

ELECTRICAL TRADE SCOPE OF WORK GUIDELINES

OTTAWA REGION 2009

Endorsed by the following organizations

Ottawa Construction Association
General Contractors Association of Ottawa
Electrical Contractors Association of Ottawa
Ontario Electrical League - Ottawa Chapter

Supported by the following organization

Consulting Engineers of Ontario - Ottawa Chapter



ONTARIO ELECTRICAL LEAGUE
OTTAWA CHAPTER



The ELECTRICAL CONTRACTORS' Association of Ottawa

Electrical Trade Scope of Work

The following electrical trade scope guideline has been developed through a consensus building process in order to minimize dispute and misinterpretation in the bidding and construction process as to what is included or excluded in the electrical trade scope of work.

Tabulating items to be included in an electrical bid provides a common basis for which bidding become truly competitive, fair to all concerned, addresses uncertainty in bid document and minimizes the potential for on-site dispute.

The Ottawa Construction Association, Electrical Contractors Association of Ottawa, the General Contractors Association of Ottawa, the Ontario Electrical League – Ottawa Chapter and the Consulting Engineers Association – Ottawa Chapter all support the use of this electrical trade scope guideline by their respective members as the standard on all construction projects.

Electrical Trade Scope of Work

The electrical contract will not be limited to items listed below, but will include all electrical wiring, systems and equipment except mechanical control wiring and other miscellaneous items, specifically noted as falling under other sections of scope. Electrical work includes complete supply and install unless specified otherwise.

If an owner or their representative pre-purchases or supplies equipment and materials, contractors will only be responsible for the installation of the equipment and material. The owner will be responsible for the warranty, quality and availability of those products.

Where the electrical trade does not supply equipment, electrical services are to be roughed in as shown on tender documents. Suppliers of specialty items, cabinets or equipment, if other than the electrical trade, will be responsible for any alterations of services required, if these differ from the tender documents.

It is recommended that cash allowances for electrical work will be included in the electrical documents.

The electrical contractor shall INCLUDE the following electrical items as indicated in tender documents. It is assumed that the electrical scope is clearly shown on the electrical documents

DEFINITIONS

Section 1:	General Requirements
Section 2:	Distribution
Section 3:	Systems
Section 4:	Mechanical Control
Section 5:	Emergency Standby Power
Section 6:	Lighting
Section 7:	Heating
Section 8:	Grounding & Lightning Protection
Section 9:	Excluded

SECTION 1: General Requirements

INCLUDED:

1. Access panels for walls, ceilings and floors, where required for electrical requirements – to be supplied to respective trade for installation, e.g. to ceiling contractor, etc.
2. All streetlights, traffic signals, power distribution and equipment within the property lines.
3. All electrical work covered by the Canadian & Ontario Electrical Code
4. Electrical connection only to appliances
5. Cable trays.
6. Cables, electrical and heating.
7. Clean up – for electrical trade only.
- General clean up as per OCA guidelines
8. Computer room electrical infrastructure.
9. Consumables – (screws, bolts, hangers, straps, seismic restraint, etc) for electrical equipment and systems
10. Core drilling for electrical systems up to 6” in diameter x 12” deep. Except if provided for under pre-cast and post-tensioned slabs specifications.
11. Demolition of existing electrical systems.
12. Electrical connection only as indicated on drawings to overhead doors complete with associated protection and control devices 50 volts and above.
13. Drainage connections for conduit systems (excluding drain lines).
14. Ductless range hoods.
15. Electrical connection only to signs
16. Electrical outlet in laboratory casework (excluding opening) except those items included in a factory assembled casework product.
17. Explosion proof electrical devices, lighting and equipment.
18. Free standing car heater posts. (Refer to section on exclusions)
19. Hoisting for materials and equipment.
20. Holes to be cut into floor ducts systems.
21. Electrical Safety Authority Inspection
22. Installation charges for permanent power and telephone services as levied by the municipality or local utility when identified in the electrical scope as a cost figure or cash allowance.
23. Licenses – Masters & Contractor licensing
24. Warranty. – Beyond the specified contract full warranty (CCA) the extended warranty(s) are limited to the manufacturers warranty(s)
25. Permits – as required for electrical work only.
26. Poly and/or plastic vapour barrier for electrical when required.
27. Power supplies
28. Power wiring – for equipment in mechanical document shown in the tender documents, shall include without limiting the scope, all necessary wiring materials and connections for motors requiring protective control by the Ontario Electrical Safety Code (Part 1), heaters, lamps, electrostatic filters and controls that directly switch the power lines to such equipment. Wiring to solenoids shall fall in the category of control wiring if under 50 volts.

29. Raceways
30. Relays
31. Resistors
32. Scaffolding for electrical work.
33. Shop drawings – where required.
34. Sleeves, through poured-in-place concrete and masonry where required for electrical conduit, wire or equipment.
35. Supports for electrical systems only
36. Switches – all types of electrical switches for systems in the electrical document except where part of the pre-wired factory packaged equipment supplied by others.
37. Temporary light and power when specified as a completely detailed system
38. Time recording systems, time clocks and scoreboards.
39. Timers
40. Wire-branch circuits, feeders for systems in the tender document.
41. Wiring devices and plates.
42. X-ray viewers and associated equipment
43. Design, Supply and installation of vibration isolation and seismic restraint for electrical systems.
44. Fire stopping for electrical services only
45. Identification of electrical systems as indicated in the tender documents and as mandated by the Ontario electrical code
46. Electrical systems commissioning, as built drawings and operation and maintenance documents as specified

SECTION 2: Distribution

INCLUDED:

1. All streetlights, traffic signals, power distribution and equipment within the property lines.
2. All electrical work covered by the Canadian & Ontario Electrical Code
3. Automatic transfer switches and associated wiring
4. Load Balancing
5. Bus duct.
6. Circuit breakers
7. Contactors.
8. Disconnect switches
9. Meters
10. Motor control centers.
11. Motor starters – all motor starters, variable frequency speed controllers and protection switches other than that equipment which forms an integral part of a package unit requiring a connection only
12. Padmounts, primary and secondary duct banks, mini-substations, and medium voltage sub-stations, primary outdoor switch-gear, overhead lines and all associated grounding for these installations.
13. Power conditioners and associated wiring

14. Primary distribution centers.
15. Rectifiers, Regulators, Power factor correction and TVSS
16. Secondary distribution systems.
17. Service, permanent electric.
18. Services, aerial (other than utility).
19. Solar power and associated wiring when shown in electrical documents.
20. Switch boards.
21. Switches – all types of electrical switches for systems in the electrical document except where part of the pre-wired factory packaged equipment supplied by others.
22. Transformers, including unit subs.
23. Uninterruptible power systems and associated wiring
24. Wind power and associated wiring when shown on electrical documents.
25. Wiring and equipment for transformer vaults.
26. Electrical co-ordination and interference drawings as required

SECTION 3: Systems

INCLUDED: (Items included when identified in the electrical documents)

1. Alarm and detection systems
2. Audio and video recording systems – complete
3. Burglar alarm systems and security surveillance systems
4. Clock systems.
5. Detectors
6. Fire alarm systems and associated systems of any voltage
7. Under floor raceways
8. Horns and sirens
9. Head wall units supplied by electrical, installed jointly by mechanical and electrical contractors.
10. Intercommunication systems
11. Medical gas wiring and pre-action suppression systems.
12. Nurses call systems and equipment complete.
13. Sound, paging and music distribution systems
14. Signaling systems
15. Sirens
16. Sprinkler Annunciator Systems and associated wiring
17. Telephone systems
18. Television antenna and closed circuit distribution systems (including surveillance systems)
19. Wireless systems and associated devices

SECTION 4: Mechanical Control

INCLUDED:

1. Control consoles – except for automatic controls and pre-wired factory-packaged equipment.
2. Control devices – for equipment above 50 volts which:
 - a. Constitute protective-control required by the Ontario Electrical Safety Code Part 1 or manually control the equipment (push buttons, isolating switches, etc) unless forming part of the control panels for automatic controls or unless forming part of pre-wired factory-packaged equipment.
3. Control panels – except for automatic controls and pre-wired factory-packaged equipment.
4. Control power supply outlets – provided at locations shown on the electrical drawings and terminated in terminal cabinet or outlet boxes. Alternatively, if no control power supply outlets are shown on the electrical drawings, the electrical contractor shall provide such outlets adjacent to the source where the power circuit originates. The wiring beyond control power supply shall fall under the scope of control wiring.
5. Control wiring – for equipment above 50 volts.
6. Electrical thermostats – except for equipment supplied under mechanical Scope. (Thermostats supplied under mechanical Scope, if to be installed by electrical contractor, must be complete with adapter plates or sub base to mount on standard single gang electrical outlet box.)
7. Motor control centers.
8. Motor starters – all motor starters, variable frequency speed controllers and protection switches other than that equipment which forms an integral part of a package unit requiring a connection only
9. Process Instrumentation – PLC Controllers, Input / Output Cabinets, Field Instruments above 50 volts
10. Thermocouple & Thermistor wiring and sensor wiring except for automatic controls

SECTION 5: Emergency and Standby Power

INCLUDED:

1. Automatic transfer switches and associated wiring
2. Batteries
3. Battery chargers
4. Emergency power and lighting systems – electrical.
5. Generators – electrical (including packaged generators)
6. Power conditioners and associated wiring
7. Power plant equipment – (excluding fuel tanks) complete with prime mover, flex connections, valving and muffler when the major function is to drive electric generators.
8. Solar power packaged equipment and associated wiring as indicated in the electrical documents.
9. Uninterruptible power systems and associated wiring
10. Wind power packaged equipment and associated wiring as indicated in the electrical documents.
11. Fuel fill up (beyond the initial fill by mechanical) required for all commissioning & testing
12. Fuel associated with pre-packaged generators that do not have external fuel tanks.

SECTION 6: Lighting

INCLUDED:

1. All lighting and controls
2. Excluding lighting in pre-packaged equipment
3. Plenum lighting – to mechanical systems other than package units, which will require an electrical connection only.

SECTION: 7 Heating

INCLUDED:

1. All electrical heating components

SECTION 8: Grounding and Lightning / Protection

INCLUDED:

1. Computer room grounding
2. Grounding systems
3. Lightning protection systems

SECTION 9: Excluded

1. All cast-in-place concrete and forming including required excavating and backfill.
2. Precast manholes and bases
3. Supply and installation of car posts when part of railing, wheel stops and bumper rails.
4. Control wiring for equipment under mechanical Scope intended for automatic temperature controls.
5. Cutting and patching when pertaining to renovations, alterations or additions except (cut only) openings 6-inch diameter x 12-inch deep and smaller.
6. X-rays and /or scanning of concrete floors and walls
7. Final cleaning.
8. Food service and laundry equipment unless specified in the electrical documents.
9. Hoarding.
10. House keeping pads.
11. Painting.
12. Plywood backing for electrical equipment
13. Supports and guards where detailed on architectural or structural drawings
14. Temporary heat, sanitation and water
15. Temporary light and power when not specified.
16. Wiring beyond main disconnect switch for electrical elevators, hydraulic elevators, parking garage hoists, escalators, dumbwaiters, moving walkways, speed ramps.