



## Information Bulletin:

# New Standards ES54 B3-03 and B3-04 for Sidewalk Duty Lightweight Service Boxes

## Revision Note

The following revisions have been made since R0:

1. ES43 reference standard changed to N3-01, and
2. Maximum number of service ducts for large sidewalk duty lightweight service box revised from 4 to 6.

## 1.0 Items Covered

ES54	B3-03	LIGHTWEIGHT SERVICE BOX, SMALL, SIDEWALK DUTY
	B3-04	LIGHTWEIGHT SERVICE BOX, LARGE, SIDEWALK DUTY

## 2.0 Overview

Due to decreasing boulevard space in new developments and extensive breakage of the existing boxes, Distribution Standards has developed a standard lightweight service box suitable for installation in sidewalks.

Sidewalk duty lightweight service boxes will be available in addition to existing non-traffic duty lightweight service boxes.

### Key Features of Sidewalk Duty Lightweight Service Boxes

The new lightweight service boxes are made from polymer concrete (a mixture of polymer resin, sand and coarse aggregates) and are installed with a polymer concrete riser and cover.

Listed below are some key features of the new sidewalk duty lightweight service boxes:

- 1) Polymer concrete boxes and risers are compatible with current light duty cast-iron replacement covers. Cast-iron covers may be selected by the Designer for maintenance replacements or at the request of the AHJ;
- 2) Covers will come with provisions for two puzzle bolts for added public safety and security;

- 3) They are comparable in size and shape to the existing non-traffic duty boxes and will have the same electrical equipment capacities;
- 4) New lightweight service boxes are suitable for Sidewalk Duty and Non-Traffic Duty installations as per ES54 U1-02.03;
- 5) Electrical equipment capacity, as per ES53 N3-01, will remain the same for both sidewalk duty and non-traffic duty lightweight service boxes;
- 6) Sidewalk duty lightweight service boxes will be grounded using a driven ground rod, the same as the existing non-traffic duty boxes;
- 7) Lifting must be done with equipment capable of lifting 100 kg – each box will be supplied with three ½" lifting bolts and washers to use in conjunction with lifting slings, and
- 8) Coring for the duct entrance can still be performed in the field using a diamond core drill bit.

**Application of Non-Traffic and Sidewalk Duty Lightweight Service Boxes**

Both sidewalk duty and non-traffic duty lightweight service boxes are for use as secondary service boxes. The electrical equipment capacities, as outlined in ES53 N3-01.01, are the same, with the only difference between the two being the load duty.

Non-traffic duty boxes, risers, collars and covers are suitable for installation in pedestrian areas not accessible by roadway vehicular traffic.

Sidewalk duty boxes, risers and covers are suitable for installation in a pedestrian walkway or other area restricted to occasional **non-deliberate** vehicular traffic.

For design criteria corresponding to each application duty refer to ES54 U1-02.

Non-traffic and sidewalk duty lightweight service boxes are only suitable for installation in areas with level grade. If the meter box entry into a building is more than 1 metre below the top of the lightweight service box, without riser(s) installed, a 332 service box must be used instead to allow the installation of effective waterstops.

**Cost Comparison**

The table below outlines the difference in cost between the lightweight service boxes and sidewalk duty 332 box.

	<b>Installed Cost (Material + Labour)</b>
Non-Traffic duty lightweight service box (large)	\$922
Sidewalk duty lightweight service box (large)	\$1,650
Sidewalk duty 332 box	\$3,275

### 3.0 Action

Sidewalk duty lightweight service boxes are expected to in BC Hydro inventory by November 15, 2017. New CUGs have been created and will be communicated by the CUG Update Group (email [CUGUpdate@bchydro.com](mailto:CUGUpdate@bchydro.com) for more information).

For construction standards see ES54 B3-03 and B3-04 attached.




### 4.0 Figures

See standards ES54 B3-03 and B3-04, attached.

### 5.0 Distribution Standards Contact

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### 6.0 Approval

Recommended		Reviewed		Approved	
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Date:	Nov 7, 2017	Date:	Nov 7/17	Date:	7 Nov. 17