

# Installing Precast Concrete Structures

## **Begin with a survey to verify that:**

- The location of the concrete structure is clearly defined.
- All underground utilities, such as gas, water, sewer, electricity and telephone, have been located and marked.
- Any obstacles, such as overhead wires or trees, that would interfere with crane operation or create a safety hazard have been identified and necessary arrangements made to deal with them.
- The soil has been checked, and appropriate shoring, sloping or both have been planned.

## **Planning**

- All necessary permits should be obtained before work begins, and the permits or a record of the permits should be available at the site.
- Utility companies and owners of any facilities in the area should be given advance notice of the excavation. If damage occurs, you should notify the owner of the damaged property immediately.
- Planning should include coordinating removal of broken pavement, rock, etc. Responsible parties should arrange for the delivery, distribution, and storage of required material either on or off-site.
- If there is a possibility that the excavation will interfere with traffic, consult with the engineer and notify the appropriate authorities.
- Make sure there is access to telephones and fire hydrants or other fire protection at the site.

## **General Safety**

- Please follow all safety provisions called for in federal, state and local regulations.
- The concrete structure should be lifted only at the lifting points designated by Front Range Precast Concrete, Inc.

## **Excavating**

- When your excavation is adjacent to facilities such as hospitals, fire stations or gas stations, you should coordinate excavation operations from beginning to end so that the work area is kept as small as possible.
- If you run into unexpected underground facilities or obstructions, stop excavating immediately. Expose the obstruction with wood-handled tools, and investigate with caution. If you have any doubt about what you've hit, get positive identification before you continue digging.
- Because installation of concrete products often requires the use of heavy equipment, be sure you have checked the soil condition to be sure it will support heavy loads. Take all preventive measures that may be needed to stabilize the area and protect trucks, products and installation workers.

- Inspect excavations after every rain or snow, and increase protection against slides and cave-ins if necessary.
- Be sure your excavation allows room for the assembled concrete product plus any risers and bedding materials required. A clearance of 12 inches around the sidewalls of the structure is recommended.

## **Shoring**

- Install shoring, as required, immediately following the excavation, even if no work is to be done right away. The longer an excavation is left unsupported, the greater the chance of cave-in.
- Use only structurally sound timbers. If you use prefabricated box-type shoring, make sure it is clean and structurally sound after previous use.

## **Installation**

- Consult your detailed plan to be sure you properly orient the concrete structure to insure alignment of pipes or conduits.
- Never place a damaged concrete structure, unless approved by the customer.
- Do not modify the product in the field unless you are positive the modification will not affect the strength of the structure.
- Do not install a concrete structure under conditions that will result in it having a load heavier than it was designed for.
- After the site has been excavated to the proper size, level the area where the base will be installed.
- Assemble multi-section structures by setting level and firmly positioning the base of each section before setting the next one.
- Where the possibility exists of a watertight structure floating in a flooded excavation, take steps necessary to avoid flotation of the structure.
- When joining sections of precast concrete structures, take particular care to insure that all foreign materials such as dirt, mud, and stones are removed from the joint surface, and be sure that sealing materials are placed properly.

## **Backfilling and Restoration**

- Do the backfilling as soon as possible after the structure has been installed.
- When placing a precast concrete structure into an unpaved area, slope the area around the entrance frame and cover to send drainage away from the entrance. Slope the final grading upward to within 1 inch of the top surface of the cover.
- Perform follow-up inspections for settling. If settling occurs, the contractor is responsible for restoring the area to its original condition.