

TS 815

REMOVALS

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TTS 815.100 CONSTRUCTION SPECIFICATION FOR REMOVAL OF ELECTRICAL
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1.0 Scope

This specification covers the requirements for removing electrical equipment and materials wholly or in part, including the demolition, salvage and disposal of materials.

The requirements of TS 1.00 and TS 801 shall apply to this work.

2.0 References

This specification refers to the following standards, specifications or publications:

Toronto Transportation:

TS 1.00	Maintenance of Traffic
TS 2.10	General Excavation
TS 5.00	Sodding
TS 5.10	Topsoil
TS 13.00	Non-Structural Concrete
TS 13.10	Unshrinkable Fill
TS 801	Electrical Work

Ontario Provincial Standards

TS 904	Concrete Structures
TS 1010	Aggregates - Granular A,B,M

Others:

Environmental Protection Act - RS0-1980.

3.0 Construction

3.1 Timing of Work

Existing electrical systems required to continue in service shall remain functional during construction operations until new or modified systems are operational.

3.2 Excavation

Where existing electrical equipment is installed in asphalt boulevards, the dry cutting of the asphalt shall include all applicable measures and procedures as per the City of Toronto Measures and Procedures for Roadwork with Asphalt Containing Asbestos Fibres.

Excavation for the removal of electrical equipment shall be carried out in accordance with the requirements of TS 2.10.

3.3 Backfill and Trimming

Backfill and trimming for the removal of electrical equipment shall be carried out in accordance with the requirements of TS 2.10, TS 5.00, TS 5.10, TS 13.00, TS 13.10, TS 904 and TS 1010.

3.4 Demolition

Demolition of concrete, brick, timber and masonry structures, including pole footings, equipment pads and concrete poles shall be carried out in such a manner and with such equipment as not to disturb adjacent pavement, utilities, other works or electrical equipment to remain in place and with such care as to leave materials designated to be salvaged in an undamaged condition.

Where partial removal of pavement, sidewalk, curb and gutter or other structures is required for removal of electrical equipment, the broken edges of the structure to remain in place shall be squared up and trimmed along straight lines at a minimum distance of 300mm from any area disturbed by removal operations.

Structures which are wholly or partly underground shall be completely removed where such structures interfere with other work. Structures not interfering with other work shall be removed to a minimum depth of 600mm below finished grade, and the remaining portion shall be abandoned in place.

Steel reinforcement, conduit, ducts, wire and debris associated with the removed portions of such structures shall be removed for disposal.

3.5 Disposal of Debris

All concrete, steel reinforcement, brick masonry, timber, cable, conduit, traffic signal equipment, lighting equipment and incidental materials not requiring salvage shall become the property of the Contractor and shall be removed from the right-of-way.

Mercury vapour, metal halide and fluorescent lamps, and electrical components containing PCB materials shall be disposed of at approved sites in accordance with the Environmental Protection Act and regulations made thereunder. The Contractor shall contact the Regional Ministry of Energy and the Environment (MOEE) Office to obtain a current listing of approved disposal sites.

3.6 Poles

Poles or any other electrical equipment shall be removed for salvage or disposal as indicated in the contract, or directed by the Engineer.

3.7 Luminaries, Signal Heads and Internally Illuminated Signs

The Contractor shall remove all lamps for disposal prior to removing luminaries, signal heads and internally illuminated signs for salvage.

All hardware, fittings and accessories as indicated in the contract or directed by the Engineer shall be removed and salvaged.

3.8 Brackets, Mast Arms, Pole Attachments

Brackets and mast arms complete with fittings, hardware and accessories, shall be removed and salvaged as indicated in the contract or directed by the Engineer. Pole attachments, fittings, hardware and accessories for aerial cables shall be removed for disposal.

3.9 Cables and Conduit

Underground cables and conduit systems which do not form part of the final systems, shall be removed for disposal, where they will interfere with other work, or shall be removed from accessible points and cut back to a depth of 600mm below finished grade and abandoned in place as indicated in the contract or directed by the Engineer.

Overhead cables shall be removed for disposal.

Pole mounted and accessible conduit systems including all junction boxes, fittings, hardware, accessories and associated cables shall be removed for disposal.

3.10 Pole Mounted Power Supply Control Equipment

Conduit systems, junction boxes, wiring, fittings, hardware and accessories shall be removed for disposal.

Equipment enclosures as indicated in the contract or directed by the Engineer shall be removed for salvage complete with all fittings, hardware and accessories, and with all internally mounted equipment and wiring left intact. All other types of equipment enclosures as indicated in the contract or directed by the Engineer, complete with all components, shall be removed for disposal.

3.11 Traffic Signal Controllers and Electronic Equipment

Traffic signal controllers and electronic equipment including all fittings, hardware and accessories shall be removed and salvaged as indicated in the contract or directed by the Engineer.

Removal work shall be timed so that outdoor storage, or storage in non-ventilated or humid areas is not required.

3.12 Maintenance Holes and Handwells

Concrete handwells shall be removed or demolished as per 3.4. Maintenance and handwell cover and ring shall be salvaged.

3.13 Temporary Installations

All equipment and materials supplied by the Contractor for use with temporary installations shall be removed for disposal. All equipment and materials supplied by the Toronto Transportation for use with temporary installations shall be removed and salvaged as indicated in the contract or directed by the Engineer.

3.14 Salvage of Equipment

3.14.1 Inspection

Prior to removal operations, the Engineer will inspect all equipment to be removed and salvaged. The Contractor shall give the Engineer a minimum of 24 hours advance notice for this work.

3.14.2 Damages

The Contractor shall exercise due care when removing equipment for salvage. Materials damaged through improper handling or through loss after removal shall be repaired or replaced by the Contractor.

Prior to removal operations, the Contractor shall notify the Engineer of any equipment, which is broken or deteriorated, to the point where salvage is not practical.

3.14.3 Packaging and Storage of Materials

Traffic signal controllers and electronic equipment shall have all portable equipment removed, securely packaged and identified.

Where temporary storage of equipment is required, materials other than traffic signal controllers and electronic components shall be stored in accordance with the requirements of TS 1.00.

3.14.4 Shipping of Salvaged Equipment

The Contractor shall load, transport, unload and stack all salvaged equipment at the location indicated in the contract. Delivery shall be made between 9:00 a.m. and 3:30 p.m. Monday to Friday. The Contractor shall give Toronto Transportation 24 hours advance notice of intended delivery times.

3.14.5 Equipment to be Re-installed

Where indicated in the contract, the Contractor shall remove and salvage materials and equipment for re-installation. Such materials shall be packaged and stored at an acceptable storage site in accordance with sub-Section 3.14.3.

3.15 Restoration Work

Unless construction or restoration of surfaces or structures such as pavement, sidewalk, curb and gutter, topsoil and sod, and granular surfaces are included in the contract under specific tender items or unless surfaces or structures disturbed by removal operations are designated for removal or abandoning, the Contractor as part of this work shall restore the surface or structure to original or better condition. Such work shall be done in accordance with the requirements of applicable Toronto Transportation specifications related to the work.

4.0 Basis of Payment

4.1 All Inclusive Price

Payment at the Contract price for the tender item 'Removal of Electrical Equipment' shall be full compensation for all labour, equipment and materials required to do all work specified herein including earth excavation, backfill and compaction, the demolition of structures, disposal of materials and equipment, and salvage, packaging, storage, transportation and handling of all equipment so designated. Such payment shall include compensation for the removal and trimming of pavement, sidewalk and curb and gutter as required and restoration work where such work is not included in other tender items.

4.2 Payment Included Elsewhere

Payment for removal of sign equipment shall be based on the provisions for the tender item for the removal of the applicable sign structures where such sign structure is to be removed.