



SPECIFICATIONS FOR WIRE SIZES
 A) Ground strap - 152.4mm above floor - spaced 25.4mm from wall fastened with 6.35mm bolts c/w lock washers and nuts size below
 - 500kVA transformer 25.4mm x 6.35mm.
 - 500 kVA and larger 50.8mm x 6.35mm.

B) Equipment grounding - artificial electrode to bus 2/0 AWG Minimum or as Specified in The Ontario Electrical Safety Code
 circuit breaker 2/0 AWG
 bus to water main 2/0 AWG
 non current carrying metal parts 2/0 AWG

C) Transformers tank grounds - up to 33.3kVA inclusive 2/0 AWG
 500kVA 350 MCM

D) Star point grounding conductor size

Transformer bank up to 3(167)kVA inclusive	Secondary Voltage	600/347	208Y/120
3(250)kVA	2/0 AWG	250 MCM	350 MCM
3(333)kVA	4/0 AWG	350 MCM	600 MCM
3(500)kVA	250 MCM	600 MCM	1000 MCM
3(667)kVA to 3(833)kVA inclusive	350 MCM	1000 MCM	1000 MCM
3(1000)kVA	500 MCM	1000 MCM	N/A

- BILL OF MATERIALS**
- Service ducts. For number & route consult Hydro Ottawa.
 - Hydro Ottawa approved 15kV/28kV switchgear. 2 copies of manufacturer's shop drawings to be submitted to Hydro Ottawa.
 - Primary bus & transformer primary drops as per The Ontario Electrical Safety Code.
 - Metatracks or vented cable tray of The Ontario Electrical Safety Code approved type.
 - Transformers. See Hydro Ottawa specifications for secondary voltages.
 - Secondary bus. State size & insulation. Supports must be grounded as per The Ontario Electrical Safety Code.
 - Ground bus. See Hydro Ottawa specifications for required size.
 - Fire door class "A" with approved latching & hasp for Hydro Ottawa padlock. See Hydro Ottawa specification for required size.
 - Guard fence & gate. Heavy screen on 31.75mm tube frame (painted or galvanized). Gate to be same size as fire door with hasp for Hydro Ottawa padlock.
 - Exhaust vent. See Hydro Ottawa specifications for size, CFM and location required.
 - Intake vent. See Hydro Ottawa specifications for size and location required.
 - Oil sump. 610mm x 610mm x 610mm minimum and capable of holding oil of largest transformer; 9.53mm steelplate cover, flush mounted as is the cable trench cover.
 - Sign " DANGER HIGH VOLTAGE " supplied & installed by Hydro Ottawa.
 - 100mm removable curb. Refer to Hydro Ottawa specifications for requirements.
 - Ground Wire. Refer to specifications for size. Compression connectors required for all grounds.
 - Extra flex ground strap.
 - Light fixtures to be wallmounted wherever possible at 2285mm from floor or 2438mm from floor if suspended from ceiling (150w inc.)
 - 100mm "P" trap or flame trap. (Minimum floor slope 1:48 to trap.)
 - 2/0 AWG stranded copper per The Ontario Electrical Safety Code.
 - All ducts to be plugged by Hydro Ottawa.
 - Circuit breaker or Fused Switch.
 - Ground conductor according to The Ontario Electrical Safety Code.
 - Emergency lights.
 - Ground stirrup on 15kV insulators. Hydro Ottawa may substitute a grounding stud in place of the stirrup.

NOTE
 1. STREET NAME AND ADDRESS OR LOCATION TO BE CLEARLY IDENTIFIED.

SITE PLAN
 SCALE: N.T.S.

REV	DATE	REVISION NOTES	BY	CHK	APP
REV 1	2003-03-27	CHANGE: REVISE ROOM LAYOUT	MG	CD	SM
REV 2	DATE: YYYY-MM-DD	CHANGE:			
REV 3	DATE: YYYY-MM-DD	CHANGE:			
REV 4	DATE: YYYY-MM-DD	CHANGE:			
REV 5	DATE: YYYY-MM-DD	CHANGE:			
REV 6	DATE: YYYY-MM-DD	CHANGE:			

Hydro Ottawa
 ENGINEERING SPECIFICATION
TYPICAL TRANSFORMER VAULT
 <= 3000kV - FULL SWITCHGEAR
 CONSTRUCTION DETAIL
 ECS0005