

Etobicoke River bridge, mileage 5.0. Two 50 ft. through plate girders on 2 concrete abutments and 1 pier. Bed of stream to base of rail 12 ft. Both abutments and pier are on solid rock foundation.

Dundas St. overhead bridge, mileage 5.4. Reinforced concrete construction. Two abutments supporting slab on which the road is carried. Clear span 16 ft., at right angles to centre line of railway. Bridge on 47 degrees skew. Clear height, top of rail to trolley wire, 16 ft.

Dixie Creek, mileage 6.1. Timber trestle on mud sills 165 ft. long. Maximum height 23 ft.

Creek, mileage 10.3. Timber trestle on mud sills 35 ft. long. Maximum height 7 ft.

Creek, mileage 14.2. Timber trestle on crib piers. 90 ft. long. Maximum height, 20 ft.

Credit River, mileage 15.3. Three spans through plate girders, one 40 ft. and two 80 ft. The 40 ft. span is over an old tail race, and is supported on 2 concrete abutments. The two 80 ft. spans are over the main river and are supported on 2 concrete abutments and 1 pier. Bed of stream to base of rail 12 ft.

C.P.R. crossing, mileage 15.8. The

Limehouse Creek, mileage 29.3. Pile trestle 180 ft. long. Height above bed of creek 8 ft.

Mileage 30.8. Frame trestle, 180 ft. long, on mud sills, over Toronto Lime Co.'s at Dolly Varden Mine. Total height, 13 ft.

Creek, mileage 31.3. Pile trestle 60 ft. long. Maximum height, 17 ft.

Creek, mileage 32.8. Frame trestle on piles 75 ft. long. Maximum height 18 ft.

Fairy Lake, mileage 33.3. Pile trestle 180 ft. long. Maximum height, 14 ft.

Blue Springs Creek, mileage 35.4. Pile trestle 75 ft. long. Maximum height 8 ft.

Blue Springs Creek, mileage 40.3. Pile trestle 75 ft. long. Maximum height, 8 ft.

Speed River, mileage 41.3. 80 ft. through plate girder on concrete abutments. Bed of stream to base of rail 10 ft. Abutments are founded on coarse gravel, in which no piling was necessary.

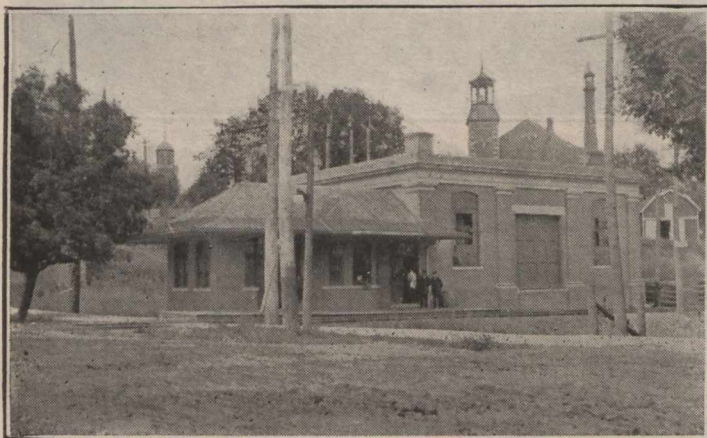
Speed River, mileage 43.4. 80 ft. through plate girder on concrete abutments. Bed of stream to base of rail 10 ft. Abutments founded on coarse gravel and boulders.

The track is laid with 60 lb. A.S.C.E. section rail rolled by the Algoma Steel Co. and laid on jack pine and hemlock

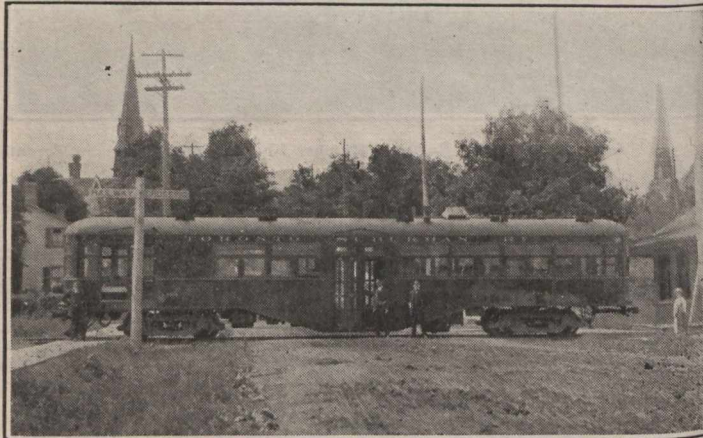
mosa. At Georgetown a brick station of neat design, with waiting room, office and baggage room, was built adjoining the substation. At Acton there is a 2 story frame station 18 x 24 in plan, with waiting room, office and baggage room downstairs, and living rooms upstairs. At Guelph, pending the construction of a better station, there is a platform adjoining the track, and across the street from this platform, a stone building is being used for station purposes. This building has a large waiting room, an office and an express room downstairs and 4 good sized living rooms upstairs.

There is a large car barn at Lambton, which was fully described and illustrated in Canadian Railway and Marine World for May, 1916, in which there are in addition to the car storage space, inspection, repair, machine, paint, and blacksmith shops, boiler room, coal store, offices and lavatories. It is the intention to put up a 2-car barn at Guelph, construction of which will commence immediately.

There are three sub-stations, at Islington, Georgetown and Guelph respectively. The Islington one is a frame building, covered with galvanized, corrugated iron; the Georgetown one is of brick, attached to the passenger station, and the Guelph



Toronto Suburban Railway, Georgetown station and substation.



Toronto Suburban Railway, combination passenger and baggage car at Georgetown.

C.P.R. is crossed underneath, and an I beam bridge, on concrete abutments, was built to carry the C.P.R. track. The width at right angles to the Toronto Suburban Ry. track is 16 ft. in the clear, and the clear height 15 ft.

West Credit river, mileage 23.3. Timber trestle, partly on mud sills, and where in the stream on crib work piers; 315 ft. long, with a maximum height of 64 ft.

West Credit River, mileage 25.8. 410 ft. timber trestle on piles. Maximum height above bed of stream 32 ft. This trestle is extended on the west, with a 3 span I beam bridge on 2 abutments and 2 pairs of pedestals, to carry the railway over Water St., Georgetown. This bridge consists of 2-16 and 1-24 ft. spans, giving a clearance above the roadway of 14½ ft.

G.T.R., mileage 26.7. The G.T.R. Hamilton & Northwestern branch is crossed underneath and a bridge of I beams, on concrete piers, with a clear span at right angles to the Toronto Suburban Ry. of 16 ft., was built to carry the G.T.R. track. Clearance from rail to trolley wire under the bridge 16 ft.

West fork of west branch of Credit River, mileage 28.1. Timber trestle 270 ft. long, on mud sills, and where in the river on timber cribs. Maximum height, 45 ft.

ties, 17 to the rail length. Generally, continuous joints were used, but there are a few miles also of ordinary 4 bolt angle bars. There is throughout 6 in. of good gravel ballast. Main line switches are laid with no. 7 frogs, with the exception of Lambton and Guelph Y tracks, in which no. 5 frogs were used. Yard switches and tails of Y have no. 5 frogs.

At Lambton there is a yard in connection with the car barn, and at the same point there is room for considerable additional trackage. Passing sidings are provided at Eaton farm, Summerville, Dixie, Cooksville, Huronview St., Streetsville, Meadowvale, Churchville, Huttonville, Norval, Georgetown, Dolly Varden, Acton, Blue Springs, Eden Mills and Eramosa. There are Y's at Lambton, Cooksville, Georgetown and Guelph. The Y's are all laid with curves of 100 ft. radius, with the exception of the east leg of the Georgetown Y, which is 130 ft. radius. Guard rails are used on all of these sharp curves. There is a yard at Guelph, with room to handle a considerable amount of freight.

Shelter stations have been built at Islington, Eaton Farm, Summerville, Cooksville, Huronview St., Streetsville, Meadowvale, Churchville, Norval, Limehouse and Eden Mills, and platforms at Lambton, Dolly Varden, Blue Springs, and Eramosa.

one is also of brick. The high tension supply is from the Toronto Power Co., 12,000 volts, 3-phase, 25-cycle, although all the high tension wiring is installed to meet 35,000 volt standards, as the voltage of the supply will later on be raised to 25,000 volts. The Islington and Guelph substations each have one 500 kw. rotary installed, and the Georgetown substation has two of these rotaries. Each rotary converter receives its energy supply from 3 H.P. 25-165 kva.-12,500/25,000 volts to 965 volt oil-cooled, single-phase transformers. These transformers have four 2½% reduced capacity taps in the primary, and 50% starting taps in the secondary. The rotary converters are rated T.C.C. 4-500 k.w.-750 r.p.m.-1,500 volt, compound-wound commutating pole. The converters receive 3-phase energy, at 965 volts, from the transformers, and deliver 1,500 volt direct current to the trolley. The converters are equipped with brush raising mechanism for starting. Each substation is protected against lightning by an aluminum cell lightning arrester, and is provided with the standard arrangement of choke coils, disconnecting switches and oil switches on the high tension side. The switchboard panels are of natural black slate, the instruments having a dull black finish. The K-21-25,000 volt automatic oil switches are provided