

King Abdulaziz University
Department of Civil Engineering

Homework # 3 Solution

4.1

- a) Lump Sum – A quotation of total cost is given to the owner for the cost of the work based on plans and specifications provided. If accepted by the owner, this becomes the “fixed price” for the work and does not vary unless change orders are issued which have cost implications. Advantage to owner – knows expected total cost of work before work commences.

Disadvantage to owner – plans and specifications must be totally prepared before selecting a contractor. Also referred to as “stipulated sum” type of contract.

- b) Unit Price – A bid schedule of the items to be constructed is prepared and given to potential contractors. The contractor quotes prices for each work item based on the unit associated with each item in the bid schedule. Concrete work items, for instance, might have the associated “unit” of cubic yards. The contractor’s price for concrete items would be quoted in \$/cubic yard. This is somewhat like a grocer giving prices for apples and oranges. The total amount paid to the contractor is based on the actual number of work item units placed times the unit cost. Since quantities are measured in the field and may vary from the original guide quantities given with each work item, the actual final cost to the owner is not known until all work is placed and the final quantities are measured. To a certain degree, the contractor’s risk is reduced since he will be reimbursed at his quoted price for all units placed.

The unit price type contract would be best for contracting for the construction of bridge piers since a large number of variable and unknown factors are involved (e.g. sub-surface conditions, etc.) which may cause quantities to vary significantly.