





1. Project Delivery Work Phases

Ralph J. Stephenson PE
Consulting Engineer

<u>Phase</u>	<u>Needs</u>
<p>A. Conceive</p> <p>The need for the project is identified and a broad plan for its implementation is formulated.</p>	 <ul style="list-style-type: none">1. Market analysis2. Real estate analysis3. Financing analysis4. Cost analysis, and Others
<p>B. Validation</p> <p>The project financial feasibility is confirmed, land is controlled, and a formal pro forma made. Some confirmation site and building design studies are made. This phase produces a go or no go decision.</p>	 <ul style="list-style-type: none">1. Programming2. Real estate control3. Financing acquisition4. Cost analysis5. Approval6. Architectural design7. Land planning8. Traffic analysis9. Go or no go approval, and Others
<p>C. Design</p> <p>The design & construction delivery system is selected and documents adequate to construct the project are prepared & issued for construction.</p>	 <ul style="list-style-type: none">1. Design development2. Schematics3. Preliminaries4. Construction document production, and Others
<p>D. Construction</p> <p>The project is built & given to the owner & occupant using the delivery system selected earlier.</p>	 <ul style="list-style-type: none">1. Procurement2. Construction3. Turnover4. Warranty, and Others

2. Professional Service Contract Characteristics

Ralph J. Stephenson PE
Consulting Engineer

A. Agreement premises

- 1. Totally negotiated - broad multivalued competition
- 2. Partially qualified - moderate multivalued competition
- 3. Totally qualified - narrow multivalued value competition

B. Authority limits

- 1. As agent
- 2. As limited agent
- 3. As contractor

C. Payment methods

- 1. Fixed total including payroll + overhead + profit + (expenses)
 - a. Expenses included
 - b. Expenses separate
- 2. (Payroll costs) x multiplier + fixed fee + expenses
 - a. Limit on
 - 1.) Payroll hours
 - 2.) Expenses
 - b. No limit on
 - 1.) Payroll hours
 - 2.) Expenses
- 3. (Payroll costs) x multiplier for payroll costs & overhead
 - a. Expenses included
 - b. Expenses separate
- 4. % of total construction cost
 - a. Expenses included
 - b. Expenses separate

D. Scope of services

- 1. Single responsibility
 - a. All in house
 - b. In house & outside consultants
- 2. Split responsibility
 - a. In house, client & other prime consultants
 - b. In house & other prime consultants
 - c. In house & client

3. Construction Contract Characteristics

Ralph J. Stephenson PE
Consulting Engineer

A. Agreement premises

- 1. Totally negotiated - broad multivalued competition
- 2. Partially qualified - moderate multivalued competition
- 3. Totally qualified - narrow multivalued competition

B. Authority limits

- 1. As full agent
- 2. As limited agent
- 3. As contractor

C. Payment methods

- 1. Fixed cost (hard money)
- 2. Time & material + fixed fee
 - a. Limit on
 - 1.) Time & material (gmp) with no shared savings
 - 2.) Time & material (gmp) with shared savings
 - b. No limit on time & material
- 3. Time & material + % fee
 - a. Limit on
 - 1.) Time & material (gmp) with no shared savings
 - 2.) Time & material (gmp) with shared savings
 - b. No limit on time & material
- 4. Conditional payments or penalties
 - a. Incentive/disincentive
 - b. Liquidated damages

D. Scope of services

- 1. Single responsibility - in house & subcontractors
 - a. All trades →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
 - b. Limited trades →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
- 2. Split responsibility - in house, subcontractors & other primes
 - a. All trades in contract →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
 - b. Limited trades in contract →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials