRE	LOAD	BKR	CCT	CCT	BKR	LOAD	WIRE	LOAD DESCR.
	AWG	Watt	SIZE	NO	PH	NO	SIZE	Watt	
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		RTU PANEL
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
NOTES: Panel to be CSA 1 MOUNTING: surface
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	27.0	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	DISRIPTION
	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)

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NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

G.S.M. ELEV.														
DESIGNED BY	AE	CHECKED BY	ES	WSP Canada Group Limited	93 Lombard Avenue, Suite 111	Winnipeg MB R3B 3B1	T+ 1 204-943-3178	F+ 1 204-943-4948	www.wsp.com	ENGINEER'S SEAL				
DRAWN BY	AE	APPROVED BY	ES	DESIGNED BY	AE	CHECKED BY	ES			ORIGINAL DRAWING SEALED BY	E. N. SAPNU	AND DATED	SEPT. 10, 2018	
NO.	REVISIONS	DATE	BY	DATE	DATE	DATE	DATE			RELEASSED FOR CONSTRUCTION				

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

Winnipeg

OUTFALL GATE CHAMBER UPGRADES
AUBREY STREET
SRS OUTFALL GATE CHAMBER

ELECTRICAL SINGLE LINE DIAGRAM
AND PANEL SCHEDULE

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

CONTRACT OPPORTUNITY: 865-2018
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