VOLTS 120/240 | PANEL PANEL A | TYPE 1
PHASE 1 | LOCATION WHARF | MAINS 225 AMPS MAIN BKR. 150 AMPS
MAIN FEED ENTRANCE – TOP
WIRE 3 | FED FROM NSPI TRANSFORMER | BRANCH BREAKER I.C. 10kA MTG. S

NOTES	DESIGNATION	KW A	KW B	WIRE SIZE	CIR NO.	BKR	A	B	BKR	CIR NO.	WIRE SIZE	KW A	KW B	DESIGNATION	NOTES
	20A DUPEX GFCI RECEPTACLE PP1	1.92		–	1	20A			15A	2		0.672		WHARF LIGHTING – AREA	
	20A DUPEX GFCI RECEPTACLE PP1		1.92		3	20A			15A	4			0.177	WHARF LIGHTING – FLOOD	
	50A TWIST–LOCK WELDING RECEPTACLE PP2	9.600			5	2P			15A	6		0.500		WHARF LIGHTING CONTROL	
					7	50A				8					
	20A DUPEX GFCI RECEPTACLE PP3	1.92			9	20A				10					
	20A DUPEX GFCI RECEPTACLE PP3		1.92		11	20A				12					
	20A DUPEX GFCI RECEPTACLE PP4	1.92			13	20A				14					
	20A DUPEX GFCI RECEPTACLE PP4		1.92		15	20A				16					
	DERRICK (FUTURE)	2.984			17	2P				18					
					19	100A				20					
					21					22					
					23					24					

ø "A" TOTAL 13.224 KW

ø "B" TOTAL 12.229 KW

TOTAL LOAD 25.453 KW 106.05 AMPS @ 240V

NOTES: 1.

FEEDER 3#3/0 AWG + 1#6 AWG Gnd.

LOAD CALCULATION (DEMAND)

1. RECEPTACLE LOAD (CEC 78–056)
   6 – 120V, 20 AMP GFCI DUPLEX RECEPTACLES
   - (1 X 50A X 240) 100% = 12.000 KW
   - (3 x 20A x 120) 100% = 7.200 kW
   - (3 x 20A x 120) 65% = 3.120 kW

   SUBTOTAL = 22.320 kW
2. WHARF LIGHTING
   - 4 – 168 WATT AREA LIGHTS = 4 x 168 = 0.672 kW
     1 – 177 WATT FLOOD LIGHT = 1 x 177 = 0.177 kW

   SUBTOTAL = 0.849 kW
3. DERRICK (NON–CONTINUOUS LOAD) (FUTURE)
   - 1 x 5.0HP x 746W = 3.730 kW x 80% = 2.984 kW

   SUBTOTAL = 2.984 kW
4. LIGHTING CONTACTOR = 0.500 kW

   SUBTOTAL = 0.500 kW

TOTAL LOAD = 22.320 kW
0.849 kW
2.984 kW
0.500 kW
26.653 kW

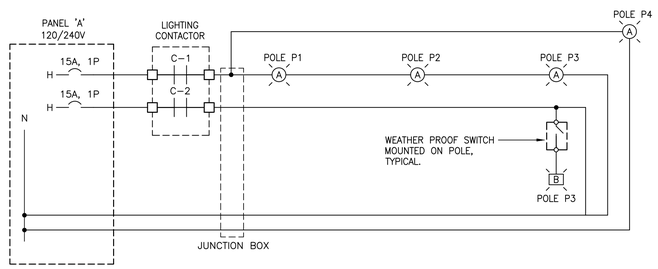
TOTAL = 26.653 kW @ 240 VOLTS x 1.25 = 33.31625 kVA
SERVICE LOADING = 33.31625 kVA/240 VOLTS = 138.8177 AMPS

FEEDER SCHEDULE/VOLTAGE DROP/WIRE SIZE CALCULATIONS

CABLE #	LOADS	LOCATION	BRK. RATING	VOLTAGE	RATED CURRENT	CIRCUIT	DISTANCE METER (FT)	VOLTAGE DROP	FEEDER SIZE	CONDUIT SIZE	JUNCTION BOX SIZE
1	RECEPTACLE #R1	POWER PEDESTAL PP#1	20 AMP	120V	16 AMPS	A–1	35M (115.0')	2.39V – 1.99%	2/C #8 TECK WITH #10 GND.	78mm	200mm x 200mm x 100mm (8"x8"x4")
2	RECEPTACLE #R2	POWER PEDESTAL PP#1	20 AMP	120V	16 AMPS	A–3	35M (115.0')	2.39V – 1.99%	2/C #8 TECK WITH #10 GND.		
3	RECEPTACLE #R3	POWER PEDESTAL PP#2	50 AMP	240V	40 AMPS	A–5,7	41M (134.5')	6.99V – 2.91%	2/C #8 TECK WITH #10 GND.	78mm	200mm x 200mm x 100mm (8"x8"x4")
4	RECEPTACLE #R4	POWER PEDESTAL PP#3	20 AMP	120V	16 AMPS	A–9	80M (265.0')	2.26V – 1.88%	2/C #4 TECK WITH #8 GND.	78mm	200mm x 200mm x 100mm (8"x8"x4")
5	RECEPTACLE #R5	POWER PEDESTAL PP#3	20 AMP	120V	16 AMPS	A–11	80M (265.0')	2.26V – 1.88%	2/C #4 TECK WITH #8 GND.		
6	RECEPTACLE #R6	POWER PEDESTAL PP#4	20 AMP	120V	16 AMPS	A–13	85M (279.0')	2.40V – 2.00%	2/C #4 TECK WITH #8 GND.	78mm	200mm x 200mm x 100mm (8"x8"x4")
7	RECEPTACLE #R7	POWER PEDESTAL PP#4	20 AMP	120V	16 AMPS	A–15	85M (279.0')	2.40V – 2.00%	2/C #4 TECK WITH #8 GND.		
8	AREA LIGHTING	POLES LP#1 TO LP#3 + LP#4	15 AMP	120V	5.6 AMPS	A–2	N/A	2.58V – 2.15%	2/C #10 TECK WITH #12 GND. – PNL 'A'>P1>P2>P3 2#10 AWG RW90 Cu.+ #12 GND – PNL 'A'>P4	78mm	100mm x 100mm x 50mm (4"x4"x2")
9	FLOOD LIGHTING	POLE P3	15 AMP	120V	1.475 AMPS	A–4	N/A	1.42V – 1.48%	2/C #12 TECK WITH #14 GND.		

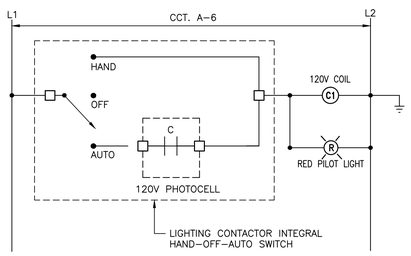
SINGLE LINE LEGEND

- 20A 1P — CIRCUIT BREAKER
- GFCI — 120 VOLT 20 AMP T–SLOT RECEPTACLE WITH GFCI PROTECTION
- 50A TL — 240 VOLT 50 AMP SINGLE TWIST–LOCK RECEPTACLE
- PC — PHOTO CELL
- C — LIGHTING CONTACTOR
- LED AREA LIGHT
- LED FLOOD LIGHT
- JB — JUNCTION BOX – MOUNTED ON POLE
- J — OCTAGONAL JUNCTION BOX – MOUNTED ON POLE



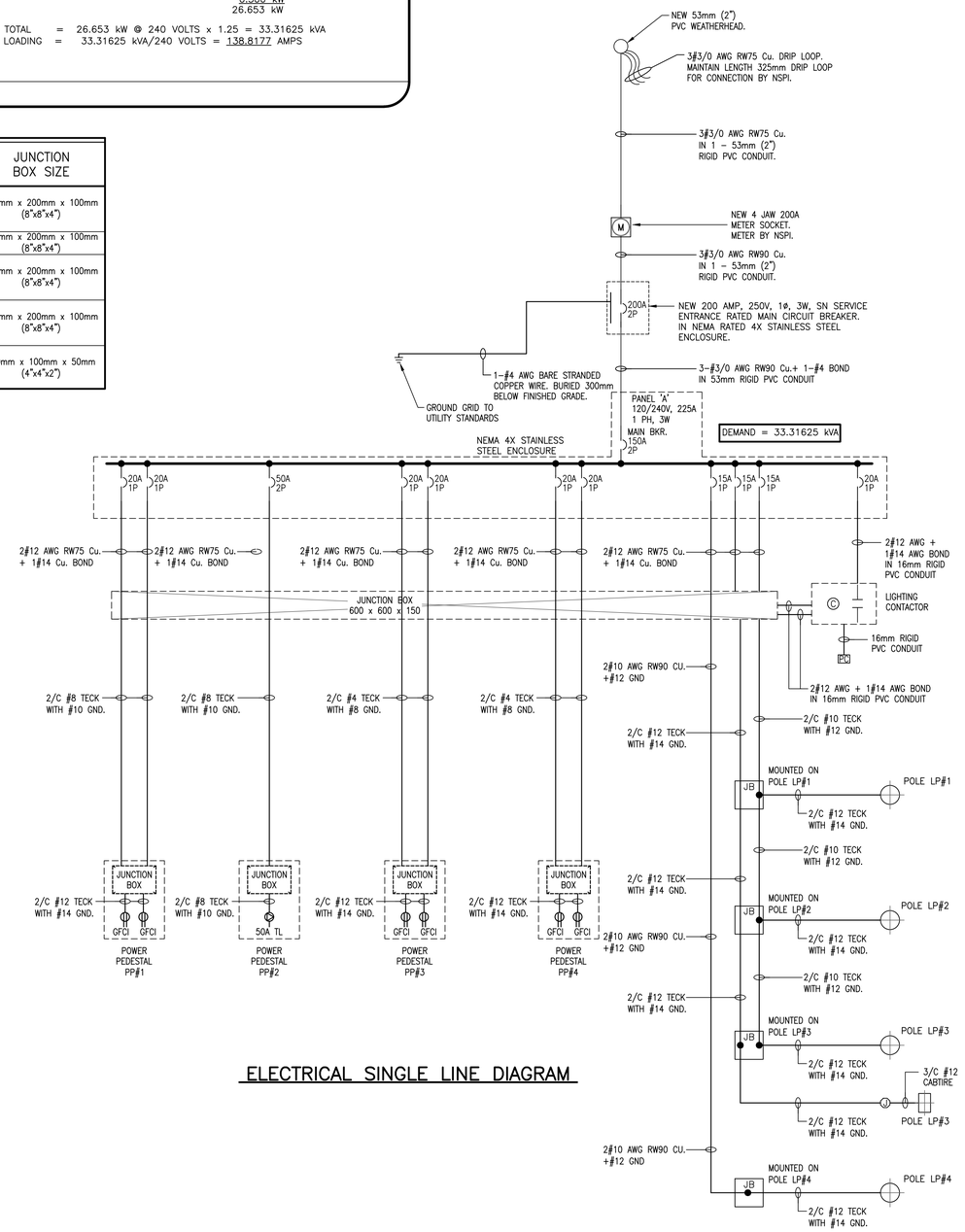
NOTES:

1. 2–POLE CONTACTOR
2. CONTACTS RATED FOR 20 AMP, 120V
3. 20 AMP COIL



WHARF LIGHTING WIRING DIAGRAM & CONTROL SCHEMATIC (1/E1)

SCALE : N.T.S.



ELECTRICAL SINGLE LINE DIAGRAM

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

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drawing / dessin: ELECTRICAL CALCULATIONS, DIAGRAMS AND SCHEDULES

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