

PROJECT: CITY OF VAUGHAN FIRE STATION 7-12

9541 WESTON ROAD, VAUGHAN

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VEP

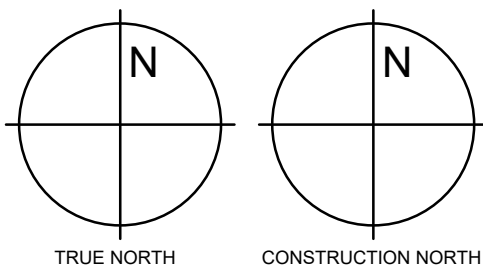
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21-237

## ENDING TITLE

# DIGITAL METERING SYSTEM

## ORIENTAT



TRUE NORTH

## CONSTRUCTION NORTH

DA<sup>2</sup>

SCALE N.T.S.

DRAWN BY CV CHECKED BY RH

**DWG STATUS**

PROJECT No. \_\_\_\_\_

DRAWING NO.

## E9.0

## DISCUSSION

- PROVIDE PROVO FTA-2263 STRANDED (600V) OR EQUIVALENT
- METER INTERFACE DEVICE SHALL BE LOCATED WITHIN 10' FROM THE RESPECTIVE CT'S.
- PROVIDE 6#14AWG STRANDED COLOUR WIRE TYPICALLY LESS THAN 10'. ALL EXTENSIONS TO BE MADE WITH CRIMPS, NO WARETS.
- PROVIDE PROVO FTA-2263 STRANDED (600V) OR EQUIVALENT TO EMP-1 (UPTO 1000').
- PROVIDE PROVO FTA-2263 STRANDED (600V) OR EQUIVALENT TO EMP-2 (UPTO 1000').
- RESERVED.
- 10. ALSO PROVIDE CT'S FOR MEASUREMENT/VERIFICATION OF TOTAL ELECTRICAL ENERGY OF THE PROJECT.
- RESERVED.
- PROVIDE CT'S FOR MEASUREMENT/VERIFICATION OF POWER FOR INTERIOR LIGHTING.
- PROVIDE CT'S FOR MEASUREMENT/VERIFICATION OF POWER FOR EXTERIOR LIGHTING.
- PROVIDE CT'S FOR MEASUREMENT/VERIFICATION OF POWER FOR RECEPTACLES LOAD.
- PROVIDE DEDICATED CT'S FOR MEASUREMENT/VERIFICATION OF POWER INDIVIDUALLY (SEPARATELY) FOR FOLLOWING HVAC EQUIPMENTS  
ALL ELECTRIC HEATING (CLUBBED TOGETHER)
- ALL EXHAUST FANS (CLUBBED TOGETHER)
- ALL AIR CONDITIONING EQUIPMENTS/DEVICES (CONDENSING UNITS & FAN COILS)-CLUBBED TOGETHER
- ALL PUMPS (CLUBBED TOGETHER)
- PROVIDE CT'S FOR MEASUREMENT/VERIFICATION OF POWER FOR HEAT PUMPS
- PROVIDE DEDICATED CT'S FOR MEASUREMENT/VERIFICATION OF POWER INDIVIDUALLY (SEPARATELY) FOR FOLLOWING EQUIPMENTS:  
HRD-1,  
UH-1 & UH-2 (BOTH CLUBBED TOGETHER)

DIGITAL METERING CT ENCLOSURE (3 CTs), LOCATED BESIDE EACH POWER PANEL AS SHOWN. '1' DENOTES JUNCTION BOX TO ACCOMMODATE THREE CTs FOR LIGHTING OR HVAC LOADS BRANCH FEEDERS RUN THOUGH CTs. SIZE TO SUIT ALL CTs AND BRANCHES RUN THROUGH.



1 DIGITAL METERING SYSTEM SCHEMATIC DIAGRAM  
F9.0 N.T.S.

**Energy Monitoring Pod**  
Use Provided Panel Knockouts ONLY!

**EMP**  
Type-T  
(22"x12")

120V  
Pwr

1-Phase  
120V Supply

Power EMP from Dedicated Breaker (Multiple EMP's may be fed from 1 breaker)

Provo FT4 - 2263 Stranded (600V) Or equivalent.

**Current Transducers (DOT FACES SOURCE)**

Red Phase (A)  
Red (White Wire) x1  
Black (Black Wire) x2

Black Phase (B)  
White (White Wire) x1  
Black (Black Wire) x2

Blue Phase (C)  
Green (White Wire) x1  
Black (Black Wire) x2

Current transducers on load wires  
3 Phase 4 Wire Meter  
All extensions to be made with **Crimps NO MARRETTS**

**PT Enclosures (10"x10")**  
3-#12 AWG Stranded  
Colour Coded Wire

Red Blk Bk N  
Whk Blk Whk Grn

PT's fed from voltage Reference.

One set of PT's is required for each different voltage source per EMP fed from 5-pole 15A Breaker when possible or 15A Fused Disconnect using #12 AWG coloured wire.

Provo FT4 - 2263 Stranded (600V) Or equivalent

**Step Down Current Transformers (SDCT) (DOT or MI FACES SOURCE)**

Red Phase (A)  
Red (White Tape) x1  
Black (Red Tape) x2

Black Phase (B)  
Yellow (White Tape) x1  
Black (Yellow Tape) x2

Blue Phase (C)  
Blue (White Tape) x1  
Black (Blue Tape) x2

3 Phase 4 Wire meter (up to 5000A)  
3 Phase 3 Wire: 2 SDCT's on Red Ph. and Blue Ph.

**\*DANGER DO NOT ENERGIZE SERVICE UNTIL SDCT'S HAVE BEEN TERMINATED WITH SHIELDING BAR/GROUND\***

8-#14 AWG Stranded Colour Wire  
Typically<10ft.  
All extensions to be made with **Crimps NO MARRETTS**

**Meter Interface Device (7"x7")**

Black (Red Tape) x1  
Black (Yellow Tape) x2  
Black x1  
Black (Blue Tape) x2

Red Black Yellow Black White Black White Black White Black White Black

Red Black Yellow Black White Black White Black White Black White Black

Leave right side of box clear for Carma transducer card.

Provo FT4 - 2263 Stranded (600V) Or equivalent (Up to 1000ft.)

Do not remove shorting connector

**\*Notes - A 3-Phase 3-Wire 600V Meter only requires 2 PT's + 2 CT's/SDCT's**  
**- All Provo FT4 is 3 Pair Twisted Shielded Cable (22AWG)**

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- All Provo FT4 is 3 Pair Twisted Shielded Cable (22AWG)

Rev. 06/17/2011

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E9.0 N.T.S.