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PRECISELY ENGINEERED, HIGH STRENGTH CONCRETE



# CONCAST INC.

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## CONCAST VAULT INSTALLATION GUIDELINES (08/02)



## **Excavation Limits and Requirements**

Excavation shall be to a depth that permits preparation of a foundation as specified, and installation of the vault at the prescribed line and grade. The width and length of the excavation hole shall be sufficient to permit the base of the vault to be laid level, and the backfill to be placed and compacted as specified.

Excavation shall be extended below the bottom of the structure grade as necessary to accommodate any required granular bedding material. When rock or unstable foundation material is encountered at the established grade, additional materials are to be removed as specified or as directed by the engineer to ensure an acceptable foundation.

All excavations below grade shall be to a minimum width equal to the dimensions of the vault base plus 6 inches. Excavation widths shall allow for at least 3" of clearance on each side of the vault base. This results in a clearance of approximately 7" on either side of the vault side walls.

## **Vault Bedding**

Where ordinary bedding is allowed on existing materials, the excavation bottom is to be at the grade at which the vault is to be laid. The vault shall be laid on the sound soil, cut true and even, so that the base of the vault will have bearing capacity over 80% of the entire bottom surface of the base.

Specified improved bedding shall be achieved by bedding the vault in compacted crushed rock, or granular materials at which 100% passes a 3/8" sieve, and a maximum of 5% passes a number 10 sieve.

All bedding materials shall be carefully compacted in place. Bedding requirements shall include mechanical compaction of sand and gravel material when specified. When existing soils are of non-granular nature, the contractor shall furnish sand or gravel material for the bedding

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## **Vault Foundations in Poor Soil**

When the bottom of the excavation is soft, or where in the opinion of the engineer unsatisfactory foundation conditions exist, the contractor shall excavate to a depth to ensure a proper foundation. The excavation can then be brought back up to the prescribed vault foundation grade with a thoroughly compacted gravel.

It shall be the contractors' responsibility to notify the utility of changing soil conditions which may be of poor bearing capacity, and when organic soils are encountered. Where a vault is placed on unstable soils without notification of the Power Company, the contractor shall be solely responsible for all corrections of the installation without further compensation.

## **Vault Backfilling Operations**

All vault excavations shall be backfilled to restore pre-existing conditions, or to the final grade as specified by owner. Should the materials available within the excavated section be unsuitable or insufficient, additional required materials shall be supplied from outside sources.

Suitable materials shall be defined as a mineral soil reasonably free of foreign materials, rubbish, debris, etc.. Frozen clumps, oversized stone, rock or concrete, bituminous chunks, or other unsuitable materials may prevent a thorough compaction or increase the risk of after settlement.

The material specified for bedding would be acceptable for backfill material. A 3/4 - 1 1/2" crushed, washed, or dry screened aggregate would be an acceptable alternate.

Backfill should not be bulldozed into the hole or dropped directly on the vault.

Compaction of materials placed within the vault bedding can be accomplished with portable or hand equipment methods.

Compaction of materials within the encasement zones of the vault shall be achieved by hand or through the use of light equipment only. The use of roller type compaction equipment and heavy construction equipment should be avoided.

## **Restoration Of Surface Improvements And Final Acceptance**

Whenever any surface improvements such as pavement, curbing, pedestrian walks, fencing or turfing have been removed, damaged, or otherwise disturbed by the contractors operations, they shall be repaired or replaced to the pre-existing condition. The repairs are to meet the utilities satisfaction.

Until the final acceptance of the project, the contractor will assume full responsibility and expense for all backfill settlement. The contractor shall refill and restore the work as directed to maintain an acceptable surface condition.

The top of the vault should be level and at the prescribed line and grade as specified by the utility.

All additional materials required shall be furnished without additional cost to the owner.