

1.0 GENERAL

1.1 Scope

- 1.1.1 Provide all labour, materials, equipment, and all other incidentals to carry out the work in accordance with the plans and specifications, or as directed by the Engineer including slab jacking of concrete sidewalks, curb and gutter:
- 1.1.2 This specification is for the slab jacking of concrete sidewalks, curb and gutter and slabs. Slab jacking is performed to bring the settled concrete up to an elevation matching adjacent sidewalks and/or slabs, or to bring the concrete structure up to pre-determined elevations as provided on the plans or as directed by the Engineer.

2.0 PRODUCTS

2.1 Grout, Mineral Aggregate, Cement, Water, Additives and Equipment

- 2.1.1 Furnish all equipment, tools, and other apparatus necessary for the proper construction and acceptable completion of the work specified.
- 2.1.2 Grout shall be a mixture of water, Portland Cement, sand and additives and have a minimum seven (7) day compressive strength of 3 MPa. The mixture shall be a homogeneous paste with sufficient slump to ensure that all voids are filled to prevent undue stress on the structure.
- 2.1.3 Aggregates used for slab jacking may consist of natural sand, manufactured sand, or a combination of natural and manufactured sand and limestone dust. Maximum particle size shall be 5 mm.
- 2.1.4 Type GU normal Portland Cement.
- 2.1.5 Water shall be clean and free from injurious amounts of oil, acid, alkali, soluble chlorides, organic matter, sediments or other deleterious substances. It shall be equal to potable water in physical and chemical properties.
- 2.1.6 Add bentonite, or other additives, as required to promote lubrication to ensure complete void filling and to compensate for shrinkage during curing.
- 2.1.7 The grout plant shall consist of a positive displacement grout injection pump capable of applying variable pressures up to 1,750 kPa (250 psi), and capable of delivering this grout in a uniform and consistent manner. The mixer shall be a high speed colloidal mixing machine, or equivalent, capable of producing a consistent and homogeneous mixture.
- 2.1.8 Drilling equipment shall be an electrical drill, coring machine or other devices capable of drilling grout injection holes through concrete, pavement and base material.
- 2.1.9 Provide a quick-saw for cutting private walks and driveways. It must be available and on site during the slabjacking operation.

3.0 EXECUTION

3.1 Construction

- 3.1.1 Slab jacking shall not be permitted when the air temperature is 5°C or less, without written approval by the Engineer.
- 3.1.2 Prior to any slab jacking, the site shall be inspected by the Contractor and the Engineer. The existing condition of the concrete structure or slab shall be noted, agreed upon and documented. Should the Contractor deem the site or portion of the site unsuitable for slabjacking, the Contractor will advise the Engineer.
- 3.1.3 Failure to achieve the required standard at any slabjacking site which necessitates replacement of the sidewalk, curb and gutter or slab will result in non-payment for the slabjacking carried out on the section requiring replacement.
- 3.1.4 The slab jacking standard will generally be equivalent to the concrete walk, curb and gutter, slab or driveway adjacent to the site, with respect to drainage, elevation, and profile and cross slope.
- 3.1.5 Sawcut pavement and/or sidewalk and/or curb and gutter as indicated on the plans or as directed by the Engineer and in accordance to Section 2010 - Sawcutting, prior to starting the work.
- 3.1.6 Remove and dispose of all asphalt and/or grouting or asphalt gutter capping from previous repairs.
- 3.1.7 Grout injection holes shall be drilled vertically, having a maximum diameter of 50 mm. Drill holes in such a manner so as to prevent excessive breakout at the bottom of the slab.
- 3.1.8 Pump grout into the holes in a pattern and in an amount required to raise the structure to within 5 mm of the desired elevation.
- 3.1.9 Permanently seal grout holes flush with the surrounding surface with an approved rapid set concrete or other approved patch material. The patch material shall have a minimum thickness of 75 mm.
- 3.1.10 Clean-up the site immediately following slab jacking operations and prior to acceptance. If necessary, use water under pressure as required for clean-up. Replace any concrete structures and/or asphalt slabs damage due to unnecessary or excessive force.
- 3.1.11 Replace any concrete structures and/or asphalt slabs damage due to unnecessary or excessive force caused by slabjacking activities.
- 3.1.12 Restore asphalt and boulevard surfaces after lifting and levelling concrete sidewalk, curb and gutter.