12.47KW
347/600V

IFAULT=3650A

3C
NB POWER PAD MOUNTED TRANSFORMER

4 x (4#750MCM-100mm)

IFAULT=34,000A

PANEL DPL, 2000A, 347/600V, 3ø, 4W
RM 167A

2000/3 1600A TRIP GFI

EXISTING METER, TIE INTO METERING DATA NETWORK

UTILITY METER
05-384-003

#3/0 RW90 GREEN GROUND WIRE IN 25mm RC

WATER MAIN

ROOM 162

GROUND BUS

GROUND BUS

CELL #1 - 05-205-1

DMS

CELL #2 - 05-200-000052

2000/3 1600A TRIP

DATA LINE IN 21mm EMT. CABLE SIZE AND TYPE TO MANUFACTURERS REQUIREMENTS

IFAULT=28,000A

PANEL DP2, 2000A, 347/600V, 3ø, 4W

1600A

GND BUS

600/3 500A AJT500 — 3 CT'S 600/5A

600/3 600A AJT600 — 3 CT'S 600/5A

60/3 60A AJT60

400A 300A

200/3 200A AJT200 — 3 CT'S 200/5A

400/3 400A — 3 CT'S 400/5A

200/3 200A AJT200

200/3 150A AJT150

200/3 200A AJT200

200/3 200A AJT200

200/3 125A AJT125 SPARE

200/3 200A AJT200 — 3 CT'S 200/5A

200/3 150A AJT150

4#12RW90, 21mm (1 BLACK, 1 RED, 1 BLUE & 1 GREEN)

ION 7650 METERS IN COMMON ENCLOSURE. INTERCONNECT TO EXISTING METERING COMMUNICATIONS NETWORK.

7650 7650 7650 7650 7650

DATA LINE IN 21mm TO METERING SYSTEM HEAD END EQUIPMENT. CABLE TYPE AND SIZE TO MANUFACTURERS REQUIREMENTS.

#3/0 RW90, 1#3 GND-65mm EMT

8#300mm RW90 2#3/0 GD 2-75mm EMT

PANEL PP5, RM 339
42 CIRC. 347/600V

600/3

300/3 300/3 15/3 30/3 15/3 15/3 15/3 FUTURE

3-#400 MCM RW90 1#3 GR 75mm EMT

05-200 RM 000001 336 400A

05-200 RM 000002 336 400A

3#400 MCM

3#12 1#14 GR 19mm RC

CAP BB HTG 12KW 20-343 001

3#10 1#12 GR 19mm RC

CAP BB HTG 21KW 20-343 002

RM 336 BOILER#1

RM 336 BOILER#2

RM 336 3-MOT 30A SPARE

RM 336 3-MOT 30A SPARE

05-470 014 3Ø 30A

3#12 RW-90 13mm EMT

FAN COOL UNIT RM 336 30-050-006

MCC #1 200A, 600/347V, 3ø, 4W RM 335

200A/3 C/W SHUNT TRIP

SEE EQUIPMENT SCHEDULE ON E-108 AND MCC1 LAYOUT ON E-108 FOR PANEL MCC1 DIRECTORY

2x(4#3/0RW90+1#4/0 GND, NEW 53mm EMT)

4#3/0 - 53mm EMT

2 RUNS 4#350MCM + 75mm RC

4#3/0 RW90, #3 GND - 63mm RC

4#1/0 RW90, #3 GND-53mm EMT

4#1/0 RW90, #3 GND

53mm EMT

200A RM 167

AUTOMATIC TRANSFER SWITCH ISOLATION BYPASS 150A, 347/600V, 3ø 4W

ROOM 167

STANDBY DIESEL GENERATOR 100KW 125KVA 347/600V, 3ø 4W ROOM 167

42CIRC.
PANEL PP6, 225A, 347/600V, 3ø, 4W, RM 335

20/3 20/3 40/3 15/3

SEE EQUIPMENT SCHEDULE ON E-108 FOR PANEL PP6 DIRECTORY

3#10 RW90 + GRD. 16mm EMT

05-200 RM 076 334 3Ø 50A

05-200 RM 075 334 3Ø 30A

EXISTING

3#12 IN 16mm EMT

RM 234 HUM-6A HUMIDIFIER 30-350 006

RM 234 HUM-6 HUMIDIFIER 30-350 005

AHU-2 HUMIDIFIER

24CIRC. 05-212-000031
PANEL PP7, 600A, 347/600V RM 335

150/3 150/3 30/3

SEE EQUIPMENT SCHEDULE ON E-108 FOR PANEL PP7 DIRECTORY

4#1/0 RW90 #3 GND 53mm EMT

3#1 RW90 35mm EMT

PNL 2PA 225 AMP 84 CCT RM 209

PNL 2PB 225 AMP 84 CCT RM 209

ROOF 90KW 575T #6 25T-005 002

3#10 IN 16mm EMT

AHU-2

PANEL EP1, 225A, 347/600V, 3ø, 4W, 22KAIC (SYM)
RM 105

3 CT'S 150/5A

150/3 15/3 100/3 40/3 100/3 100/3

3#1 RW90 35mm EMT

4#1 RW90 #3 GND-35mm EMT

PNL EP2 225A 84 CCT RM 209

4#1 RW90 #3 GND-35mm EMT

PNL EP3 225A 84 CCT RM 339

IFAULT=26,000A

42 CCT
NEW PANEL PP4, 225A, 347/600V, 3ø, 4W, 30 KAIC RM 339

SEE EQUIPMENT SCHEDULE ON E-108 AND PANEL SHEET PP4 ON E-109 FOR PANEL PP4 DIRECTORY

WESTINGHOUSE 24CIRC. 05-212-0029
PANEL PP1 225A, 347/600V 3ø ELEVATOR RM. RM 134 1ST. FL.

25/3 25/3 FUTURE

4#12RW90+BND, 21mm

10HP ROOM 134 EP-1

10HP ROOM 134 EP-2

4#12RW90+BND, 21mm

4#3/0 RW90, 1#3 GND-41mm EMT

4#3/0 RW90, 1#3 GND-53mm EMT

4#3/0 RW90, 1#3 GND-63mm EMT

3#3/0 RW90, 1#2 GND-65mm RC

4#12RW90+BND, 21mm

3#6RW90+BND, 35mm

3#350MCM+BND, 78mm

MCC#2 600A, 347/600V, 3ø, 4W, 21 KAIC RM 336

400/3 C/W SHUNT TRIP

SEE EQUIPMENT SCHEDULE ON E-108 AND MCC2 LAYOUT ON E-10B FOR PANEL MCC2 DIRECTORY

T2 45KVA K-20 RATED RM 339

IFAULT=7,200A

IFAULT=1,875A

200/3 PNL 2E 225A 84 CCT RM 142 10KAIC

SURGE

T3 225KVA RM 154

IFAULT=17,500A

3x(4#350MCM+BND, 78mm)

PANEL 1D1, 1000A, 120/208V, 10KAIC, 42CCT RM 154

IFAULT=5,600A

800/3 100/3 100/3 100/3 60/3

4#3RW90+BND,35mm

IFAULT =5,000A PNL 1C 100A 84 CCT RM 154 10KAIC

IFAULT =5,000A PNL 1F 100A 84 CCT RM 154 10KAIC

IFAULT =5,000A PNL 1G 100A 84 CCT RM 154 10KAIC

IFAULT =5,000A PNL 1H 60A 36 CCT RM 154 10KAIC

PANEL 1D2, 1000A, 120/208V, 10KAIC, 42CCT RM 105

IFAULT=4,400A

800/3 100/3 100/3 100/3 125/3 100/3 125/3 100/3

4#3RW90+BND,35mm

IFAULT =4,000A PNL 1C 100A 84 CCT RM 105 10KAIC

IFAULT =4,000A PNL 1A 100A 84 CCT RM 105 10KAIC

IFAULT =4,000A PNL 1B 100A 84 CCT RM 105 10KAIC

4#1RW90+BND,53mm

IFAULT =4,000A PNL 1C 225A 84 CCT RM 105 10KAIC

4#3RW90+BND,35mm

IFAULT =4,000A PNL 1D 100A 84 CCT RM 105 10KAIC

4#1RW90+BND,53mm

IFAULT =4,000A PNL 1L 225A 42 CCT RM 105 10KAIC

05-384-001 W/HM

PNL K 125A 42 CCT RM 165 WESTINGHOUSE 05-212-008

REFEED PANEL 'K' FROM NEW BREAKER IN NEW PANEL 1D2

T4 150KVA RM 208

200A RM 209

T5 112.5KVA RM 222B

200A RM222B

T6 150KVA RM 339

IFAULT=20,000A

2x(4#500MCM RW90, 1#3 GND-91mm EMT

2x(4#350MCM+BND, 78mm)

PANEL 2D2, 600A, 120/208V, 3ø, 4W 10KAIC (SYM) 72 CCT, RM 209

150/3 150/3 150/3 150/3 150/3 150/3 150/3 150/3 150/3

4#1/0 1#3 GND RW90 53mm EMT

PNL 2E 225A 84 CCT RM 209

PNL 2F 225A 84 CCT RM 209

PNL 2G 225A 84 CCT RM 209

PNL 2H 225A 84 CCT RM 209

PNL 2I 225A 84 CCT RM 209

PNL 2J 225A 84 CCT RM 209

PNL 2K 225A 84 CCT RM 209

PNL 2M 225A 84 CCT RM 209

PANEL 2D1, 400A, 120/208V, 3ø, 4W 10KAIC (SYM) 72 CIRC., RM 222B

150/3 150/3 150/3 150/3 150/3

PNL 2A 225A 84 CCT RM 222B

PNL 2B 225A 84 CCT RM 222B

PNL 2C 225A 84 CCT RM 222B

PNL 2D 225A 84 CCT RM 222B

PNL 2L 225A 84 CCT RM 222B

MS

REFEED EXISTING EQUIPMENT FROM NEW BREAKER IN NEW PANEL 3D1

PANEL 3D1, 600A, 120/208V, 10KAIC, 42CCT RM 339 (FORMERLY PANEL PP3)

IFAULT=5,700A

15/1 100/3 100/3 80/3 80/3

4#3RW90+BND,35mm

IFAULT =4,500A PNL 3A 100A 84 CCT RM 325 10KAIC

IFAULT =4,500A PNL 3B 100A 84 CCT RM 325 10KAIC

IFAULT =4,500A PNL 3C 100A 84 CCT RM 325 10KAIC

IFAULT =4,500A PNL 3D 100A 42 CCT RM 325 10KAIC

T7 30KVA RM 105

T8 30KVA RM 209

T9 30KVA RM 325

3#8 RW90, #3 GND-21mm EMT

3#8 RW90, #3 GND-21mm EMT

3#8 RW90, #3 GND-21mm EMT

4#3 RW90, #3 GND-35mm EMT

4#3 RW90, #3 GND-35mm EMT

4#3 RW90, #3 GND-35mm EMT

PNL E1 225A 84 CCT RM 105

PNL E2 225A 84 CCT RM 209

PNL E3 225A 84 CCT RM 325

FIRE ALARM PANEL RM 101 60-290-001

CONTRACTOR SHALL PERFORM LOAD CALCULATIONS ON SITE FOR PANELS E1 & E3

LOAD CALCULATION
EXISTING DEMAND AFTER DELETIONS

LOAD	DIVERSITY	CONNECTED LOAD	DIVERSIFIED LOAD
MECHANICAL HEATING	20%	586335	181268
MECHANICAL AIR	20%	467848	93568
LIGHTING	100%	58888	58888
ELEVATOR	25%	56118	14030
EXISTING LOAD	100%	562588	562588
TOTAL			383913

SERVICE LOAD 252
EXISTING SERVICE SIZE 1600A 180%
SERVICE VOLTAGE 600

LOAD CALCULATION
NEW EXPECTED DEMAND

LOAD	DIVERSITY	CONNECTED LOAD	DIVERSIFIED LOAD
ELEVATOR	94%	22864	21492
LIGHTING	100%	42914	42914
MECHANICAL ALL YEAR	75%	255839	191629
MECH SUMMER	75%	979731	
MECH WINTER	75%	746549	560212
RECEPTACLES/EQUIPMNET	60%	193738	116238
EXISTING LOAD	100%	383913	383913
TOTAL			1237899

SERVICE LOAD 1190
EXISTING SERVICE SIZE OK
SERVICE VOLTAGE 600

PWGSC AO (2004)

E-DRM/000-E 384039 Version 1

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

Architects / Architectes

architecture 2000 inc.

PROJECT NO. 3134

AEC Associated Engineering Consultants Limited

Phone: (506) 856-6982 Fax: (506) 383-7385
email:aecsmg@aecsmg.ca web:aecsmg.ca

Key plan / Plan de localisation

Seal / Sceau

REGISTERED PROFESSIONAL ENGINEER #3047 M. A. LeBlanc 17/07/13 PROVINCE OF NEW BRUNSWICK PROVINCE DU NOUVEAU-BRUNSWICK

Note / Note

revisions	date
00 ISSUED FOR TENDER	07-17-2013

project / projet

BUILDING MODERNIZATION
PHASE II
10 Weldon Street
Shediac, NB

drawing / dessin

ELECTRICAL
FLOW DIAGRAM

designed KMR / conçu
date JULY 2013
drawn MML / dessiné
date JULY 2013
approved MAL / approuvé
date JULY 2013
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC

project number / no. du projet
R.039554.001

drawing no. / no. du dessin
E-110