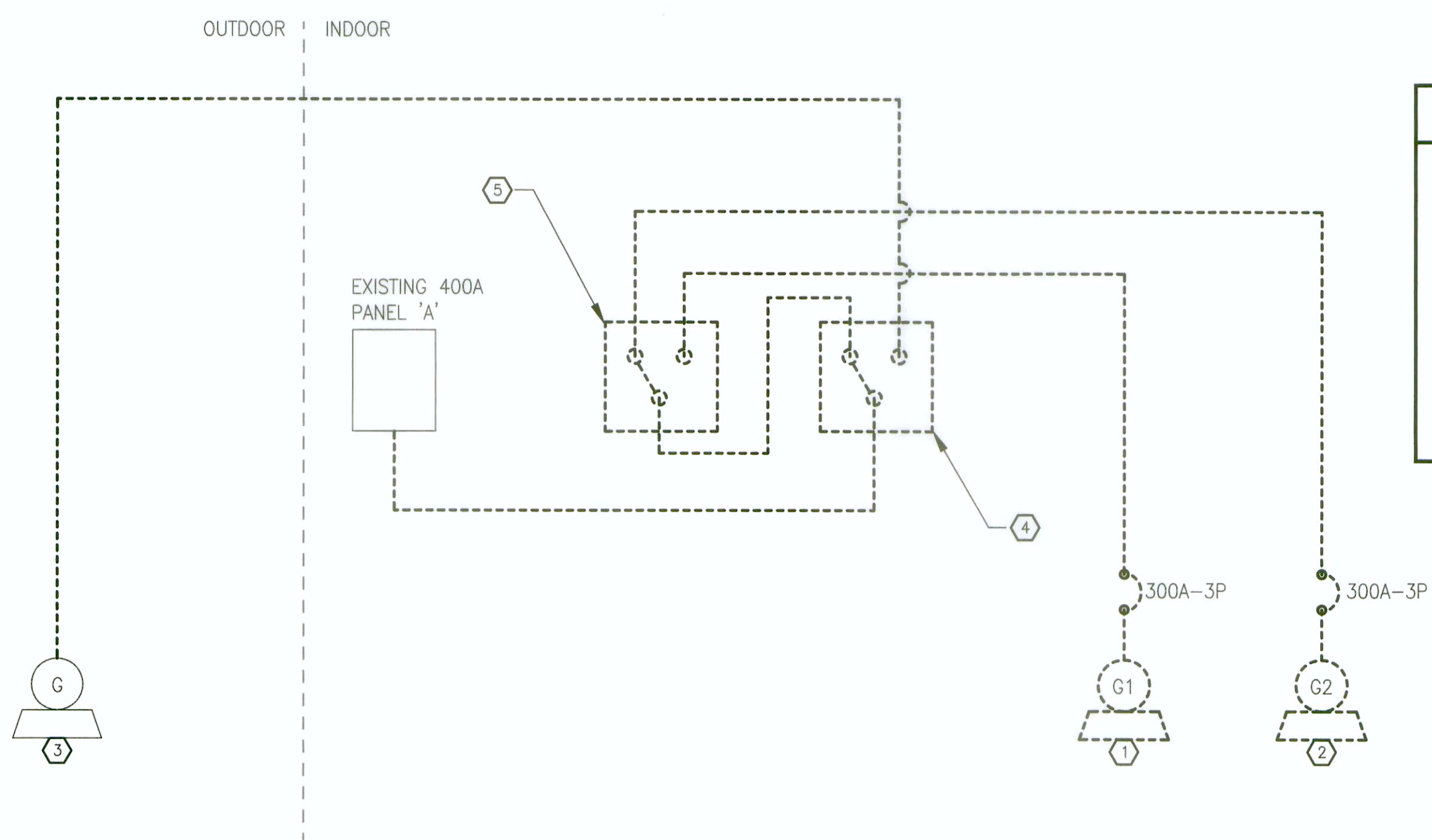
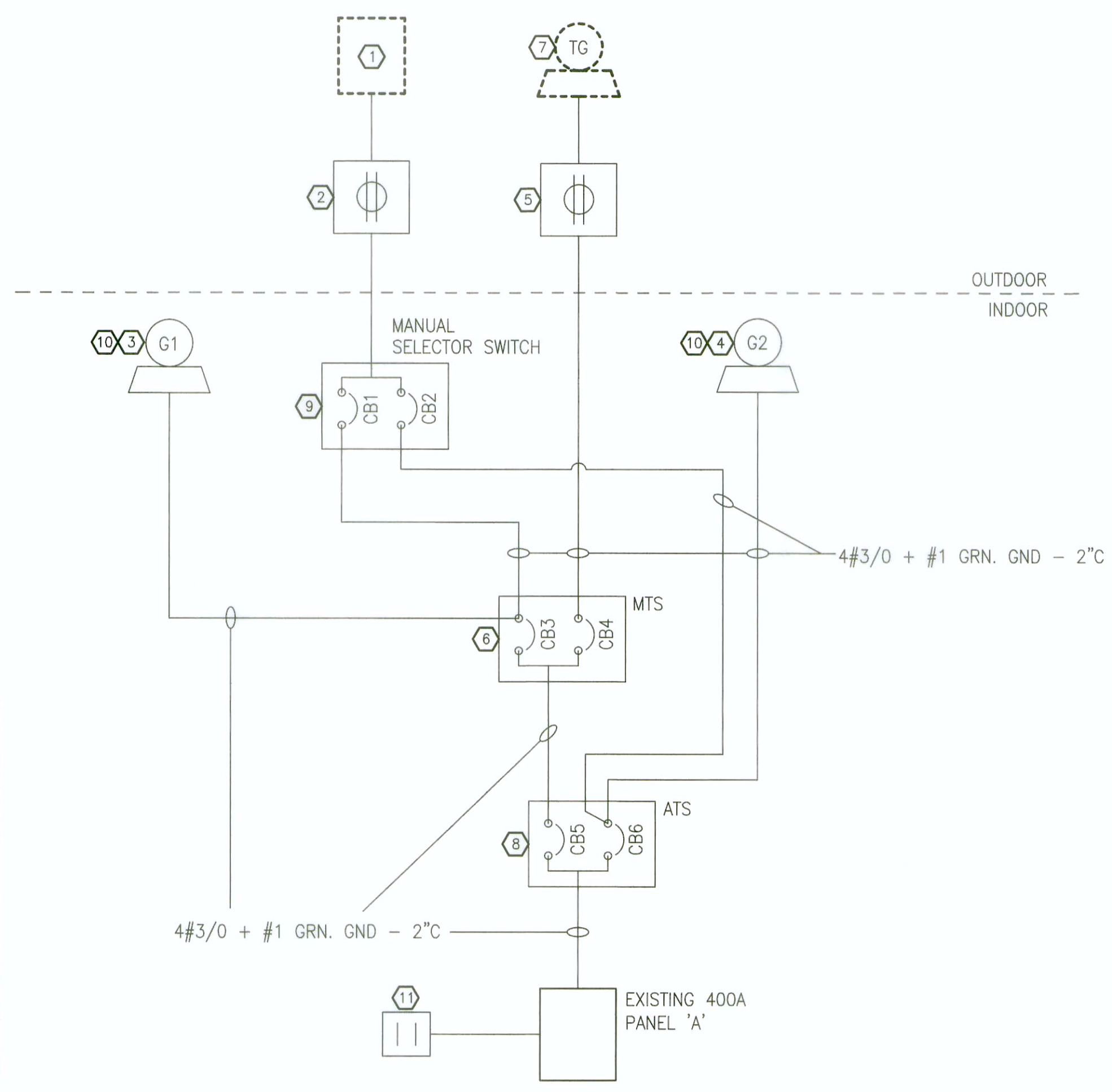


| POWER LEGEND | |
|--------------|------------------------------------|
| SYMBOL | DESCRIPTION |
| | GENERATOR |
| | CIRCUIT BREAKER |
| | SAFETY SWITCH |
| | QUICK CONNECT BOX |
| | AUTOMATIC / MANUAL TRANSFER SWITCH |
| | ELECTRICAL PANEL |
| | SAFETY SWITCH |
| | 120V, 1Ø OUTLET |
| | 208V, 1Ø OUTLET |
| | CONTACTOR |



- EXISTING SINGLE LINE NOTES**
- EXISTING 72kW 120/208V 3Ø 4W PERMANENT GENERATOR #1.
 - EXISTING 72kW 120/208V 3Ø 4W PERMANENT GENERATOR #2.
 - EXISTING TEMPORARY GENERATOR.
 - EXISTING AUTOMATIC TRANSFER SWITCH.
 - EXISTING AUTOMATIC TRANSFER SWITCH.

1 EXISTING SINGLE LINE DIAGRAM
SCALE: NTS



- NEW SINGLE LINE NOTES**
- NEW PORTABLE LOAD BANK C/W MALE CONNECTOR.
 - NEW WEATHERPROOF 200A 120/208V 3Ø 4W LOAD BANK NEMA 3R RATED QUICK CONNECT BOX LOCATED OUTSIDE.
 - NEW 40kW PRIME POWER 120/208V 3Ø 4W PERMANENT GENERATOR #1.
 - NEW 40kW PRIME POWER 120/208V 3Ø 4W PERMANENT GENERATOR #2.
 - NEW WEATHERPROOF 200A 120/208V 3Ø 4W TEMPORARY GENERATOR QUICK CONNECT BOX LOCATED OUTSIDE. CONNECT VIA A NEW 200A, 120/208V 3Ø 4W BREAKER IN AN ENCLOSURE LOCATED IN THE GENERATOR ROOM. EXACT LOCATION TO BE COORDINATED ON SITE.
 - NEW 200A, 120/208V 3Ø 4W NON AUTOMATIC TRANSFER SWITCH. PROVIDE KEY INTERLOCK BETWEEN THE SWITCHES.
 - FUTURE PORTABLE GENERATOR.
 - NEW 200A 120/208V 3Ø 4W AUTOMATIC TRANSFER SWITCH.
 - NEW 200A 120/208V RATED SPDT 3 POSITION SWITCH. PROVIDE KEY INTERLOCK BETWEEN THE SWITCHES.
 - AUTOMATIC LOAD SHEDDING REQUIREMENT:
-LOAD MONITORING ALARM/CONTROLLER: PROVIDE A DIGITAL CONTROLLER C/W LCD DISPLAY ON THE GENERATOR CAPABLE OF LOAD MONITORING AND MULTI-LEVEL CUSTOMIZABLE INDICATIONS OF ALARM AND CONTACTOR OPERATION. PROVIDE A VISUAL AND AN AUDIBLE SIGNALLING DEVICE AT THE LCD DISPLAY TO PROVIDE AN ALARM AT 80% GENERATOR LOAD CONDITION (FIELD ADJUSTABLE 50-100%). PROVIDE A NETWORK CONNECTION FOR REMOTE MONITORING BY GENSET/TRANSFER SWITCH CONTROL SYSTEM TO PROVIDE REMOTE LOAD INDICATION AND ALARM OPERATION. PROVIDE A CONTACTOR TO TIE INTO THE EXISTING SECURITY SYSTEM. PROVIDE ALL REQUIRED CONTROL WIRING AND ACCESSORIES FOR A COMPLETE OPERATING SYSTEM. PROVIDE A PERMANENT TYPED INSTRUCTION MOUNTED ADJACENT TO THE CONTROLLER FOR CLEAR ACTIONS TO BE TAKEN WHEN ALARM SIGNAL IS FLASHING.
-HOUSE (DUPLEX) LOAD SHEDDING: UPON DETECTION OF PRESET GENERATOR PEAK LOAD, CONTROLLER SHALL OPEN A 100A-3P CONTACTOR TO DISCONNECT THE 100A-3P 'DUPLEX' SERVICE FROM ELECTRICAL PANEL 'A'. PROVIDE A KEY-OPERATED 3 POSITION SWITCH CONNECTED TO THE RELAY FOR THE FOLLOWING OPERATION:
AUTO - AUTOMATICALLY CLOSE AND OPEN THE CONTACTOR AS OPERATED BY THE LOAD MONITORING ALARM/CONTROLLER.
ON - CLOSE THE CONTACTOR TO POWER THE 'DUPLEX' CIRCUIT.
OFF - OPEN THE CONTACTOR TO POWER OFF THE 'DUPLEX' CIRCUIT.
SET DEFAULT GENERATOR LOAD SHEDDING THRESHOLD AS SHOWN IN THE ELECTRICAL SPECIFICATIONS SECTION 26 32 13 01 - 2.5.
 - 100A-3P RELAY CONTACTOR FOR REMOTE MANUAL ON/OFF SWITCH FOR 'DUPLEX' CIRCUIT ON PANEL 'A'.

| SWITCH BREAKER SCHEDULE | | | | |
|-------------------------|---------------|---------------|-------------|-------------|
| | GEN. 1 NORMAL | GEN. 2 NORMAL | GEN. 1 TEST | GEN. 2 TEST |
| CB1 | 0 | 0 | C | 0 |
| CB2 | 0 | 0 | 0 | C |
| CB3 | C | 0 | 0 | C |
| CB4 | 0 | 0 | 0 | 0 |
| CB5 | C | 0 | 0 | C |
| CB6 | 0 | C | C | 0 |

0 = OPEN
C = CLOSED

3 BREAKER INTERLOCK SCHEDULE
SCALE: NTS

2 NEW SINGLE LINE DIAGRAM
SCALE: NTS



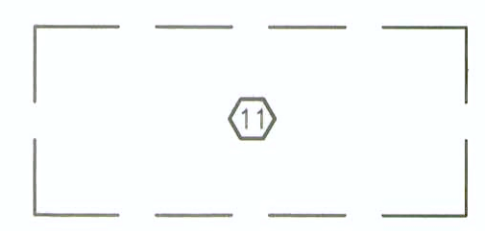
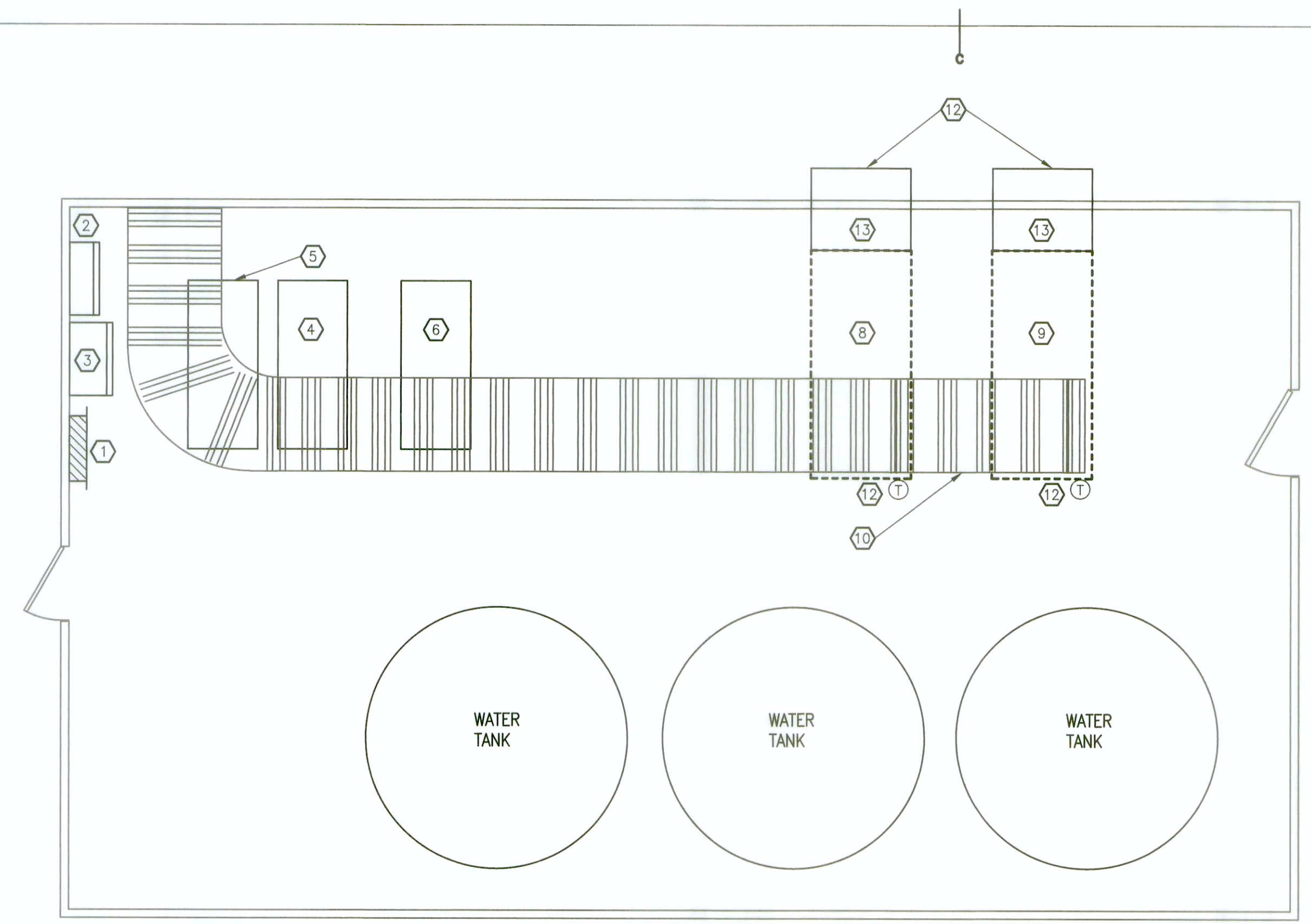
FEB 22 2018
Klaus Gethner P.Eng.

| NO. | DESCRIPTION | DATE |
|-----|----------------------|----------|
| 4 | RE-ISSUED FOR TENDER | 16/02/16 |
| 3 | ISSUED FOR TENDER | 17/12/07 |
| 2 | ISSUED FOR REVIEW | 17/06/06 |
| 1 | ISSUED FOR REVIEW | 17/06/02 |
| 0 | ISSUED FOR REVIEW | 17/03/01 |

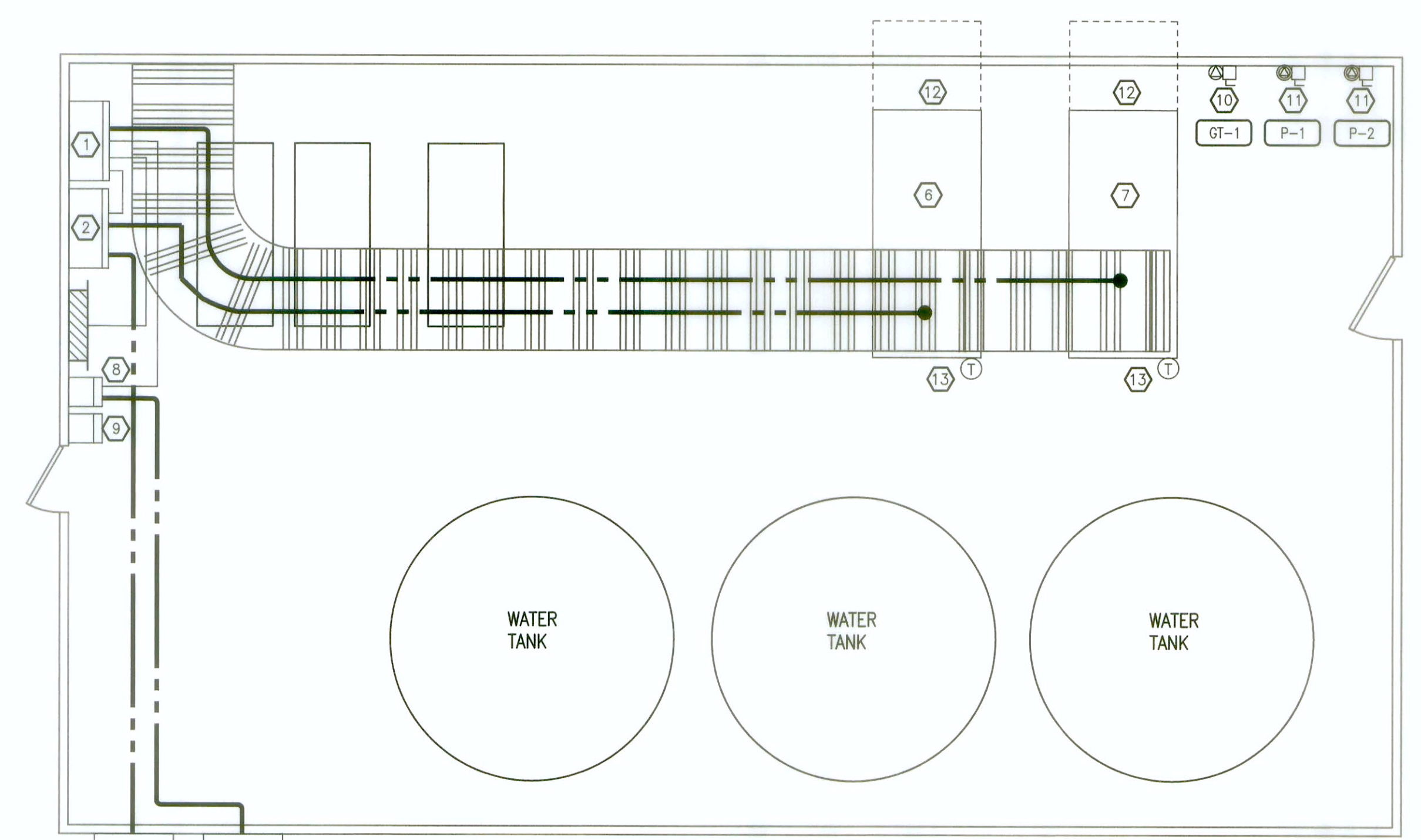
project: **BORDER SERVICES OFFICES LITTLE GOLD CREEK YT GENERATOR UPGRADE**

drawing: **EXISTING AND NEW SINGLE LINE DIAGRAMS**

| | | |
|---------------------|-------------------------------|------------|
| designed | CG | concu |
| date | JUNE, 2017 | |
| drawn | DJ | dessine |
| date | JUNE, 2017 | |
| approved | | approuve |
| date | | |
| Tender | | Soumission |
| PWC Project Manager | Administrateur de projets TPC | |
| project number | no. du projet | |
| | 2017019 | |
| drawing no. | no. du dessin | |
| | E-01 | |



1 EXISTING ELECTRICAL LAYOUT
E-2 SCALE: 1=50



2 NEW ELECTRICAL LAYOUT
E-2 SCALE: 1=50

- EXISTING LAYOUT NOTES
- EXISTING PANEL 'A' TO REMAIN.
 - EXISTING AUTOMATIC TRANSFER SWITCH TO BE REMOVED.
 - EXISTING AUTOMATIC TRANSFER SWITCH TO BE REMOVED.
 - EXISTING DIESEL FUEL TANK FOR GENERATOR TO REMAIN.
 - EXISTING DIESEL FUEL TANK FOR FIRE PUMP TO REMAIN.
 - EXISTING FIRE PUMP TO REMAIN.
 - NOT USED.
 - EXISTING GENERATOR #1 TO BE REPLACED.
 - EXISTING GENERATOR #2 TO BE REPLACED.
 - EXISTING CABLE TRAY TO REMAIN.
 - TEMPORARY GENERATOR LOCATION.
 - EXISTING INTAKE AND RELIEF DAMPER CONTROL THERMOSTAT TO REMAIN.
 - EXISTING GENERATOR VENTILATION SYSTEM TO BE MODIFIED TO SUIT NEW GENERATORS.

- NEW LAYOUT NOTES
- NEW AUTOMATIC TRANSFER SWITCH
 - NEW NON AUTOMATIC TRANSFER SWITCH
 - NEW LOAD BANK QUICK CONNECT BOX
 - NEW TEMPORARY GENERATOR QUICK CONNECT BOX
 - NOT USED.
 - NEW PERMANENT GENERATOR #1
 - NEW PERMANENT GENERATOR #2
 - NEW MANUAL SELECTOR SWITCH
 - NEW REMOTE MANUAL ON/OFF SWITCH TO DISCONNECT THE 100A-3P CIRCUIT LABELLED "DUPLEX" IN ELECTRICAL PANEL 'A'.
 - PROVIDE 30A 120V 1Ø 3W UNFUSED SAFETY SWITCH FOR PUMP. ROUTE 2#12 + #12 GRN. GND. - 1/2" TO A NEW 15A-1P BREAKER IN PANEL 'A'.
 - PROVIDE 30A 240V 1Ø 3W UNFUSED SAFETY SWITCH FOR PUMP. ROUTE 2#12 + #12 GRN. GND. - 1/2" TO A NEW 15A-2P BREAKER IN PANEL 'A'.
 - MODIFY GENERATOR VENTILATION SYSTEM TO SUIT NEW GENERATORS; PROVIDE AN ADAPTOR FLANGE AS REQUIRED TO CONNECT VENTILATION DUCTWORK. TEST AND VERIFY THERMOSTATIC CONTROL.
 - EXISTING INTAKE AND RELIEF DAMPER CONTROL THERMOSTAT TO REMAIN.
 - TEMPORARY GENERATOR.



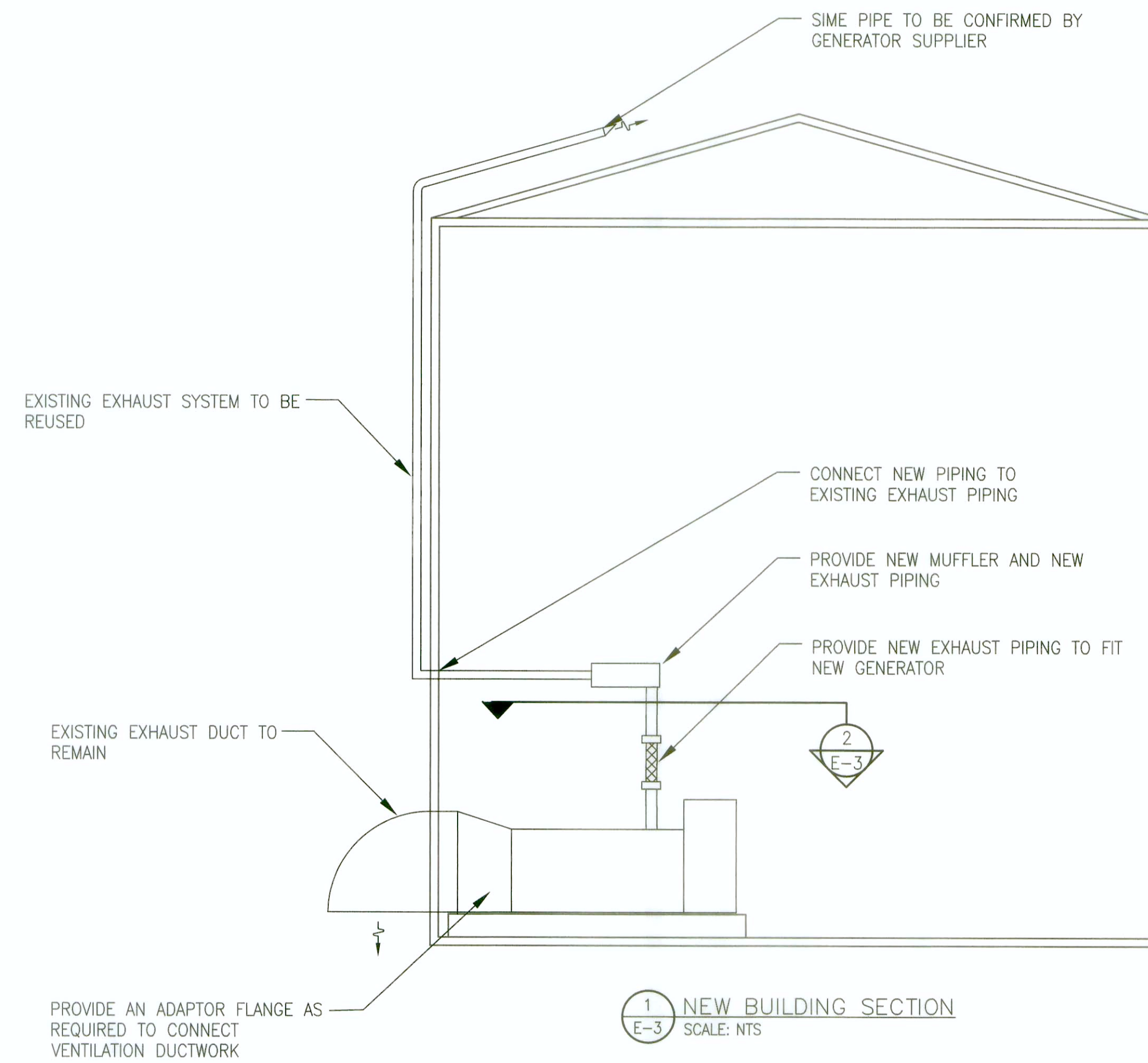
FEB 22 2018
Klaus Getthner P.Eng.

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| 4 | RE-ISSUED FOR TENDER | 18/02/16 |
| 3 | ISSUED FOR TENDER | 17/12/07 |
| 2 | ISSUED FOR REVIEW | 17/06/06 |
| 1 | ISSUED FOR REVIEW | 17/06/02 |
| 0 | ISSUED FOR REVIEW | 17/03/31 |

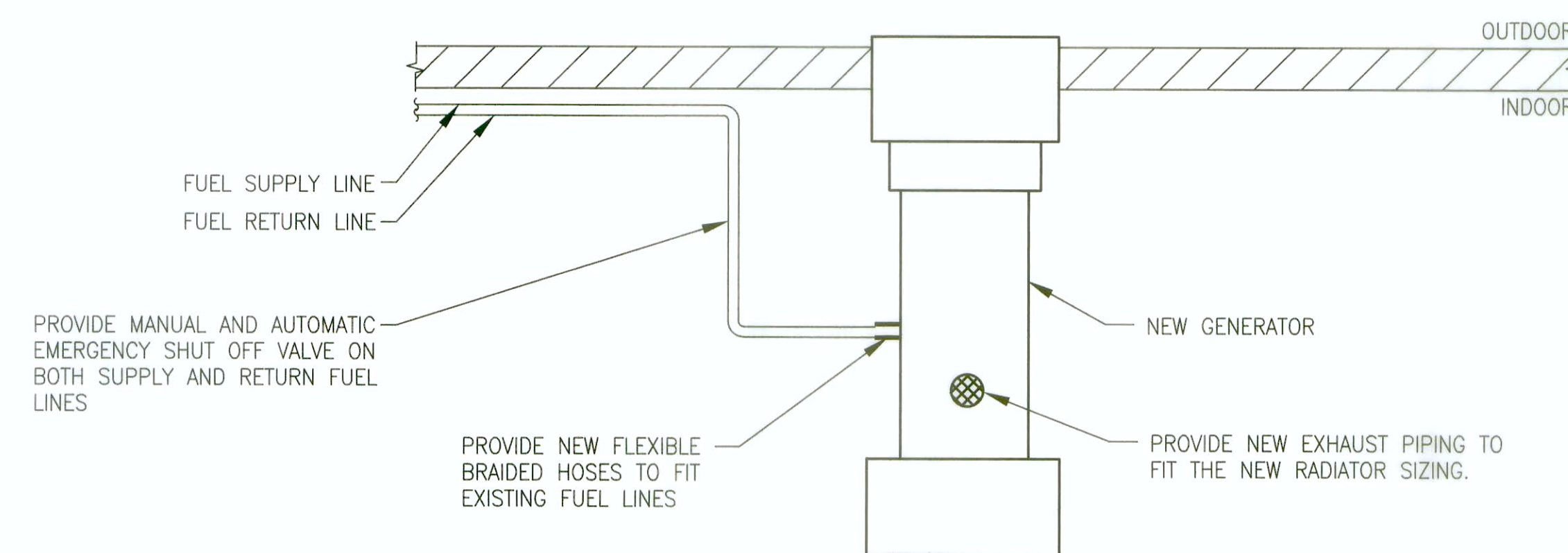
project project
**BORDER SERVICES OFFICES
LITTLE GOLD CREEK
YT GENERATOR UPGRADE**

drawing dessin
**EXISTING AND NEW
ELECTRICAL
FLOOR PLANS**

| | |
|------------------------|-------------------------------|
| designed CG | concu |
| date JUNE, 2017 | |
| drawn DJ | dessine |
| date JUNE, 2017 | |
| approved | approuve |
| date | |
| Tender | Soumission |
| PWC Project Manager | Administrateur de projets TPC |
| project number | no. du projet |
| 2017019 | |
| drawing no. | no. du dessin |
| E-02 | |



1 NEW BUILDING SECTION
SCALE: NTS



2 NEW GENERATOR DETAIL (TOP VIEW)
SCALE: NTS



FEB 2 2018
Klaus Geithner P.Eng.

| | | |
|---|----------------------|----------|
| 4 | RE-ISSUED FOR TENDER | 18/02/16 |
| 3 | ISSUED FOR TENDER | 17/12/07 |
| 2 | ISSUED FOR REVIEW | 17/04/06 |
| 1 | ISSUED FOR REVIEW | 17/04/02 |
| 0 | ISSUED FOR REVIEW | 17/03/31 |

project / projet
BORDER SERVICES OFFICES
LITTLE GOLD CREEK
YT GENERATOR UPGRADE

drawing / dessin
ELECTRICAL SECTIONS AND DETAILS

designed / conçu
CG / CG

date / date
JUNE,2017 / JUNE,2017

drawn / dessiné
DJ / DJ

approved / approuvé

Tender / Soumission
PWC Project Manager / Administrateur de projets TPC

project number / no. du projet
2017019

drawing no. / no. du dessin
E-03

