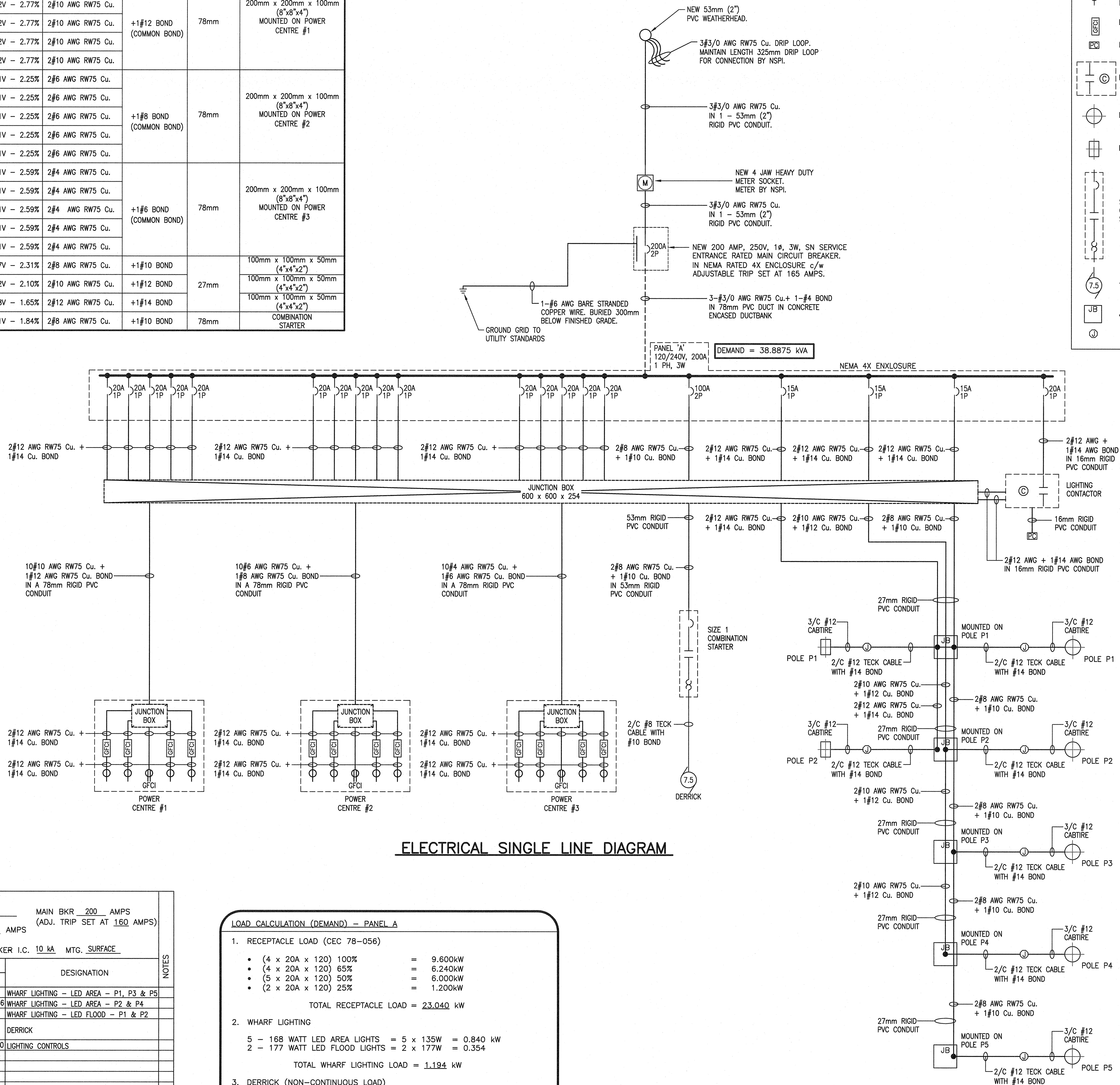
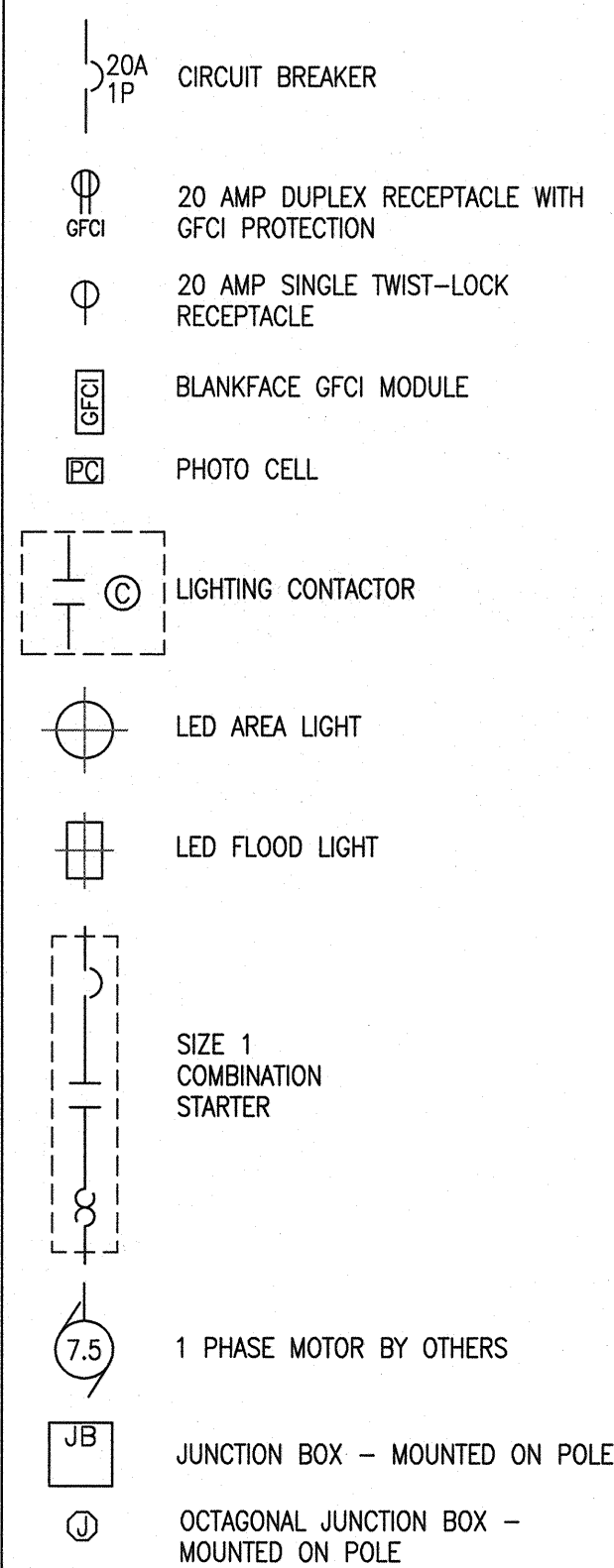


FEEDER SCHEDULE/VOLTAGE DROP/WIRE SIZE CALCULATIONS												
CABLE #	LOADS	LOCATION	BRK. RATING	VOLTAGE	RATED CURRENT	CIRCUIT	DISTANCE METER (FT)	VOLTAGE DROP	FEEDER SIZE	CONDUIT SIZE	JUNCTION BOX SIZE	
①	RECEPTACLE #R1	POWER CENTRE #1	20 AMP	120V	16 AMPS	A-1	31.1M (102.0')	3.32V - 2.77%	2#10 AWG RW75 Cu.	78mm	200mm x 200mm x 100mm (8"x8"x4") MOUNTED ON POWER CENTRE #1	
②	RECEPTACLE #R2	POWER CENTRE #1	20 AMP	120V	16 AMPS	A-3	31.1M (102.0')	3.32V - 2.77%	2#10 AWG RW75 Cu.			
③	RECEPTACLE #R3	POWER CENTRE #1	20 AMP	120V	16 AMPS	A-5	31.1M (102.0')	3.32V - 2.77%	2#10 AWG RW75 Cu.			
④	RECEPTACLE #R4	POWER CENTRE #1	20 AMP	120V	16 AMPS	A-7	31.1M (102.0')	3.32V - 2.77%	2#10 AWG RW75 Cu.			
⑤	RECEPTACLE #R5	POWER CENTRE #1	20 AMP	120V	16 AMPS	A-9	31.1M (102.0')	3.32V - 2.77%	2#10 AWG RW75 Cu.			
⑥	RECEPTACLE #R6	POWER CENTRE #2	20 AMP	120V	16 AMPS	A-11	61.8M (202.8')	2.71V - 2.25%	2#6 AWG RW75 Cu.	78mm	200mm x 200mm x 100mm (8"x8"x4") MOUNTED ON POWER CENTRE #2	
⑦	RECEPTACLE #R7	POWER CENTRE #2	20 AMP	120V	16 AMPS	A-13	61.8M (202.8')	2.71V - 2.25%	2#6 AWG RW75 Cu.			
⑧	RECEPTACLE #R8	POWER CENTRE #2	20 AMP	120V	16 AMPS	A-15	61.8M (202.8')	2.71V - 2.25%	2#6 AWG RW75 Cu.			
⑨	RECEPTACLE #R9	POWER CENTRE #2	20 AMP	120V	16 AMPS	A-17	61.8M (202.8')	2.71V - 2.25%	2#6 AWG RW75 Cu.			
⑩	RECEPTACLE #R10	POWER CENTRE #2	20 AMP	120V	16 AMPS	A-19	61.8M (202.8')	2.71V - 2.25%	2#6 AWG RW75 Cu.			
⑪	RECEPTACLE #R11	POWER CENTRE #3	20 AMP	120V	16 AMPS	A-21	110.2M (361.6')	3.11V - 2.59%	2#4 AWG RW75 Cu.	78mm	200mm x 200mm x 100mm (8"x8"x4") MOUNTED ON POWER CENTRE #3	
⑫	RECEPTACLE #R12	POWER CENTRE #3	20 AMP	120V	16 AMPS	A-23	110.2M (361.6')	3.11V - 2.59%	2#4 AWG RW75 Cu.			
⑬	RECEPTACLE #R13	POWER CENTRE #3	20 AMP	120V	16 AMPS	A-25	110.2M (361.6')	3.11V - 2.59%	2#4 AWG RW75 Cu.			
⑭	RECEPTACLE #R14	POWER CENTRE #3	20 AMP	120V	16 AMPS	A-27	110.2M (361.6')	3.11V - 2.59%	2#4 AWG RW75 Cu.			
⑮	RECEPTACLE #R15	POWER CENTRE #3	20 AMP	120V	16 AMPS	A-29	110.2M (361.6')	3.11V - 2.59%	2#4 AWG RW75 Cu.			
⑯	AREA LIGHTING	WHARF - POLES P1, P3 AND P5	15 AMP	120V	4.2 AMPS	A-2	N/A	2.77V - 2.31%	2#8 AWG RW75 Cu.	+1#10 BOND	100mm x 100mm x 50mm (4"x4"x2")	
⑰	AREA LIGHTING	WHARF - POLES P2 AND P4	15 AMP	120V	2.8 AMPS	A-4	N/A	2.52V - 2.10%	2#10 AWG RW75 Cu.	+1#12 BOND	100mm x 100mm x 50mm (4"x4"x2")	
⑱	FLOOD LIGHTING	WHARF - POLES P1 AND P2	15 AMP	120V	2.95 AMPS	A-6	N/A	1.98V - 1.65%	2#12 AWG RW75 Cu.	+1#14 BOND	100mm x 100mm x 50mm (4"x4"x2")	
⑲	DERRICK	WHARF	100 AMP	240V	40 AMPS	A-8,10	26M (85.3')	4.41V - 1.84%	2#8 AWG RW75 Cu.	+1#10 BOND	COMBINATION STARTER	

SINGLE LINE LEGEND



ELECTRICAL SINGLE LINE DIAGRAM

NOTES	VOLTS <u>120/240</u>		PANEL <u>A</u>		TYPE <u>1</u>		MAIN BKR <u>200 AMPS</u> (ADJ. TRIP SET AT <u>160 AMPS</u> )				NOTES																	
	PHASE <u>1</u>		LOCATION <u>SERVICE BACK BOARD ON WHARF</u>		MAINS <u>200 AMPS</u>																							
	WIRE <u>3</u>		FED FROM <u>NSPI POLE MTD. TRANSFORMER</u>		BRANCH BREAKER I.C. <u>10 kA</u>		MTG. <u>SURFACE</u>																					
	DESIGNATION		KW		WIRE SIZE		CIR NO.		BKR			A		B		BKR		CIR NO.		WIRE SIZE		KW		A		B		DESIGNATION
1.	RECEPTACLE R1 - POWER CENTRE #1		1.920		12/10/12	1	20A									15A	2	12/8/12	0.504									WHARF LIGHTING - LED AREA - P1, P3 & P5
1.	RECEPTACLE R2 - POWER CENTRE #1		1.920		12/10/12	3	20A									15A	4	12/10/12	0.336									WHARF LIGHTING - LED AREA - P2 & P4
2.	RECEPTACLE R3 - POWER CENTRE #1		1.920		12/10/12	5	20A									15A	6	12	0.354									WHARF LIGHTING - LED FLOOD - P1 & P2
1.	RECEPTACLE R4 - POWER CENTRE #1		1.920		12/10/12	7	20A									2P	8			5.595								DERRICK
1.	RECEPTACLE R5 - POWER CENTRE #2		1.920		12/6/12	9	20A									100A	10											LIGHTING CONTROLS
1.	RECEPTACLE R6 - POWER CENTRE #2		1.920		12/6/12	11	20A									20A	12	12	1.920									
2.	RECEPTACLE R8 - POWER CENTRE #2		1.920		12/6/12	15	20A										14											
1.	RECEPTACLE R9 - POWER CENTRE #2		1.920		12/6/12	17	20A										16											
1.	RECEPTACLE R10 - POWER CENTRE #2		1.920		12/6/12	19	20A										18											
1.	RECEPTACLE R11 - POWER CENTRE #3		1.920		12/4/12	21	20A										20											
1.	RECEPTACLE R12 - POWER CENTRE #3		1.920		12/4/12	23	20A										22											
2.	RECEPTACLE R13 - POWER CENTRE #3		1.920		12/4/12	25	20A										24											
1.	RECEPTACLE R14 - POWER CENTRE #3		1.920		12/4/12	27	20A										26											
1.	RECEPTACLE R15 - POWER CENTRE #3		1.920		12/4/12	29	20A										28											
		ø "A" TOTAL		<u>19,015</u>		WATTS																						
		ø "B" TOTAL		<u>18,494</u>		WATTS																						
		TOTAL LOAD		<u>37,509</u>		KW		<u>156.2875</u>		AMPS		⊕ 240 VOLTS																
		FEEDER		<u>3#3/0 AWG RW75 Cu. IN 1 - 53mm (2") RIGID PVC CONDUIT.</u>																								

LOAD CALCULATION (DEMAND) - PANEL A	
1. RECEPTACLE LOAD (CEC 78-056)	
• (4 x 20A x 120) 100%	= 9.600kW
• (4 x 20A x 120) 65%	= 6.240kW
• (5 x 20A x 120) 50%	= 6.000kW
• (2 x 20A x 120) 25%	= 1.200kW
TOTAL RECEPTACLE LOAD =	23.040 kW
2. WHARF LIGHTING	
5 - 168 WATT LED AREA LIGHTS = 5 x 135W = 0.840 kW	
2 - 177 WATT LED FLOOD LIGHTS = 2 x 177W = 0.354	
TOTAL WHARF LIGHTING LOAD =	1.194 kW
3. DERRICK (NON-CONTINUOUS LOAD)	
1 x 7.5HP x 746W = 5.595 kW x 80% = 4.476kW	
TOTAL DERRICK LOAD =	4.476kW
TOTAL LOAD	RECEPTACLES = 23.040kW
	WHARF LIGHTING = 1.194kW
	DERRICKS = 4.476kW
	LIGHTING CONTROL = 2.430kW
	TOTAL = 31.110kW
TOTAL =	31.110 kW x 1.25 = 38.8875 kVA
TOTAL SERVICE LOADING =	38.8875 kVA/240 VOLTS = 162.03125 AMPS

0	ISSUED FOR TENDER	MAY 2017
revisions		date
project	WHARF CONSTRUCTION NEW HARBOUR	project
	GUYSBOROUGH COUNTY NOVA SCOTIA	
drawing		dessin
SINGLE LINE, DEMAND CALC'S & SCHEDULES		
designed	G. BOWSER	conçu
date	MAY 2017	
drawn	K. WOLFE	dessiné
date	MAY 2017	
approved		approuvé
date	MAY 10/2017	
Tender		Soumission
PWSC Project Manager	Administrateur de projet TPSC	
project number		no. du projet
	R.082348.001	
drawing no.		no. du dessin
	E3	