

A B	A. SECTION LETTER OR DETAIL NUMBER B. DRAWING WHERE SECTION OR DETAIL IS DRAWN OR DRAWING WHERE SECTION OR DETAIL WAS INDICATED	A B
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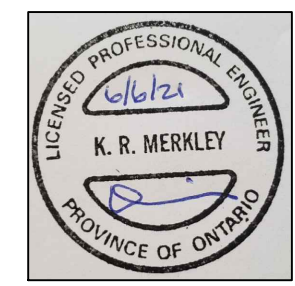
REVISIONS			
0	05/20/21	ISSUED FOR CLIENT REVIEW	KRM
1			
2			

GENERAL NOTES

- ALL PETROLEUM WORK TO BE PERFORMED BY LICENSED PETROLEUM MECHANICS.
- ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.
- DO NOT SCALE DRAWINGS.
- CONTRACTOR TO MAKE A COMPLETE AND WORKING SYSTEM.

LEGEND

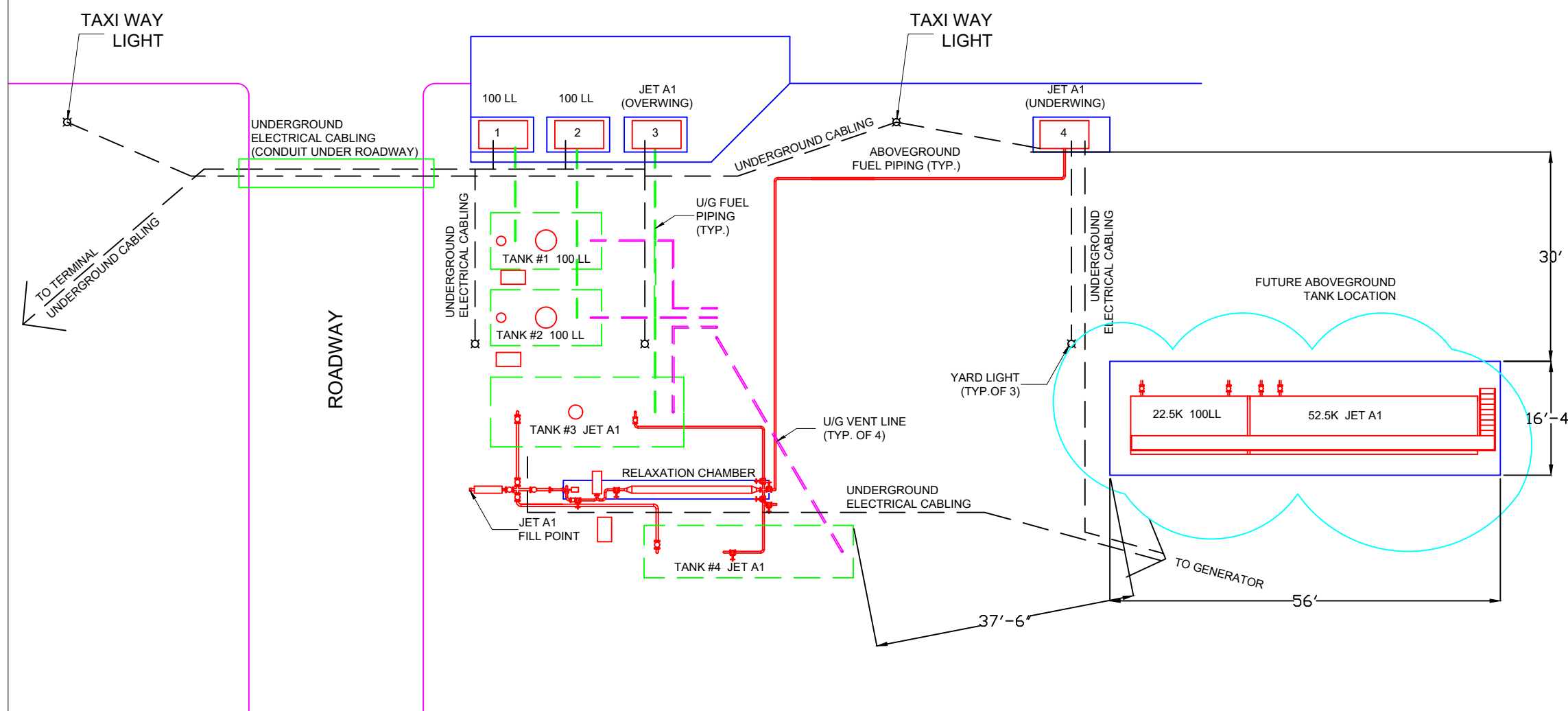
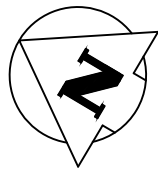
	ABOVEGROUND FUEL PIPING
	U/G FUEL PIPING
	U/G VENT LINE
	UNDERGROUND ELECTRICAL CABLE
	CONCRETE



Bay City Engineering Inc.
 1710 25th Side Road
 Thunder Bay, Ontario, P7K 1L3
 Cell: (807)627-9710 Ofc: (807)473-5798
 E-mail: bce@baytel.net

PEMBROKE AIRPORT FUEL SYSTEM
 176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

EXISTING SITE PLAN			
ENGR. STAMP	DESIGNED: in KRM CHECKED: KRM	DRAWN: in KRM CHECKED: KRM	
APPROVED:			
SCALE: NOT TO SCALE		DATE: APRIL 2021	
DRAWING NUMBER 325 - FS-1			
CLIENT DWG. NO. 325 - FS-1			REV: 0



A	B	A	B
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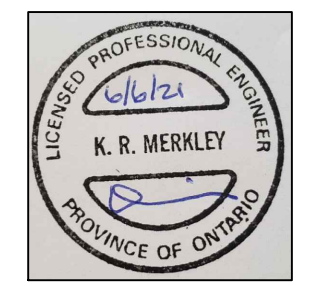
REVISIONS			
0	06/06/21	ISSUED FOR CONSTRUCTION	KRM
1			
2			

GENERAL NOTES

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LEGEND

—	ABOVEGROUND FUEL PIPING
—	U/G FUEL PIPING & TANKS
—	U/G VENT LINE
- - -	UNDERGROUND ELECTRICAL CABLE
—	CONCRETE



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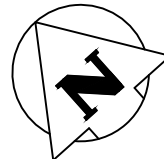
PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

EXISTING FUEL SITE PLAN

ENGR. STAMP	DESIGNED: in KRM	DRAWN: in KRM
	CHECKED: KRM	CHECKED: KRM
APPROVED:		
SCALE:	NOT TO SCALE	DATE: APRIL 2021
DRAWING NUMBER	325 - FS-1A	

CLIENT DWG. NO.	325 - FS-1A	REV:	0
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A	B	A	B
A. SECTION LETTER OR DETAIL NUMBER		B. DRAWING WHERE SECTION OR DETAIL IS DRAWN	
OR		DRAWING WHERE SECTION OR DETAIL WAS INDICATED	

REVISIONS			
0	06/06/21	ISSUED FOR CONSTRUCTION	KRM
1	07/06/21	REVISED JET A1 PIPING	KRM
2			

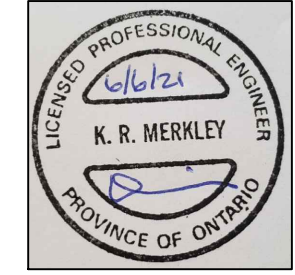
GENERAL NOTES

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LEGEND

	ABOVEGROUND FUEL PIPING
	U/G FUEL PIPING
	U/G VENT LINE
	UNDERGROUND ELECTRICAL CABLE
	CONCRETE

A	PIPE SUPPORT FOR 2" PIPE
B	PIPE SUPPORT FOR 2" AND 3" PIPE
C	PIPE SUPPORT FOR 3" PIPE
D	SUPPORT FOR RELAXATION CHAMBER



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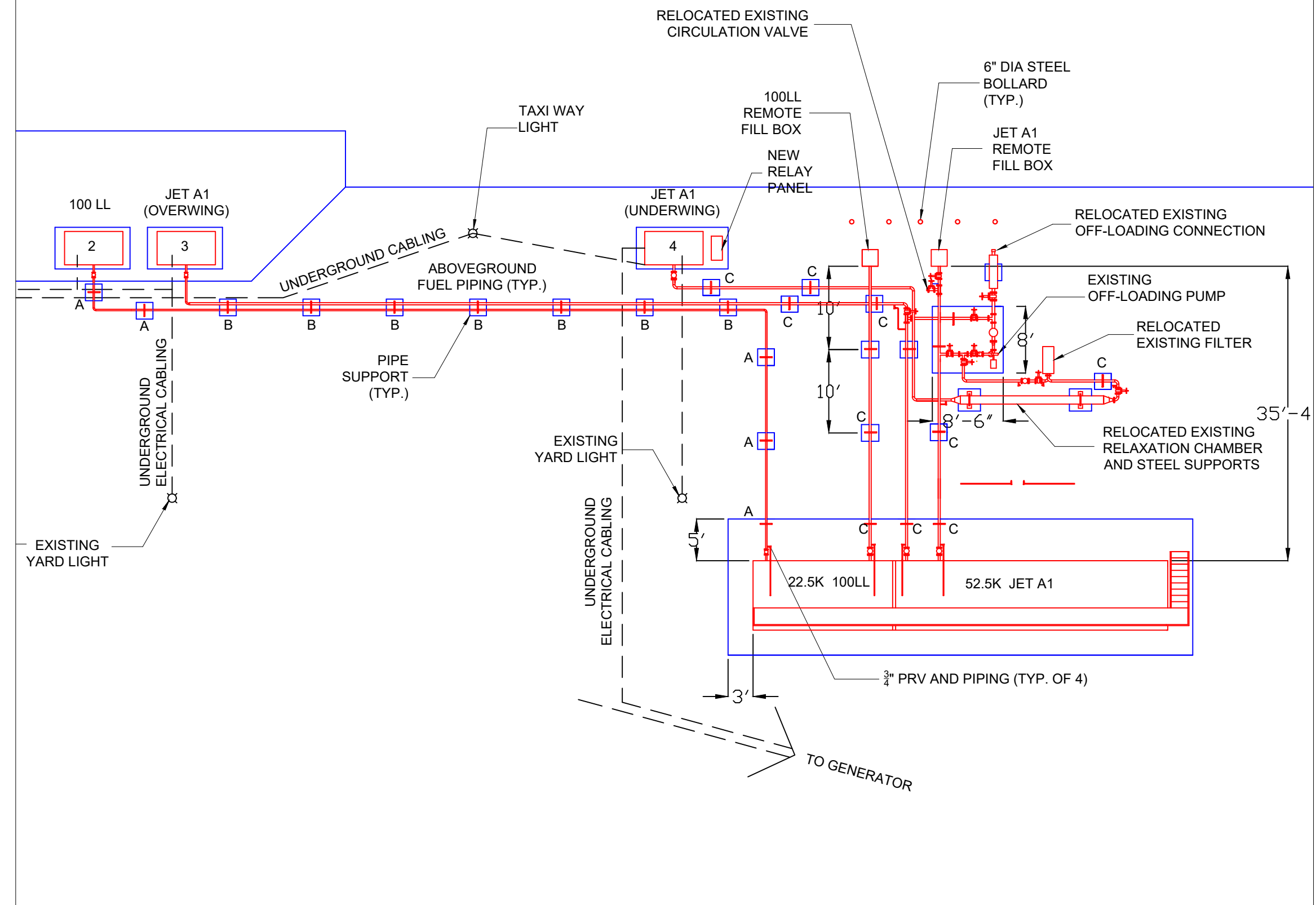
PEMBROKE AIRPORT FUEL SYSTEM

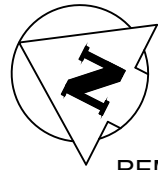
176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

PROPOSED FUEL SITE PLAN

ENGR. STAMP	DESIGNED: en KRM	DRAWN: en KRM
	CHECKED: KRM	CHECKED: KRM
	APPROVED:	
	SCALE: NOT TO SCALE	DATE: APRIL 2021
	DRAWING NUMBER: 325 - FS-2	

CLIENT DWG. NO.	REV:
325 - FS-2	1





REMOVE CABINET #1
REMOVE CONCRETE BASE.
PATCH ASPHALT AS REQUIRED.

REMOVE PUMP AND MOTOR
IN CABINET #2.
REPIPE AS REQUIRED.

TAXI WAY
LIGHT

UNDERGROUND
ELECTRICAL CABLING
(CONDUIT UNDER ROADWAY)

UNDERGROUND
ELECTRICAL CABLING

UNDERGROUND CABLING
ABOVEGROUND
FUEL PIPING (TYP.)

U/G FUEL
PIPING
(TYP.)

TANK #1 100 LL

TANK #2 100 LL

TANK #3 JET A1

RELAXATION CHAMBER

JET A1
FILL POINT

TANK #4 JET A1

U/G VENT LINE
(TYP. OF 4)

UNDERGROUND
ELECTRICAL CABLING

YARD LIGHT
(TYP. OF 3)

UNDERGROUND
ELECTRICAL CABLING

TO GENERATOR

REMOVE ALL TANKS AND PIPING.
REUSE ABOVEGROUND
EQUIPMENT AS REQUIRED.

A
B

A
B

REVISIONS

0	06/06/21	ISSUED FOR CONSTRUCTION	KRM
1	07/06/21	REVISED NOTES	KRM
2			

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- CONTRACTOR TO MAKE A COMPLETE AND WORKING SYSTEM.

LEGEND

- ABOVEGROUND FUEL PIPING
- U/G FUEL PIPING & TANKS
- U/G VENT LINE
- UNDERGROUND ELECTRICAL CABLE
- CONCRETE



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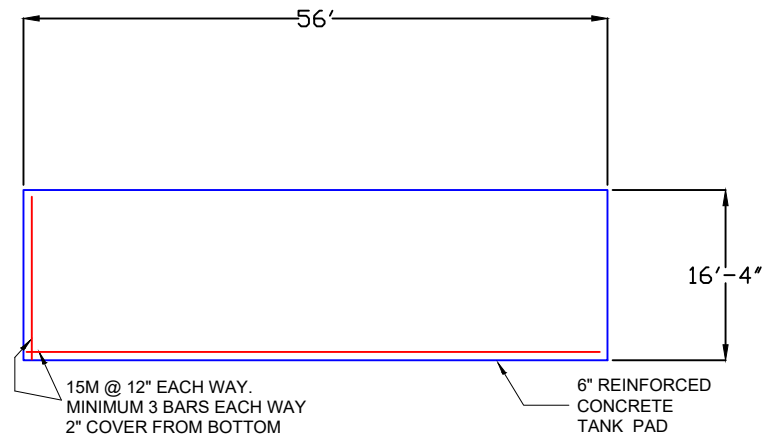
PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
PEMBROKE, ONTARIO

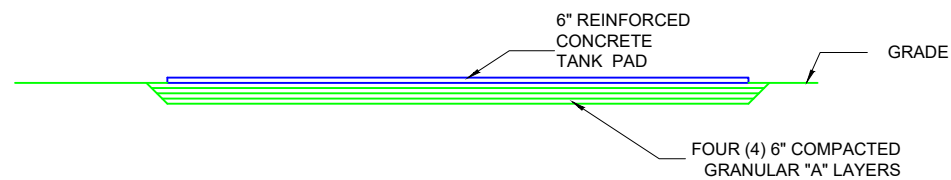
DEMOLITION PLAN AND DETAILS

DESIGNED: in KRM	DRAWN: in KRM
CHECKED: KRM	CHECKED: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: APRIL 2021
DRAWING NUMBER: 325 - FS-3	

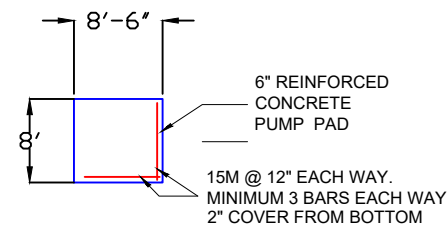
CLIENT DWG. NO. 325 - FS-3 REV: 1



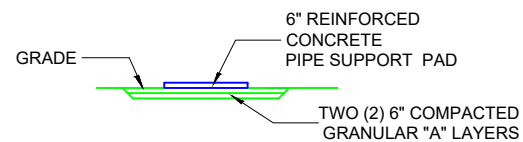
TANK PAD
CONCRETE PLAN



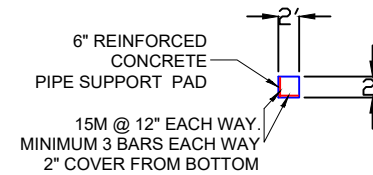
TANK PAD
CONCRETE DETAIL



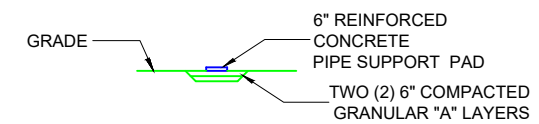
PUMP PAD
CONCRETE PLAN



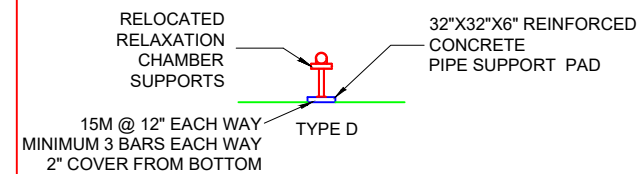
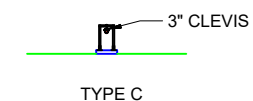
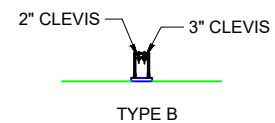
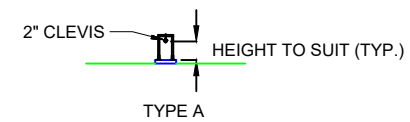
PUMP PAD
CONCRETE DETAIL



PIPE SUPPORT
CONCRETE PLAN



PIPE SUPPORT
CONCRETE DETAIL



PIPE SUPPORT TYPES

A	B	A	B
SECTION LETTER OR DETAIL NUMBER		DRAWING WHERE SECTION OR DETAIL IS DRAWN	
DRAWING WHERE SECTION OR DETAIL WAS INDICATED		DRAWING WHERE SECTION OR DETAIL WAS INDICATED	

REVISIONS		
0	06/06/21	ISSUED FOR CONSTRUCTION
1		
2		

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 - ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.
 - DO NOT SCALE DRAWINGS.
 - ALL REINFORCING TO BE DONE ACCORDING TO NORMAL CONCRETE PRACTISE.
 - CONCRETE TO BE 30 MPA.

- LEGEND**
- ABOVEGROUND FUEL PIPING
 - U/G FUEL PIPING
 - U/G VENT LINE
 - UNDERGROUND ELECTRICAL CABLE
 - CONCRETE



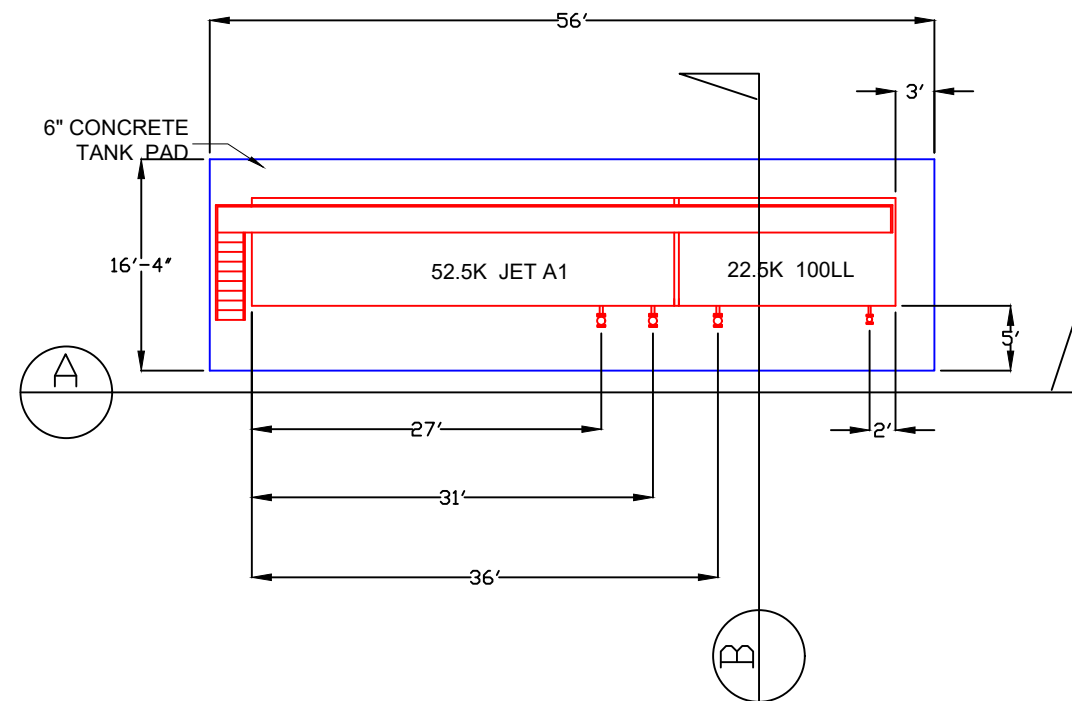
Bay City Engineering Inc.
 1710 25th Side Road
 Thunder Bay, Ontario, P7K 1L3
 Cell: (807)627-9710 Ofc: (807)473-5798
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PEMBROKE AIRPORT FUEL SYSTEM

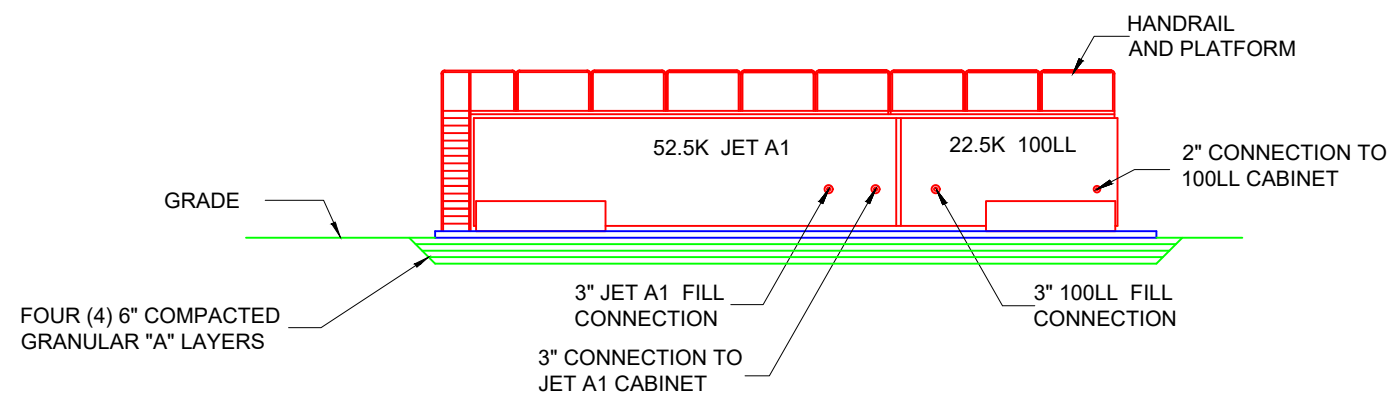
176 LEN HOPKINS DRIVE
PEMBROKE, ONTARIO

CONCRETE
PLAN AND DETAILS

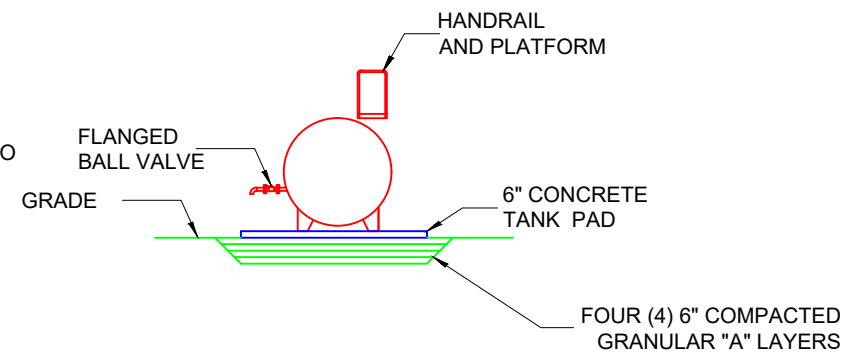
DESIGNED BY: KRM	CHECKED BY: KRM	DRAWN BY: KRM	CHECKED BY: KRM
APPROVED:			
SCALE: NOT TO SCALE		DATE: APRIL 2021	
DRAWING NUMBER: 321 - FS-4			
CLIENT DWG. NO.: 321 - FS-4			REV: 1



TANK PLAN



ELEVATION "A"



SECTION "B"

(STAIRS, PLATFORM AND OTHER DETAILS NOT SHOWN FOR CLARITY)

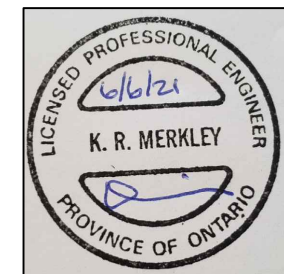
A	B	A	B
SECTION LETTER OR DETAIL NUMBER		DRAWING WHERE SECTION OR DETAIL IS DRAWN OR DRAWING WHERE SECTION OR DETAIL WAS INDICATED	

REVISIONS		
0	06/06/21	ISSUED FOR CONSTRUCTION
1		
2		

- GENERAL NOTES**
- ALL PETROLEUM WORK TO BE PERFORMED BY LICENSED PETROLEUM MECHANICS.
 - ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.
 - CONTRACTOR TO MAKE A COMPLETE WORKING SYSTEM.
 - DO NOT SCALE DRAWINGS.
- ALL ABOVEGROUND PIPING TO BE SCHED 40 STEEL.
- ALL PARTS AND EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS.

LEGEND

- ABOVEGROUND FUEL TANK
- GRADE / GRANULAR MATERIAL
- CONCRETE



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 1710 25th Side Road
 Thunder Bay, Ontario, P7K 1L3
 Cell: (807)627-9710 Ofc: (807)473-5798
 E-mail: bce@btoyel.net

PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

NEW TANK DETAILS

DESIGNED BY: KRM	DRAWN BY: KRM
CHECKED BY: KRM	CHECKED BY: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: APRIL 2021
DRAWING NUMBER: 325 - FS-5	

CLIENT DWG. NO. 325 - FS-5	REV: 0
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A. SECTION LETTER OR DETAIL NUMBER
 B. DRAWING WHERE SECTION OR DETAIL IS DRAWN
 OR
 DRAWING WHERE SECTION OR DETAIL WAS INDICATED

REVISIONS		
0	06/06/21	ISSUED FOR CONSTRUCTION
1		
2		

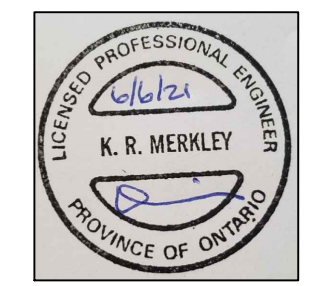
GENERAL NOTES

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- ALL ABOVEGROUND PIPING 2" OR LESS TO BE WELDED SCHED 80 STEEL.
 - ALL ABOVEGROUND PIPING LARGER THAN 2" TO BE WELDED SCHED 40 STEEL.
 - ALL PARTS AND EQUIPMENT TO BE INSTALLED BY MANUFACTURER'S INSTRUCTIONS.

LEGEND

- ABOVEGROUND FUEL PIPING
- U/G FUEL TANK / PIPING
- CONCRETE



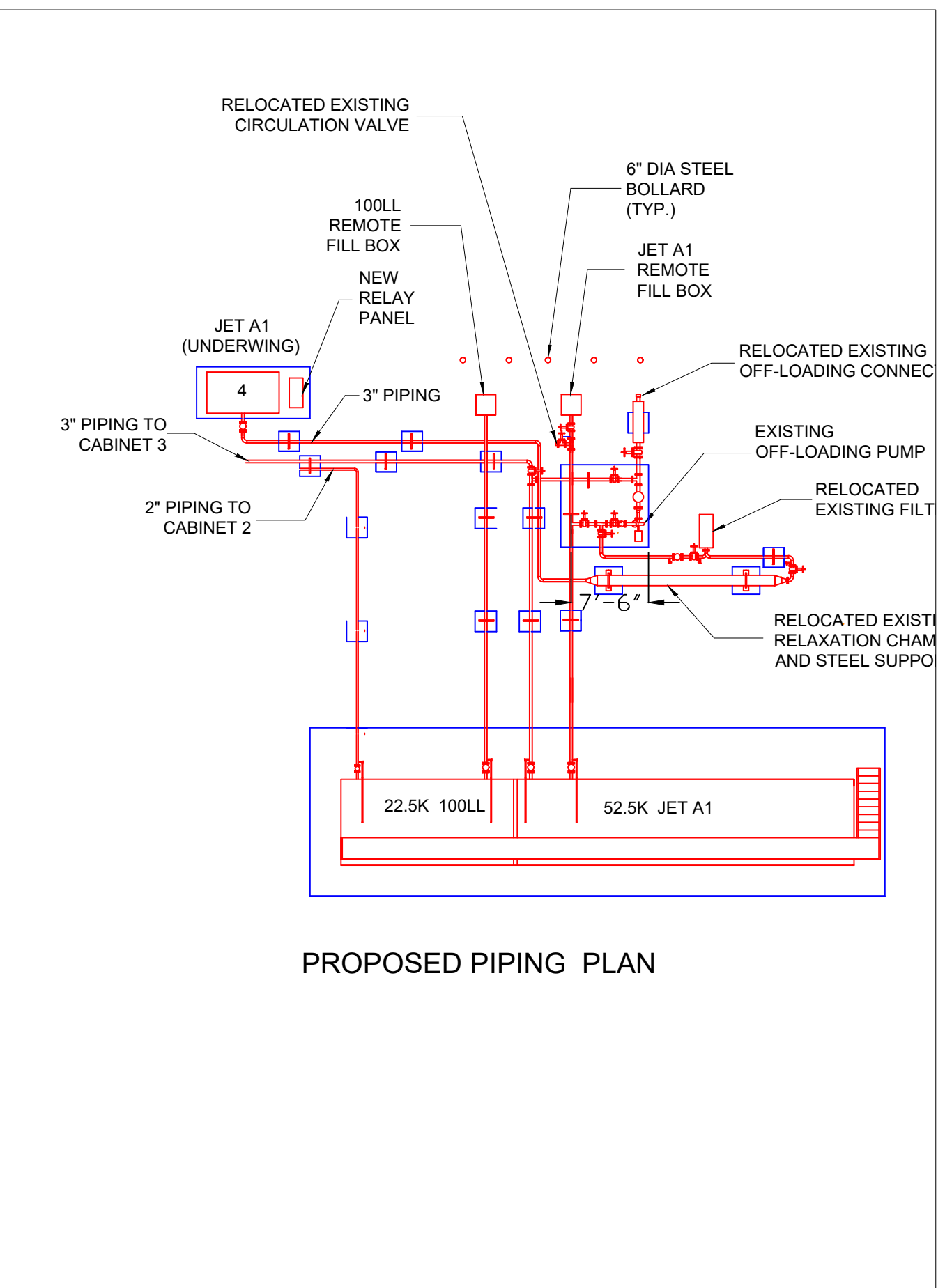
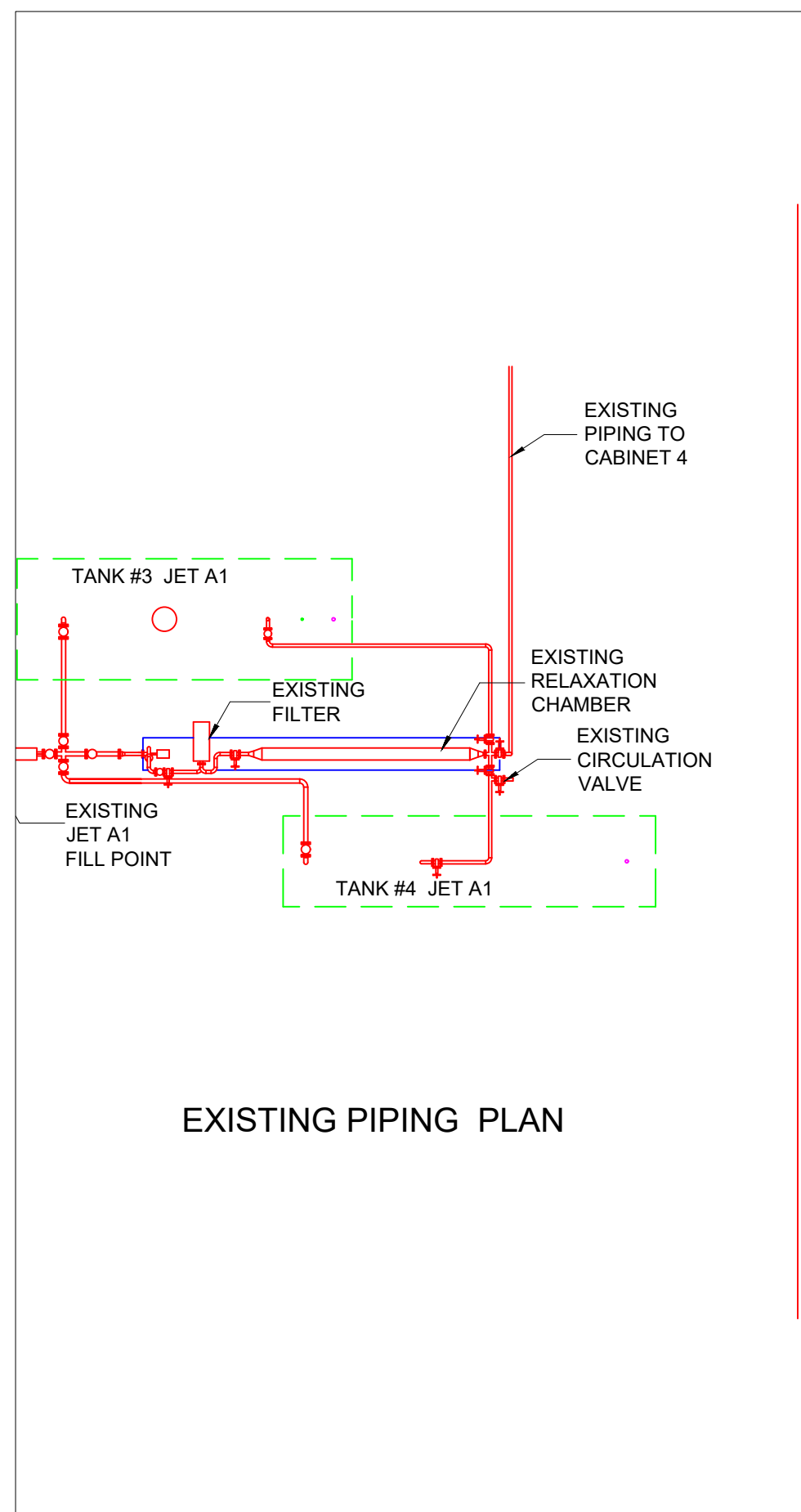
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PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

JET A1
 LOADING/OFFLOADING PIPING

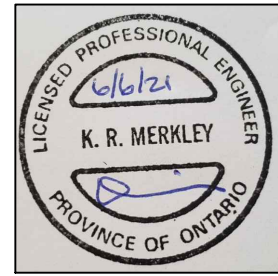
DESIGNED BY: KRM	CHECKED BY: KRM	DRAWN BY: KRM	CHECKED BY: KRM
APPROVED:			
SCALE: NOT TO SCALE		DATE: MAY 2021	
DRAWING NUMBER: 325 - FS-6			
CLIENT DWG. NO.: 325 - FS-6			REV: 0



A. SECTION LETTER OR DETAIL NUMBER
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REVISIONS		
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1		
2		

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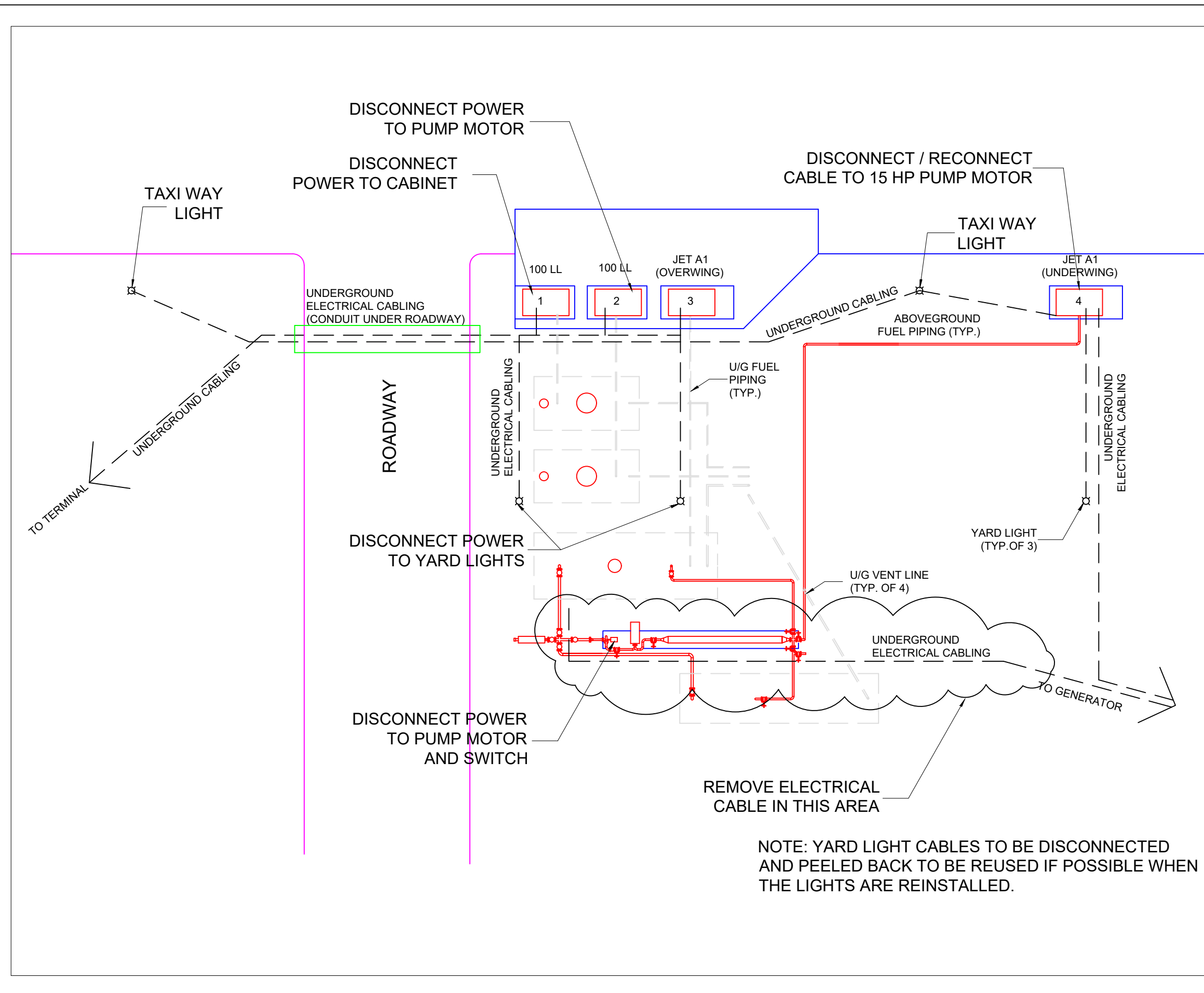
PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

EXISTING ELECTRICAL SITE PLAN

DESIGNED BY: KRM	DRAWN BY: KRM
CHECKED BY: KRM	CHECKED BY: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: MAY 2021
DRAWING NUMBER: 325 - E-1	

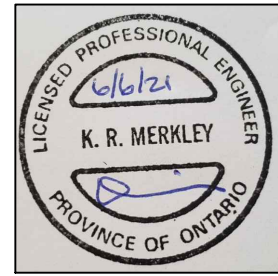
CLIENT DWG. NO. 325 - E-1 REV: 0



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REVISIONS		
0	06/06/21	ISSUED FOR CONSTRUCTION KRM
1		
2		

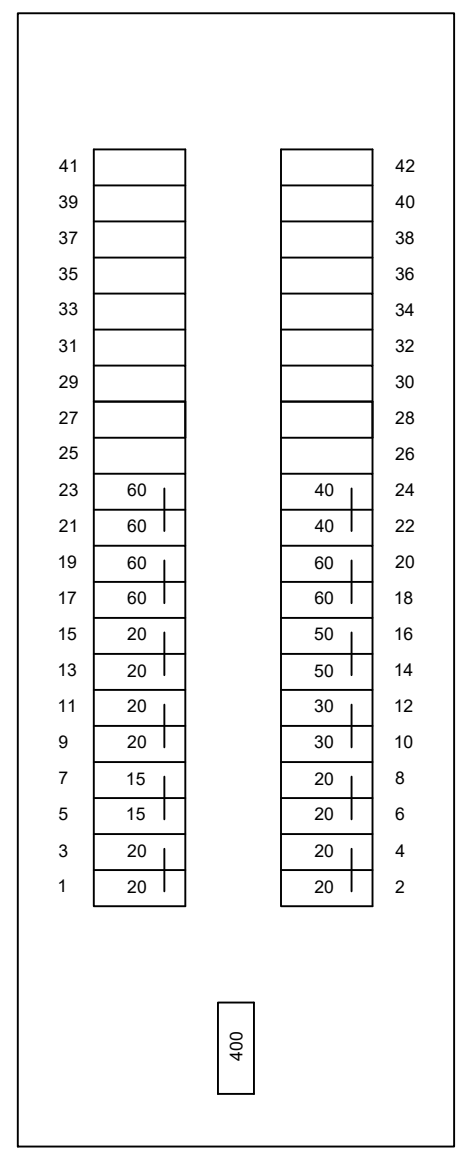
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PEMBROKE AIRPORT FUEL SYSTEM
 176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

TERMINAL PANEL DETAILS			
ENGR. STAMP	DESIGNED BY: KRM	DRAWN BY: KRM	CHECKED BY: KRM
	CHECKED: KRM	CHECKED: KRM	
	APPROVED:		
	SCALE: NOT TO SCALE	DATE: MAY 2021	
	DRAWING NUMBER: 325 - E-2		
CLIENT DWG. NO.	325 - E-2	REV:	0



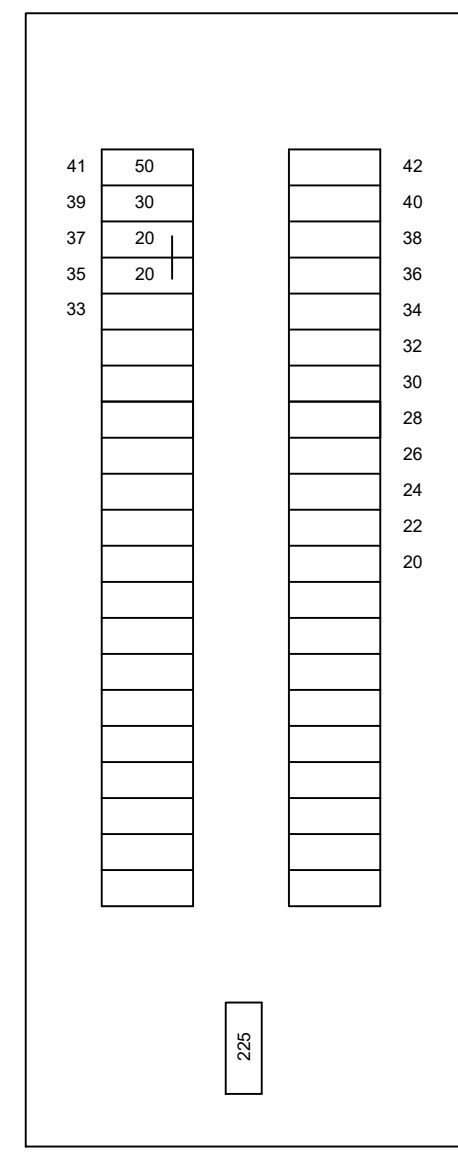
CCTS 25-41 BLANK

CCTS 26-42 BLANK

MAIN BREAKER: 400A

TERMINAL ELECTRICAL
 HEAT PUMP PANEL
 42CCT
 400A 120/240 1P 3W
 TYPE: CDP

CCT 41 - CABINET 3: 50A
 CCT 39 - CABINET 2: 30A
 CCT 37 - CABINET 1: 20A
 CCT 35 - CABINET 1: 20A
 CCT 33 - BLANK



MAIN BREAKER: 225A

TERMINAL ELECTRICAL PANEL
 42CCT
 225A 120/240 1P 3W
 TYPE: NLAB 342L

CCT 38 - BLANK

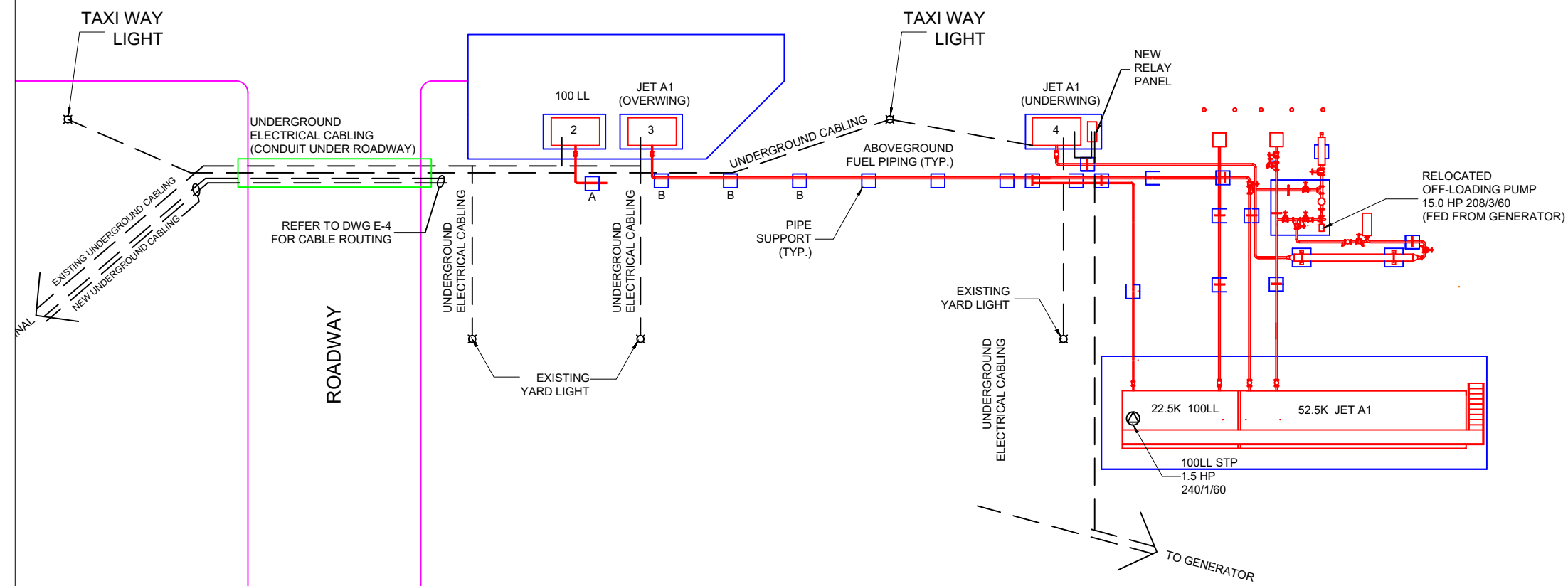
CCT 26 - BLANK

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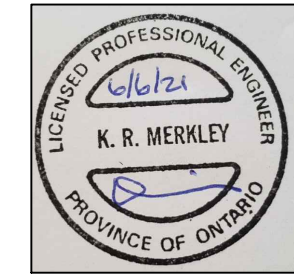
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REFER TO DWG E-4 FOR CABLE ROUTING

NOTE: NEW UNDERGROUND CABLE NOT COMPLETELY SHOWN FOR CLARITY. REFER TO DWG E-4 FOR SCHEMATIC.



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PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

PROPOSED ELECTRICAL PLAN

DESIGNED BY: KRM	DRAWN BY: KRM
CHECKED BY: KRM	CHECKED BY: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: MAY 2021
DRAWING NUMBER: 325 - E-3	

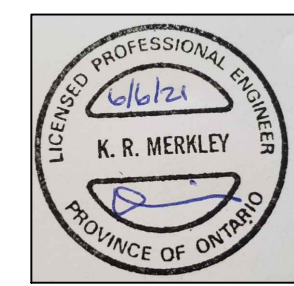
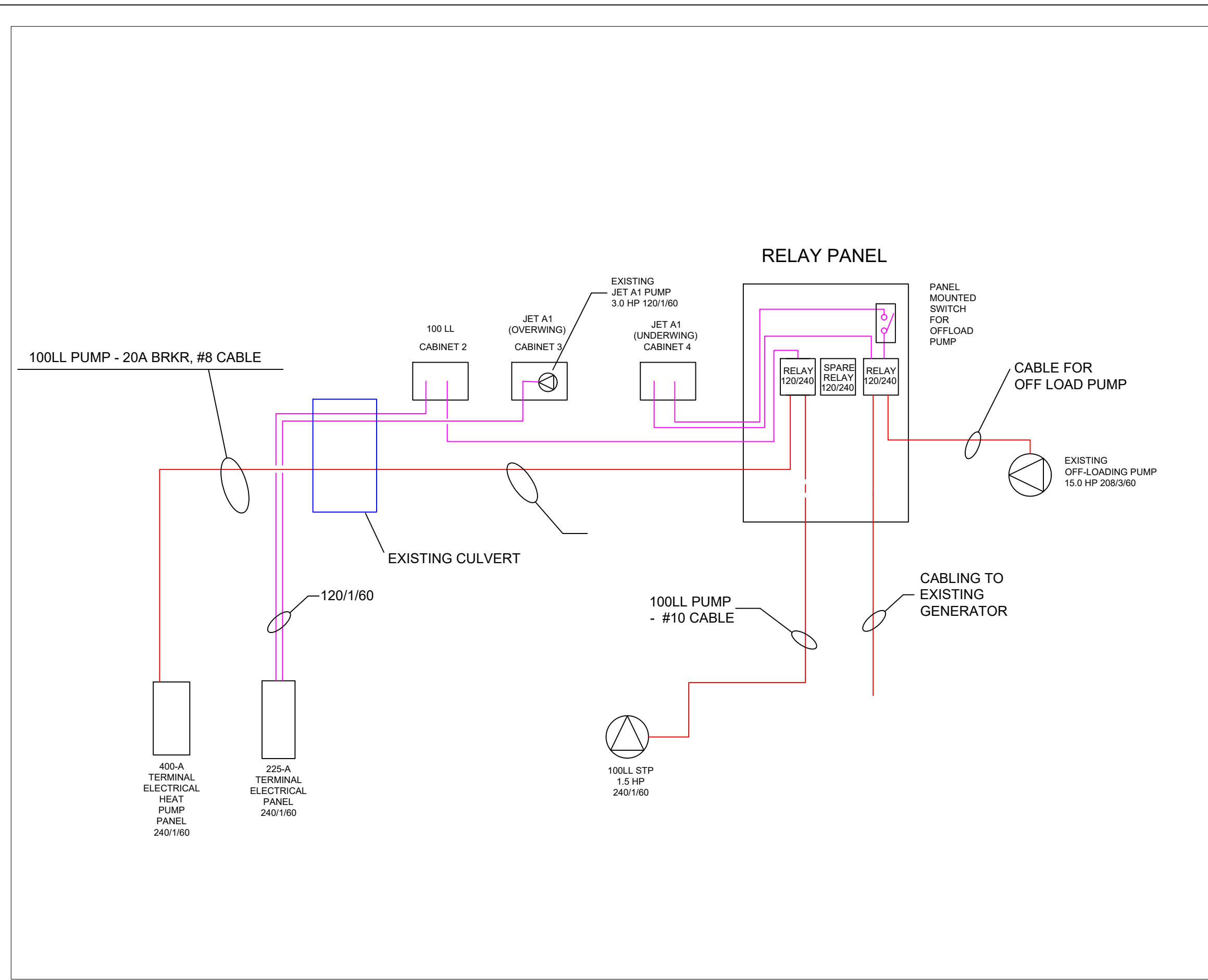
CLIENT DWG. NO. 325 - E-3 REV: 0

A. SECTION LETTER OR DETAIL NUMBER
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 OR
 DRAWING WHERE SECTION OR DETAIL WAS INDICATED

REVISIONS		
0	06/06/21	ISSUED FOR CONSTRUCTION
1	07/06/21	REVISED LAYOUT
2		

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PEMBROKE AIRPORT FUEL SYSTEM
 176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

PROPOSED ELECTRICAL SCHEMATIC

DESIGNED BY: KRM	DRAWN BY: KRM
CHECKED BY: KRM	CHECKED BY: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: MAY 2021
DRAWING NUMBER: 325 - E-4	

CLIENT DWG. NO. 325 - E-4 REV: 1

GENERAL NOTES

- 1 THE CONTRACTOR IS TO PROVIDE A COMPLETE WORKING SYSTEM.
- 2 ALL WORK TO BE PERFORMED BY LICENSED CONTRACTORS.
- 3 PERFORM UTILITY LOCATES BEFORE ANY EXCAVATION
- 4 ALL WORK (CONSTRUCTION METHODS, EQUIPMENT AND ALL OPERATIONS) SHALL CONFORM TO ALL APPLICABLE ACTS, REGULATIONS AND BY-LAWS IN FORCE TO ENSURE THE SAFETY OF THE WORK, THE CONTRACTORS WORKERS AND OTHERS AT ALL TIMES.
- 5 ALL WORK IS TO BE PERFORMED TO THE APPROPRIATE CODES AND REGULATIONS.
- 6 THE TERM "PROVIDE" MEANS TO SUPPLY AND INSTALL.
- 7 THE CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE, PREMISES, CONTRACT DOCUMENTS, AN ALL CONDITIONS AS MAY AFFECT THE WORK, AND BE SATISFIED THAT THE WORK CAN BE COMPLETED AS INDICATED AND SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
- 8 THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL LAYOUT, SETTING OF ELEVATIONS AND PROVIDING ACCURATE ALIGNMENT OF THE WORK AND SHALL VERIFY THAT ALL MEASUREMENTS AND DETAILS OF ANY EXISTING STRUCTURES NECESSARY FOR CLEARANCES AND PROPER FITTING OF NEW WORK TO IT BEFORE PROCEEDING WITH CONSTRUCTION.
- 9 NO CHANGES TO THE SCOPE OF WORK OR CONTENT OF THE WORK ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
- 10 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK OF ALL TRADES WITH EACH OTHER AND HIS OWN SO THAT INTEGRATED WORK OF ALL WILL PROCEED TO A SATISFACTORY COMPLETION WITHOUT UNDUE DELAY.
- 11 IT IS THE CONTRACTOR'S RESPONSIBILITY TO APPLY (AND PAY FOR) FOR ALL REQUIRED APPLICATIONS/PERMITS AND INSPECTIONS / TESTS REQUIRED. ALL CERTIFICATES OF INSPECTION / TESTING SHALL BE PROVIDED TO THE OWNER AT NO COST TO THE OWNER.

ABOVEGROUND FUEL TANK AND FITTINGS

- 1 PROVIDE ONE (1) NEW 75,000 LITRE, TWO (2) COMPARTMENT, HORIZONTAL, DOUBLE WALL, AGI TANK AS BELOW:

 ULC S601-2014
 INTERNAL COATING SUITABLE FOR AVIATION FUEL
 TWO (2) COMPARTMENTS:
 100 LL AVIATION GASOLINE (22,500 LITRES)
 JET A1 (52,500 LITRES)
 TWO (2) DIPSTICKS (METRIC).
 STAIRS WITH HANDRAIL ON BOTH SIDES OF STAIRS.
 54' CATWALK ON ONE SIDE OF THE TANK TOP. HANDRAIL ON ONE SIDE OF CATWALK.
 TWO (2) MORRISON OVERFILL VALVES (ONE IN EACH COMPARTMENT).
 ONE (1) 1.5 HP STP RANGE 86" - 149" (AV GAS).
 TWO (2) FLOATING SUCTION ASSEMBLIES (ONE IN EACH COMPARTMENT)
 ONE (1) 3" SOLENOID VALVE (NC) TO BE OPENED WITH A CALL FOR FUEL FROM CABINET 3 AND CABINET 4.
 8" FLANGED EMERGENCY VENTS.
 TWO (2) 4" SPARE COUPLINGS IN EACH COMPARTMENT.
 TWO (2) 3" TANK MOUNTED FILL CONNECTION POINTS WITH FILL BOXES.
 TWO (2) TANK MOUNTED DISCHARGE PIPING CONNECTIONS. AV GAS DISCHARGE TO BE 2", JET A1 DISCHARGE TO BE 3".
- 2 PROVIDE A LEVEL GAUGE/ALARM IN EACH COMPARTMENT. MORRISON CLOCK GAUGE IN CENTIMETRES (MORRISON MODEL 918S). PROVIDE APPLICABLE GAUGE FACE PER COMPARTMENT. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
- 3 INSTALL A HIGH-LEVEL ALARM ANNUNCIATOR BOX (MORRISON MODEL 918S) AT THE FILL POINT FOR EACH PRODUCT. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
- 4 CONNECT CATWALK AND STAIRS AS SHOWN.
- 5 PROVIDE PRODUCT LABELS ON AT LEAST TWO (2) SIDES OF EACH COMPARTMENT. LABELS TO HAVE LETTERING AT LEAST 125 mm (5") HIGH. LABELS TO SAY, "100LL", "JET A1".
- 6 PRODUCT LABELS TO BE AS FOLLOWS: JET A1 - BLACK LETTERING, 100LL - BLUE LETTERING.
- 7 PROVIDE NEW FILTERS FOR THE JET A1 SYSTEMS IN CABINETS 3 AND 4. FILTERS ARE TO BE SUITABLE FOR JET A1 WITH ADDITIVE.
- 8 PROVIDE A SPARE SET OF FILTERS FOR CABINET 3 AND 4.

FOR TANK INFORMATION AND PRICING CONTACT AGI DOUG SNIDER AT 1-306-670-0344

DECOMMISSIONING EXISTING UNDERGROUND FUEL SYSTEM

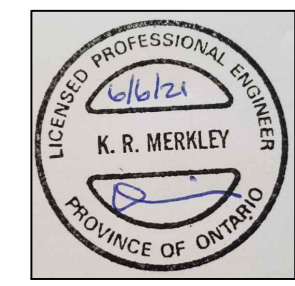
- 1 PERFORM UTILITY LOCATES BEFORE ANY EXCAVATION
- 2 ALL WORK IS TO BE PERFORMED TO THE APPROPRIATE CODES AND REGULATIONS.
- 3 HAND DIG AT OR NEAR UNDERGROUND CABLING.
- 4 CAREFULLY DISCONNECT THE YARD LIGHTS AND WHEN POSSIBLE, REMOVE THEM FROM THE EXCAVATION AREA UNTIL IT IS POSSIBLE TO RE-INSTALL THE LIGHTS WITH THREE (3) NEW 150W LED FLOOD LIGHTS AND RECONNECT THE POWER.
- 5 PUMP EXISTING TANKS EMPTY INTO NEW TANK OR PROVIDE TEMPORARY AVIATION FUEL STORAGE USING THE HOSES IN THE CABINETS.
- 6 DRAIN AND REMOVE ALL ABOVE GROUND PIPING, EQUIPMENT AND VALVES FROM THE DEMOLITION AREA.
- 7 MOVE THE PIPING AND EQUIPMENT TO BE REUSED TO THE AREA DESIGNATED BY THE OWNER.
- 8 DRAIN THE TANKS AND VAPOUR FREE THE TANKS TO ENSURE THAT THE ATMOSPHERE IN THE TANKS IS IN THE ACCEPTABLE LEL RANGE FOR REMOVAL. USE DRY ICE FOR VAPOUR REMOVAL.
- 9 REMOVE THE NAMEPLATES FROM THE TANKS. PROVIDE THE REMOVED NAMEPLATES TO THE OWNER.
- 10 DISPOSE OF THE TANKS AND PROVIDE PROOF OF DISPOSAL.
- 11 REMOVE THE CONCRETE BALLASTS AND HOLD DOWN STRAPS FOR THE TANKS.
- 12 PERFORM SOILS TESTING AS PER E.C./M.O.E. REQUIREMENTS.
- 13 BACKFILL WITH CLEAN SAND. COMPACT IN 12" LIFTS. DRESS WITH 4" TOPSOIL AND SEED.
- 14 REMOVE CABINET #1.
- 15 REMOVE THE CABINET #1 CONCRETE PAD. PATCH ASPHALT AS REQUIRED.
- 16 REMOVE THE 2 HP SUCTION PUMP AND MOTOR IN CABINET #2.

A B	A. SECTION LETTER OR DETAIL NUMBER B. DRAWING WHERE SECTION OR DETAIL IS DRAWN OR DRAWING WHERE SECTION OR DETAIL WAS INDICATED	A -
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REVISIONS		
0	06/06/21 ISSUED FOR CONSTRUCTION	KRM
1	06/09/21 REVISED NOTES	KRM
2	07/06/21 REVISED NOTES	KRM

GENERAL NOTES

- ALL WORK TO BE CONFIRMED BEFORE STARTING THE PROJECT.
- CONTRACTOR TO PROVIDE A COMPLETE WORKING SYSTEM.
- ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.



Bay City Engineering Inc.
 1710 25th Side Road
 Thunder Bay, Ontario, P7K 1L3
 Cell: (807)627-9710 Ofc: (807)473-5798
 E-mail: bce@bcieng.net

PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

DRAWING NOTES PG 1

ENG. STAMP	DESIGNED: in KRM	DRAWN: in KRM
	CHECKED: KRM	CHECKED: KRM
	APPROVED:	
SCALE: NOT TO SCALE		DATE: JUNE 2021
DRAWING NUMBER: 325 - FS-7		
CLIENT DRG. NO. 325 FS-7	REV: 2	

ABOVEGROUND PIPING, FITTINGS AND FILL BOX

- 1 ALL PIPING, VALVES AND FITTINGS ARE TO BE INSTALLED AS PER APPLICABLE CODE(S).
- 2 ABOVEGROUND PIPING 2" OR LESS TO BE SCHED 80 WITH WELDED CONNECTIONS AND FLANGED FITTINGS.
- 3 ABOVEGROUND PIPING LARGER THAN 2" TO BE SCHED 40 WITH WELDED CONNECTIONS AND FLANGED FITTINGS.
- 4 MODIFY THE PIPING IN CABINETS #2 AND #3 TO SUIT THE STP DISCHARGE PIPING.
- 5 PROVIDE A 2" MANUAL FLANGED BALL VALVE AT THE 100LL TANK DISCHARGE LOCATION.
- 6 PROVIDE A 3" MANUAL FLANGED BALL VALVE AT THE JET A1 TANK DISCHARGE, JET A1 FILL LOCATION AND 100LL FILL LOCATION ON THE TANK.
- 7 PROVIDE UNIONS OR FLANGES AT DEVICES AND VALVES IN THE SYSTEM TO ENSURE EASE OF MAINTENANCE.
- 8 REUSE THE FOLLOWING ITEMS:
 - RELAXATION CHAMBER AND SUPPORTS, FILTER HOUSING AND STAND
 - ASSEMBLED PIPING, VALVES AND FITTINGS WHERE POSSIBLE
 - OFFLOAD CONNECTION AND DRIP COLLECTOR
 - OFF LOAD PUMP AND ASSOCIATED OFF-LOAD COMPONENTS.
- 9 PROVIDE OR MODIFY PIPING AND FITTINGS TO SUIT NEW INSTALLATION OF THE COMPLETE SYSTEM.
- 10 PIPE SUPPORTS TO BE PROVIDED TO ENSURE THAT THE PIPING DOES NOT CAUSE ANY STRESS ON THE TANK AND FITTINGS. ALL PIPE SUPPORTS MAY NOT BE SHOWN ON THE PLANS BUT ARE TO BE INSTALLED WHERE REQUIRED. MAXIMUM SPACING OF PIPE SUPPORTS TO BE TEN (10) FEET.
- 11 PIPE SUPPORTS TO BE ON 24"X24"X6" REINFORCED CONCRETE PADS. PIPE SUPPORT CONCRETE PADS TO BE ON 12" COMPACTED GRANULAR "A" BASE.
- 12 RELAXATION CHAMBER SUPPORTS TO BE 32"X32"X6" REINFORCED CONCRETE PADS. CONCRETE PADS TO BE ON 12" COMPACTED GRANULAR "A" BASE.
- 13 MAINTAIN ORIGINAL SLOPE OF THE RELAXATION CHAMBER.
- 14 NEW FILTER CARTRIDGES ARE TO BE PROVIDED FOR THE EXISTING RELAXATION CHAMBER FILTER HOUSING (REUSED), AND CABINETS #3 AND #4. THEY ARE TO BE SUITABLE FOR JET A1 WITH ADDITIVE. PROVIDE A SPARE SET OF FILTERS FOR EACH FILTER HOUSING.
- 15 NEW FILTER CARTRIDGES ARE TO BE PROVIDED FOR CABINET #2. THEY ARE TO BE COMPATIBLE WITH 100LL AVGAS. PROVIDE A SPARE SET OF FILTERS.
- 16 ABOVEGROUND PIPING AND PIPE FITTINGSTO BE PAINTED TO MATCH EXISTING COLOUR. PROVIDE THE OWNER WITH A GALLON OF THE PAINT FOR TOUCH UPS. DO NOT PAINT THE VALVES.
- 17 PRODUCT IDENTIFICATION LABELS AND FLOW ARROWS ARE TO BE INSTALLED ON THE ABOVEGROUND PIPING.
- 18 PROVIDE TWO (2) ULC LISTED REMOTE FILL BOXES TO BE INSTALLED AS SHOWN AND BELOW:
 - MORRISON 515, 3" FEMALE CONNECTION,
 - PEDESTAL MOUNTED (515-0300AC-P13"BY)
 - 3" THREADED BALL VALVE,
 - 3" THREADED CHECK VALVE,
 - 3" FEMALE CAMLOCK AND PLUG
- 19 PROVIDE ¾" PRESSURE RELIEF VALVES SET TO 75 PSI. PIPE THE PRV DISCHARGE TO THE TANK TOP. PROVIDE A DROP TUBE FOR EACH PRV DISCHARGE LINE.

SUBMERSIBLE TURBINE PUMPS

- 1 INSTALL ONE (1) 1.5 HP SUBMERSIBLE TURBINE PUMP (STP) IN THE 100LL COMPARTMENT. (STP SUPPLIED WITH THE TANK)
- 2 PROVIDE STP STARTER AS REQUIRED. GIVE TO ELECTRICAL TO INSTALL.
- 3 PROVIDE 2" ANTI-SYPHON VALVE (EBW 63630011) AT THE STP AND A 2"X 18" SS FLEXIBLE CONNECTION AT 100LL DISCHARGE FITTING.
- 4 PROVIDE 3" X 18" SS FLEXIBLE CONNECTOR AT THE JET A1 DISCHARGE FITTING.

OFF-LOAD PUMP

- 1 RELOCATE THE EXISTING OFF LOAD PUMP AND FITTINGS TO THE NEW PUMP PAD.
- 2 PROVIDE PIPING AND VALVES AS REQUIRED TO HAVE THE OFF-LOAD PUMP AS AN ALTERNATIVE TO USING THE DELIVERY VEHICLE PUMP.
- 3 REUSE EXISTING VALVES AND FITTINGS WHERE POSSIBLE.
- 4 PROVIDE ALL REQUIRED FITTINGS AND VALVES AS REQUIRED TO MAKE A WORKING SYSTEM.

IMPACT PROTECTION

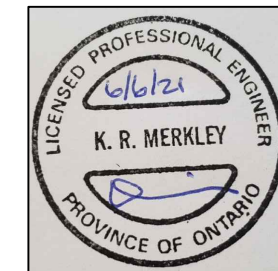
- 1 PROVIDE 6" CONCRETE FILLED STEEL BOLLARDS AS REQUIRED AND SHOWN FOR PROTECTION OF THE FILL POINTS.
- 2 BOLLARDS TO BE A MAXIMUM 4'-6" APART.
- 3 BOLLARDS TO BE AT LEAST 40" (1 METRE) FROM THE FACE OF THE FILL POINTS.
- 4 TOP OF BOLLARDS TO BE 40" ABOVE GRADE.
- 5 BOTTOMS OF BOLLARDS TO BE AT LEAST 48" BELOW GRADE.
- 6 BOLLARDS TO BE INSERTED IN 16" DIAMETER CONCRETE FILLED SONO TUBES.
- 7 BOLLARDS TO BE PAINTED ORANGE.

A B	A. SECTION LETTER OR DETAIL NUMBER B. DRAWING WHERE SECTION OR DETAIL IS DRAWN OR DRAWING WHERE SECTION OR DETAIL WAS INDICATED	A —
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REVISIONS			
0	06/06/21	ISSUED FOR CONSTRUCTION	KRM
1	06/09/21	UPDATED SPELLING ERROR	KRM
2	07/06/21	REVISED NOTES	KRM

GENERAL NOTES

- ALL WORK TO BE CONFIRMED BEFORE STARTING THE PROJECT.
- CONTRACTOR TO PROVIDE A COMPLETE WORKING SYSTEM.
- ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.



Bay City
Engineering Inc.

1710 25th Side Road
Thunder Bay, Ontario, P7K 1L3
Cell: (807)627-9710 Ofc: (807)473-5798
E-mail: bce@bcebaytel.net

PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
PEMBROKE, ONTARIO

DRAWING NOTES PG 2

ENG. STAMP	DESIGNED: <small>BY</small> KRM	DRAWN: <small>BY</small> KRM
	CHECKED: KRM	CHECKED: KRM
	APPROVED:	
SCALE: NOT TO SCALE		DATE: JUNE 2021
DRAWING NUMBER: 325 - FS-7A		
CLIENT DRG. NO. 325 FS-7A	REV: 2	

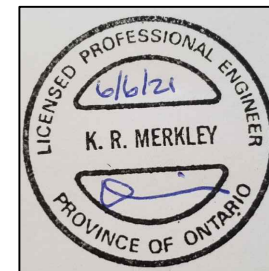
A. SECTION LETTER OR DETAIL NUMBER
 B. DRAWING WHERE SECTION OR DETAIL IS DRAWN
 OR
 DRAWING WHERE SECTION OR DETAIL WAS INDICATED

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REVISIONS			
0	06/06/21	ISSUED FOR CONSTRUCTION	KRM
1	06/09/21	ADDED CABINET NOTES	KRM
2	07/06/21	REVISED ELECTRICAL NOTES	KRM

GENERAL NOTES

- ALL WORK TO BE CONFIRMED BEFORE STARTING THE PROJECT.
- CONTRACTOR TO PROVIDE A COMPLETE WORKING SYSTEM.
- ALL WORK TO BE DONE ACCORDING TO THE APPLICABLE CODES AND REGULATIONS.



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 1710 25th Side Road
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 Cell: (807)627-9710 Ofc: (807)473-5798
 E-mail: bce@bcieng.net

PEMBROKE AIRPORT FUEL SYSTEM

176 LEN HOPKINS DRIVE
 PEMBROKE, ONTARIO

DRAWING NOTES PG 3

DESIGNED: in KRM	DRAWN: in KRM
CHECKED: KRM	CHECKED: KRM
APPROVED:	
SCALE: NOT TO SCALE	DATE: JUNE 2021
DRAWING NUMBER: 325 - FS-7B	
CLIENT DRG. NO. 325 FS-7B	REV: 2

ELECTRICAL

1. ALL ELECTRICAL WORK TO BE DONE BY LICENCED ELECTRICIANS.
2. ALL ELECTRICAL WORK TO BE DONE TO THE CURRENT ONTARIO ELECTRICAL CODE.
3. THE ELECTRICAL CONTRACTOR IS TO PROVIDE A COMPLETE WORKING SYSTEM. PROVIDE ALL CONNECTIONS AND APPROPRIATE FITTINGS FOR THE SYSTEM.
4. THE ELECTRICAL SCHEMATIC SHOWS THE INTENT OF THE ELECTRICAL PROJECT AND NOT THE DETAILS. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO UNDERSTAND THE INTENT OF THE PROJECT AND PROVIDE ALL THE REQUIRED WIRING, COMPONENTS AND FITTINGS TO ENSURE THE SYSTEM WORKS AS INTENDED.
5. EXISTING CABINETS AND LIGHT POLE DETAILS:
 - a. CABINET #1 (TO BE REMOVED)
 - i. 2 HP MOTOR CONNECTED TO A TWO (2) POLE 20A BREAKER IN THE TERMINAL ELECTRICAL CABINET (CCT 33 AND 35).
 - ii. HOSE REEL AND REMOTE LIGHT SWITCH IS FED FROM A SINGLE POLE 15A BREAKER IN THE MAINTENANCE BUILDING (CCT 22B).
 - b. CABINET #2
 - i. 2HP MOTOR FED FROM A SINGLE POLE 30A BREAKER IN THE TERMINAL ELECTRICAL CABINET (CCT 39).
 - ii. HOSE REEL IS POWERED BY THE SAME CIRCUIT AS THE MOTOR (CCT 39).
 - c. CABINET #3
 - i. 3 HP MOTOR FED FROM A SINGLE POLE 50A BREAKER IN THE TERMINAL ELECTRICAL CABINET (CCT 41).
 - ii. HOSE REEL AND REMOTE LIGHT SWITCH IS FED FROM A SINGLE POLE 15A BREAKER IN THE MAINTENANCE BUILDING (CCT 22B).
 - d. CABINET #4
 - i. 15 HP MOTOR (208/3/60) FED FROM A GENERATOR IN THE MAINTENANCE BUILDING.
 - ii. THE 15 HP MOTOR IS CONTROLLED BY A MAGNETIC MOTOR STARTER WITH MULTIPLE START/STOP STATIONS.
 - iii. THE DEADMAN SWITCH, HOSE REEL AND CONTROL WIRING IS FED FROM CIRCUIT 22B IN THE MAINTENANCE BUILDING.
6. EXPLOSION PROOF FITTINGS TO BE USED WHERE REQUIRED BY THE ELECTRICAL CODE.
7. DISCONNECT THE POWER TO THE EXISTING YARD LIGHTS THAT ARE IN THE AREA OF THE UNDERGROUND FUEL TANKS.
8. TRY TO PEEL BACK THE ELECTRICAL CABLE FOR THE DISCONNECTED YARD LIGHTS IF POSSIBLE. IF NOT, PROVIDE NEW CABLING AND TERMINATIONS AS REQUIRED.
9. DISCONNECT THE POWER CABLE BETWEEN THE GENERATOR AND THE OFF-LOADING PUMP SWITCH. IF POSSIBLE, PEEL THE CABLE BACK ENOUGH TO REROUTE THE POWER CABLE TO THE NEW LOCATION OF THE EXISTING OFF-LOADING PUMP.
10. IF IT IS NOT POSSIBLE REMOVE THE CABLE FOR RE-ROUTING AS DESCRIBED IN 9, TERMINATE IN A WEATHERPROOF BOX ON A STAND AND PROVIDE NEW CABLE FROM THE WEATHERPROOF JUNCTION BOX DESCRIBED IN #9 ABOVE TO THE OFF-LOADING PUMP.
11. PROVIDE NEW 150W LED LIGHT FIXTURES ON EACH OF THE THREE YARDLIGHT POLES.
12. RECONNECT THE YARDLIGHTS (DISCONNECTED ABOVE) WHEN THEY ARE REINSTALLED.
13. DISCONNECT THE POWER TO CABINET 1. MAKE THE CABLE SAFE
14. DISCONNECT THE POWER TO THE PUMP MOTOR IN CABINET 2.

ELECTRICAL (continued)

1. PROVIDE WIRING, COMPONENTS AND FITTINGS BETWEEN THE TERMINAL PANEL AND THE CABINETS AS REQUIRED TO MAKE A FULLY FUNCTIONING SYSTEM.
2. PROVIDE WIRING, COMPONENTS AND FITTINGS BETWEEN THE TERMINAL ELECTRICAL HEAT PUMP PANEL AND THE PUMP STARTERS (RELAYS) AS REQUIRED TO MAKE A FULLY FUNCTIONING SYSTEM.
3. PROVIDE WIRING, COMPONENTS AND FITTINGS IN CABINET 2 TO START THE 100LL STP WHEN FUEL IS REQUIRED. MOUNT THE STP STARTER IN THE NEW WEATHERPROOF CABINET INSTALLED BESIDE CABINET 4.
4. PROVIDE WIRING, COMPONENTS AND FITTINGS IN CABINET 3 AND CABINET 4 TO OPEN THE ELECTRIC SOLENOID VALVE AT THE TANK WHEN EITHER (OR BOTH) CABINETS NEEDS FUEL.
5. PROVIDE WIRING, COMPONENTS AND FITTINGS IN CABINET 4 TO START THE GENERATOR/OFF LOAD PUMP WHEN FUEL FROM THE UNDERWING CABINET (#4) IS REQUIRED.
6. PROVIDE A WEATHERPROOF ELECTRICAL RELAY CABINET AND STAND TO CONTAIN THE OFF-LOAD PUMP STARTER SWITCH FOR THE OFF-LOADING PUMP (THAT WILL START THE GENERATOR) AND THE STP STARTER FOR THE 100LL STP (SWITCHED FROM A SIGNAL IN CABINET 2. THE NEW RELAY CABINET IS TO BE LOCATED ON THE PAD BESIDE FUEL CABINET 4 (JET A1 UNDERWING).
7. PROVIDE NEW POWER CABLING AND ELECTRICAL FITTINGS FOR THE 100LL SUBMERSIBLE PUMP AND THE OFF-LOAD PUMP BETWEEN THE STARTERS IN THE RELAY CABINET AND THE PUMP MOTORS. THE 100LL STP IS 1.5 HP 240/1/60. THE OFFLOAD PUMP IS 15 HP 208/3/60.
8. PROVIDE CABLING FOR THE TWO (2) NEW HIGH-LEVEL ALARMS.
9. PROVIDE WIRING COMPONENTS FOR THE 120V SOLENOID VALVE (ANTI-SYPHON) AT THE JET A1 TANK TOP. THIS NORMALLY CLOSED SOLENOID VALVE IS TO OPEN ONLY WHEN CABINET 3 AND/OR CABINET 4 REQUIRE FUEL.

CONCRETE

1. BUILD UP A COMPACTED 24" GRANULAR "A" BASE IN 6" LIFTS FOR THE TANK PAD.
2. BUILD UP A COMPACTED 12" GRANULAR "A" BASE IN 6" LIFTS FOR THE OFF-LOAD PUMP PAD, RELAXATION CHAMBER SUPPORTS AND PIPE SUPPORTS.
3. PIPE SUPPORTS TO BE MAXIMUM TEN (10) FEET APART.
4. GRANULAR SOIL UNDER CONCRETE TO BE COMPACTED TO 98%.
5. FORM AND POUR THE TANK PAD, OFF-LOAD PUMP PAD AND PIPE SUPPORTS AS SHOWN.
6. REBAR TO BE 15M AND TO BE INSTALLED AS PER NORMAL CONCRETE PRACTISES.
7. CONCRETE TO BE 30 MPa.
8. CHAMFERRED TOP EDGES.
9. CONCRETE SURFACES TO BE BRUSH FINISHED.