922 UTILITY CONCRETE FOR MISCELLANEOUS CONSTRUCTION

Utility concrete is used when high strength is not needed and small quantities are used at one time so that elaborate testing and inspection are not justified.

Specifications for materials are the same as for other types of concrete found in Section 1006. The minimum cement content is 470 pounds per cubic yard (279 kilograms per cubic meter). The discussion on concrete in Section 1006 should be read for guidance in judging whether the Contractor's materials and methods will be satisfactory. Section 1006 should not be considered to be setting out requirements but only as a guide to assist in recognizing areas where problems may develop.

If approved by the Engineer, the Contractor may substitute commercially available sacks of redi-mix concrete, suitable for the intended purpose. Should such substitution be approved, the cement specified herein and the requirements of Subsection 922-2 shall not apply.

Although minimal inspection is required, it is necessary to look at the Contractor's batching and mixing equipment and procedures. If the Contractor's methods are not acceptable, notify them in writing. The Resident Engineer will need to use firmness and ingenuity in dealing with the Contractor under the concept of "recognized practice".

The Contractor has to furnish an acceptable product and choose the slump range and aggregate size. However, the Resident Engineer is required to review and approve the proposed mix prior to its incorporation into the work.

Although the Contractor chooses the aggregate size, the grading must conform to AASHTO M43. Mixing can be done manually at the job site as well as plant or truck mixing as long as the Resident Engineer approves. A great amount of leeway also exists in the method used to proportion the materials; again, only the Resident Engineer’s approval is needed.

When reviewing the Contractor's mix proposal, a rule of thumb guide for aggregate having a fineness modulus of from 2.60 to 2.90, is; when 1 to 1-1/2 inch (25.4 to 38.1 mm) aggregate is used, the fine aggregate should be 40 to 45% of the combined fine and coarse aggregates. The total water needed to provide a 3 inch (76.2 mm) slump will be about 7 gallons (26.6 liters) per sack of cement.