SAFETY HAZARD
Use of Multiple Temporary Electric Heaters during Construction of Multifamily Housing

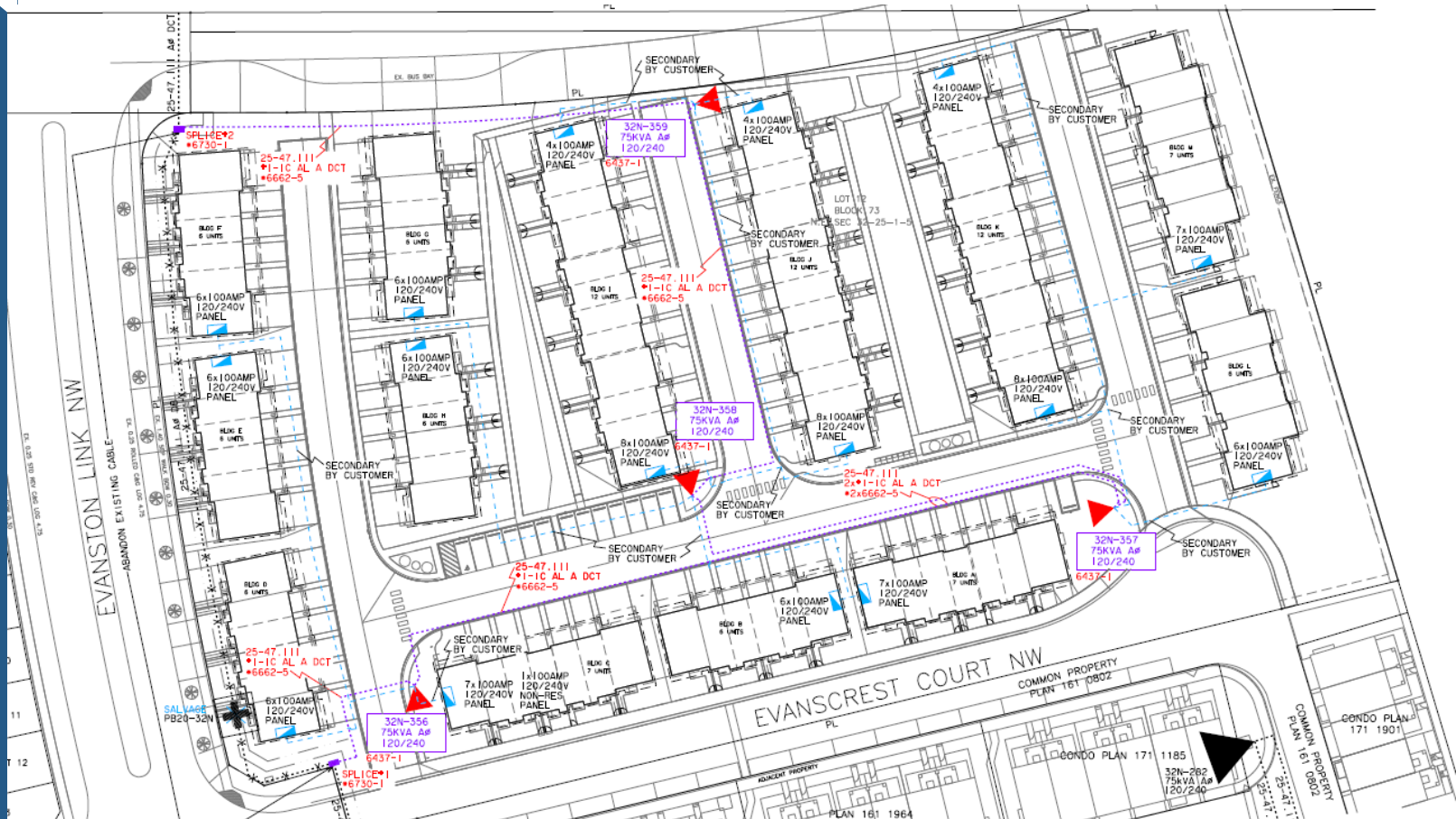
January 2022

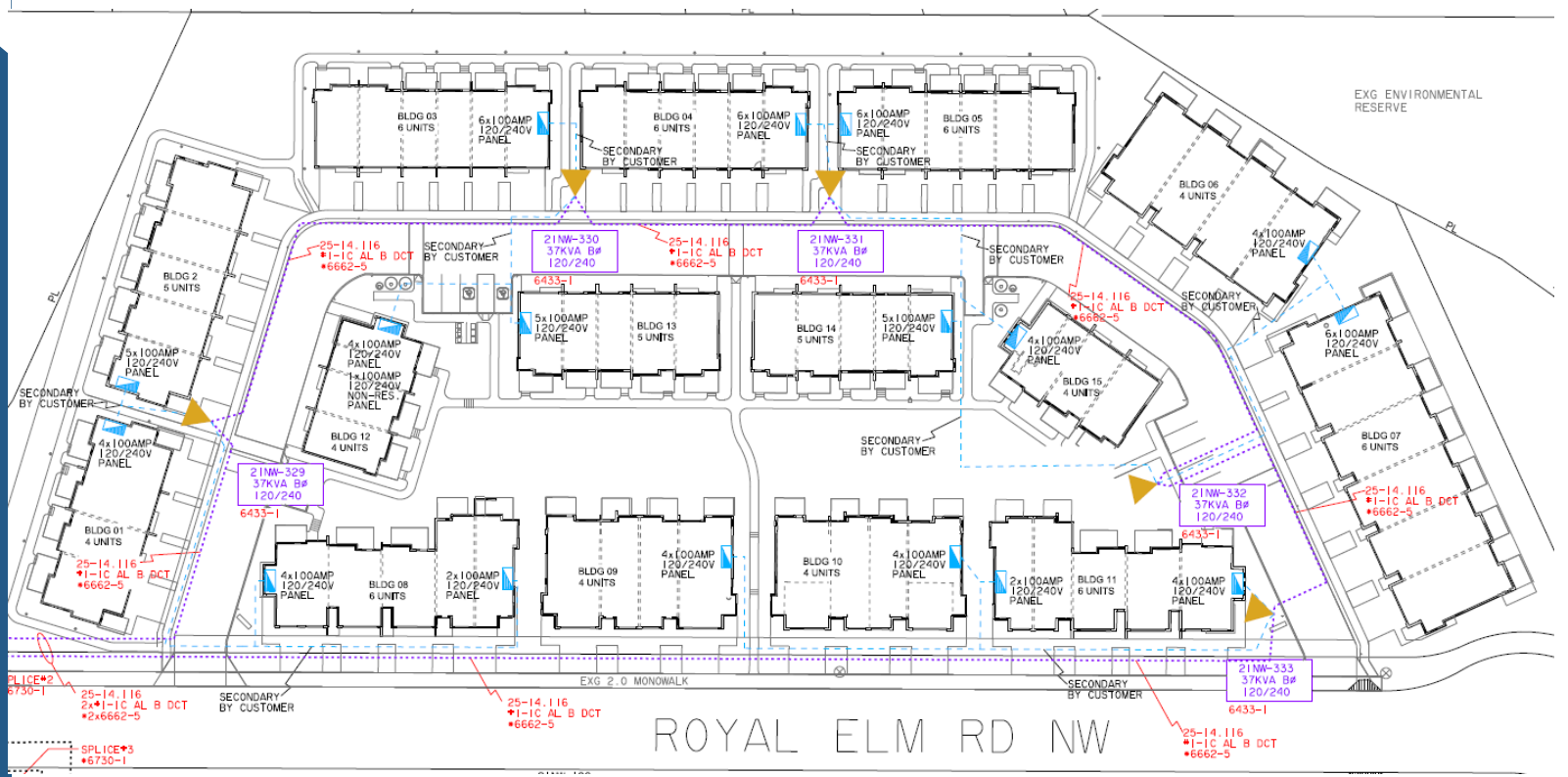
ENMAX

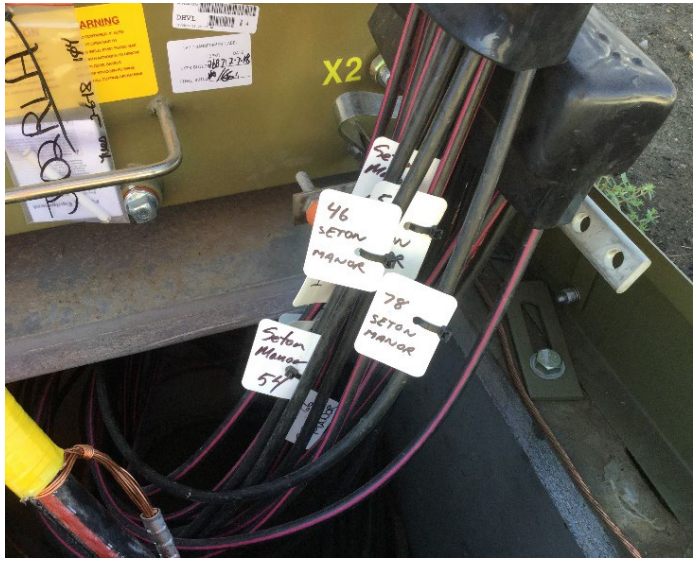
Overview

- ENMAX Power Corporation (EPC) has identified a severe safety hazard being caused by use of multiple temporary electric heaters during construction of multifamily housing
- Several incidents where severe overloading of the transformer have occurred which results in:
  - extreme heat to develop on the outside of the transformer presenting a severe safety hazard for injury and fire
  - irreparable damage resulting in unplanned outages, delay to construction schedules and additional costs to replace the unit

Multifamily Developments




BLDG 03
6 UNITS
6x100AMP
120/240V
PANEL
BLDG 04
6 UNITS
6x100AMP
120/240V
PANEL
SECONDARY
BY CUSTOMER
6x100AMP
120/240V
PANEL
BLDG 05
6 UNITS
SECONDARY
BY CUSTOMER
EXG ENVIRONMENTAL
RESERVE
BLDG 06
4 UNITS
4x100AMP
120/240V
PANEL
SECONDARY
BY CUSTOMER
BLDG 2
5 UNITS
5x100AMP
120/240V
PANEL
25-14.116
•1-1C AL B DCT
•6662-5
SECONDARY
BY CUSTOMER
21NW-330
37KVA B∅
120/240
25-14.116
•1-1C AL B DCT
•6662-5
21NW-331
37KVA B∅
120/240
SECONDARY
BY CUSTOMER
6433-1
6433-1
25-14.116
•1-1C AL B DCT
•6662-5
5x100AMP
120/240V
PANEL
BLDG 13
5 UNITS
BLDG 14
5 UNITS
5x100AMP
120/240V
PANEL
4x100AMP
120/240V
PANEL
BLDG 15
4 UNITS
6x100AMP
120/240V
PANEL
4x100AMP
120/240V
PANEL
1x100AMP
120/240V
NON-RES.
PANEL
BLDG 12
4 UNITS
SECONDARY
BY CUSTOMER
SECONDARY
BY CUSTOMER
BLDG 07
6 UNITS
4x100AMP
120/240V
PANEL
BLDG 01
4 UNITS
25-14.116
•1-1C AL B DCT
•6662-5
21NW-329
37KVA B∅
120/240
6433-1
21NW-332
37KVA B∅
120/240
6433-1
25-14.116
•1-1C AL B DCT
•6662-5
4x100AMP
120/240V
PANEL
BLDG 08
6 UNITS
2x100AMP
120/240V
PANEL
BLDG 09
4 UNITS
4x100AMP
120/240V
PANEL
BLDG 10
4 UNITS
4x100AMP
120/240V
PANEL
2x100AMP
120/240V
PANEL
BLDG 11
6 UNITS
4x100AMP
120/240V
PANEL
SPLICE•2
•6730-1
25-14.116
2x•1-1C AL B DCT
•2x6662-5
SECONDARY
BY CUSTOMER
EXG 2.0 MONOWALK
25-14.116
•1-1C AL B DCT
•6662-5
SECONDARY
BY CUSTOMER
21NW-333
37KVA B∅
120/240
6433-1
25-14.116
•1-1C AL B DCT
•6662-5
SPLICE•3
•6730-1
ROYAL ELM RD NW



Each multi-family unit is supplied with 100A or 200A service and the builder's contractor plug in 6 kW or 9 kW temporary electric heaters to the 240V plugs.

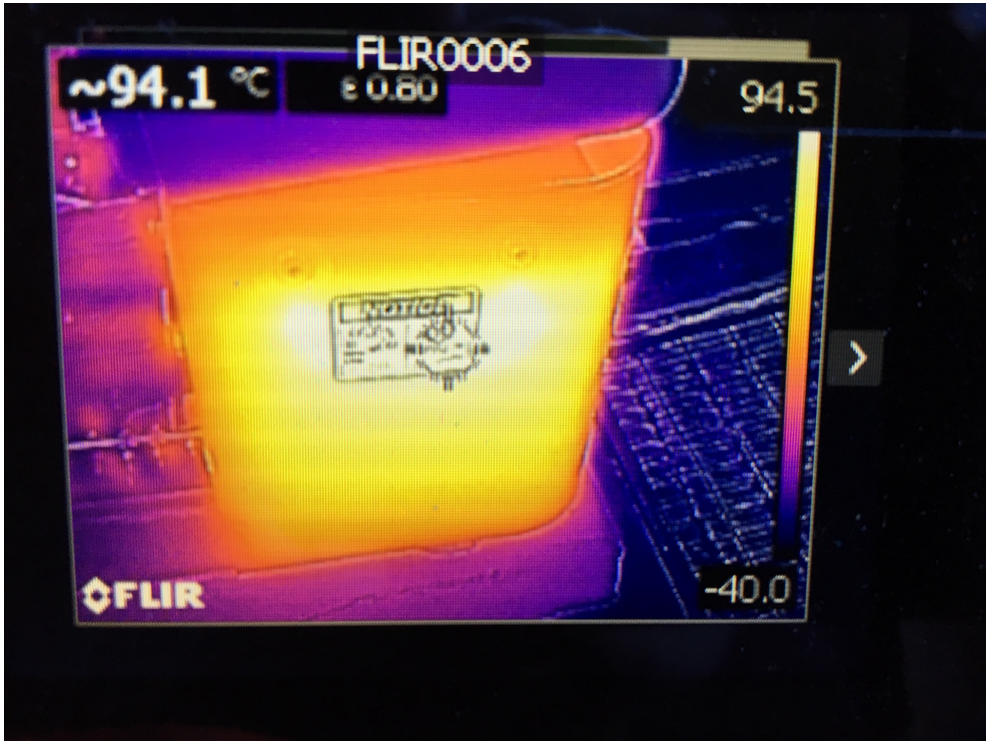
EXAMPLE INCIDENT 1: Overloaded 120/240V, 75 kVA pad-mount transformers: 24 – 6 kW & 9 kW electric heaters used

Feb 6, 2019

OUTSIDE OF TX TANK TEMPERATURE @ ALMOST 95C & SMOKE EMITTED

UNPLANNED OUTAGE OCCURRED

TRANSFORMER REQUIRED REPLACEMENT RESULTING IN DELAYS AND ADDITIONAL COSTS



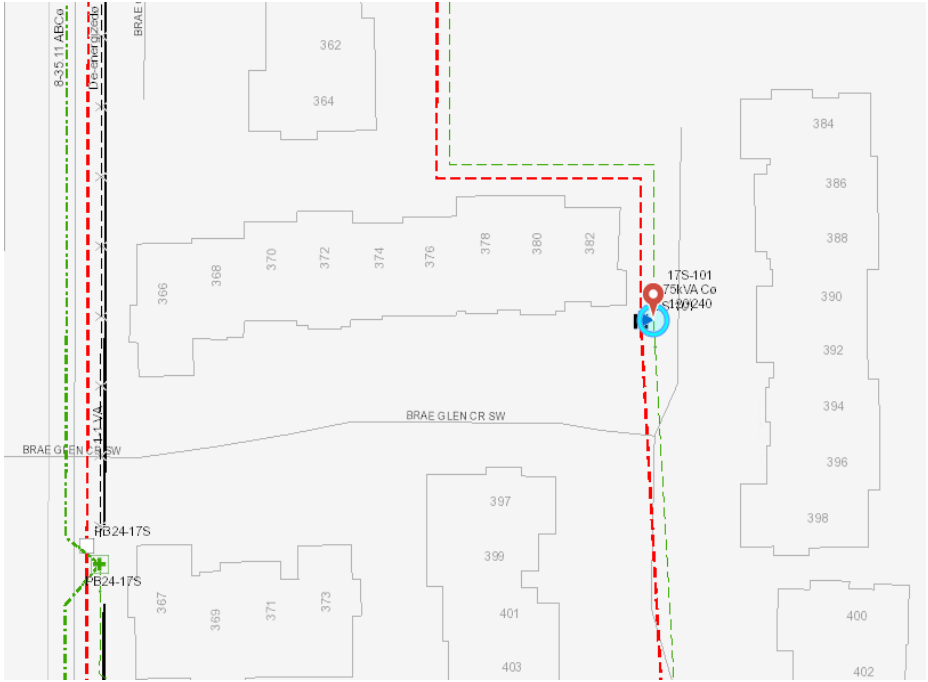
EXAMPLE INCIDENT 2: Overloaded transformer due to construction heaters

March 3, 2020

TRANSFORMER
BOILING TO TOUCH
AND OIL LEAK

UNPLANNED
OUTAGE OCCURRED

TRANSFORMER
REQUIRED REFUSING

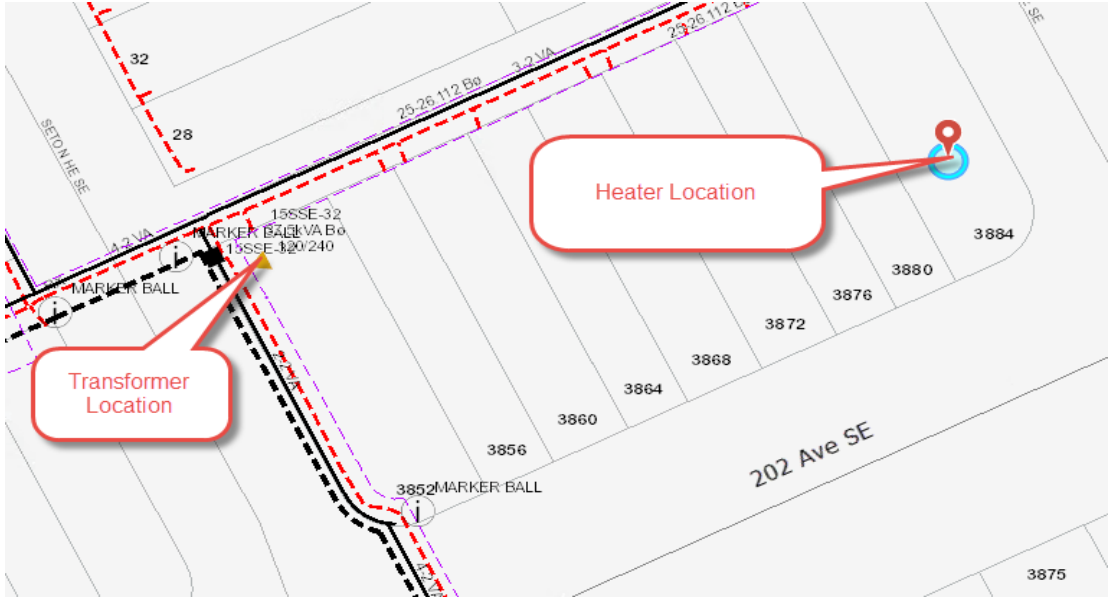


EXAMPLE INCIDENT 3: Overloaded transformer due to construction heaters

Jan 20, 2021

UNPLANNED
OUTAGE OCCURRED

TRANSFORMER
REQUIRED REFUSING



Resolution

- Developers, home builders, construction managers and crews **MUST MONITOR** the number of temporary electric heaters operating at one time during construction
- The combined load of the temp electric heaters and the normal multi-family housing units' loads cannot exceed transformer ratings which could be:
  - 37.5 kVA OR 75 kVA for Padmount Transformers
- Each situation is unique and dependent on several factors, we suspect that potentially between 1-3 temporary electric heaters (6 kW to 9 kW each) may be allowable but an assessment is required prior to connecting more than 1.
- **WE ASK THAT YOU CONTACT GETCONNECTED@ENMAX.COM TO CONFIRM HOW MANY CAN SAFELY BE USED AT ONE TIME.**
- Should there be any further questions or concerns, please feel free to contact Brandy Eagleson directly at beagleson@enmax.com

SOUTH
53 St NW
NORTH
53 St NW
To EAST
Crowchild Tr
To WEST
Crowchild Tr
60
80
Inbound Train
DANGER
Inbound Train

Q & A