#### **Procurement**

The following is the outline of Japanese construction industry structure and procurement system.

# Design Professions:

Except for very small buildings, only registered architects (first and second class) can perform building design services.

The architectural design may be executed by either architectural firms or general contractors with their own design departments.



#### Contractors:

The "Big Five" are the five largest construction firms in Japan. These firms, which dominate the construction industry, are:

- Obayashi
- Kajima
- Shimizu
- Takenaka
- Taisei

Nearly all construction is performed by specialized trade subcontractors on the basis of fixed lump sum contracts. Historically, the specialized contractors have almost a "family" relationship with the general contractors and tend to work for a particular general contractor for years. In some cases they will work for only one contractor. A high level of trust exists between them. At the bid and award state, the general contractor stipulates the contract price rather than letting the specialized contractor price the work.

#### Materials and construction methods

Although the basic materials and methods of construction used in Japan are similar to those of other developed countries, there are considerable differences in detail. Generally, structures are heavy reinforced concrete, steel framed reinforced concrete, or steel frame with spray applied fireproofing for large buildings, whereas for detached housing, timber frame is mostly used,

Although there is some prefabrication of components for smaller elements, a considerably greater amount of skilled trade work (for example, cutting, fitting and

welding of steelwork, cutting and threading of steel pipes, and the preparation of natural stone cladding) takes place on site.

The use of tower cranes is unusual; instead materials are either distributed by hoists at the perimeter of buildings, or by small cranes mounted on the top construction level through holes left in the floors.

# - Material Availability:

Most building materials and products are produced and readily available in Japan.

# - Labor Availability:

Generally, skilled and unskilled labor forces are available. However, the skilled craftsmen, such as formworkers and steelworkers are slightly in short.

### - Equipment Availability:

Generally, major equipments are leased from equipment leasing companies. All major equipment pieces are readily available.