

NOT FOR CONSTRUCTION.
REFER TO OFFER TO
CONNECT BY OPUC FOR
ALL DETAILS AND NOTES
ASSOCIATED WITH THIS
INSTALLATION.

NOTE:
CONTRACTOR TO COORDINATE EXACT
LENGTH OF SECONDARY RUNS ON SITE
AND PROVIDE CONDUCTORS TO SUIT.
CONTRACTOR TO PROVIDE CONDUCTOR
SIZES C/W LENGTH OF RUN TO ENGINEER
FOR APPROVAL PRIOR TO INSTALLATION.

NOTE:
COORDINATE ALL INCOMING SERVICES WITH
LIGHTING POLES, CONDUITS, GAS AND SITE
SERVICES AS PER RELATED CIVIL DRAWINGS
TO BE ACQUIRED BY CONTRACTOR.

NOTE:
CONTRACTOR TO COORDINATE BOLLARD
LOCATION AND ALL REQUIREMENTS WITH
OPUC.

NO.	REVISION	DATE	BY	APPROVED
1	ISSUED FOR O.T.C. AND ESA PLAN REVIEW	DEC 07/16	C.D.	G.V.W.O.

REVISIONS

496 TAUNTON ROAD EAST, OSHAWA
PETER HOOGER

SITE SERVICING
ELECTRICAL LAYOUT

D.G. Biddle & Associates Limited
consulting engineers and planners

96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
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SCALE: **1:200**

PROJECT NO. **115147**

DRAWN BY: **C.P.D.**

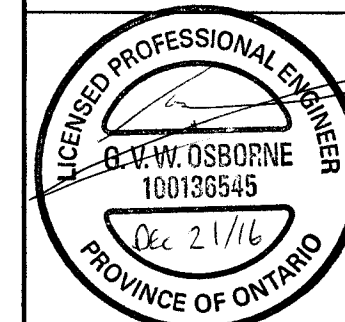
DESIGN BY: **C.P.D.**

CHECKED BY: **G.V.W.O.**

DATE: **DECEMBER 2016**

DRAWING NO. **SE-1**

CAD FILE: **115147 SE**
PLOT DATE: **12/07/16**
SUBMISSION: **OPUC/ESA**



SERVICE SIZE CALCULATIONS:

ESTIMATED SERVICE DEMAND
TENANT SUITE SPACE (TYPICAL)

FIRST 45m ²	3,500W
SECOND 45m ²	1,500W
REMAINING 55m ²	1,000W
ELECTRIC RANGE	6,000W
ELECTRIC WATER HEATER (25% \times 4,500W)	1,125W
FAN COIL UNIT	4,500W
UNIT ELECTRICAL DEMAND	17,625W
UNIT ELECTRICAL DEMAND LESS A/C	13,125W

SERVICE SIZE $17,625W = 84A$ (100 AMP)
208V

ESTIMATED SERVICE DEMAND

1 SUITES (13,125W \times 1.0 \times 1)	13,125W
2 SUITES (13,125W \times 0.65 \times 2)	17,063W
2 SUITES (13,125W \times 0.40 \times 2)	10,500W
13 SUITES (13,125W \times 0.25 \times 13)	42,856W
18 FAN COIL UNITS (4,500W \times 18)	81,000W
SUITES TOTAL	164,344W
ELEVATOR LOAD (25,000W \times 0.75)	18,750W
COMMERCIAL DEMAND FACTOR (800M ² \times 25M ²)	20,000W
COMMERCIAL A/C AND FURNACE	35,000W
MAKE UP AIR UNIT	20,000W
COMMERCIAL MISCELLANEOUS (70KW \times 0.75)	52,500W
BUILDING MISCELLANEOUS (20,000W \times 0.75)	15,000W
TOTAL BUILDING DEMAND	325,250W
TOTAL ESTIMATED DEMAND	325,250W

SERVICE SIZE = $904A$, 208 OR $1200A$, 120 (FUSED MAIN)
208

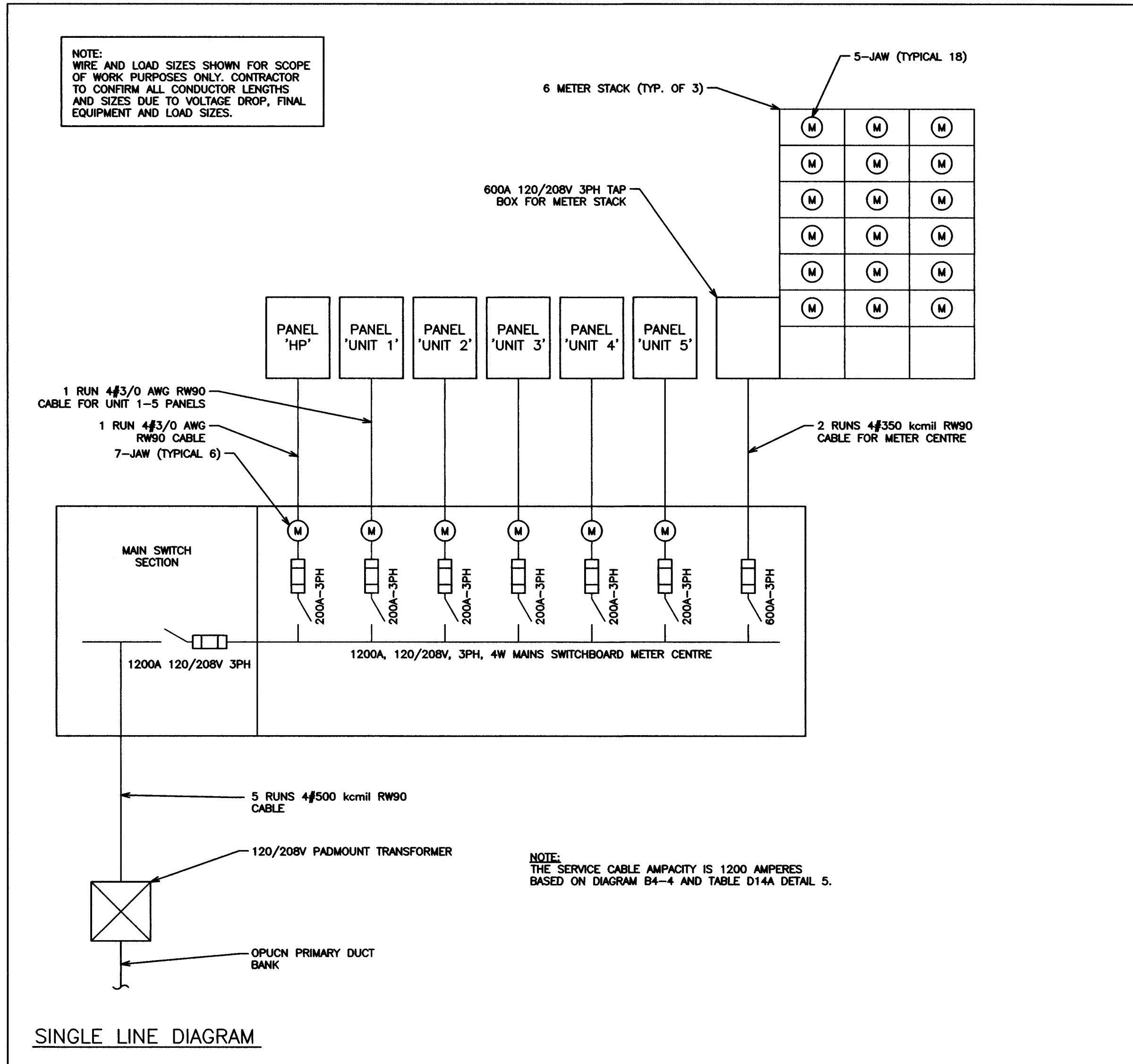
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- GENERAL REQUIREMENTS FOR SITE ELECTRICAL WORK**
- ALL EQUIPMENT MUST BE APPROVED BY AN ACCREDITED APPROVAL AGENCY, OR ACCEPTED THROUGH FIELD EVALUATION OR BY AN INSPECTOR UNDER THE PROVISION OF RULE 2-024 OF THE CURRENT ONTARIO ELECTRICAL SAFETY CODE.
 - AT EACH DISTRIBUTION POINT, CIRCUIT BREAKERS, FUSES AND SWITCHES SHALL BE MARKED, ADJACENT THERETO, IN A CONSPICUOUS AND LEGIBLE MANNER TO INDICATE CLEARLY WHICH INSTALLATION OR PORTION OF INSTALLATION THEY PROTECT OR CONTROL AND THE MAXIMUM RATING OF OVERCURRENT DEVICE THAT IS PERMITTED. RULE 2-100(3).
 - RACEWAYS ENTERING A BUILDING AND FORMING PART OF AN UNDERGROUND SERVICE SHALL BE SEALED AND SHALL:
 - ENTER THE BUILDING ABOVE GROUND WHERE PRACTICABLE; OR
 - BE SUITABLY DRAINED; OR
 - BE INSTALLED IN SUCH A WAY THAT MOISTURE AND GAS WILL NOT ENTER THE BUILDING. RULE 6-300(6).
 - WHERE WARNING TAPE IS USED TO COMPLY WITH RULE 12-012(11) AS SHOWN ON DRAWING XX, THE TAPE MUST BE BURIED APPROXIMATELY HALFWAY BETWEEN THE INSTALLATION AND GRADE LEVEL, COVERING THE WIDTH OF THE RACEWAYS OR CABLES INSTALLED.
 - A MINIMUM WORKING SPACE OF 1m WITH SECURE FOOTING SHALL BE PROVIDED AND MAINTAINED ABOUT ELECTRICAL EQUIPMENT SUCH AS SWITCHBOARDS, PANELBOARDS, CONTROL PANELS, AND MOTOR CONTROL CENTRES WHICH ARE ENCLOSED IN METAL. RULE 2-308.
 - ALL OVERCURRENT PROTECTION SHALL BE CAPABLE OF INTERRUPTING THE AVAILABLE FAULT CURRENT. RULE 14-012.
 - EVERY PANELBOARD SHALL BE PROTECTED ON THE SUPPLY SIDE BY OVERCURRENT DEVICES HAVING A RATING NOT GREATER THAN THAT OF PANELBOARD. RULE 14-606(1)
 - THE RATING OR SETTING OF OVERCURRENT DEVICES SHALL NOT EXCEED THE ALLOWABLE AMPACITY OF THE CONDUCTORS THAT THEY PROTECT. RULE 14-104.
 - RULE 14-102 REQUIRES GROUND FAULT PROTECTION ON GROUNDED CIRCUITS MORE THAN 150 VOLTS TO GROUND AND 1000 AMPERES OR MORE. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND SWITCHGEAR MANUFACTURER TO CO-ORDINATE THE GROUND FAULT SENSING METHOD WITH EACH PARTICULAR GROUNDING ARRANGEMENT.



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**ELECTRICAL NOTES
AND DETAILS**

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PROJECT NO. 115147
DRAWN BY: C.P.D.
DESIGN BY: C.P.D.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016

DRAWING NO. SE-2
CAD FILE: 115147 SE
PLOT DATE: 12/07/16
SUBMISSION: OPUC/ESA

PROFESSIONAL ENGINEER
G.V.W. OSBORNE
100136845
Dec 2/16
PROVINCE OF ONTARIO