

PLOT DATE: August 15, 2017 TIME: 4:16 PM FULL PATH AND FILENAME: \\EDMAPPS0102\_DRIVE\NCEM17-0002\_JASPER NATIONAL PARK STAFF HOUSING\500-DEL\VELOC\500-00-00.DWG PLOT STYLE TABLE: PMA-STD-100.ctb

LEGEND OF SYMBOLS										JAN 2017
LIGHTING		MECHANICAL		COMMUNICATION SYSTEMS		FIRE ALARM				
	RECESSED LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		MOTOR		VOICE OUTLET		SMOKE ALARM			
	SURFACE LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		MOTOR C/W DISCONNECT SWITCH		DATA OUTLET		SMOKE ALARM/CARBON MONOXIDE ALARM			
	WALL LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		MOTOR C/W MANUAL STARTER		COMBINATION VOICE/DATA OUTLET		SMOKE ALARM/CARBON MONOXIDE ALARM C/W STROBE			
	LED / INCANDESCENT / COMPACT FLUORESCENT WALL WASHER		UNFUSED DISCONNECT SWITCH		TELEVISION OUTLET		SMOKE DETECTOR			
	RECESSED LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE ON EMERGENCY POWER		FUSED DISCONNECT SWITCH		COMBINATION DATA/TELEVISION OUTLET		SMOKE DETECTOR IN CEILING PLENUM			
	SURFACE LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE ON EMERGENCY POWER		COMBINATION MAGNETIC STARTER/DISCONNECT SWITCH		FLOOR MOUNTED VOICE OUTLET		SMOKE DETECTOR UNDER FLOOR			
	WALL LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE ON EMERGENCY POWER		MAGNETIC STARTER		FLOOR MOUNTED DATA OUTLET		RATE OF RISE HEAT DETECTOR			
	RECESSED FLUORESCENT LUMINAIRE		FAN SPEED CONTROLLER		FLOOR MOUNTED COMBINATION VOICE/DATA OUTLET		FIXED HIGH TEMPERATURE 200°F HEAT DETECTOR (88°C)			
	SURFACE FLUORESCENT LUMINAIRE		THERMOSTAT		FLOOR MOUNTED TELEVISION OUTLET		FIXED HIGH TEMPERATURE 135°F HEAT DETECTOR (58°C)			
	WALL FLUORESCENT LUMINAIRE		SENSOR		CEILING MOUNTED DATA OUTLET		DUCT SMOKE DETECTOR - 'SA' DENOTES SUPPLY AIR, 'RA' DENOTES RETURN AIR			
	WALL FLUORESCENT LUMINAIRE ON EMERGENCY POWER		MOTOR IDENTIFICATION TAG (REFER TO MECHANICAL SCHEDULE)		CEILING MOUNTED TELEVISION OUTLET		DUCT SMOKE DETECTOR C/W SHUTDOWN RELAY			
	FLUORESCENT STRIP LUMINAIRE		BASEBOARD HEATER		MICROPHONE OUTLET		FIRE ALARM PULL STATION			
	FLUORESCENT STRIP LUMINAIRE				PA SPEAKER - CEILING MOUNTED		SPRINKLER FLOW SWITCH			
	RECESSED FLUORESCENT LUMINAIRE ON EMERGENCY POWER	POWER			PA SPEAKER - WALL MOUNTED		SPRINKLER TAMPER SWITCH			
	SURFACE FLUORESCENT LUMINAIRE ON EMERGENCY POWER		SINGLE/SPECIAL PURPOSE RECEPTACLE		VOLUME CONTROLLER		SPRINKLER PRESSURE SWITCH			
	TRACK LIGHTING C/W LIGHTING HEADS AS SHOWN		DUPLEX RECEPTACLE		CHIME		END OF LINE RESISTOR			
	POLE MOUNTED LUMINAIRE		ARC FAULT RECEPTACLE		CLOCK - CEILING MOUNTED		FIRE ALARM BELL			
	LIGHTING BOLLARD		GROUND FAULT RECEPTACLE		CLOCK - WALL MOUNTED		FIRE ALARM COMBINATION BELL AND STROBE			
	LIGHTING LUMINAIRE TYPE TAG		SPLIT/SWITCHED CIRCUIT RECEPTACLE		PAC-POLE		FIRE ALARM HORN			
	EXIT LIGHT - CEILING (C/W ARROWS AS INDICATED)		20A T-SLOT RECEPTACLE		WATER DETECTOR		FIRE ALARM COMBINATION HORN AND STROBE			
	EXIT LIGHT - WALL (C/W ARROWS AS INDICATED)		FOURPLEX RECEPTACLE		GROUND BAR		FIRE ALARM MINI HORN/STROBE WITH SILENCE BUTTON			
	EMERGENCY POWER BATTERY PACK		ISOLATED GROUND FOURPLEX RECEPTACLE		BACKBOARD		FIRE ALARM MINI HORN WITH SILENCE BUTTON			
	EMERGENCY POWER BATTERY PACK C/W LIGHTING HEADS		COMPUTER DUPLEX RECEPTACLE (FED W/ DEDICATED NEUTRAL)				INSUITE FIRE ALARM STROBE			
	EMERGENCY POWER BATTERY PACK C/W R. HEADS & EXIT LIGHT		COMPUTER FOURPLEX RECEPTACLE (FED W/ DEDICATED NEUTRAL)	SECURITY SYSTEMS			FIRE ALARM STROBE			
	SINGLE REMOTE EMERGENCY LIGHTING HEAD - CEILING MOUNT		FLOOR MOUNTED RECEPTACLE		SECURITY HORN		FIRE ALARM MINI SPEAKER WITH SILENCE BUTTON			
	DOUBLE REMOTE EMERGENCY LIGHTING HEAD - CEILING MOUNT		FLOOR MOUNTED ISOLATED GROUND RECEPTACLE		PUSH BUTTON		FIRE ALARM SPEAKER - CEILING MOUNTED			
	SINGLE REMOTE EMERGENCY LIGHTING HEAD - WALL MOUNT		FLOOR MOUNTED FOURPLEX ISOLATED GROUND RECEPTACLE		MAGNETIC DOOR HOLD OPEN		FIRE ALARM COMBINATION SPEAKER/STROBE - CEILING MOUNTED			
	DOUBLE REMOTE EMERGENCY LIGHTING HEAD - WALL MOUNT		FLOOR MOUNTED COMPUTER DUPLEX RECEPTACLE W/DEDICATED NEUTRAL		MAGNETIC LOCK		FIRE ALARM SPEAKER - WALL MOUNTED			
	SWITCH - SINGLE, TWO, AND THREE GANG		CEILING MOUNTED SINGLE/SPECIAL PURPOSE RECEPTACLE		ELECTRIC STRIKE		FIRE ALARM COMBINATION SPEAKER/STROBE - WALL MOUNTED			
	2 POLE SWITCH		CEILING MOUNTED DUPLEX RECEPTACLE		DOOR POSITION SWITCH		FIRE PHONE			
	SWITCH - 3 WAY		CEILING MOUNTED JUNCTION/SLAB BOX		REQUEST TO EXIT SENSOR		ISOLATION MODULE			
	SWITCH - LOW VOLTAGE		FLOOR MOUNTED JUNCTION/SLAB BOX		SECURITY MOTION SENSOR		SUITE AUDIBLE ISOLATOR			
	SWITCH - KEY SWITCH		WALL MOUNTED JUNCTION BOX		CARD READER		CONTROL MODULE			
	SWITCH - MANUAL STARTER		ELECTRICAL PANELBOARD - SURFACE MOUNTED		2-WAY VOICE/PANIC		MONITORING MODULE			
	SWITCH - DIMMER SWITCH		ELECTRICAL PANELBOARD - RECESSED		INTERCOM	GENERAL				
	SWITCH - OCCUPANCY SENSOR SWITCH		CONTACTOR		SECURITY STROBE		CONDUIT CONCEALED IN WALL OR CEILING			
	SWITCH C/W PILOT LIGHT - SINGLE GANG		CAR PLUG POST		CCTV CAMERA		CONDUIT CONCEALED IN SLAB OR RUN UNDERGROUND			
	SWITCH - TIMER SWITCH		TIME CLOCK		GLASS BREAKAGE SENSOR		CONDUIT UP			
	PHOTO ELECTRIC CELL		SINGLE PHASE DIRECT CONNECTION		KEYPAD		CONDUIT DOWN			
	OCCUPANCY SENSOR - CEILING MOUNTED		THREE PHASE DIRECT CONNECTION		INTERCOM		CONDUIT STUB			
	DAYLIGHT HARVESTING LIGHT SENSOR		DROP CORD		RELAY MODULE		CONDUIT CONTINUATION			
							WP DENOTES WEATHERPROOF DEVICE			
							NL DENOTES UNSWITCHED LUMINAIRE (NIGHT LIGHT)			
							R DENOTES DEVICE TO REMOVE OR RELOCATE			
							RL DENOTES RELOCATED DEVICE			
							• DENOTES FURNITURE MOUNTED DEVICE			
							E DENOTES EXISTING TO REMAIN			

LIST OF DRAWINGS	
Sheet Number	Sheet Title
E00-00-00	ELECTRICAL COVER SHEET
E01-00-01	ELECTRICAL SITE PLAN
E10-00-01	POWER & LIGHTING PLAN
E40-00-01	ELECTRICAL DETAILS & AND RISER DIAGRAMS
E60-00-01	ELECTRICAL SCHEDULES

DATE	ISSUED FOR	REV
17-07-06	60% REVIEW	A
17-08-15	TENDER	0

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Project Component  
Phase # - Description

Keyplan

North Arrow

Detail Symbol

Consultants	McElhanney Consulting Services Ltd.
Civil:	NORR Architects Engineers Planners
Landscap:	NORR Architects Engineers Planners
Architectural:	NORR Architects Engineers Planners
Structural:	NORR Architects Engineers Planners
Mechanical:	NORR Architects Engineers Planners
Electrical:	NORR Architects Engineers Planners

Seal(s)

**NORR**

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Robert C. McElhanney, Architect, AIA, B.Arch, M.Arch  
Andrew Tisdale, P.Eng., APEGA  
Chris Pail, P.Eng., APEGA

Project Manager C.ODINGA	Drawn F.HAK
Project Leader T.BERTSCH	Checked D.Hider
Client <b>PARKS CANADA AGENCY</b> Jasper National Park, Jasper, AB	
Project <b>JASPER PARK STAFF HOUSING</b> JASPER, AB	
Drawing Title <b>ELECTRICAL COVER SHEET</b>	
Check Scale (may be photo reduced) 0 1inch 0 10mm	
Project No. NCEM-17-0002	
Drawing No. E00-00-00	

1 ELECTRICAL SITE PLAN  
E01-00-01 1:50

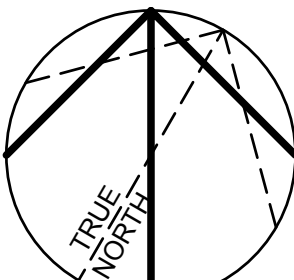

REFERRAL NOTES:

- A. ALL UNDERGROUND UTILITY DUCTING TO BE RIGID PVC
- B. REFER TO CIVIL DRAWINGS E50-00-05 FOR FEEDER QUANTITIES AND SIZES.

REFERRAL NOTES:	
1	MAIN TELUS UTILITY SERVICE BOX.
2	MAIN SHAW UTILITY SERVICE BOX.
3	METER STAB MS-01
4	FIRE RETARDANT PLYWOOD BACKGROUND. ELECTRICAL CONTRACTOR TO SIZE AS REQUIRED.
5	DUCTING AND CABLEING INSTALLED BY ATCO.
6	SITE UTILITY POLE AND POLE MOUNTED TRANSFORMER BY UTILITY.
7	POWER AND TELECOM SECONDARY DUCTWORK TO BE STOPPED AT EDGE OF PROPERTY LINE. COORDINATE FINAL LOCATION WITH UTILITY.
8	APPROXIMATE LOCATION OF BUILDING ELECTRICAL ROOM. REFER TO DRAWING E10-00-01 FOR CONTINUATION AND LAYOUT.
9	ELECTRICAL CONTRACTOR TO LOCATE SECONDARY STUB OUT AND CONTINUE CONDUIT AND CABLEING TO BUILDING MAIN ELECTRICAL ROOM. COORDINATE LOCATIONS WITH UTILITY.
10	ELECTRICAL CONTRACTOR TO LOCATE TELUS AND SHAW STUB OUTS AND CONTINUE CONDUIT AND CABLEING TO BUILDING MAIN ELECTRICAL ROOM. COORDINATE LOCATIONS WITH UTILITY.
11	ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL CONDUITS C/W PULLSTRUNG, FOR TELUS AND TWO FOR SHAW. REFER TO DETAIL E40-00-01
12	REFER TO STRUCTURAL POLE BASE DETAIL ON S50-00-01.

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Project Component <b>Phase # - Description</b>	
Keyplan	
North Arrow 	Detail Symbol  Symbol not to scale

<b>Consultants</b>	
Civil:	McElhanney Consulting Services Ltd.
Landscape:	NORR Architects Engineers Planners
Architectural:	NORR Architects Engineers Planners
Structural:	NORR Architects Engineers Planners
Mechanical:	NORR Architects Engineers Planners
Electrical:	NORR Architects Engineers Planners

Seal(s)

The seal is circular with the text "PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ALBERTA" at the bottom. In the center is a shield with a stylized oil pump and the word "ALBERTA" below it. The number "11944" is printed below the shield. A handwritten signature "Chris P. Eng" is written across the seal. Below the seal, the date "May 15, 2017" is handwritten in blue ink.

PP-11944  
May 15, 2017

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# NORR

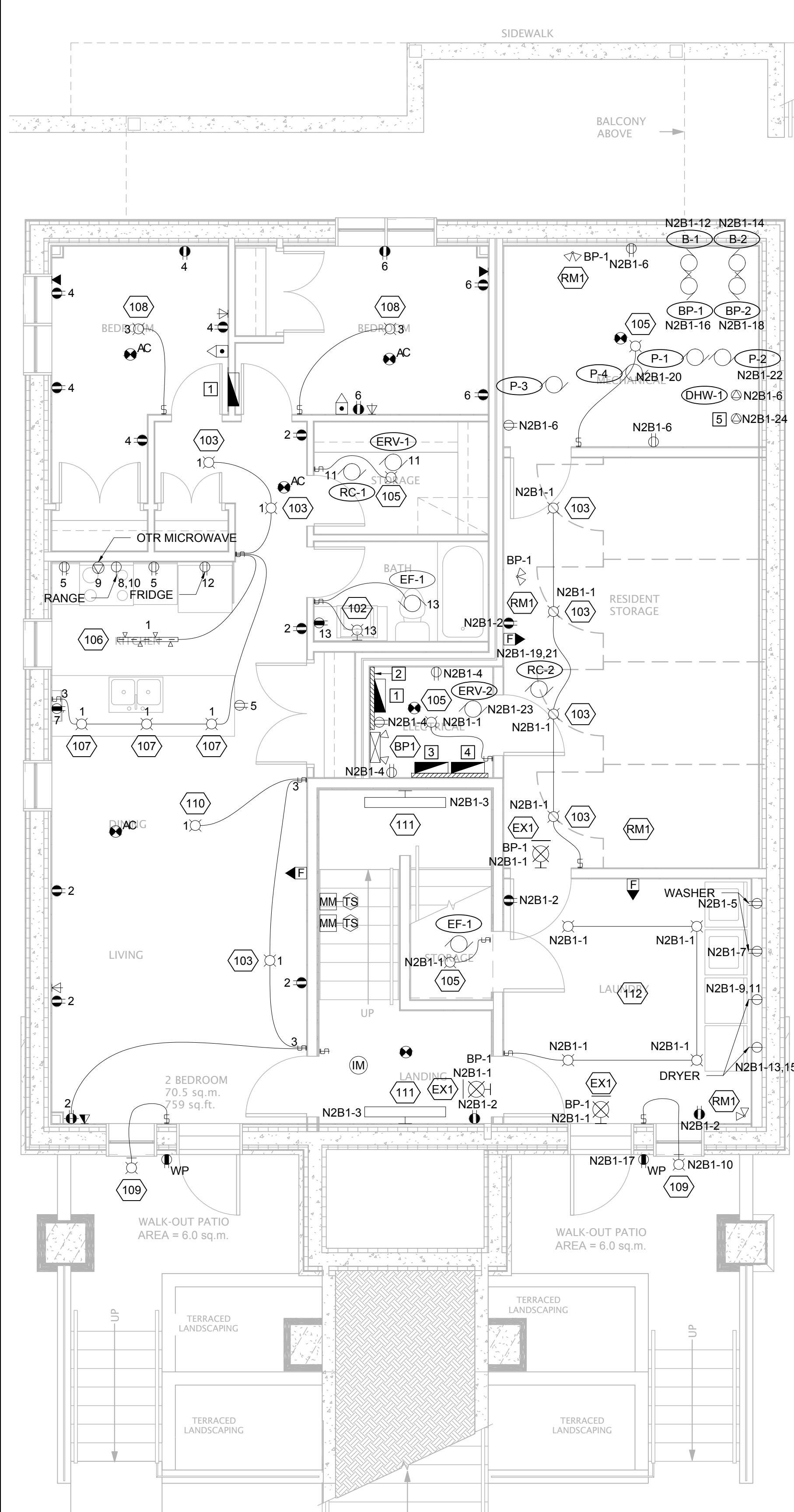
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Avalon Architects, Inc. A.A. Arch. Assoc.  
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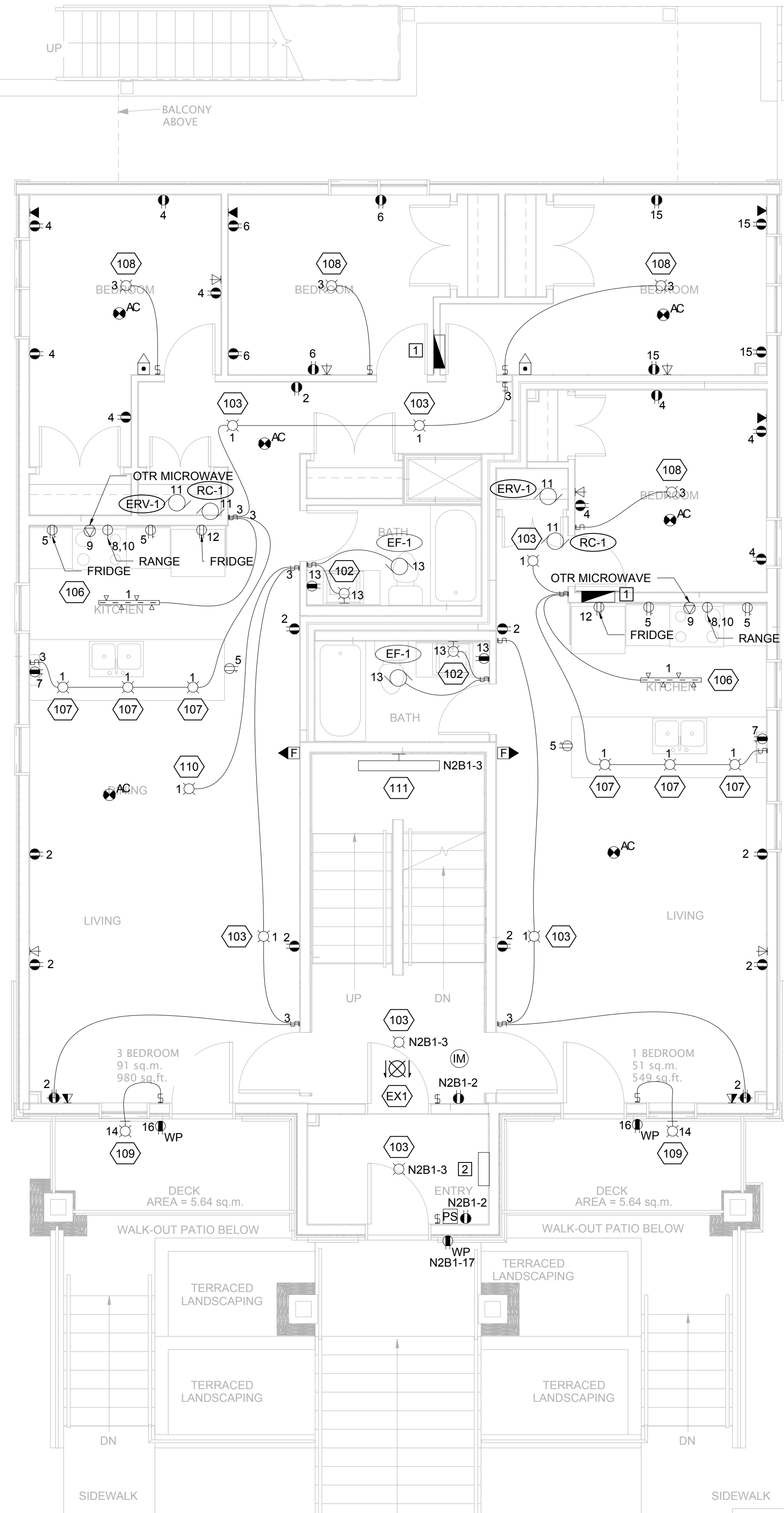
Project Manager C. ODINGA	Drawn F. HAK
Project Leader T. BERTSCH	Checked D. HIDER
Client <b>PARKS CANADA AGENCY</b> Jasper National Park, Jasper, AB	
Project <b>JASPER PARK STAFF HOUSING</b> JASPER, AB	
Drawing Title <b>ELECTRICAL SITE PLAN</b>	
Check Scale (may be photo reduced) 0 1inch 0 10mm	
Project No. NCEM-17-0002	
Drawing No. E01-00-01	



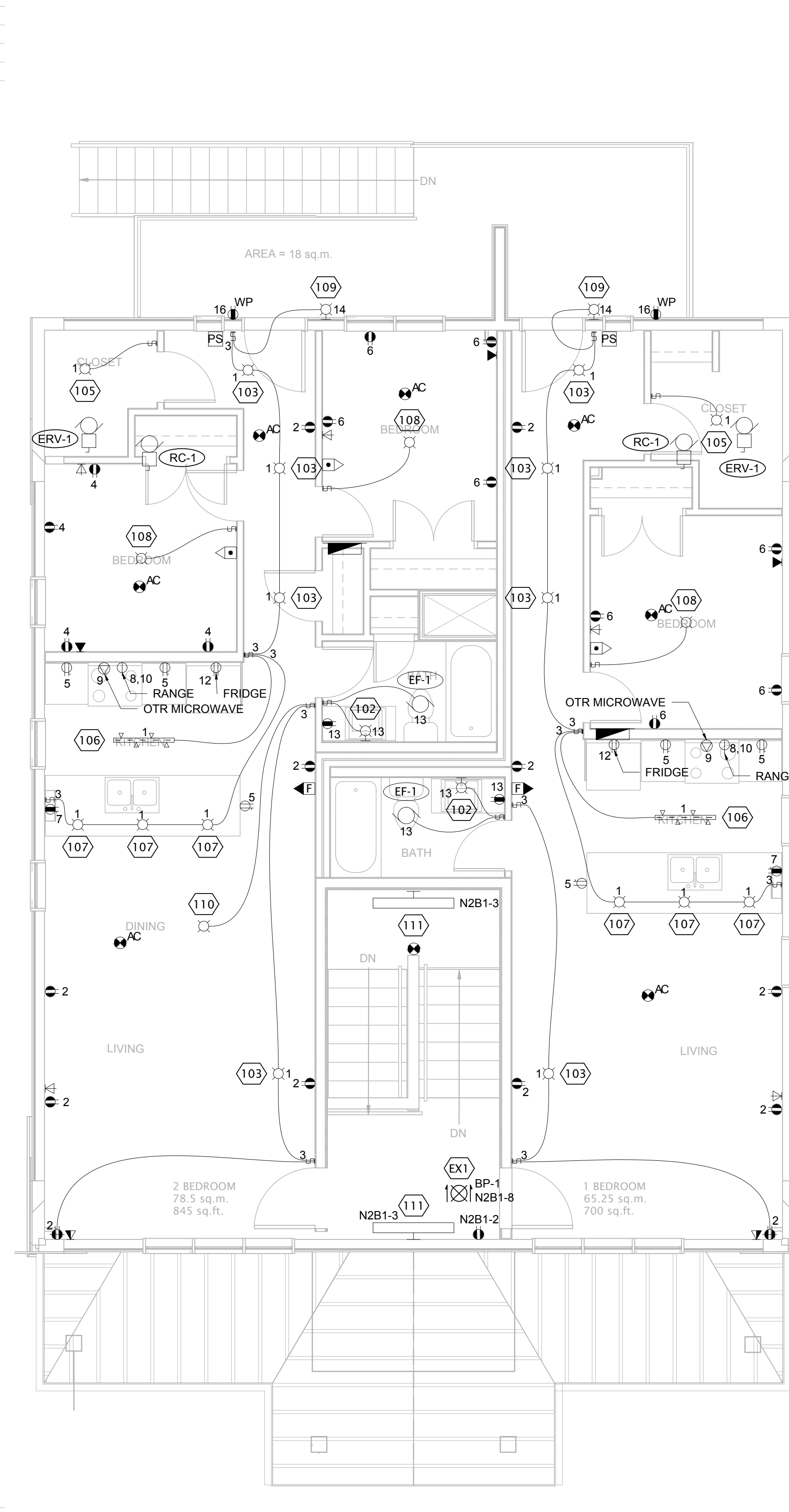
PLOT DATE: August 15, 2017 TIME: 4:16 PM FULL PATH AND FILENAME: \\EDMAPPS01P\_DRIVE\NCEM17-0002 - JASPER NATIONAL PARK STAFF HOUSING\500-DELVE\CSHETS\10-00-01 DWG\_PLOTS\STYLE TABLE - Ingersium.cdb



1 POWER & LIGHTING LAYOUT - BASEMENT  
E10-00-01 1:50



2 POWER & LIGHTING LAYOUT - MAIN FLOOR  
E10-00-01 1:50



3 POWER & LIGHTING LAYOUT - SECOND FLOOR  
E10-00-01 1:50

- GENERAL NOTES:
- REFER TO DRAWING E60-00-01 FOR PANEL SCHEDULES.
  - REFER TO DRAWING E60-00-01 FOR LUMINAIRE SCHEDULES.
  - REFER TO MECHANICAL DRAWINGS FOR MECHANICAL EQUIPMENT SCHEDULE.
  - ALL ELECTRICAL RISER CONDUIT, AND OPENINGS TO BE COORDINATED THE ARCHITECTURAL AND STRUCTURAL PRIOR TO ROUGH IN.
  - ELECTRICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING THE LAYOUT AND SIZING OF ALL INTENDED PENETRATIONS THROUGH STRUCTURAL ELEMENTS, INCLUDING EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.
  - MECHANICAL / ELECTRICAL SYSTEMS, THERE SUPPORTS AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON STRUCTURAL DRAWINGS.
  - DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL / ELECTRICAL SYSTEMS SHOWN ON THE CONTACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER, LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY CONSULTANTS.
  - ELECTRICAL EQUIPMENT SHOWN REPRESENTS GENERAL EQUIPMENT CONFIGURATION AND SIZING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT FINAL EQUIPMENT SELECTED WILL FIT IN LOCATIONS INDICATED.
  - PROVIDE FIRE STOPPING ON ALL CABLE PENETRATIONS THROUGH RATED WALL AND FLOOR ASSEMBLIES.
  - ALL RECEPTACLES TO BE CONNECTED TO ARC FAULT BREAKERS AS PER CEC 2015.
  - ALL RECEPTACLES NOT INSTALLED BEHIND KITCHEN EQUIPMENT SHALL BE TAMPER RESISTANT AS PER CEC 2015.
  - KITCHEN COUNTER RECEPTACLES SHALL BE 20A T-SLOT AS PER CEC 2015.
  - COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES, INCLUDING MICROWAVE, WITH ARCHITECTURAL.
  - DO NOT INSTALL OUTLET BOXES BACK TO BACK IN WALLS. OFFSET OUTLETS HORIZONTALLY A MINIMUM OF 406mm AS PER CODE. OUTLET BOXES TO BE SEALED.
  - INSTALL EXTERIOR RECEPTACLES HORIZONTALLY COMPLETE WITH WEATHER PROOF COVERS AS PER CEC 2015.
  - ALL GFCI AND AFCI BREAKERS TO MATCH THE RECEPTACLES.
  - SUPPLY AND INSTALL GFCI BREAKERS AND RECEPTACLES TO MEET REQUIREMENTS OF CEC 2015.
  - COORDINATE LOCATIONS AND HEIGHT OF LUMINAIRES WITH ALL MECHANICAL DUCTWORK, PIPING AND STRUCTURAL MEMBERS.
  - IN SUITE CIRCUITING REPRESENTS GENERAL COORDINATION AND GROUPING OF CIRCUITS. REFER TO PANEL SCHEDULE THAT CORRESPONDS SPECIFIC TO SUITE TYPE.

- REFERRAL NOTES:
- APPROXIMATE LOCATION OF POWER AND TELECOM PANEL BOARDS. REFER TO DETAIL 8 ON E40-00-01 FOR ADDITIONAL INFORMATION.
  - FIRE ALARM CONTROL PANEL

DATE	ISSUED FOR	REV
17-07-06	60% REVIEW	A
17-08-15	TENDER	0

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Project Component	
Phase # - Description	
Keyplan	
North Arrow	Detail Symbol

Consultants	
Civil:	McElhanney Consulting Services Ltd.
Landscape:	NORR Architects Engineers Planners
Architectural:	NORR Architects Engineers Planners
Structural:	NORR Architects Engineers Planners
Mechanical:	NORR Architects Engineers Planners
Electrical:	NORR Architects Engineers Planners

Seal(s)

PROFESSIONAL ENGINEER ALBERTA  
Aug. 15, 2017  
PP-11944

**NORR**

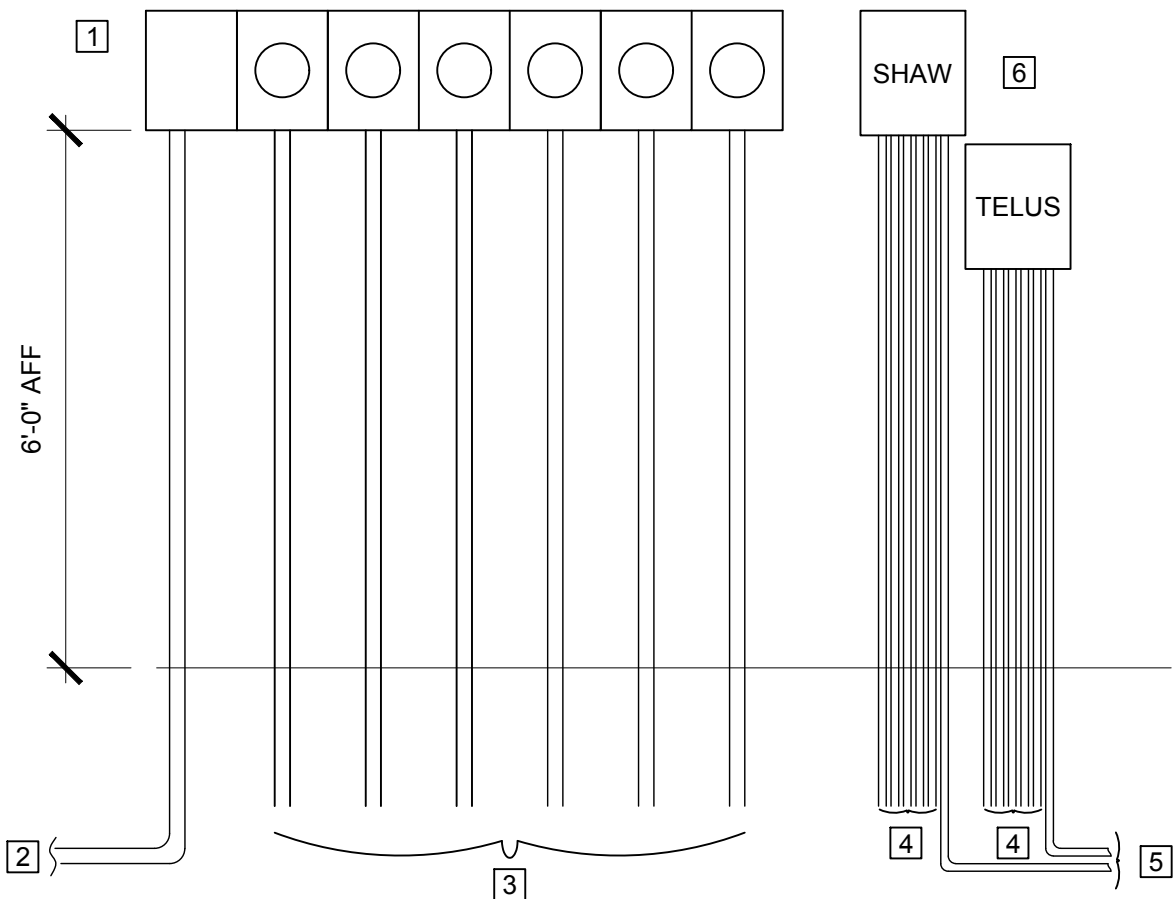
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Ronald M. Poon, Architect, AIA, B.Arch, M.Arch.  
Boris C. Makris, Architect, AIA, B.Arch, M.Arch.  
Ariana Todor, P.Eng., APEGA  
Chris P. P.Eng., APEGA

Project Manager C.ODINGA	Drawn F.HAK
Project Leader T.BERTSCH	Checked D.Hider
Client PARKS CANADA AGENCY Jasper National Park, Jasper, AB	
Project JASPER PARK STAFF HOUSING JASPER, AB	
Drawing Title ELECTRICAL POWER & LIGHTING PLAN	
Check Scale (may be photo reduced) 0 1 inch 0 10mm	
Project No. NCEM-17-0002	
Drawing No. E10-00-01	



PLOT DATE: August 15, 2017 TIME: 4:16 PM FULL PATH AND FILENAME: \\EDMAPS01P\_DRIVE\NCEM17-0002\_JASPER NATIONAL PARK STAFF HOUSING\500-DEL\VELECS\SHEETSE40-00-01.DWG PLOT STYLE TABLE: lgeplnum.ctb



REFERRAL NOTES:

- 1 METER BASE NUMBER PER SINGLE LINE
- 2 CONDUIT AND CABLING BACK TO UTILITY TRANSFORMER SIZED PER SINGLE LINE DIAGRAM
- 3 SUITE FEEDER CONDUCTORS SIZED PER SINGLE LINE DIAGRAM.
- 4 SUITE TELECOM CONDUITS. 1-27mm C/W CATV CABLE FOR SHAW AND 1-27mm C/W CATSE CABLE FOR TELUS TO EACH SUITE. STUB CONDUITS INTO SUITE TELECOM PANELS, REFER TO PLAN DRAWINGS FOR LOCATIONS.
- 5 SHAW AND TELUS SERVICE CONDUITS. PROVIDE 1-53mm CONDUIT FOR SHAW AND 1-53mm CONDUIT FOR TELUS BACK TO TELECOM UTILITY PEDESTAL. REFER TO SITE PLAN DRAWINGS FOR PEDESTAL LOCATIONS.
- 6 SHAW AND TELUS UTILITY SERVICE BOXES. COORDINATE SPECIFIC INFORMATION WITH RESPECTIVE UTILITY REQUIREMENTS.

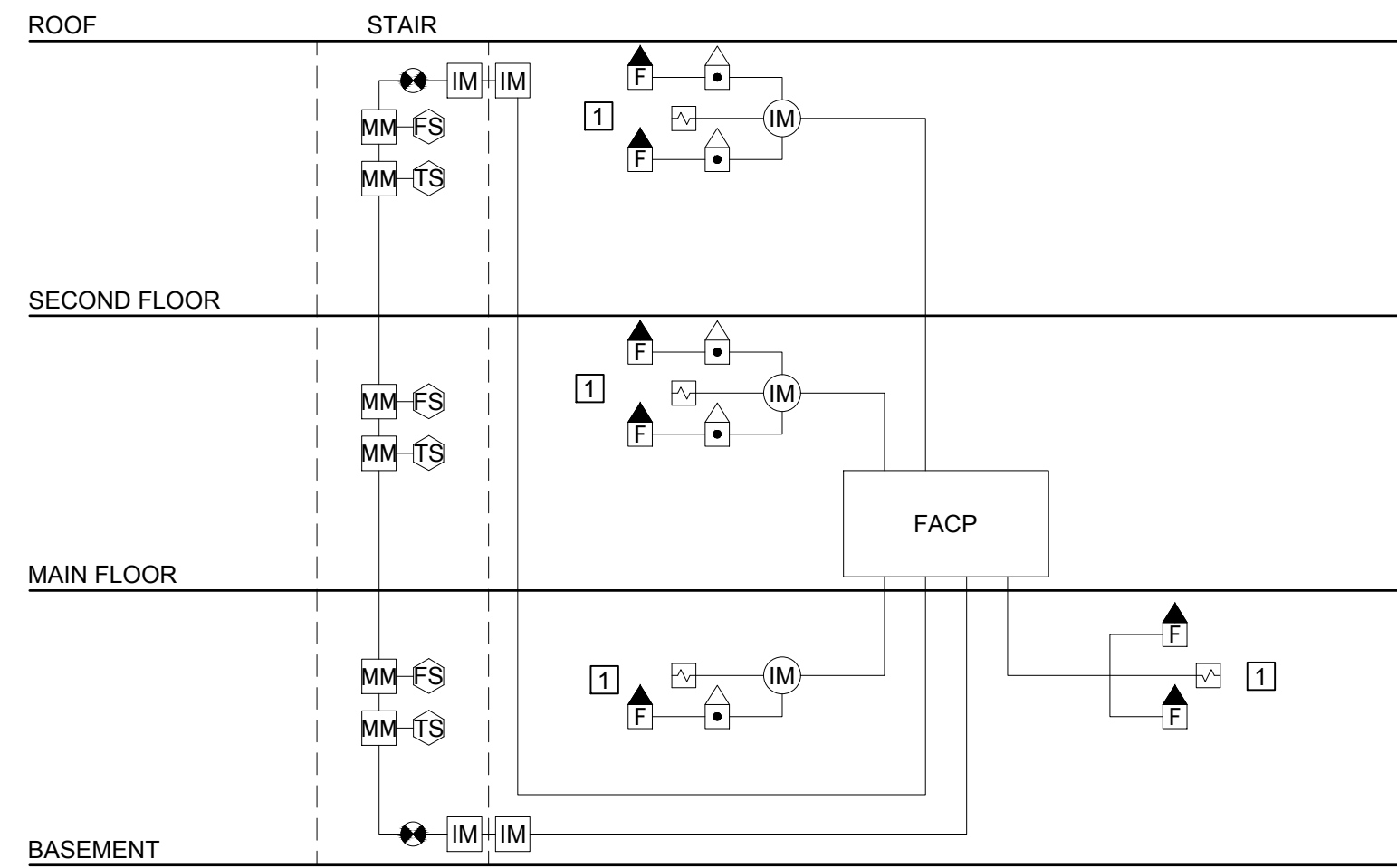
1 METER STACK DETAIL  
E40-00-01 N.T.S.

GENERAL NOTES:

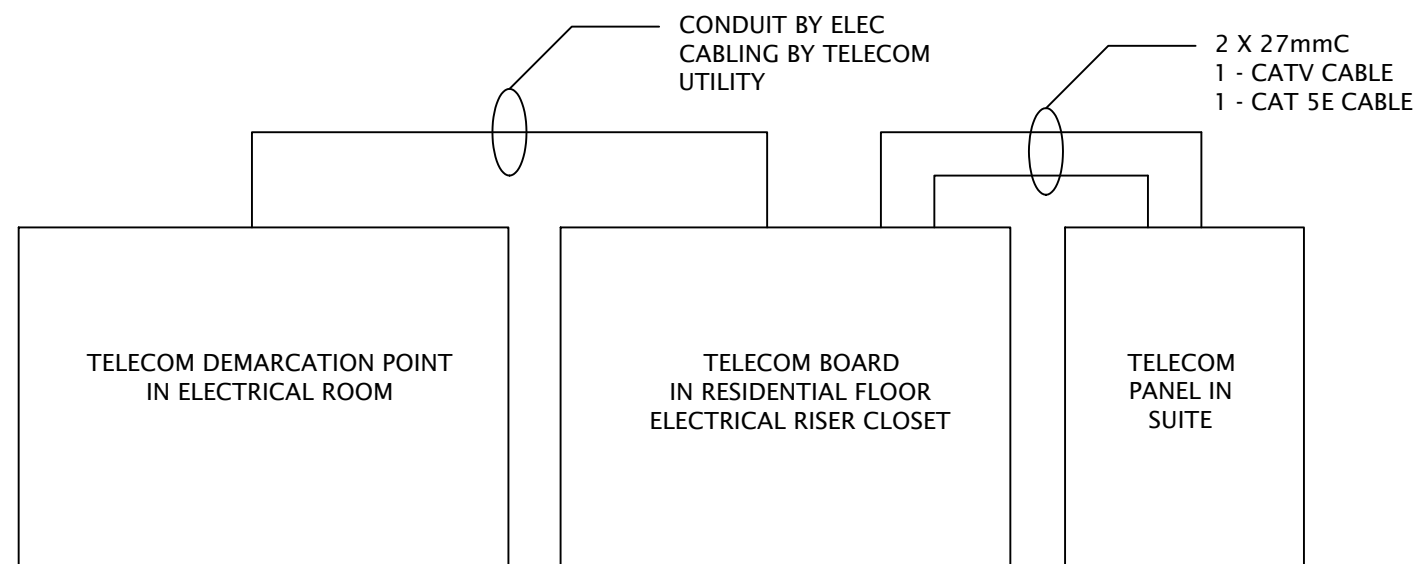
- A. REFER TO DRAWINGS FOR FIRE ALARM DEVICE LOCATIONS.
- B. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF ALL SPRINKLER FLOW AND TAMPER SWITCHES.
- C. COORDINATE DUCT SMOKE DETECTOR LOCATIONS WITH MECHANICAL DRAWINGS.
- D. THE FIRE ALARM SYSTEM SHALL COMPLY WITH ALL ULC 5524 AND ABC 2014 CODE REQUIREMENTS.
- E. THE FIRE ALARM SYSTEMS IS SINGLE STAGE.
- F. THE INTENT OF THIS DIAGRAM IS TO SHOW GENERAL CONFIGURATION OF THE FIRE ALARM SYSTEM. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL COMPONENTS TO FURNISH A COMPLETE AND FUNCTION SYSTEM.
- G. THIS DIAGRAM INDICATES ONE POSSIBLE WIRING CONFIGURATION OF THE FIRE ALARM SYSTEM. ALTERNATE CONFIGURATIONS ARE ACCEPTABLE PROVIDED THEY:
- MEET ALL APPLICABLE CODES AND
  - AN UPDATED RISER IS PROVIDED IN SHOP DRAWING REVIEW PACKAGE.

REFERRAL NOTES:

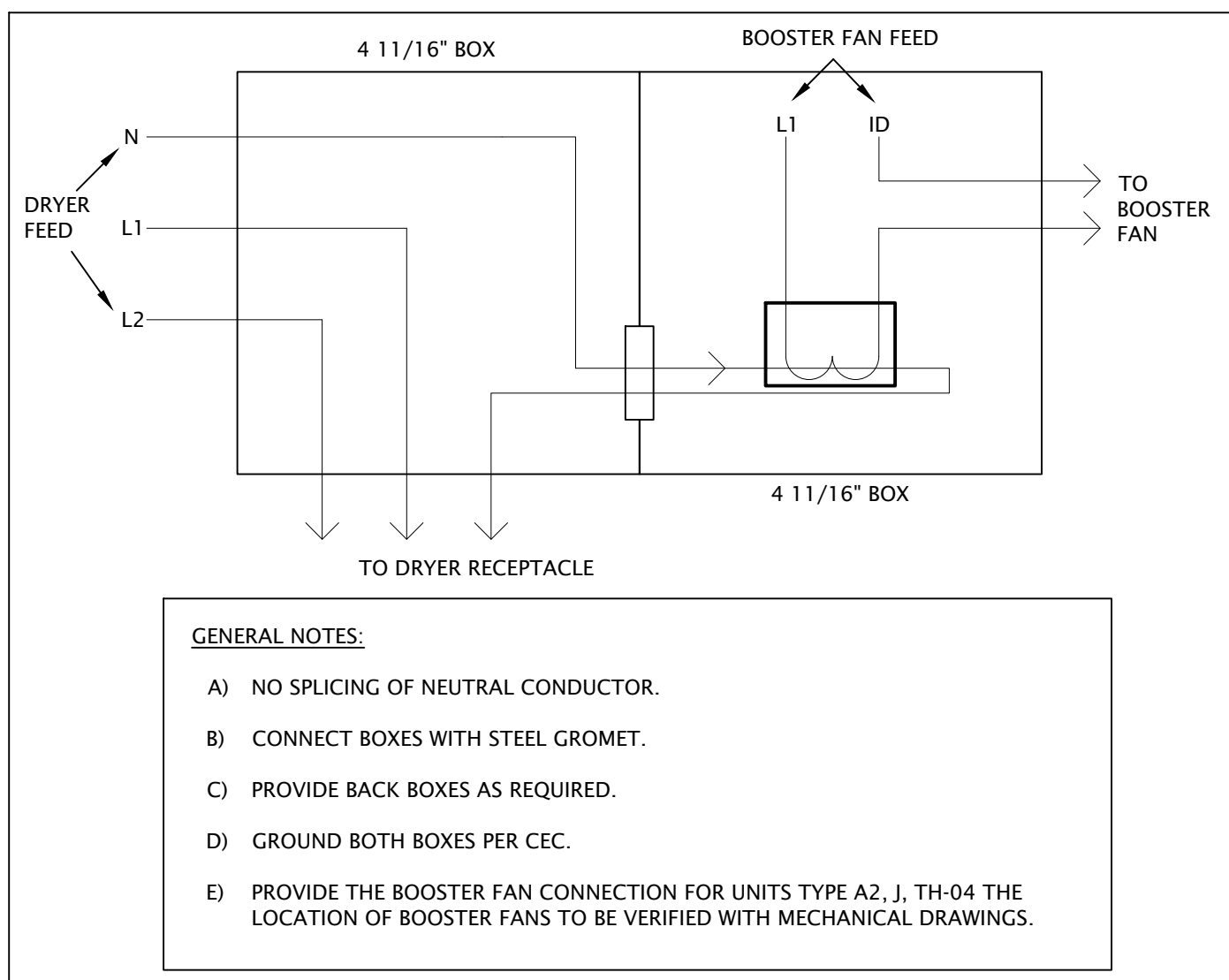
- 1 REFER TO E10-00-01 FOR QUANTITIES.



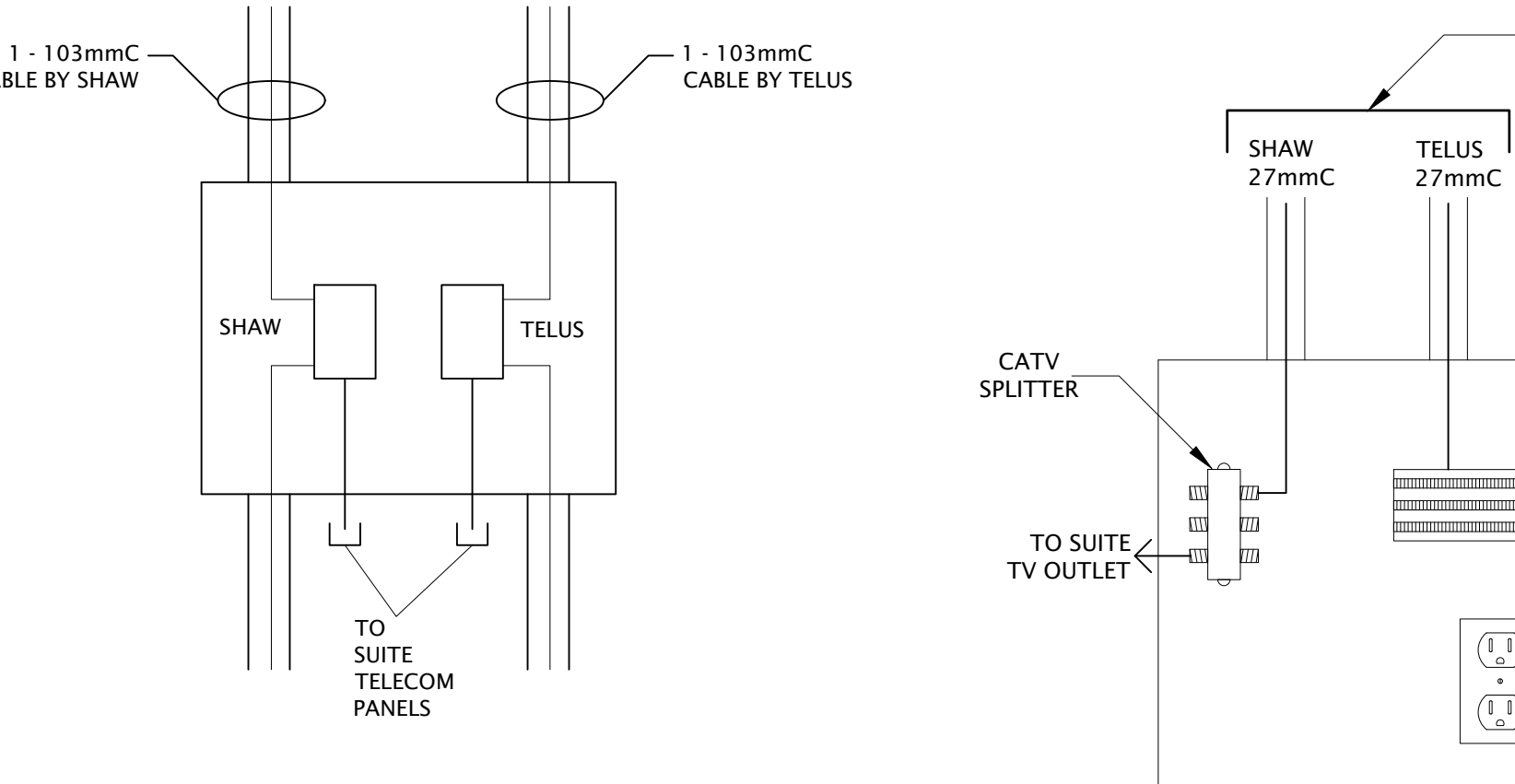
2 FIRE ALARM RISER  
E40-00-01 N.T.S.



3 TELECOM DEMARCATION TO SUITE FROM RISER CLOSET  
E40-00-01 N.T.S.



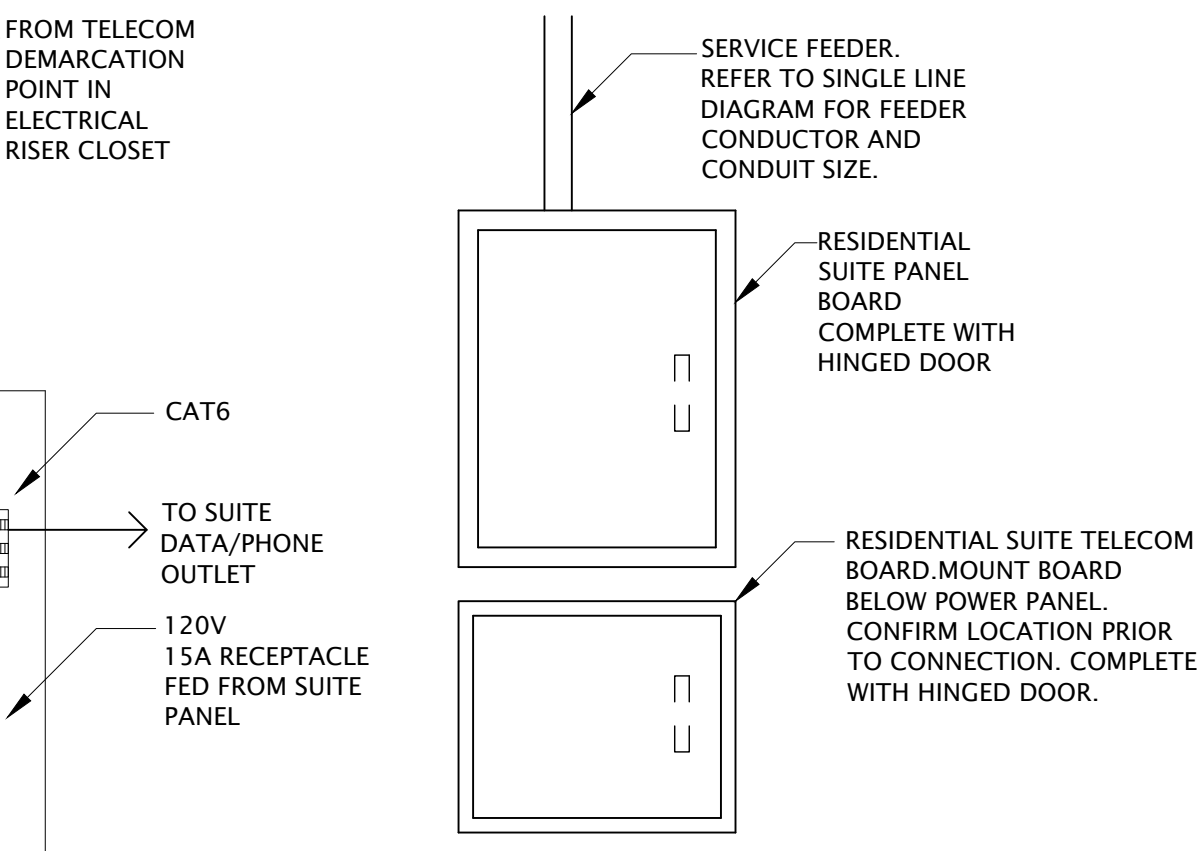
5 BOOSTER FAN TYPICAL CONNECTION  
E40-00-01 N.T.S.



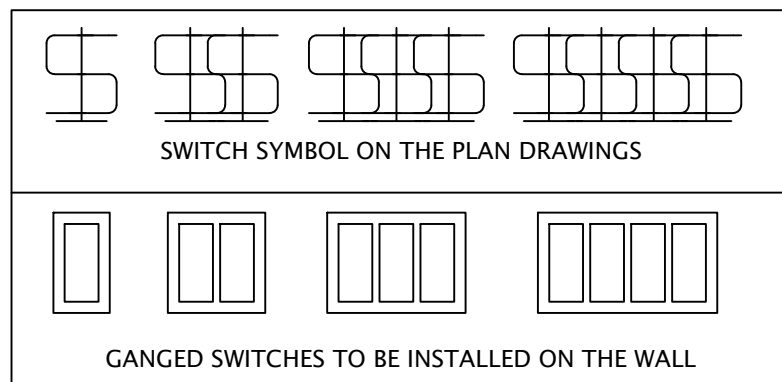
REFERRAL NOTES:

- 1 GROUNDING PLATE TO BE BURIED AT DEPTH REQUIRED BY CEC.

6 BUILDING TOWNHOME GROUNDING (TYPICAL)  
E40-00-01 N.T.S.



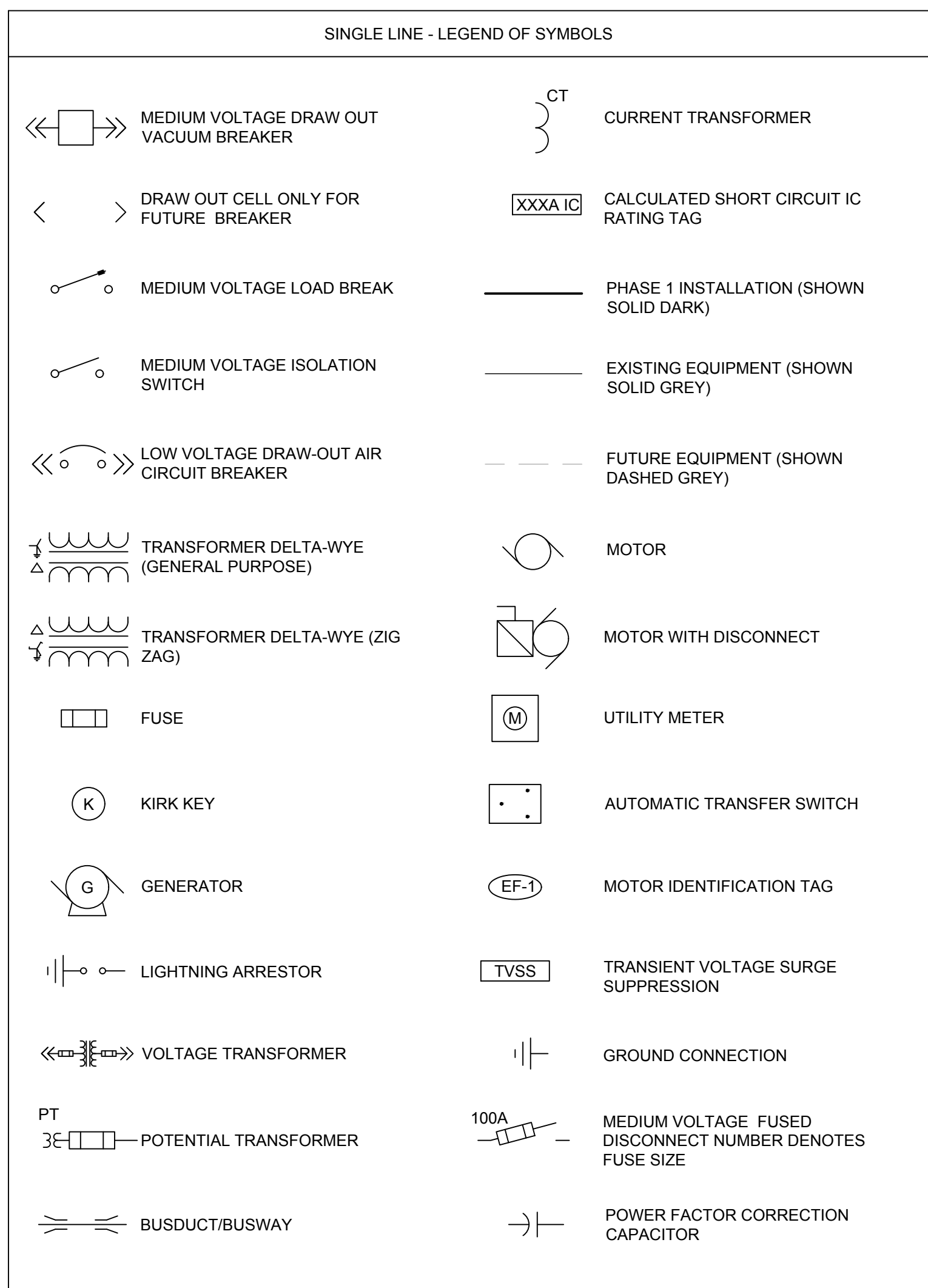
4 TYPICAL SUITE PANEL ELEVATION  
E40-00-01 N.T.S.



GENERAL NOTES:

- A. GROUPED OR GANGED SWITCHES TO BE INSTALLED IN ONE FRAME. REFER TO ABOVE SAMPLE DRAWING. INDIVIDUAL SWITCH INSTALLATION IS NOT ALLOWED IN CASE OF TWO OR MORE SWITCHES ARE CLOSE TOGETHER.

7 GANGED SWITCHES DETAIL  
E40-00-01 N.T.S.



8 SINGLE LINE DIAGRAM  
E40-00-01 N.T.S.

Feeder Schedule

TAG	CABLE DESIGNATION	CONDUIT
30A	3#8AWG RW75XLPE AL + 1#8AWG RW75XLPE AL GND	21MM
30B	4#8AWG RW75XLPE AL + 1#8AWG RW75XLPE AL GND	27MM
31A	3#6AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	27MM
31B	4#6AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	27MM
32A	3#4AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	27MM
32B	4#4AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	35MM
33A	3#3AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	35MM
33B	4#3AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	35MM
34A	3#2AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	35MM
34B	4#2AWG RW75XLPE AL + 1#6AWG RW75XLPE AL GND	35MM
35A	3#1AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	41MM
35B	4#1AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	41MM
36A	3#1/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	41MM
36B	4#1/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	53MM
37A	3#2/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	53MM
37B	4#2/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	53MM
38A	3#3/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	53MM
38B	4#3/0AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	53MM
39A	3#4/0AWG RW75XLPE AL + 1#2AWG RW75XLPE AL GND	53MM
39B	4#4/0AWG RW75XLPE AL + 1#2AWG RW75XLPE AL GND	63MM
40A	3#250kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	63MM
40B	4#250kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	78MM
40C	2 RUNS OF 3#250kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	2X78MM
41A	3#300kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	78MM
41B	4#300kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	78MM
42A	3#350kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	78MM
42B	4#350kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	78MM
43A	3#400kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	78MM
43B	4#400kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	78MM
44A	3#500kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	103MM
44B	4#500kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	103MM
45A	3#600kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	103MM
45B	4#600kcmil RW75XLPE AL + 1#1AWG RW75XLPE AL GND	103MM
46A	3#700kcmil RW75XLPE AL + 1#1/0AWG RW75XLPE AL GND	103MM
46B	4#700kcmil RW75XLPE AL + 1#1/0AWG RW75XLPE AL GND	103MM
47A	3#750kcmil RW75XLPE AL + 1#1/0AWG RW75XLPE AL GND	103MM
47B	4#750kcmil RW75XLPE AL + 1#1/0AWG RW75XLPE AL GND	103MM

UNDERGROUND INSTALLATION NOTES:

- uA. ALL CABLING INSTALLED UNDERGROUND WILL FOLLOW THE RULES AND BE SUBJECT THE DE-RATING AS DESCRIBED IN CEC 2015.
- uB. FOR THIS INSTALLATION THE UNDERGROUND CABLE BETWEEN THE UTILITY CONNECTION AND THE SERVICE ENTRANCE METER STACK (MS-01) SHALL BE INSTALLED IN ACCORDANCE WITH DIAGRAM D11 OF CEC 2015.
- uC. THE SERVICE ENTRANCE CABLE WHEN INSTALLED TO THE CONFIGURATION DIAGRAM D11 OF CEC 2015 MEETS REQUIREMENTS OF THE CODE OUTLINED IN TABLE D11B. AS SUCH NO IEEE 835 CALCULATION IS REQUIRED.
- uD. IF THE ELECTRICAL CONTRACTOR WISHES TO RECONFIGURE THE INSTALLATION OF THE SERVICE ENTRANCE CABLE OR CHANGE CABLE TYPE OR SIZE THEN THE CONTRACTOR MUST OBTAIN AN IEEE 835 CALCULATION AND SUBMIT IT FOR REVIEW PRIOR TO INSTALLING CABLE.

GENERAL NOTES:

- A) 'X-KAIC SYM.' DENOTES CALCULATED SHORT CIRCUIT CURRENT AVAILABILITY.
- B) SHORT CIRCUIT LEVELS BELOW 10KAIC SYM. ARE NOT SHOWN.
- C) IC LEVELS SHOWN REPRESENT MINIMUM REQUIRED INTERRUPTING CAPACITY. EQUIPMENT CAN HAVE IC RATINGS HIGHER THAN LEVELS INDICATED.
- D) ALL CONNECTIONS TO ROTATING MECHANICAL EQUIPMENT SHALL BE COPPER CONDUCTORS.
- E) SERIES RATING OF EQUIPMENT SHALL ONLY BE PERMITTED WHERE CALCULATED FAULT CURRENT EXCEEDS 22kA.
- F) METER STACKS FEEDING RESIDENTIAL SUITES DO NOT SHOW ALL PANELS CONNECTED TO THEM. REFER TO SUITE PANEL FEEDER SCHEDULES BELOW FOR CABLE, BREAKER SIZE AND PANELS FED FROM EACH METER STACK.
- G) IN SUITE PANELS SHALL BE AS FOLLOWS:  
60A FEEDER BREAKER - 60A PANEL  
90A FEEDER BREAKER - 100A PANEL  
100A FEEDER BREAKER - 100A PANEL.

DATE	ISSUED FOR	REV
17-07-06	60% REVIEW	A
17-08-15	TENDER	0

This drawing has been prepared solely for the use of the CLIENT and there are no representations of any kind made by NORR Architects Engineers Planners to any party with whom NORR Architects Engineers Planners has not entered into a contract.

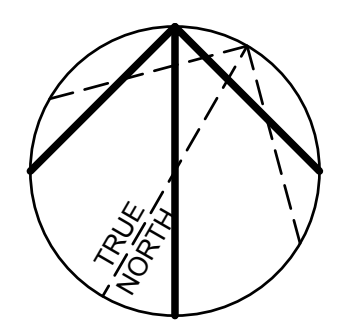
This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Project Component

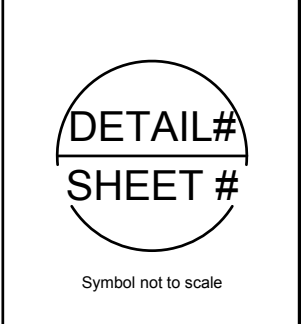
Phase # - Description

Keyplan

North Arrow



Detail Symbol



Consultants

Civil: McElhanney Consulting Services Ltd.  
Landscape: NORR Architects Engineers Planners  
Architectural: NORR Architects Engineers Planners  
Structural: NORR Architects Engineers Planners  
Mechanical: NORR Architects Engineers Planners  
Electrical: NORR Architects Engineers Planners

Seal(s)



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Project Leader T.BERTSCH	Checked D.Hider

Client

**PARKS CANADA AGENCY**  
Jasper National Park, Jasper, AB

Project

**JASPER PARK STAFF  
HOUSING**  
JASPER, AB

Drawing Title

**ELECTRICAL  
DETAILS & RISER  
DIAGRAMS**

Check Scale (may be photo reduced)  
0 1inch 0 10mm

Project No. NCEM-17-0-0002

Drawing No.

E40-00-01



PLOT DATE: August 15, 2017 TIME: 4:16 PM FULL PATH AND FILENAME: \\EDMAPPS01P\_DRIVE\NCEM17-0002\_JASPER NATIONAL PARK STAFF HOUSING\500-DEL\VELECS\SHEETS\E60-00-01.DWG PLOT STYLE TABLE: lgeplan.ctb

LUMINAIRE SCHEDULE								
LAMPS								
TYPE	DESCRIPTION	TYPE	WATTS	NO.	VOLTS	MANUFACTURER	MOUNTING	REMARKS
102	SUITES - BATHROOM VANITY LIGHT	LED		2	120	LITHONIA LIGHTING CAT# 11934-RE-WH OR APPROVED EQUIVALENT	WALL	
103	SUITES - GENERAL LIGHT	LED		3	120	RUSSELL LIGHTING CAT# 341-616 OR APPROVED EQUIVALENT	CEILING SURFACE	
105	SUITES - CLOSET LIGHT	LED		2	120	RUSSELL LIGHTING CAT# 331-612 OR APPROVED EQUIVALENT	CEILING SURFACE	
106	SUITES - KITCHEN TRACK LIGHT	LED			120	WHITE FIELD LIGHTING CAT# ESTP35-48PT OR APPROVED EQUIVALENT	CEILING SURFACE	
107	SUITES - ISLAND PENDANT LIGHT	LED		1	120	KENDALL LIGHTING CAT# PF57-1LGUCH OR APPROVED EQUIVALENT	PENDANT	
108	SUITES - BEDROOM LIGHT	LED		3	120	BROWNLEE LIGHTING CAT# 2045-14-WH-213 OR APPROVED EQUIVALENT	CEILING SURFACE	
109	SUITES - EXTERIOR LIGHT	LED		1	120	RUSSELL LIGHTING CAT# 799-601/BLK OR APPROVED EQUIVALENT	WALL	DARK SKY COMPLIANT
110	SUITES - DINNING ROOM LIGHT	LED		3	120	LEVICO LIGHTING CAT# LV-12185P OR APPROVED EQUIVALENT	CEILING SURFACE	
111	STAIRWELL LIGHTING	LED		1	120	LITHONIA LIGHTING CAT# WL4-30L-LP835 OR APPROVED EQUIVALENT	WALL	
RM1	EMERGENCY LIGHTING REMOTE MOUNTED HEAD	LED	14	-	120	BEGHELLI MODEL# BTMR2-LED-MR16-12V/7W-WH OR APPROVED EQUIVALENT	AS NOTED ON PLANS	
BP1	EMERGENCY LIGHTING BATTERY PACK	LED	14	-	120	BEGHELLI MODEL# NV-12-120-BTMR2-12V/7W-AT OR APPROVED EQUIVILANT	SURFACE / WALL	
EX1	EXIT LIGHTING	LED	2.5	-	120	BEGHELLI MODEL# FORMA RM AND GUIDA RM (GREEN) SERIES OR APPROVED EQUIVALENT	AS NOTED ON PLANS	
NOTES:								

CCT NO	*	LOAD DESCRIPTION	VOLT-AMPERES		BREAKER		WIRE SIZE	BREAKER		VOLT-AMPERES		LOAD DESCRIPTION	*	CCT NO
			A	B	POLE	A		A	POLE	A	B			
1		GENERAL LIGHTING	700		1	15		15	1	700		GENERAL RECEPTACLES		2
3		BEDROOM LIGHTING		200	1	15		15	1		600	BEDROOM RECEPTACLES		4
5		KITCHEN RECEPTACLES	300		1	20		15	1	500		BEDROOM RECEPTACLES		6
7		KITCHEN GFCI RECEPTACLES		100	1	20		20	2		3000			
9		OVER THE RANGE MICROWAVE	800		1	15				3000		RANGE		10
11		ERV-1, RC-1		2000	1	30		1	15		1000	FRIDGE		12
13		BATHROOM	700		1	15		1	15	100		EXTERIOR LIGHTING		14
15		BEDROOM RECEPTACLES			1	15		1	15			EXTERIOR RECEPTACLES		16
17		SPARE			1	15		1	15			SPARE		18
19		SPARE			1	15								20
21														22
23														24
25														26
27														28
29														30
ODD CIRCUIT NUMBER SUBTOTALS			2500	2300						4300	4600	EVEN CIRCUIT NUMBER SUBTOTALS		
BUS AND LUGS RATING (A)			SLD	TOTAL PHASE A LOAD:		6.80 KVA	FEATURES:	REMARKS:						
MAIN CIRCUIT BREAKER RATING (A):			SLD	TOTAL PHASE B LOAD:		6.90 KVA								
CIRCUIT BREAKER IC RATING (KA)			SLD											
PHASE			1	TOTAL CONNECTED LOAD:		13.70 KVA	FEATURES:	REMARKS:						
WIRES:			3	DEMAND FACTOR:		100 %								
LINE TO LINE VOLTAGE (V):			240	DEMAND LOAD:		13.70 KVA								
LINE TO NEUTRAL VOLTAGE (V):			120	FUTURE LOAD:		0 KVA	FEATURES:	REMARKS:						
NUMBER OF POLES:			40	TOTAL DEMAND LOAD:		13.70 KVA								
MOUNTING:				TOTAL DEMAND CURRENT:		32.96 A								