

**Best Management Standards / Specifications**  
**For Concrete Slab Raising**

**Prepared in conjunction with the  
Concrete Repair Association**

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**DETAILED SPECIFICATIONS**

1. ***Description:***

These specifications cover the furnishing, boring, drilling, pumping cementitious grout slurry and appurtenances for raising existing concrete slabs to their original lines and grade, or filling the void between the bottom of the existing concrete slab and the subgrade.

The work described in each Item includes the furnishing of all materials, equipment, supplies, tools, the performance of all labor and services, and all incidentals necessary to complete the concrete slab raising and / or void filling under the concrete slab in a neat, substantial and workman-like manner.

The Customer is to notify the Contractor as to whom is responsible for calling Digger's Hotline, if necessary, prior to job commencement unless otherwise noted in bid package.

2. ***Slab Raising:***

A. **Materials**

1. Cement Slurry Mixture: The slurry mixture used for raising concrete slabs shall be composed of lime, sand, ground clay, Portland Cement (Type 1A conforming to A.S.T.M. C150), and fly ash in the following proportions by volume:

Lime / Fly Ash Mixture passing #50 sieve 100%	27%
Sand passing #4 sieve 100%	15%
Ground clay passing #4 sieve 100%	50%
Portland Cement – 3 ½ bag mix (approx.)	8%

(Should Fly Ash and/or Lime not be readily available, increase the amount of Sand by 27% to mixture.)

This shall be accomplished by use of continuous mixer. All aggregate shall be metered for precise mix design to assure consistent quality control.

2. All materials for job site shall at all times be mobile and not stored in the road or walk area, unless agreed upon between Contractor and Customer at bid submittal.

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3. Slurry material for Slab and Curb Raising shall be mixed with enough potable water to a workable consistency (3 to 6 inch slump). Material once mixed shall be utilized within one hour and may not be retempered (unless so directly by the Engineer, if applicable).
4. There will be NO deviation from the specified mix design.
5. All holes drilled for injection pumping shall be repaired with an aggregate mixture to match existing surface as best as possible. Holes will be patched utilizing a mixture of Portland Type 1A Cement and mason sand in a 2 to 1 proportion.
6. If crack repair is required by contract, install a 2-part epoxy to within ¾” of the top surface and allow to dry. Grout remaining crack to surface with 2-part sand, 1-part cement. If applicable, apply matching crushed aggregate blend as best possible.

Alternative method is to install backer rod to within 3/8” from top surface and fill remaining gap with a self-leveling polyurethane caulk.

### **B. Equipment**

1. Mixing equipment shall be a self-contained continuous mixer, with calibrated mixing and delivery capability, carrying all water, cement and aggregate needed for the job site. The continuous mixer shall meet or exceed the Standards of Calibration as set forth by the Volumetric Mixer Manufacturer Bureau (VMMB), a member of the National Ready Mix Concrete Association (NRMCA), and conforming to ASTM 685, ACI 304.6 and CSA 23.7.
2. All materials pumped shall be of a minimum of 500 PSI to a maximum of 1,000 PSI mix design.

### **C. Work**

1. Holes: The Contractor shall drill holes by whatever means convenient to him, however Contractor shall exercise caution to prevent cracking of concrete slab in which the hole is being drilled. The hole size for slab raising operations shall be a minimum of one inch (1”) up to a maximum of two inches (2”) in diameter. The holes shall be spaced as necessary to uniformly to assure complete communication of slurry between holes.

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2. Slab Raising: Slabs shall be raised to the required elevation and pitched at one-quarter (1/4) inch per twelve (12) inches of lineal run, or as directed by the inspector. If required, saw cuts shall be made at joints to allow free movement of the work. Saw cutting is incidental to the unit price as bid for slab raising, unless otherwise specified in the bid.
3. Patching Holes: Holes shall be cleaned the full depth of the slab by removing excess slurry and wire brushing exposed sidewalls. Prior to placement of the Portland Cement, the surface around the holes shall be damp.

Slab raising holes shall not be cleaned out and patched until the slurry that was pumped has been allowed to stabilize.

4. Clean Up: Slabs raised shall be thoroughly scraped and swept after completion, but prior to patching. Surrounding grass areas adjacent to slab raising shall be left in a clean, non-debrised condition. Clean up is included in the unit price as bid for slab raising.

D. Damage

1. Any concrete that is damaged by the Slab Raising operation shall be replaced or repaired by the Contractor at the Contractor's expense per Section 2 below, unless otherwise specified in the written Contract.
2. Repair of damage caused by Slab Raising operation
  - a. In lieu of following replacement specifications, a monetary damage compensation may be agreed upon between the Contractor and the customer in form of a written Change Order.
  - b. Removal shall be accomplished by whatever means considered practical by the Contractor (subject to the approval of the Engineer, if applicable). Removal and replacement limits shall be defined by the nearest existing contraction joint.
  - c. If the Contractor damages any utilities, he will immediately notify the appropriate utility provider (and the Engineer, if applicable), and pay for all costs of repair.

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d. Replacement

Sidewalk replacement shall be in accordance with the Code of General Ordinances of the respective city / state. Slab Repair and Replacement shall conform to Local Metropolitan Builders Standards or Local / State Municipal Standards.

e. Restoration

Grass areas that are damaged by the Contractor shall be restored to existing conditions at Contractor's expense

E. Clean-Up and Final Inspection

The Contractor shall have thorough and systematic clean-up operations following closely behind the construction work. He shall remove and properly dispose of all dirt and debris resulting from execution of the work. Defects of any nature whatsoever shall be promptly corrected.