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INTRODUCTION

As part of their professional services, architects and their consultants often prepare estimates of construction costs. Although they are expected to apply their professional judgment diligently when predicting costs, their estimates are not guaranteed. The reason is simple: many factors that affect the cost of construction are beyond the control of architects. For example, manufacturers, suppliers, and distributors influence the price of materials and equipment; unions influence labor costs; individual contractors determine how they will prepare their bids; and market forces of supply and demand affect competition.

CONTRACT PROVISIONS

Architect's Responsibilities Under AIA Documents

Architects have a limited responsibility to owners when estimating construction costs of projects. Paragraph 5.2 of the AIA Owner-Architect Agreement, Document B141 states:

Evaluations of the Owner's Project budget, preliminary estimates of Construction Cost and detailed estimates of Construction Cost, if any, prepared by the Architect, represent the Architect's best judgment as a design professional familiar with the construction industry. It is recognized, however, that neither the Architect nor the Owner has control over the cost of labor, materials or equipment, over the Contractor's methods of determining bid prices, or over competitive bidding, market or negotiating conditions. Accordingly, the Architect cannot and does not warrant or represent that bids or negotiated prices will not vary from the Owner's Project budget or from any estimate of Construction Cost or evaluation prepared or agreed to by the Architect.

The architect must study the owner's program and budget for the project to determine if they are reasonably related. For example, a reasonable construction budget for a housing project, in dollars per square foot, may be too low for a hospital. Where a proposed budget is too low, the architect must inform the owner that changes must be made to the program, the budget, or both to bring them into a realistic relationship.

Once the program and budget are reconciled and a schematic design is developed, the architect must, according to subparagraph 2.2.5 of AIA Document B141, provide the owner with a preliminary estimate of construction cost, based on area, volume, or other unit cost criteria. For example, square foot costs applicable to the particular building type could be used. However, for some buildings where ceiling heights are considerably greater than average, such as auditoriums and gymnasiums, the cost per cubic foot of volume may be more appropriate, since the construction costs are related to volume as well as floor area. Other unit costs, such as the cost per room for hotels or per bed for hospitals, may be more appropriate for estimates for these building types.

Architects attempt to be accurate in making preliminary cost estimates, but accuracy is affected by the available level of detail and other circumstances. They should not create unrealistic project cost expectations and should advise owners about the unpredictability of construction costs.

Subparagraph 2.3.2 of AIA Document B141 requires the architect to provide updated estimates of construction cost at the conclusion of the design development phase. Some adjustments may be required to allow for changes requested by the owner, greater detail development in the design documents, or more specific information from structural, mechanical, electrical, and other consultants. Architects may use the subsystem method of cost prediction, rather than area or volume methods, because design development documents contain sufficient detail to prepare such an estimate, which is more accurate than earlier estimates based on schematics.

After the construction documents have been prepared, subparagraph 2.4.3 of AIA Document B141 again requires the architect to advise the owner of necessary adjustments to earlier estimates to account for *changes in requirements* or *general market conditions*. Since it takes a significant amount of time to prepare construction documents, intervening changes in market conditions may cause an owner to revise the requirement of his or her program. For example, an owner may reduce the scope of a proposed office building in response to a weak rental market. Prevailing market conditions may also affect estimated bid prices. If the amount of construction work in the area is considerably different (greater or less) than at the time the previous estimate was prepared, it is likely that bid prices will be different (higher or lower) than previously predicted.

Accuracy Required

Paragraph 5.1 of AIA Document B141 defines the items which are included in an architect's cost estimate. These comprise all elements which the architect designs, specifies, or selects, or for which the architect makes special provisions, as well as the cost of any labor and materials that

Daumier. Robert Macaire, Architect

"How now, M. Macaire? This house, which, by your estimate, was to cost me only 70,000 francs, now stands me in 300,000!"

"That isn't my fault. You have a window opening to the south instead of to the north, you want four stories instead of five, and have changed the roof from slate to shingles. I can only be responsible for my original plan. You change it—that's <u>your</u> affair."

might be furnished by the owner. Certain other costs associated with a project, such as land costs and architect's fees, are not included in this definition and thus are not included in an architect's estimate of construction cost.

Paragraph 5.2 of AIA Document B141 establishes responsibility for construction cost estimates. It states that evaluations and cost predictions provided by an architect represent the best judgment of a professional familiar with the construction industry, but that these are not a representation or warranty that actual construction costs will not differ from the owner's budget or the cost predictions previously submitted. This statement is essential because architects are not able to control the cost of labor or materials, nor competitive market factors. If an owner is not familiar with these standard clauses, he or she may assume that the architect is negligent if actual bid prices exceed the preliminary cost projections and, therefore, is not entitled to his or her fee.

As with all professional services, the architect must exercise reasonable care with the cost projections he or she prepares. If a cost projection is inaccurate because it was negligently prepared, an architect could become liable to the owner for damages.

Fixed Limit of Construction Cost

Generally there is no *fixed limit of construction cost* on a project. However, if both the owner and the architect agree upon such a fixed limit, it must be stated in writing to be binding. A fixed limit or *upset price* is sometimes requested by an owner who has limited funding authorization or financing commitments. In that case, the architect must provide contingencies for design changes, bidding uncertainties, and cost escalation caused by inflation. With a fixed limit, the architect must have the authority to decide the quality of materials and equipment to be used. Even the scope of the project may reasonably be adjusted by the architect by reducing the program or including deductive alternates in the bid package to stay within the fixed limit of construction cost.

Finally, subparagraph 5.2.3 of AIA Document B141 states that the fixed limit of construction cost must be adjusted upward to account for changes in the level of prices in the construction industry if bids are not solicited within 90 days after submission of contract documents by the architect to the owner.

If an owner wants the certainty of a fixed limit of construction cost, he or she must relinquish control of scope and quality to the architect. Architects sometimes put themselves in jeopardy when they agree to a cost limitation, but do not exercise the authority to reduce the scope or quality of a project to keep it within the budget.

Bids in Excess of a Fixed Limit of Construction Cost

When an architect agrees to design a project to meet a fixed budget or limit of construction cost and the lowest bona fide bid or negotiated proposal exceeds that amount, subparagraph 5.2.4 of AIA Document B141 describes four alternative courses of action the owner may take:

1. Waive the fixed limit and accept the bid amount. This is likely to occur when the difference is relatively small and the neces-

sary funds are available.

2. Rebid the project within a reasonable time. This may occur if market conditions are likely to improve in the near future.

3. Abandon the project and terminate the architect's contract. This may occur if there does not appear to be any reasonable course of action which will bring the project within the fixed limit of cost.

4. Cooperate with the architect to reduce the scope, quality, or both of the project and rebid it in the new form.

If this last alternative is selected and there is a written, fixed limit of construction cost, the architect must, without additional charge, modify the drawings and specifications as necessary to comply with the fixed limit. Subparagraph 5.2.5 of AIA Document B141 states that this is the extent of the architect's responsibility and, once the redesign is complete, the architect is entitled to compensation for all services performed whether or not construction is started.

Consultants' Responsibilities Under AIA Documents

Consultants have responsibilities for cost estimates which parallel those of the architect. The AIA Architect-Consultant Agreement, Document C141, describes the responsibilities of engineers providing services on a project.

The definition of construction cost and provisions related to responsibility for cost predictions are almost identical to those in the Owner-Architect Agreement. Thus, the consultant's representations to the architect under AIA Document C141 are no more extensive than those of the architect to the owner.

Consultants must cooperate with the architect to decide what proportion of a project's construction budget must be allocated to their part of the project. For example, an architect and structural engineer may decide that the cost of the structural system is not to exceed 20 percent of the total cost of construction. During the design phase, consultants must submit preliminary estimates of construction cost to the architect for their part of the project. These estimates form a part of those submitted by the architect to the owner for the entire project.

If a project has a fixed budget or limit of construction cost, the architect and consultant should agree on a fixed limit of cost for the consultant's part of the project. This is possible when the work designed and specified by the consultant can clearly be segregated from other work, as for example, mechanical work, which is clearly distinct from architectural work.

If the fixed limit for a consultant's part of the project is exceeded by the pertinent part of the low bid, an architect can require that particular consultant, without additional charge, to modify his or her drawings and specifications in order to bring the cost of his or her part of the project within the agreed fixed limit. Once that is accomplished, the consultant has no further responsibility with respect to the cost limitation, and is entitled to compensation for services rendered.

If it is impossible to establish a fixed limit for a consultant's portion of a project, such as the

structural system, for example, that consultant is responsible for modifying the drawings and specifications to reduce the cost of his or her part of the project in reasonable proportion to the overall reduction required to bring the total project into the budget. For example, if the structural system represents about 20 percent of the total construction cost, the structural engineer may be responsible for 20 percent of the required reductions. Once this has been achieved, the consultant has fulfilled his or her responsibility with regard to the fixed limit of the construction cost and is entitled to be paid for services rendered, without any additional charge for the modifications.

TYPES OF ESTIMATES

Area/Volume Estimates

During the early stages of design, construction costs are usually estimated on the basis of cost per square foot of area or cubic foot of volume. These methods are widely used because area or volume can easily be determined and multiplied by a dollar figure to arrive at an estimated cost.

The method used for calculating area or volume should be consistently applied from project to project. One widely accepted method is described in AIA Document D101, Architectural Area and Volume of Buildings.

Once a building's area or volume has been calculated, an appropriate unit cost must be selected. Generally it is based on actual costs of similar past projects. However, such costs must be adjusted, since costs vary in relation to a project's size, perimeter, height, number of stories, site conditions, type of construction and finish, mechanical equipment, and time and place of construction.

For a firm which has extensive information about construction costs of past projects, determining the appropriate unit cost for a particular building type is relatively easy. For firms which specialize in one building type and which operate in one location, the estimated unit costs are likely to be quite accurate. However, when a firm ventures into an unfamiliar building type or a new geographic market, it must seek help in determining the appropriate unit costs. One source consists of publications such as Means Building Construction Cost Data, Dodge Reports, or Building Design and Construction News. An example of this type of information is shown on page 4-8. A local contractor or architect who specializes in the building type under consideration might also provide reliable cost information.

Architects must account for special features in a project and should include contingency amounts because of the lack of available detail in early design stages. An allowance of 10 to 20 percent of the estimated project cost might be an appropriate contingency figure in the schematic design phase.

Subsystems Estimates

As more detailed information becomes available on a project, architects often switch from area/volume methods to subsystems methods of cost estimating. Subsystems methods deal with a project's functional units or assemblies. Subsystems are consistent from project to project though materials and methods of construction may change.

Building Type/System	UNIT	UNIT COSTS IN $		
		LOW	MEDIUM	HIGH
COLLEGES Classroom & Administration	S.F.	74	95	118
Total project costs	C.F.	5	7	11
Masonry	S.F.	5	6	10
Plumbing		3	5	10
Heating, ventilating, air conditioning		8	11	18
Electrical		6	9	12
Total: Mechanical & Electrical		13	23	36
COLLEGES Science, Engineering, Laboratories	S.F.	101	119	142
Total project costs	C.F.	6	9	10
Equipment	S.F.	4	12	16
Plumbing		5	6	8
Heating, ventilating, air conditioning		6	13	15
Electrical		9	12	16
Total: Mechanical & Electrical		27	37	54
COLLEGES Student Unions	S.F.	72	102	118
Total project costs	C.F.	4	5	7
Plumbing	S.F.	5	7	8
Heating, ventilating, air conditioning		11	13	19
Electrical		6	9	12
Total: Mechanical & Electrical		19	27	30

Subsystems estimates enable comparison between different conceptual solutions during the design phase. An architect deciding between exterior cladding of precast concrete or anodized aluminum, for example, benefits from cost data that allows direct comparison between basic systems. These prices are usually stated in dollars per square foot, allowing the architect to compare the systems on that basis.

Although there are various breakdowns used for the basic subsystems, the following is typical:

Building Costs

1. Foundation
   - Standard
   - Special
2. Substructure
   - Slab on Grade
   - Basement Walls
3. Superstructure
   - Floor Construction
   - Roof Construction
   - Stair Construction
4. Exterior Closure
   - Exterior Walls
   - Exterior Doors and Windows
5. Roofing
6. Interior Construction
   - Partitions
   - Interior Finishes
   - Specialties
7. Conveying Systems
   - Elevators
   - Moving Stairs/Walks
   - Dumbwaiters
   - Pneumatic Tube System

SAMPLE OF DETAILED SUBSYSTEMS AND UNITS OF MEASURE

System or Subsystem Name	*Unit of Measure*
Foundation	*Footprint Area*
Standard	*Footprint Area*
Excavation & Backfill	*Cubic Yds.*
Concrete-Forms	*Cubic Yds. Conc.*
Masonry	*Sq.Ft. Masonry*
Special	*Footprint Area*
Rock Excavation	*Cubic Yds. Excav.*
Dewatering	*Lump Sum*
Structural Steel	*Tons of Steel*
Piles or Caissons	*L.F. Piles/Caissons*
Underpinnning	*Cubic Yds. Conc.*
Substructure	*Sq.Ft.*
Slab on Grade	*Sq.Ft.*
Gran. Fill below Slab	*Tons of Fill*
Found./Underslab Drain	*L.F. Pipe*
Concrete-Forms	*Cubic Yds. Conc.*
Water/Dampproofing	*Sq.Ft. Contact Area*
Thermal Insulation	*Sq.Ft. Contact Area*
Basement Walls	*Sq.Ft. Wall*
Concrete-Forms	*Cubic Yds. Conc.*
Masonry	*Sq.Ft. Masonry*
Water/Dampproofing	*Sq.Ft. Contact Area*
Superstructure	*Sq.Ft. Fl.&Rf. Area*
Floor Construction	*Sq.Ft. Floor Area*
Concrete-Forms	*Cubic Yds. Conc.*
Precast Struc. Components	*Sq.Ft. Comps. Area*
Structural Steel	*Tons of Steel*
Rough Carp. Frame Deck	*Board Ft. Lumber*
Hvy. Timber Prefab Struct.	*Board Ft. Lumber*
Cementitious Decks	*Sq.Ft. Deck*
Roof Construction	*Sq.Ft. Roof Area*
Concrete-Forms	*Cubic Yds. Conc.*
Precast Struc. Components	*Sq.Ft. Comps. Area*
Structural Steel	*Tons of Steel*
Rough Carp. Frame Deck	*Board Ft. Lumber*
Hvy. Timber Prefab Struct.	*Board Ft. Lumber*
Cementitious Decks	*Sq.Ft. Deck*

Other Conveying Systems

8. Mechanical Systems
   - Plumbing
   - HVAC
   - Fire Protection
   - Medical Gas System
   - Sewage Treatment
   - Solar Energy Mechanical System
9. Electrical Systems
   - Basic Materials and Methods
   - Lighting & Power
   - Special Electrical Systems
   - Communications Systems
   - Electrical Heating Systems
10. General Conditions
11. Equipment
    - Special Equipment
    - Furnishings
    - Special Construction

Site Development Costs

12. Sitework
    - Site Preparation
    - Site Improvements
    - Site Utilities
    - Off-site Work

A portion of a detailed breakdown is shown on page 4-9.

Detailed Estimates

The detailed estimates method of predicting construction costs is sometimes referred to as the *Quantity and Cost Method* or the *Labor and Materials Method*. It requires a detailed calculation of the amount of each type of material and labor necessary to produce the required construction. Costs per unit of material and labor are applied to the calculated quantities to arrive at the total direct cost of the construction work.

Indirect costs must also be added, including:

1. The contractor's overhead, including insurance, payroll taxes and benefits, general and administrative expenses such as site office salaries, and equipment rental costs.

2. General Conditions costs, including project signs, engineering surveys and inspections, tests, drawings and photographs, permits, and repairs and clean-up.

3. A contingency amount for cost escalation and unforeseen conditions.

4. Contractor's profit calculated as a percentage of total direct construction costs.

Subparagraph 3.4.10 of AIA Document B141 states that detailed estimates of construction cost are additional services for which the architect must be additionally compensated. Many architects hire cost estimating consultants to prepare detailed estimates to supplement their own skills and experience.

The calculation of quantities of labor and materials is commonly called a *quantity take-off* or *quantity survey*. A properly prepared take-off accurately lists quantities of all materials and notes the various items necessary for the construction of a particular project. Of course, all items must be included and none intentionally omitted from the take-off. Special items should be listed separately from the more common items since these will require extra attention and usually are assigned different unit costs. See pages 4-11 and 4-12.

EXAMPLE OF DETAILED ESTIMATE (SUMMARY)

QUANTITY TAKE-OFF		ESTIMATE
PROJECT Milano Junior College/Second Increment		JOB NO. JS-104 PG 1
ARCH/ENG/OWNER P. Palladio		PREPARED BY U.F.O.
PROJECT LOCATION Milano, California		CHECKED BY R.F.D.
DESCRIPTION Classroom Building		DATE September 15, 1995
ITEM NO.	DESCRIPTION	TOTAL COST
	SUMMARY OF ESTIMATE	
1a	General Conditions	119,157
2a	Demolition	See Site Estimate
2b	Service Site	See Site Estimate
2c	General Site	See Site Estimate
2d	Off Site Work	See Site Estimate
2e	Underpinning, Shoring	See Site Estimate
2f	Site Utilities	See Site Estimate
2g	Landscaping & Irrigation	See Site Estimate
2h	Piling, Piers, Caissons	None
2i	Excavation & Fill	None
3a	Concrete, Foundations	50,504
3b	Concrete, Structural	669,174
3c	Concrete, Architectural	None
3d	Concrete, Precast	None
3e	Concrete, Slabs on Grade	60,762
3f	Reinforcing	191,756
3g	Cementitious Decks	None
4a	Masonry & Stone	None
5a	Structural Steel	None
5b	Misc. Iron & Arch. Metals	43,402
5c	Metal Siding & Decks	None
*6a	Carpentry, Rough	21,600
*6b	Carpentry, Finish	29,440
6c	Glulam Beams & Trusses	None
6d	Millwork	None
*6e	Rough Hardware	4,651
6f	Stairs & Rails, Wood	None
*7a	Roofing & Rigid Insulation	27,433
7b	Waterproofing	None
*7c	Sheet Metal & Skylights	21,201
*7d	Caulking & Sealants	7,442
7e	Thermal & Sound Insulation	4,735
7f	Arch. Sheet Metal	None
8a	Wood Doors & Frames	11,837
8b	Hollow Metal Work	19,728
8c	Store Front, Sash & Doors	13,415
8d	Glass, Glazing & Sash	18,939

*See next page for details

EXAMPLE OF DETAILED ESTIMATE (DETAIL SHEET)

QUANTITY TAKE-OFF				ESTIMATE	
PROJECT: Milano Junior College/Second Increment				JOB NO.: JS-104	PG: 4
ARCH/ENG/OWNER: P. Palladio				PREPARED BY: U.F.O.	
PROJECT LOCATION: Milano, California				CHECKED BY: R.F.D.	
DESCRIPTION: Classroom Building				DATE: September 15, 1995	
ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL COST
6a	CARPENTRY, ROUGH				
	Standby	6	MO	3,600	21,600
	Sub Total #6a				21,600
6b	CARPENTRY, FINISH				
	Shelving	810	LF	3.00	2,430
	Install Only:				
	Doors	128	EA	36.00	4,608
	Frames	128	EA	36.00	4,608
	Hardware	128	SETS	48.00	6,144
	Cabinets, Flr.	736	LF	7.00	5,152
	Cabinets, Wall	342	LF	10.00	3,420
	Cabinets, Full Ht.	342	LF	9.00	3,078
	Sub Total #6b				29,440
6e	ROUGH HARDWARE	46,512	SF	.10	4,651
	Sub Total #6e				4,651
7a	ROOFING & RIGID INSULATION	233	SQS	117.74	27,433
	Sub Total #7a				27,433
7c	SHEET METAL & SKYLIGHTS				
	Expansion Jts., Wall	240	LF	24.40	5,856
	Clg.	96	LF	22.40	2,150
	Floor & Roof	144	LF	16.20	2,333
	Genl. SM	23,256	SF	.32	7,442
	Skylights In Cores	342	SF	10.00	3,420
	Sub Total #7c				21,201
7d	CAULKING & SEALANTS		LS		7,442
	Sub Total #7d				7,442

Subcontract items must be added separately. Once all quantities are available, they can be priced to arrive at the total direct cost of construction. Detailed estimates of construction cost are usually presented in the Construction Specifications Institute (CSI) format of 16 Division headings.

FACTORS AFFECTING COST

Legal and Administrative Requirements

Legal or administrative factors grouped under the heading of *General Conditions* affect the cost of a project. Legal factors may include provisions which actually or potentially increase a contractor's obligations. For example, if provisions for *liquidated damages* are included in the contract to compensate the owner for any delay in the completion of construction, the contractor must assess that risk and include an allowance for it in his or her bid. If an owner includes a *no damages for delay* clause to preclude the contractor from seeking damages for delays caused by the owner, that risk must also be assessed and priced by the contractor for inclusion in the bid.

Administrative requirements and their costs must also be considered. An owner may require the contractor to purchase various types of insurance, including property insurance, for the project during construction. A project may have unusual or costly requirements for field offices or for submittals of samples and shop drawings. Testing requirements may be extensive, and required project photographs and other documentation may be voluminous.

Complexity of the Project and the Documentation

The size, shape, and complexity of a building affect its cost. For example, large buildings usually cost less per unit of area than small ones. Similarly, compact buildings tend to be less expensive to construct than those with a large or irregular footprint. Unit costs may drop approximately 3 percent for each 10 percent reduction in a building's perimeter. On the other hand, buildings taller than eight or ten stories, or with unusually great floor-to-floor heights, will be more expensive per unit of area than more conventional low-rise buildings.

The complexity or lack of clarity of construction documents may also affect costs. If contractors are confused by the intent of or unsure about aspects of the contract documents, they may include contingency allowances in their bids to allow for unforeseen events. In a competitive bidding climate, however, contractors may tend to minimize this contingency factor in order to remain competitive.

Construction Materials and Methods

The required quality of construction materials and workmanship is a major determinant of construction cost. If a project is a special type of building with stringent requirements such as a *clean* manufacturing facility for electronic components, or if a project requires unusual subsurface preparation or foundations, construction costs will be greater than average. On the other hand, buildings which contain many typical details or which have regular and repetitive floor layouts will be less expensive than average to construct.

Location of the Project

Both labor and material costs vary with the location of a project. For example, the abundance of lumber in the Northwest generally makes wood framing less expensive than in areas where construction lumber must be shipped.

Skilled labor for various construction trades may not be equally available in every location. If construction methods are employed that require specialized skills not locally available, prices tend to rise. The strength of trade unions in an area also influences construction prices: Areas with strong, well established unions often have higher than average labor costs.

The climate also affects construction costs. It can influence an architect's choice of construction materials and may affect both design and construction schedules.

Construction Schedule

A short construction schedule may result in increased construction costs. A contractor may be required to increase work crews and equipment or schedule overtime work to meet deadlines. However, additional workers and equipment can congest the construction site and reduce efficiency.

On the other hand, when a project is extended beyond a normal schedule, the contractor will incur additional overhead costs. The contractor must include in the bid continuing costs for on-site supervision, equipment rentals, sanitary and rubbish services, and similar items.

The weather also affects the construction schedule because work slows in cold or wet weather, and some types of work cannot be performed at all. If, in these circumstances, provisions in the contract require a contractor to pay liquidated damages to an owner if construction is not completed on time, contractors may increase their bid to cover this contingency. However, extensions of time are normally granted for delays caused solely by unexpected inclement weather.

Bidding Environment

The number of projects available for bidding or negotiation and the amount of competition for those projects influence construction costs. In situations where there is a great deal of competition for a small number of projects, contractors may minimize or even ignore uncertainties and contingencies which, under less competitive conditions, would result in higher bids. Architects must assess the level of competition and consider this aspect in preparing construction cost estimates.

OTHER ELEMENTS OF PROJECT COST

The *direct cost of construction* is only one element of the total amount that an owner must expend in the development of a project. However, it is usually the only element covered by an architect's cost estimates. Architects normally do not attempt to predict or directly influence other project costs.

It is important to distinguish between the direct cost of construction and the *project budget*. The project budget may be 30 to 50 percent greater than the direct cost of construction, and may

include some or all of the following elements, in addition to the direct cost of construction.

1. Owner's in-house staff costs, legal fees, and fees for outside consultants
2. Land acquisition, including the cost of rezoning, if necessary
3. Demolition of existing structures or other improvements
4. Sitework
5. Landscaping
6. Furniture, furnishings, and equipment (FF&E)
7. Special equipment
8. Professional fees for architects, engineers, and special consultants
9. Insurance
10. Financing
11. Taxes during construction
12. Contingencies for unforeseen conditions

Note that items 3 through 7 are sometimes included in the direct cost of construction.

It is important that architects and owners have a common understanding of the amount of money available for construction, and that the owner has sufficient funds available for the other elements of a project's cost.