A1 SIZE – 594mm x 841mm

PNL–S731

PANEL ID:	PNL–S731
AMPS:	400
VOLTS:	208/120V
PHASE:	3ø
WIRE:	4
SURF. MOUNT	X
FLUSH MOUNT	☐
TOP FED	X
BOT. FED	☐
DESCRIPTION:	NON-ESSENTIAL
LOCATION:	SECONDARY CLARIFIERS 4 & 5 ELEC. ROOM
MFG / MODEL:	SQUARE D NQ
INTERRUPTING RATING:	10 KA
MAIN BREAKER:	250A
INST. SETTINGS:	N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	SPARE			15					360	15	12		RCPT. S–146 LABORATORY	2
3	RCPT. S–144 WALKWAY A, S–143 LOAD. AREA	1	12	15	480				120	20	10	1	RCPT. S–146 LABORATORY	4
5	RCPT. S–142 STAIRS, S130 CLARIFIER 3 WALKWAY		12	15	240				120	20	10	1	RCPT. S–146 LABORATORY	6
7	RCPT. S–B41 SERV. TNL, S–B43 LOAD. RM, SB41A	1	10	15	600				120	20	12	1	RCPT. S–146 LABORATORY	8
9	RCPT. S–B42 MECH ROOM	1	10	15	480				480	15	12	1	RCPT. S–B44 PUMP ROOM	10
11	EXTERIOR RCPT. NORTHWEST, SOUTHWEST SIDE OF BLDG	1	10	15	360				360	15	12	1	RCPT. S–B45 STORAGE ROOM	12
13	EXTERIOR RCPT. NEAR EF–S631 & EF–S632	1	12	20	120				120	20	12	1	EXTERIOR RCPT. NEAR CONDENSING UNITS	14
15	UNIT HEATERS UH–S655, UH–S656, UH–S659		12	15	480				60	15	12		HTR–S141 & HTR–S151 HEATER CONTROL	16
17	EYEWASH HOT WATER HEATER CIRCUIT 1		4	40	3125					15			SPARE	18
19				2P	3125				190	15	12		AUTOMATIC STRAINER STR–S673	20
21	EYEWASH HOT WATER HEATER CIRCUIT 2		4	40	3125				190	15	12		AUTOMATIC STRAINER STR–S674	22
23				2P	3125				1000	15	10		HTR–S652, CLARIFIER 4 WALKWAY HEATER	24
25	HTR–S624, S–B41A SUMP PUMP AREA		10	15	1000				1000	2P				26
27				2P	1000				1000	15	10		HTR–S653, CLARIFIER 5 WALKWAY HEATER	28
29	HTR–S625, S–B41 GALLERY 3A		10	15	1000				1000	2P				30
31				2P	1000				800	15	12		HTR–S646, S–146 LABORATORY	32
33	HTR–S627, S–141 STAIRS 1		10	15	1000				120	15	12	1	CLARIFIER 4 RECEPTACLE	34
35	HTR–S626, S–141 STAIRS 1		10	15	1000				150	15	12		AIR HANDLING UNIT LIGHTS, S–B42 MECH. RM.	36
37	HTR–S638, S–142 STAIRS 2		12	15	1000				1000	15	10		DISHWASHER, S–146 LABORATORY	38
39	HTR–S637, S–142 STAIRS 2		12	15	1000				120	15	10	1	EXTERIOR RCPT. NEAR EF–S654	40
41	CLARIFIER 5 RECEPTACLE	1	12	15	120				1680	20	10	1	RCPT. S–146 LABORATORY	42
43	ADP–S593, P–S593 RELAY CONTROL PANEL		12	15	100				2232	30	8		RCPT. S–146 LABORATORY	44
45	TC–S7311 HEAT TRACE TEMP. CONTROLLER	2	12	15	120				200	20	10		RCPT. S–146 LABORATORY	46
47	TC–S7312 HEAT TRACE TEMP. CONTROLLER	2	12	15	120				200	20	10		RCPT. S–146 LABORATORY	48
49	PSP–S822, TB11		12	15	500					15			SPARE	50
51	PSP–S822, TB13		12	15	500					15			SPARE	52
53	SPARE			15						15			SPARE	54
55	SPARE			15						15			SPARE	56
57	SPARE			15						15			SPARE	58
59	SPARE			15						15			SPARE	60
61	SPARE			15						15			SPARE	62
63	SPACE												SPACE	64
65	SPACE												SPACE	66
67	SPACE												SPACE	68
69	SPACE												SPACE	70
71	SPACE												SPACE	72

TOTAL CONNECTED LOAD: 37.0 KVA

PHASE A:	13.1 kVA	109.2 A
PHASE B:	9.8 kVA	85.9 A
PHASE C:	13.6 kVA	113.3 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR

NOTES:
1. PROVIDE CLASS A TYPE, GFCI BREAKER.
2. PROVIDE CLASS A TYPE, 30mA GFCI BREAKER FOR HEAT TRACE TEMPERATURE CONTROLLER.

PNL–S741

PANEL ID:	PNL–S741
AMPS:	225
VOLTS:	208/120V
PHASE:	3ø
WIRE:	4
SURF. MOUNT	X
FLUSH MOUNT	☐
TOP FED	X
BOT. FED	☐
DESCRIPTION:	STANDBY
LOCATION:	SECONDARY CLARIFIERS 4 & 5 ELEC. ROOM
MFG / MODEL:	SQUARE D NQ
INTERRUPTING RATING:	10 KA
MAIN BREAKER:	150A
INST. SETTINGS:	N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	TRAP PRIMER U–S558, S–143 LOAD. AREA		12	15	20				2800	30	6		CU–S641, LOCATED OUTSIDE	2
3	CU–S646, S–B41 GALLERY 3A		10	15	1350				2800	2P			ACU–S641, S–145 ELEC. RM	4
5	ACU–S646, S–146 LABORATORY			2P	1350				2800	30	6		CU–S642, LOCATED OUTSIDE	6
7	XV–S3162, SCUM PUMP FLUSHING WATER INLET VALVE		12	15	225				2800	2P			ACU–S642, S–145 ELEC. RM	8
9	CLARIFIER 5 EXHAUST FAN EF–S653		10	15	250				2800	30	6		CU–S643, LOCATED OUTSIDE	10
11	GLYCOL FEED SYSTEM, FDR–S665, S–B42		12	15	300				2800	2P			ACU–S643, S–145 ELEC. RM	12
13	FV–S6508, AHU–S640 AIR INTAKE DAMPER		12	15	50				2800	30	6		CU–S644, LOCATED OUTSIDE	14
15	EF–S675–1, CABLEBUS COOLING FAN		12	20	500				2800	2P			ACU–S644, S–145 ELEC. RM	16
17	EF–S675–2, CABLEBUS COOLING FAN		12	20	500				250	15	12		MSP–S646 (FOR EF–S646, S–146 LAB. RM.)	18
19	ADP–S594, P–S594 RELAY CONTROL PANEL		12	15	100				250	15	10		CLARIFIER 4 EXHAUST FAN EF–S652	20
21	FRIDGE (FOR SA–S540 PACKAGED SAMPLER)		10	15	1000					15			SPARE	22
23	LCP–S540 (FOR SA–S540 PACKAGED SAMPLER)		12	15	120				1000	15	12		FRIDGE, S–146 LABORATORY	24
25	P–S540 (FOR SA–S540 PACKAGED SAMPLER)		12	15	250				480	15	12		RCPT. S–145 ELEC. ROOM	26
27	TRAP PRIMER U–S559, S–B45 STO. RM		12	15	20					15			SPARE	28
29	XV–S6634 FLUSHING WATER VALVE		12	15	8					15			SPARE	30
31	SPARE			15						15			SPARE	32
33	SPARE			15									SPACE	34
35	SPARE			15									SPACE	36
37	SPACE												SPACE	38
39	SPACE												SPACE	40
41	SPACE												SPACE	42

TOTAL CONNECTED LOAD: 30.5 KVA

PHASE A:	9.8 kVA	81.5 A
PHASE B:	11.6 kVA	96.3 A
PHASE C:	9.1 kVA	76.1 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR

NOTES:
1. INSTALL RED BREAKER FOR FIRE ALARM BOOSTER POWER SUPPLY, LOCKABLE IN THE ON POSITION. AFFIX LABEL STATING "THE FIRE ALARM SYSTEM IS SUPPLIED FROM MORE THAN ONE PRIMARY POWER SOURCE".
2.

PNL–S743U

PANEL ID:	PNL–S743U
AMPS:	100
VOLTS:	208/120V
PHASE:	3ø
WIRE:	4
SURF. MOUNT	X
FLUSH MOUNT	☐
TOP FED	☐
BOT. FED	X
DESCRIPTION:	UNINTERRUPTIBLE
LOCATION:	SECONDARY CLARIFIERS 4 & 5 ELEC. ROOM
MFG / MODEL:	SQUARE D NQ
INTERRUPTING RATING:	10 KA
MAIN BREAKER:	125A
INST. SETTINGS:	N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	RCPT. INSIDE NP–S907, S–145 ELEC. RM		12	15	120				240	15	12		RCPT. S–146 LABORATORY	2
3	LIGHTING CONTROL PANEL CP–S744		12	15	75				24	15	12	1	MCC–S730 & MCC–S740 POWER METERS	4
5	LIGHTING CONTACTOR LC–S745		12	15	20				24	15	12	1	MCC–S750 & MCC–S760 POWER METERS	6
7	MCC–S730 ETHERNET SWITCH		12	15	200				360	15	10		RCPT. FOR NP–U906 & WORKSTN, U202 ELEC. RM	8
9	MCC–S740 ETHERNET SWITCH		12	15	200				1800	20	8		CHANNEL NO. 1 CONTROL CENTRE, U201 EQPT. RM	10
11	MCC–S750 ETHERNET SWITCH		12	15	200				1800	20	8		CHANNEL NO. 2 CONTROL CENTRE, U201 EQPT. RM	12
13	MCC–S760 ETHERNET SWITCH		12	15	200				700	15	12		PSP–S822, TB12	14
15	PSP–S822, TB14		12	15	650				24	15	12		MCC–U710, MCC–U720 POWER METERS, U202 ELEC. RM	16
17	CP–U821 TB12		10	15	240				240	15	10		CONTROL JIB JBA–UB30, U202 ELEC. RM	18
19	PSP–S711 FIRE ALARM PNL, S–145 ELEC. RM	2	12	15	150				600	15	10		AIT–U1201 VIA JBA–U1201	20
21	S–144 MAGNETIC DOOR HOLDERS		12	15	40					15			SPARE	22
23	S–130 MAGNETIC DOOR HOLDERS		12	15	40					15			SPARE	24
25	SPARE			15						15			SPARE	26
27	SPARE			15						15			SPARE	28
29	SPARE			15						15			SPARE	30

TOTAL CONNECTED LOAD: 7.7 KVA

PHASE A:	2.3 kVA	19.4 A
PHASE B:	2.8 kVA	23.4 A
PHASE C:	2.6 kVA	21.4 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR

NOTES:
1. LOAD IS ASSUMED
2. PROVIDE RED BREAKER FOR FIRE ALARM BOOSTER POWER SUPPLY, LOCKABLE IN THE ON POSITION. AFFIX LABEL STATING "THE FIRE ALARM SYSTEM IS SUPPLIED FROM MORE THAN ONE PRIMARY POWER SOURCE".

PNL–S732

PANEL ID:	PNL–S732
AMPS:	100
VOLTS:	600/347V
PHASE:	3ø
WIRE:	4
SURF. MOUNT	X
FLUSH MOUNT	☐
TOP FED	☐
BOT. FED	X
DESCRIPTION:	NON-ESSENTIAL
LOCATION:	SECONDARY CLARIFIERS 4 & 5 ELEC. ROOM
MFG / MODEL:	SQUARE D NF
INTERRUPTING RATING:	10 KA
MAIN BREAKER:	35A
INST. SETTINGS:	N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	LTNG. S–B41, S–B42, S–B43, S–B41A, S–143		12	15	2480				1120	15	12		LTNG. S–145 ELEC. RM, S–146 LAB & CTRL RM	2
3	LTNG. S–B44 PUMP RM, S–B45 STORAGE RM		12	15	2870				1840	15	12		LTNG. S–144, S–154, S–155, U–203	4
5	EXTERIOR LTNG. CLARIFIER 4 & 5 BLDG, WALKWAY BRIDGE		12	15	3430				215	15	12		EXTERIOR LTNG. U.V. BLDG	6
7	LTNG. U–204 UV STORAGE RM		12	15	220					15			SPARE	8
9	SPARE			15						15			SPARE	10
11	SPARE			15						15			SPARE	12
13	SPARE			15						15			SPARE	14
15	SPARE			15						15			SPARE	16
17	SPARE			15						15			SPARE	18
19	SPACE												SPACE	20
21	SPACE												SPACE	22
23	SPACE												SPACE	24
25	PNL–S733E (VIA ELB–S733)		10	20	1365								SPACE	26
27					1370								SPACE	28
29					325								SPACE	30

TOTAL CONNECTED LOAD: 15.2 KVA

PHASE A:	5.1 kVA	14.8 A
PHASE B:	6.1 kVA	17.7 A
PHASE C:	4.0 kVA	11.4 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR

NOTES:
1. .

PNL–S733E

PANEL ID:	PNL–S733E
AMPS:	100
VOLTS:	600/347V
PHASE:	3ø
WIRE:	4
SURF. MOUNT	X
FLUSH MOUNT	☐
TOP FED	☐
BOT. FED	X
DESCRIPTION:	ESSENTIAL
LOCATION:	SECONDARY CLARIFIERS 4 & 5 ELEC. ROOM
MFG / MODEL:	SQUARE D NF
INTERRUPTING RATING:	10 KA
MAIN BREAKER:	100A
INST. SETTINGS:	N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	SPARE			15					1365	15	12		EXIT LIGHTS & E–LTNG. GRND. FLR. & STAIRS, U–203	2
3	SPARE			15					1430	15	12		EXIT LIGHTS & E–LTNG. BASEMENT	4
5	EXIT LIGHTS & E–LTNG. U.V. BUILDING			15	175				150	15	12		E–LTNG. WALKWAY BRIDGES S–154 & S–155	6
7	SPARE			15						15			SPARE	8
9	SPARE			15						15			SPARE	10
11	SPARE			15						15			SPARE	12
13	SPARE			15						15			SPARE	14
15	SPARE			15						15			SPARE	16
17	SPARE			15						15			SPARE	18
19	SPARE			15						15			SPARE	20
21	SPARE			15						15			SPARE	22
23	SPACE												SPACE	24
25	SPACE												SPACE	26
27	SPACE												SPACE	28
29	SPACE												SPACE	30

TOTAL CONNECTED LOAD: 3.1 KVA

PHASE A:	1.4 kVA	11.4 A
PHASE B:	1.4 kVA	11.9 A
PHASE C:	0.3 kVA	2.7 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR

NOTES:
1.

GENERAL NOTES:

1. PROVIDE INDIVIDUAL LOCK–OFF DEVICES FOR ALL CIRCUIT BREAKERS IN ALL PANELBOARDS.

PUBLIC ADDRESS SPEAKER TYPE

TYPE	DESCRIPTION	MANUFACTURER	MODEL	VOLTS (VAC)	LOAD	NOTES
A	SC SERIES PAGING HORN SPEAKERS, 30 W	TOA	SC–630T	70V	30W	3
B	SC SERIES PAGING HORN SPEAKERS, 15 W	TOA	SC–615T	70V	15W	3
C	HAZARDOUS LOCATION SPEAKERS	COOPER CROUSE HINDS	DB16UCXN2MPN	70V	30W	1,2
D	PC SERIES CEILING MOUNT SPEAKERS	TOA	PC–580RU	70V	10W	4

SPECIFIC NOTES:

1. CLASS I, ZONE 2 RATED,
2. TRANSFORMER OPTION FOR 70V.
3. PROVIDE SWIVEL BRACKET (YS–151S) FOR MOUNTING SPEAKER.
4. PROVIDE BACKBOX, TOA BB–580, FOR CEILING MOUNTED SPEAKER UNLESS STATED OTHERWISE.

REFERENCE DRAWINGS	DESCRIPTION

APEGM Certificate of Authorization
SNC-Lavalin Inc.
No. 4489

NO.	REVISIONS	DATE	DESIGN	CHECK
01	ISSUED FOR ADDENDUM 2 – 976–2016	2017/06/09	SSB	DEB
00	ISSUED FOR CONSTRUCTION – 976–2016	2017/04/05	WE	DEB

CH2MHILL. SNC·LAVALIN KGS GROUP

DESIGNED BY: V. ELIMBAN	CHECKED BY: E. RYCZKOWSKI
DRAWN BY: V. ELIMBAN	APPROVED BY: D. BECKER
SCALE: NTS	ISSUED FOR CONSTRUCTION BY: J. SHUMKA
DATE: 2015/12/02	DATE: 2017/04/05
CONSULTANT NO.: 474248	

ENGINEER'S SEAL
PROVINCE OF MANITOBA — D.E. BECKER — Member 23646 — REGISTERED PROFESSIONAL ENGINEER
JUNE 5 2017 REV 01

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPCC UPGRADING/EXPANSION PROJECT
ELECTRICAL
SECONDARY CLARIFIERS 4 AND 5
PANEL SCHEDULES & DETAILS

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1–0102–ESCH–S001	001	01	A1

LAST SAVE: 2017/06/06 – 3:20pm
PATH: C:\pw_workdir\ch2mhill_wbg\ve006717\d0355519\1–0102–ESCH–S001.dwg

PLOT DATE: Jun 06, 2017 – 3:20pm

FILE NAME: 1–0102–ESCH–S001.dwg