GENERAL NOTES

1. PART 1 - GENERAL

1.01 RELATED DOCUMENTS:
The General Documents apply to work specified in this Section; consult them in detail for applicable instructions.

1.02 WORK INCLUDED:
Provide all labor, materials and equipment necessary to complete all work of this Section. Without restricting the generality of the foregoing, the following items of work are included:

a. PERMITS AND FEES
b. TEMPORARY POWER AND LIGHT
c. SERVICE PROVISIONS AND METERBANKS
d. PANELBOARDS
e. TELEPHONE PROVISIONS
f. RACEWAYS
g. BOXES
h. WIRING
i. GROUNDING
j. FIRE ALARM
k. LIGHTING FIXTURES AND LAMPS
L. WIRING DEVICES AND PLATES
m. CONNECTIONS TO EQUIPMENT
n. DIRECTORIES AND NAMEPLATES
o. TESTING
p. CLEANING AND REMOVAL OF RUBBISH
q. SUBMITTALS

1.03 RELATED WORK OF OTHER SECTIONS:
a. CONCRETE AND MASONARY
b. PAINTING

1.04 QUALITY ASSURANCE:
a. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

b. All work shall be of the highest quality in conformance with the best practices of the trade and in compliance with all governing codes.

1.05 CODES, PERMITS, FEES AND REGULATIONS:
a. All work shall be carried out in conformity with the rules and regulations of the NATIONAL ELECTRIC CODE, latest edition, and of the various local agencies having jurisdiction.

b. The Contractor shall give all necessary notices, obtain all permits and pay all governmental taxes, fees, deposits and other costs in connection with his work; file all necessary plans, prepare all documents and obtain necessary approvals of all agencies having jurisdiction; obtain all required Certificates of Inspection and approvals for his work and deliver same to the Architect before request for acceptance and final payment for the work.

1.06 STORAGE OF MATERIALS:
a. Store materials and equipment on the premises where directed by the Owner.

1.07 OTHER TRADES:
a. Bidders shall examine the site and the complete set of Plans and Specifications covering the entire project. They shall become fully conversant with the type of general construction as well as all pertinent facts affecting the cost of carrying out the work they will contract to perform.

b. This Contractor shall cooperate to the fullest with all other trades. He shall plan his work in such a way, and furnish all necessary equipment and information to the other trades so as not to delay any other trade or hinder the progress of the work.

1.08 SUBMITTALS:
a. Submit manufacturers technical product data literature for all materials specified herein. Indicate and high light on the submittals details of all items to indicate correct interpretation of the Contract Documents. Include submittals for the following:

1. FIRE PROTECTION SYSTEM
2. LIGHTING FIXTURES
3. WIRING DEVICES
4. PANELBOARDS
5. CONTACTORS/TIME CLOCKS

1.09 CONFLICTIONS:
a. Any contradictions between the written specifications and drawings shall be considered ambiguous, and will be the responsibility of the Bidder to secure clarification prior to Bidding.

2. PART 2 - PRODUCTS

2.01 GENERAL:
a. All material, equipment, and installations shall conform to the requirements of the following codes:

1. INTERNATIONAL BUILDING CODE (IBC)
2. INTERNATIONAL MECHANICAL CODE (IMC)
3. NATIONAL ELECTRIC CODE (NEC)
4. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
5. ANY LOCAL JURISDICTIONAL CODES

2.02 SERVICE PROVISIONS:
a. REINSTATE EXISTING PRIMARY AND SECONDARY ELECTRIC AND TELEPHONE SERVICES IN MAIN ELECTRICAL ROOM.

2.03 PANELBOARDS:

a. REINSTATE EXISTING PANELBOARDS AS DETAILED ON THE DRAWINGS COMPLETE WITH REQUIRED CIRCUIT BREAKERS.

2.04 LIGHTING FIXTURES AND LAMPS:
a. The Contractor shall provide all lighting fixtures, poles, and luminaires in conformance with the fixture schedule on the drawings.

b. Provide lamps in all lighting fixtures and devices in accordance with the lighting fixture schedule.

c. Lamps shall be as indicated on fixture schedule.

d. Furnish photocell, time clocks, and contactors as required for site lighting control.

2.05 WIRING DEVICES:
a. Furnish and install quality devices bearing UL label for the service and electrical rating where used.

1. Switches shall be 20 ampere, 120/277 volt A.C. rated as scheduled in legend.

2. GFCI devices shall be 20 ampere duplex w/U ground pin.

2.06 RACEWAYS:
a. All branch circuit wiring shall be in EMT conduit within building.

b. Flexible metal conduit with approved type fittings may be used in limited lengths for connections to motors and recessed fixtures where it is necessary to provide flexible connections. It may also be used where the structure precludes the use of EMT.

c. All raceways shall be 3/4" minimum size.

2.07 OUTLET AND JUNCTION BOXES :
a. Outlet boxes for ceiling fixtures shall be 4" octagonal EMT boxes not less than 1/2" deep provided with 3/8" galvanized malleable iron fixture stud.

b. Concealed outlet boxes for wall brackets, switches, and receptacles shall be a 4" square EMTC box with raised cover of sufficient depth to accomodate wall surface material.

c. Exposed outlet boxes in dry locations for switches and receptacles shall be a 4" EMT box with heavy duty cover.

d. Boxes shall be EMT where installed flush. Where boxes are installed exposed they shall be of the EMT type.

2.08 WIRES AND CABLES:
a. Provide and install all wiring and cable as required to connect all electrical equipment and devices indicated on the plans.

b. All wires #10 gauge and smaller shall be solid copper 75 degree C, and 600 volt insulation.

c. All wires #8 gauge and larger shall be stranded copper, 75 degree C, and 600 volt insulation.

d. Fixture wires shall not be less than #14 gauge, and shall be type SFF-2.

e. Unless indicated otherwise all light and power conductors shall be #12 gauge minimum.

3. PART 3 - EXECUTION

3.01 WORKMANSHIP:
a. All work shall be installed in a neat workmanlike manner by competent mechanics thoroughly skilled in their respective trades and in strict accordance with code requirements and the respecive manufacturers instructions.

3.02 TEMPORARY LIGHT AND POWER:
a. Furnish and install temporary Light & Power as may be required by all Trades.

3.03 SUPPORTS:
a. Provide all materials and labor required to adequately support, brace and strengthen equipment and materials furnished as part of this work.

b. All raceways, boxes, etc., shall be supported directly from the structure, independent of duct, piping or other work.

c. All conduits shall be securely and independently supported so that no strain will be transmitted to outlet box and pull box supports, etc.

3.04 BRANCH CIRCUITS:
a. Provide all conduits, outlets, boxes, wires, switches, receptacles, etc., for a complete electrical system as shown on the drawings.

b. Contractor shall carefully check the Mechanical drawings and specifications to establish the extent of power and control wiring to be provided. Control wiring shall be the responsibility of others.

3.05 GROUNDING:
a. The electrical systems shall be completely and effectively grounded as required by the NATIONAL ELECTRIC CODE. All ground systems and connections shall be mechanically secure and electrically continuous.

3.06 LOCATION OF OUTLETS AND ELECTRICAL EQUIPMENT:
a. The plans show conditions as accurately as possible but do not necessarily show all the fittings, etc., necessary to suit building conditions. Locations of outlets, appliances, etc., are approximate and the Contractor shall be responsible for the proper locations in order to make them fit with the architectural details and also instructions from the Architects representative on the job site.

b. Before installation of conduit for switches, receptacles, ceiling lights or motors, the Owner, Architect, reserve the right to move each outlet location to better adapt them for usage, prior to installation, within a distance of three feet as presently indicated, at no additional cost to the Owner.

c. Unless indicated otherwise on the drawings, all devices shall be mounted at the height specified.

d. The Contractor shall carefully check with other Contractors to coordinate the location of electrical equipment with work of other trades.

e. Verify all door swings before roughing in for switches.

f. All electrical installations in area of new construction must be flush mounted. With the exception of surface mounted lighting fixtures, electrical equipment is not to be surface mounted without the approval of the ENGINEERr or ARCHITECT.

3.07 CLEANING AND REMOVAL OF RUBBISH:
a. Contractor shall at all times keep the premises free of all waste, surplus materials, rubbish or debris which is caused by his employees or resulting from his work.

b. After all equipment and devices have been installed, remove all labels, stickers, stains, temporary covers, etc. Identification plates on all equipment

3.08 GUARENTEE:
a. All material, equipment and installation shall be guarenteed for a period of ONE (1) YEAR from the date od acceptance, defects which appear during that period shall be corrected at this contractor's expense.

For the same period, the electrical contractor shall be responsible for any damage to the premises caused by defects in workmanship or in the work or equipment furnished and/or installed by this contractor.

1 / E100 ELECTRICAL NOTES DETAILS N.T.S

ELECTRICAL LEGEND

LIGHTING

- XX LED NARROW STRIP LIGHT
- XX WALL-MOUNTED FIXTURE
- XX LED VAPOUR-PROOF FIXTURE 6" X 4'
- XX LED FIXTURE 1' X 4'
- XX LED FIXTURE 2' X 4'
- XX LED FIXTURE 2' X 2'
- HATCH DENOTES LUMINAIRE ON EMERGENCY CIRCUIT
- HLV HEAT LIGHT VENT
- XX LED DOWNLIGHT RECESSED
- XX LED WALL SCONCE OR RECESSED STEP LIGHT
- XX LED PENDANT
- XX LED WALL WASHER RECESSED
- XX LED WALL WASHER
- XX LED WALL MOUNT
- XX LED POLE-TOP FIXTURE
- XX LED IN-GROUND / SLAB FIXTURE
- EL LED EMERGENCY LIGHT
- EXIT LIGHTED LED EXIT SIGN

RECEPTACLE

- X WALL-MOUNTED DUPLEX
- X WALL-MOUNTED DUPLEX DEDICATED
- WALL-MOUNTED QUAD
- WALL-MOUNTED SPLIT
- WALL-MOUNTED SINGLE
- WALL-MOUNTED DUPLEX, 2 USB CHARGERS
- WALL-MOUNTED GFI
- WALL-MOUNTED SWITCHED
- WALL-MOUNTED ISOLATED GROUND
- WALL-MOUNTED 240V
- CEILING-MOUNTED DUPLEX
- CEILING-MOUNTED SINGLE
- DIRECT CONNECTION OUTLET
- X FLOOR-MOUNTED SINGLE
- X FLOOR-MOUNTED DUPLEX
- X FLOOR-MOUNTED DEDICATED
- FLOOR-MOUNTED QUAD

LIGHTING CONTROL

- LIGHT SWITCH - SINGLE POLE, 120 VOLT
- 3 LIGHT SWITCH - THREE-WAY, 120VOLT
- D DIMMER SWITCH
- M MECHANICAL SWITCH - SINGLE POLE, 120 VOLT
- P LIGHT SWITCH C/W ROCKER PILOT LIGHT
- OCCUPANCY SWITCH
- ECLU EMERGENCY LIGHTING CONTROL UNIT
- OCCUPANCY SENSOR
- DAYLIGHT PHOTOCELL SENSOR
- Z (X) ZONE DIGITAL TIMER

POWER DISTRIBUTION AND CONNECTION

- X SURFACE-MOUNT PANELBOARD
- X RECESSED PANELBOARD
- M UTILITY METER
- DISTRIBUTION TRANFORMER
- J JB JUNCTION BOX (20A,120V UNLESS OTHERWISE NOTED)
- DS DISCONNECT SWITCH
- MS COMBINATION MAGNETIC STARTER
- VFD VARIABLE FREQUENCY DRIVE
- COMBINATION LIGHT & MOTOR CONNECTION
- SINGLE PHASE MOTOR CONNECTION
- THREE PHASE MOTOR CONNECTION

COMMUNICATIONS

- X COMMS PANEL
- VOICE
- SINGLE-GANG AUDIO/VISUAL
- DOUBLE-GANG AUDIO/VISUAL
- X VOICE/DATA
- WAP WIRELESS ACCESS POINT (WAP)
- MS INTERCOM SYSTEM STATION (MASTER/SLAVE)
- DOORBELL
- C COMMUNICATIONS TERMINATIONS ENCLOSURE
- TV TELEVISION
- S MUSIC SPEAKER
- CATV

FIRE ALARM

- X FIRE ALARM CONTROL PANEL
- X ANNUNCIATOR PANEL
- X DGP DATA GATHERING PANEL
- PS FIRE ALARM PULLSTATION
- S ST STROBE
- HS HORN/STROBE COMBINATION
- SD SMOKE DETECTOR
- SD SMOKE DETECTOR, DUCT-MOUNTED
- HD HEAT (THERMAL) DETECTOR
- FE FE FIRE EXTINGUSHIER
- S SP FIRE ALARM SPEAKER/STROBE COMBINATION
- FSDR FIRE ALARM FAN SHUTDOWN RELAY
- EOL END-OF-LINE RESISTOR

SPRINKLER

- FS SPRINKLER - FLOW SWITCH
- PS SPRINKLER - PRESSURE SWITCH
- SV SPRINKLER - SUPERVISED VALVE
- CV SPRINKLER - ALARM CHECK VALVE
- FIREMAN'S HANDSET
- DO DOOR HOLD OPEN DEVICE
- SMOKE DAMPER CONNECTOION

ACCESS CONTROL

- X CAP CARD ACCESS PANEL
- BARRIER-FREE DOOR OPERATOR PB
- KP KEY PAD
- CR CARD READER
- DC DOOR CONTACT
- ML ELECTRO-MAGNETIC DOOR LOCK
- ES ELECTRIC STRIKE
- EL ELECTRIC LOCK
- EL DOOR RELEASE PUSHBUTTON
- S REQUEST TO EXIT MOTION SENSOR

SECURITY

- X SECURITY PANEL
- MOTION DETECTOR
- WINDOW/DOOR CONTACT
- R SECURITY RACK
- W SECURITY WORKSTATION C/W 24" LCD DISPLAY, KEYBOARD, OPT MOUSE
- CCTV VIDEO SURVEILLANCE FIXED IP-BASED DOME CAMERA

ABBREVIATIONS

AC	AIR CONDITIONER
AFF	ABOVE FINISHED FLOOR
C/C	CONDUIT
C/W	COMPLETE WITH
CU	CONDENSING UNIT
DL	DIMMER LIGHT
EC	EMPTY CONDUIT
EF	EXHAUST FAN
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HWH	HOT WATER HEATER
LSIG	ELECTRONIC TRIP UNIT C/W LONG SHORT INSTANTANEOUS GROUND FAULT SETTINGS
E	EXISTING TO REMAIN
R	EXISTING TO BE REMOVED
ER	EXISTING IN RELOCATED POSITION
JB	JUNCTION BOX
TL	TWIST-LOCK
WP	WEATHER-PROOF

2 / E100 ELECTRICAL LEGEND DETAILS N.T.S

REV. #	REV. Date	REV. Notes

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ISSUED FOR PERMIT

GOVERNMENT OF BERMUDA
DPT DOCKYARD BUS DEPOT
DEPARTMENT OF PUBLIC TRANSPORT
PENDER ROAD, SANDY'S

PROJECT NO: 21038
DRAWN BY: IAL
DATE: SEPTEMBER 2021
SCALE: NTS

LEGEND, DRAWING LIST & GENERAL NOTES

E100