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# **Substantial Rehabilitation & New Construction**



THE ENTERPRISE FOUNDATION



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# Rehabilitation & Construction

- For Project Managers Working with Architects
  - Production Step-by-Step
  - Model Policies & Procedures
  - Forms and Documents



THE ENTERPRISE FOUNDATION

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## *Foreword*

The procedures in this manual distill six years of learning about the most efficient acquisition and construction methods in this country for high volume production of housing affordable to low-income people.

The people in the Rehab Work Group at The Enterprise Foundation have gathered this information first-hand and conveyed it in training workshops on production management throughout the country. Over 2000 participants in the workshops have included rehab specialists from city housing departments, construction managers of single and multifamily rehab projects, program managers from both nonprofit housing development organizations and city rehab departments, as well as students in colleges and universities. They are becoming the backbone of a new cadre of effective producers of affordable housing.

In the 30 cities and several rural areas where we have both learned and applied these production management techniques, they have resulted in savings of 5, 10, even 25 percent of the cost of housing development.

The Enterprise Foundation is a national, nonprofit organization that my wife Patty and I launched in 1982. The Foundation's mission is to see that all very low-income Americans have the opportunity for fit and affordable housing within a generation, and work their way up and out of poverty into the mainstream of American life.

Toward this end, the Foundation works with local nonprofit housing organizations to reduce construction costs, find low-rate financing, and increase their housing production and preservation activities. This has involved the renovation or construction of nearly 14,000 homes and apartments. In the process, the Enterprise Rehab Work Group has become, perhaps, foremost in the United States in researching, applying, and training others in low-cost construction and rehab techniques.

In addition to making available to housing professionals what we know as efficient production management systems, the publication of this book rewards The Enterprise Foundation in other ways:

- The proceeds will help us advance our work with local nonprofit housing groups
- The research supported by this project has already made our work more effective and will continue to do so.
- Our work will allow others to share the knowledge we have helped develop.
- And finally, we hope that widespread use of these techniques will lead to gradual change in the whole business of housing repairs and renovation—making ownership of housing more affordable for low and moderate income families.

Reduction in the cost of housing is important if every American is to have a decent home. Americans with low and moderate incomes must rely on preservation and rehabilitation of our aging, existing housing stock, and very low cost new construction.

The housing industry in facing this challenge is working to change outmoded regulations, identify ways to cut costs without sacrificing quality, and increase efficiency—by adopting advanced management techniques that offer practical solutions with lower overhead. We hope this manual contributes toward that end.

This book was only possible because of the resourceful work and strong backing of Peter Werwath, who has served as Director of the Foundation's Rehabilitation Work Group, and his staff—Cecilia Cassidy, Gene Ruckle, Bob Santucci and Bill Duncan, who is now Director of this energetic group. Gene Ruckle deserves special credit for directing important phases of this research project. This team has done the work in the field, and learned and taught the lessons the book provides.

James W. Rouse  
Chairman  
The Enterprise Foundation

## *Introduction*

**Substantial Rehabilitation/New Construction (Housing Production Manual #3)** has been written by the Enterprise Foundation's Rehab Work Group (RWG), a nonprofit organization that has helped to create construction management systems for nonprofit groups across the United States. It presents an idealized template for planning, running, and staffing an efficient housing rehab program, and can serve either as an aid to starting a new program or as a tool for improving an existing one.

This manual and the other two in RWG's series, **Single-Family Selective Rehabilitation (Housing Production Manual #1)** and **Multifamily Selective Rehabilitation (Housing Production Manual #2)**, represent the most current, detailed compilations of the efficient, accepted production management models available in low-income housing rehabilitation. The techniques which we recommend in the manuals are modeled after the most pervasive and effective strategies used in high-production programs.

The term **production management**, the core concept of these manuals, focuses on the problems of design, budgeting, and the physical rehabilitation of housing. Other areas of rehabilitation management, such as financing, marketing, intake or underwriting processes, are not covered here, except when they intersect with the actual production process.

The manuals are designed to be process oriented; that is, they are laid out in a step-by-step progression that is intended to carry you from the very beginning stages of program planning all the way through to post-construction and final performance evaluation.



The manuals are not designed to be slavishly followed as a rigid system. Rather, they are clearly meant to be adapted to the unique needs of a given locale and operation system. While improvised approaches are sure to waste time and money, poorly fitting adaptations from one rehab sector to another can totally thwart production. For example, using a 14-page architect's contract on a \$5,000 rehab job will add unnecessary paperwork, staff time, and costs.

To expedite matters, we have included all of the major pieces of the process of rehabilitation -- such as the forms and model documents, ideas for gathering data on prospective projects, suggestions for creating specifications and work write-ups, systems to track budgeting and filing, ideas for finding contractors and/or subcontractors, practical suggestions for carrying out the bidding process, and techniques for ensuring the successful completion of projects.

You will find the manuals dealing with selective rehab emphasize automation. Computers and computer software, such as Specmaster, the Enterprise Foundation's proprietary construction software, have quickly established themselves as indispensable aids in the process of creating specifications, producing cost estimates, creating bid documents, and creating work write-ups.

Your main goal and ours are efficient and, hopefully, increased production. Getting a standardized process worked out is just one means to that end. After reasonable goals have been set, a process chosen, and financing raised, innovation and entrepreneurship are still important. The task is then rejecting, accepting or simplifying the details of process to achieve more and better results.

### ■ **A Note About Rehabilitation Management Systems**

There are basically two distinct types of rehabilitation management systems currently being used in the construction industry in the U.S: substantial rehab and selective rehab. While gut rehabilitation replaces complete building systems, selective rehab only replaces what is broken, about to break down, or missing on a room-by-room, unit-by-unit basis.

Gut rehab essentially follows the traditional design and construction management systems of the U.S. building industry. They account for approximately 50,000 subsidized, low-cost units per year in the U.S. These methods rely on blueprints and general contractors. Units undergoing substantial rehab must be vacant during the rehab process. Standard industry practices are normally altered only by the peculiarities of site acquisition and the requirements of multi-source public financing in relation to low-income housing. Development costs average around \$60,000 per unit and construction costs, \$40,000 per unit.

Selective rehab, on the other hand, is a more pervasive and economical rehab system which is particularly suited to small-scale and occupied rehabilitation projects. Selective rehab amounts to approximately 300,000 units per year in the U.S., at an average cost of under \$15,000 per unit. It is most pervasive in local rehab programs funded by community development block grants, rental rehabilitation, and Farmer's Home Administration programs as well as local nonprofit efforts.

The methods used in selective rehab have emerged primarily out of the unstructured practices of the housing maintenance, repair, and remodeling industries as adapted by those federally funded and nonprofit programs. In contrast to gut rehab, this method often allows units to remain occupied during the process, although this is not economically feasible when more than 40-50 percent of components must be replaced.

Gut rehab is generally appropriate in vacant residential buildings where few, if any, of the building systems are operable, or in nonresidential buildings being converted to housing.

## ■ Housing Types

There are two main housing types which have major implications on choices of production systems:

1. **Single-Family Buildings** These are defined as detached, semi-detached (e.g., duplex), or row houses in which common areas, that is, areas shared by two or more units, are minimal or even nonexistent. Legal title to the property is usually vested in individual units. This housing type is most often owned by individuals, but sometimes it is owned by landlords, such as the scattered-site homes in the South or the row houses in Eastern cities.
2. **Multifamily Housing** In the low-income housing field, these units are usually rentals and are owned privately, publicly, or cooperatively. Common areas are extensive, and it is generally not critical to isolate the design, budget, and construction of individual dwelling units.

## ■ Contracting Modes

Throughout the three process manuals, there are three basic ways of getting construction work done. They are defined as follows:

1. **Small-Scale General Contractors** Companies generally have two to five employees, and they specialize in rehabilitation or custom homebuilding. We believe the use of these contractors is the most appropriate choice for selective rehab, gut rehab, or new construction of single-family units, unless they are in a very large, scattered-site project. Contractors usually specialize in one of these three construction methods. Such contractors will take total responsibility for the construction work, and will hire and pay all necessary subcontractors.
2. **Construction Management** In this system, a landlord, developer or a public or nonprofit intermediary agency employs a construction manager or management firm which makes written work specifications, bids out the work to subcontractors, and monitors quality of work and payments. In this instance, no one is legally liable for completion of the job, except the



owner in some cases, although subcontractors, and the construction manager are liable for their specified jobs. This method of operation is used most frequently and appropriately for multifamily selective rehab, in our experience.

3. **Larger Scale General Contractors** Fitting the prevailing pattern of the U.S. architect/general contractor system, large-scale general contractors are clearly appropriate for larger gut rehab and new construction projects, such as those exceeding 10 units or more. In some cases, they may be "vest pocket contractors"; that is, contractors mainly employing subcontractors, or, alternately, they may use large numbers of their own employees. These contractors are defined as firms that can handle a contract of \$500,000 or more.

### ● **The Delivery Systems**

Using the variables described above -- the kinds of rehab, the types of housing, and the types of contractors -- rehabilitation of low-income housing can rationally be organized into the basic production models described in our three manuals and summarized in the following table. Obviously, these characterizations are not hard and fast and some highly efficient activity does not follow this scheme.

Again, we emphasize that final choices on program design must be made at the local level. For example, local rehabbers may find the construction-management model works better for gut rehab, because of an absence of experienced general contractor, or because of a desire to integrate job training crews.

<b>Types of Production Model</b>	<b>Preferred Design Method</b>	<b>Preferred Budget Method</b>	<b>Preferred Execution Method</b>
<b>Single-Family Selective Rehab</b>	Written itemized specifications -- locational. Some graphic details.	By work item -- locational.	Small-scale general contractor.
<b>Multifamily Selective Rehab</b>	Written itemized specifications -- locational.	By subcontract (i.e., trades and line item).	Construction manager/sub-contractors.
<b>Gut Rehab/New Construction</b>	Blueprints.	By conventional building trades and line item.	General contractor.

---

### ☐ How to Use This Manual

Before you begin to use **Substantial Rehabilitation/New Construction**, it is important that you understand how it has been designed. First of all, it is designed to use general contractors, rather than the construction management mode. Second, we have assumed you will be doing an annual volume of approximately 100 units a year.

Here is how we have broken down the program process from initial setup through completion of the project:

**Stage**                      The seven basic stages presented in this manual are **Program Planning, Feasibility, Schematic Design, Design Development, Contract Documents, Bidding, and Construction**. Each stage represents a distinct component of the rehab process with many steps within it. Generally, one stage should be completed before moving on to the next.

**Step** "Prepare a Preliminary Development Budget" is an example of a step in the manual. They are a collection of tasks that should be done consecutively. Generally, steps have been presented in a logical sequence, but the importance of following the exact order varies. Many of the steps are accompanied by model forms and sample documents. Longer documents related to a step have been included in the Addenda in the back of the manual and are referenced in the text.

**Task** Tasks are a piece of work that can generally be assigned to a single person; such as, "Review Printouts."

**Job Title** To help you in program planning and staffing, we have assigned one or more of a small, idealized set of job titles or "departments" to each task. We assume that in a small program, one staff person might perform more than one "job," even though his or her title may not match the assigned title in this manual. In very large programs, layers of management and review would be necessary that are not presented here, and they might have more specialized technicians, as well.

The job titles and departments we have selected to use in this manual are:

- Accounting Staff
- Board of Directors
- Executive Director
- Development Director
- Office Staff
- Project Manager
- Program Planner
- Construction Specialist
- Finance Specialist
- Marketing/Property Management Department
- Architect

(See Example 1, "Idealized Staffing Pattern.")

## 8

<b>Execution Variables</b>	These are our suggestions of alternate ways of doing tasks, given different circumstances. For example: "If the program is expecting a very high volume of cases, a computer consultant should be hired to program a tracking system."
<b>Risk Control Variables</b>	These are suggestions of alternate methods of performing tasks which you could call "extra insurance." They are designed to help to produce better performance, such as: higher quality, more on-time completions, or more on-budget results. You should weigh these alternatives carefully, because they often mean increasing work loads for someone in the program or outside of it, and they may lead to higher program costs or to resistance by outsiders to working with the program. Example: "Using overqualified contractors may reduce risk; however, it costs additional funds."
<b>Other Considerations</b>	These are comments that "flag" issues of concern related to the immediate step or stage. An example: "The contractor's evaluation of the program hinges on important data used to determine if the program should revise current policy or procedures."

### ■ Getting Started

To build a new system, first skim through both the main text and the addenda of the guide, noting stages, steps, tasks, and the corresponding forms.

Next, begin developing working procedures, stage by stage. Don't jump around -- the stages occur chronologically. You will find that the First Stage, "Program Planning," outlines steps for designing your program from scratch. We have found that the experiences of real projects are the best teachers for refining tasks, procedures, and documentation, and that is why we suggest you use real cases in the planning process.

If you already have your program up and going, you may want to use the manual to "troubleshoot" and redesign areas of your program that are causing problems, usually, cost overruns or log jams.

**Substantial Rehabilitation/New Construction** is not intended as a doctrine that should be applied in all places at all times. Rather, it is designed

to be a model -- a template, really -- for low-income housing programs to help them develop their own process manuals and thereby increase production.

**EXAMPLE 1: IDEALIZED STAFFING PATTERN**

Number of Units/Year	10-50	50-100	100-200	200-500
Average Cost/Unit	\$30,000	\$30,000	\$30,000	\$30,000
Annual Volume	300K-1.5M	2M-3M	4M-8M	9M-15M

**Number of Full-time Positions**

Executive Director	1/4	1/4	1/4	1/4
Development Director	1/4	1/2	1	1
Finance Specialist	Consultant		1	1
Project Manager	1	1	2	6-8
Construction Manager	Consultant		1	1
Office Staff	1	1	2	2
Accounting Staff	1/3	1	1	2

## *Stage: Program Planning*

The purpose of Program Planning is to gather and analyze sufficient data about a potential neighborhood to be able to develop sound goals and process decisions. Too many programs begin operating in neighborhoods merely because they are there, only to find out later that the choice was ill advised.

Additionally, Program Planning involves initial set-up steps which collectively build the organizational base necessary to begin project-specific activities. The idea is to lay the groundwork which, while subject to refinement, provides program staff with a framework for decision making. These steps also are often omitted from many programs' initial set-up.

By the end of this stage, a fledgling program will have made important decisions regarding the neighborhood, production models, potential financing, and program procedures, as well as construction-related decisions regarding standards and contracting qualifying procedures.



## Step 1: Evaluate Neighborhoods

The purpose of this step is to obtain enough data to make educated decisions regarding the neighborhood or neighborhoods in which you may undertake housing production.

The outcome of this preliminary step is to determine whether a neighborhood is suitable for housing production at this time and, if so, what production model or models are appropriate. For one neighborhood or a set of neighborhoods, you will be determining the following:

- The critical needs for housing production.
- The barriers to housing production; for example, crime, environmental problems, or social apathy.

It is assumed, even in a proposed area-wide program, that all planning steps will be performed at the level of individual neighborhoods.

### ☐ Work Tasks

1.1. **Mark up a census tract map** of an area or city with two kinds of census data:

- Number of households in poverty, and
- Number of units without complete plumbing.

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## 1.2. Color code the map in both categories for:

- Percent of Poverty - "Under 10 percent poverty households," "10-30 percent," and "Over 30 percent."
- Percent of Substandard Units - "Under 5 percent," "5-20 percent," and "Over 20 percent."

*Program Planner*

## 1.3. Superimpose the natural boundaries of the distressed neighborhood(s) on the map. Usually, city planning agencies have defined such boundaries, although they should be verified with neighborhood leaders if and when you formalize them.

*Program Planner*

## 1.4. Draw neighborhood boundaries for a minimum population of 4,000 to 5,000. Smaller areas are hard to organize for housing production. A serious housing production organization will want to work in a neighborhood or sets of neighborhoods with at least 1,000 units needing help. Otherwise, production levels will likely be inefficiently low.

*Program Planner*

## 1.5. Do a windshield survey of "reject" factors for a neighborhood. The following factors may lead you to reject a neighborhood for housing production at the present time:

- Great amounts of barren lots, "snaggletooth" blocks and vacant buildings, unless a major redevelopment is planned.
- Large incursions of commercial, industrial and/or transportation uses into a formerly residential neighborhood, such that a critical mass of housing does not remain.
- Open drug dealing and drug use, dirty streets, poor police and fire protection, unboarded vacant buildings and other signs of crime, and little or no signs of reinvestment. These will be fruitful neighborhoods for reinvestment only after community organizing has occurred and critical services are on the upswing.

*Program Planner*

- 1.6. Determine if the neighborhood has significant public or "special" resources.** Sometimes, a recent economic or political change -- a new factory, abandonment of a road plan, a public redevelopment plan -- spell an inevitable improvement in a neighborhood, despite other negative factors. Put this in your analysis, but only if there are real commitments of resources (talk is cheap). And if "improvement" means gentrification only, the neediest people will be displaced.

*Program Planner*

- 1.7. Decide what income groups you want to work for.** Income group priorities are among the most important planning decisions a group can make, and these decisions can have a large impact on production models you choose. This manual generally assumes the greatest need is with very low-income households, and that some income mix is beneficial. We suggest you prioritize the neediest households and set quotas for the following classifications of families by income, since these are U.S. census categories.

- Families below 50 percent of median income
- Families at 50-80 percent of median income
- Families over 80 percent of median income

**Note:** If quotas are not set, programs tend to avoid the neediest households. Definitions of these ranges are available from your local Community Development Office or from HUD.

*Board of Directors*

- 1.8. Decide if the neighborhood is even feasible to work in based on this analysis.**

*Board of Directors*

- 1.9. Make a rough allocation of resources among neighborhoods, if this is an area-wide program. Prepare to be flexible if one outperforms another.**

*Board of Directors*

## ● Execution Variables

- If a group has organized around a specific project for which there are identified resources, then this step (Step 1) and several of the steps that follow will not be necessary. However, this is a sign that the

group is organizing for a project, not production. Example: rehab of one historic building for which special funds are available.

## Step 2: Determine Appropriate Production Model(s)

**This step represents further feasibility analysis on selecting appropriate production models. It avoids unnecessary surveying and data collection for production models that clearly are not feasible. This step consists of a more detailed analysis of housing conditions. It is accomplished by driving through every street in the neighborhood, using some basic census data, and doing some interviews.**

### ☉ Work Tasks

#### 2.1. Determine the general character of the housing stock, specifically:

- Total number of housing units (census -- from Step 1)
- Total units rented and owner-occupied (census)
- Family size and composition
- Rough number of abandoned units (windshield survey)
- Rough number of obviously dilapidated units (windshield)
- Rough number of vacant, for-rent, and for-sale units (count for-rent signs, read newspaper ads, talk to representatives of real estate companies, interview tenants). With rentals, try to get a sense of the shortages in one, two, three, and three plus bedroom units. Often there are shortages of larger units but not of smaller ones -- calling for a focused gut rehab or new construction strategy.
- Rough rental costs by bedroom size of unit, and utility costs: High costs (over \$300-\$400 a month) can indicate shortages and a need for new units -- again, sometimes of very specific sizes of units.
- Ballpark estimates for acquisition and construction for occupied, vacant, and new units.

**2.2. Consider new construction or substantial rehab** of vacant structures as a strategy if:

- There is available land or buildings.
- Rental vacancies are under 2-4 percent and rents are over \$300 to \$400 a month for the "low end" units. These would indicate a scarcity driving up prices.
- There is no widespread need for selective rehab as a first strategy to stop the decline of the existing stock.
- There are signs of selective rehabs and other reinvestments that have paved the way for higher levels of investment. If this is not present, new renters and/or owners may not move to "new" housing in a bad neighborhood, nor will the housing make the neighborhood "good" unless a critical mass can be built quickly.
- The cost of acquiring and selectively rehabbing occupied housing exceeds the cost of gut rehab and new construction.
- There are vacant buildings and lots that need filling in, in a basically sound neighborhood.

*Program Planner*

**2.3. Develop a plan for substantial rehab or replacement of occupied units** only if units are beyond the point where selective rehab is feasible.

*Program Planner*

**2.4. Develop a plan for selective rehab as a first strategy if:**

- Regardless of any other factors, including low vacancies, the housing stock is declining. In this case, larger per-unit investments are not warranted until this condition is turned around.
- There are few signs of reinvestment in a neighborhood worthy of investments.
- Board-ups of vacants, crime control, and community organizing are either unnecessary or have started already.

*Program Planner*

- 2.5. Decide on appropriate production model(s), on a preliminary basis, pending more detailed planning.**

*Executive Director*

- 2.6. Develop a plan for boarding up or tearing down vacant structures in cooperation with the local government.**

- Vacancy rates are acceptable, i.e., there is no housing shortage.
- The primary need is a long-term program of "catch up" maintenance in occupied housing. Generally, the subsidy required for one new or substantially rehabbed unit will be sufficient for the repair of three or four occupied units.
- Historically or culturally important buildings need to be preserved. They can be secured for future restoration after the more immediate and widespread problems of residents have been addressed.

*Program Planner*



### Step 3: Determine Potential Producers

**This step will help you determine whether a neighborhood-based group or an area-wide group should undertake the work needed.**

#### ● Work Tasks

**3.1. Estimate the volumes of units possible and needed** in each production model. It is very expensive to design and staff a multiyear program to rehab or build a few housing units. If the total expected production of a brand- new program with new staff is less than the following rough guidelines, your organization should ideally look to a higher volume agency or for-profit business to carry out the work. Otherwise, the first 50 or 100 units will suffer from the inefficiencies and mistakes of your learning curve.

- New Construction/Gut Rehab - 50 units total multiyear program
- Multifamily Selective Rehab - 100 units total multiyear program
- Single-Family Selective Rehab - 60 units total multiyear program.

*Program Planner*

**3.2. Try to find a partner to do lower-volume production models.** This agency or business should have at least two years' experience at the model(s) undertaken.

*Executive Director*

**3.3. Failing that, gear up for a one-time project.** Try to do it quickly -- in two years or so. Line up the best people with at least three years successful experience with the model. Do not plan to hire unskilled people for the project.

*Executive Director*

■ **Other Considerations**

- **Do not commit to anybody** until you have surveyed the neighborhood and available resources. (See Steps 4 and 5.)

## Step 4: Collect Data on Resources

The purpose here is to find out what resources are likely to be available to the program.

### ● Work Tasks

- 4.1. **Make a list of all actual and potential loan and grant sources** for each production model.

*Program Planner*

- 4.2. **Review past public and private investment practices** in the neighborhood, or similar ones, to gauge their receptiveness.

*Program Planner*

- 4.3. **Estimate the volume** of funds that might be available for your program from these sources. "Overall shortfall" requires knowing housing need, i.e., pro forma.

*Program Planner*

- 4.4. **Factor in the kinds of self-help work** that already exist in the neighborhood.

*Program Planner*

- 4.5. **Factor in housing code enforcement efforts** required to sustain the improvements, particularly in rental housing. Ask the housing code enforcement agency to consider providing the number of inspectors required to perform systematic inspections of all housing on a three-year cycle.

*Program Planner*

**4.6. Evaluate Financing Requirements.** Investigate each possible funding source for requirements that affect your production process. Key points to evaluate include:

- The requirement for an appraisal
- Loan-to-value ratios
- Minimum housing standards
- Eligible applicants
- Eligible areas
- Eligible improvements
- Ineligible improvements
- Inspection requirements
- The total amount of money available to a single dwelling
- Homebuyer underwriting criteria

*Program Planner*

**4.7. Get political support** for your likely production model(s). Neighborhood groups and leaders, local churches and politicians must either like or tolerate what you are doing. Any of them can put you out of business. Explaining over and over all the reasons for your concept and incorporating feedback is the main approach.

*Executive Director*

**4.8. Get formal or informal commitments** from the key individuals and organizations, such as local government or financial institutions, whose continual support you will need.

*Executive Director*

#### ● **Execution Variables**

- Sometimes a new public financing program comes along (e.g., Section 8 new construction or urban development action grants in their day) that is relatively easy to access in its first year or two. This can be a springboard to get your first financing and a steady stream of funds in years to come.

## Step 5: Collect Detailed Neighborhood Data

To plan your project well and to attract funding to it, you must do a careful and systematic preselection of neighborhoods and available housing stock. If neighborhoods are in the process of severe decay and houses are too deteriorated to be economically salvaged, then your efforts may be wasted. In addition, it is important to know the readiness of residents to participate in the project. It is naive to assume that everyone will eagerly accept your plans, even in the face of severe need. Some of the tasks below are optional, depending upon which production models look feasible and how much good data can be obtained from other sources.

### ■ Work Tasks

5.1. Collect all preexisting surveys less than 10 years old. These include:

- U.S. census (census tract data)
- Surveys by local government, neighborhood groups, service organizations, or others. City housing inspection departments or community development agencies are the most likely source.

*Program Planner*

5.2. Get a list of structures abandoned and with code violations, if available. Cities with good housing inspection departments will have this.

*Program Planner*

- 5.3. Look at previous public housing investments** in the neighborhood. Community development agencies, the HUD area office, and the local housing authority should, upon written request, give you a list of all past, present, and pending subsidized projects in the neighborhood by address. Go look at a sample of these projects. Their condition can indicate what production models have failed or succeeded.

*Program Planner*

- 5.4. Ask the police department** where they make frequent calls and arrests in the neighborhood, and what, if any, are the dangerous blocks to stay away from.

*Program Planner*

- 5.5. Map out vacant lots and/or potential reuse buildings**, along with buildings that appear to need demolition. Use a "topographical" map from the city planning department, as it will generally show addresses, building outlines, and lot lines. This task is only needed if you are pursuing the gut rehab or new construction models.

*Program Planner*

- 5.6. Map out deteriorated existing housing** on a similar topographic map, based on a windshield survey. Have at least three categories:

- In need of cosmetic treatment (usually paint)
- Badly deteriorated but salvageable
- Unsuitable to rehab due to obvious structural problems or exposure to elements a long time.

*Program Planner*

- 5.7. Do a random sample survey** of housing in the neighborhood.

- Using your topo map, define the geographic boundaries of the neighborhood you are going to survey. Within these boundaries, determine or estimate the total number of housing units and plan to survey from 2-5 percent of the houses depending on your time and resources. Select a ratio, such as every 40th residential address in the neighborhood; make sure your sample is no less than 25 units.
- Survey each house, whether occupied or not.

- Collect the following key data (see Example 2, "Sample Housing Survey Form," and Addendum 1 for a complete document):
  - ▶ Number of occupants
  - ▶ Number of rooms and bedrooms
  - ▶ Household income
  - ▶ Rent or mortgage payment
  - ▶ Existence of a rent subsidy
  - ▶ Utilities, taxes, insurance, etc.
  - ▶ Cost to rehab (by your standard)
  - ▶ Rehab desired (by occupants standards)
  - ▶ Desire for a different house inside or outside neighborhood
  - ▶ Willingness to pay more for rehabbed house or replacement house
  - ▶ Other demographic information as needed.

These surveys should be assigned to a consultant or staff person experienced enough to estimate cost to rehab.

*Program Planner*

**5.8. Compile the information.** Critical reports are as follows (see Example 3, "Typical Survey Report Formats," and Addendum 2 for a complete document):

- **Overcrowding** - units with over 1.5 people per room, or other standard. This indicates need for new construction/substantial rehab.
- **Cost-to-rehab** - adjust your standard to include some of the "wish list" repairs. Develop both an average cost to rehab and number of units in ranges such as \$1,000 to \$5,000 (minor-selective), \$5,000 to \$15,000 (moderate-selective), \$20,000 plus (substantial). This indicates the rehab model(s) you should choose and volumes needed.



EXAMPLE 2: SAMPLE HOUSING SURVEY FORM

1st try day/time \_\_\_\_\_ Go back time/day \_\_\_\_\_

HOUSEHOLD SURVEY

Interviewer(s) \_\_\_\_\_ Date Complete: \_\_\_\_\_

# Dwelling units: \_\_\_\_\_ Address: \_\_\_\_\_

FIRST, I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE HOME YOU LIVE IN. YOUR ANSWERS WILL BE CONFIDENTIAL AND USED TO PLAN HOW BEST TO HELP YOUR NEIGHBORHOOD WITH HOUSING.

A. Do you own, rent, or have some other arrangements?

- 1 Own
- 2 Rent or lease
- 3 Other (specify): \_\_\_\_\_
- 99 NR/DK (No response/ Don't know)

\_\_\_\_\_ (1)

B. How much do you spend each month for housing?

**RENTER**

Rent per month

- 1 Under \$50
- 2 \$51 to \$100
- 3 \$101 to \$150
- 4 \$151 to \$200
- 5 \$201 to \$250
- 6 \$251 to \$300
- 7 \$301 to \$400
- 8 \$401 and up

- OR -

**HOMEOWNER**

House Payment (including taxes, or add in an estimate of taxes)

- 9 Under \$50
- 10 \$51 to \$100
- 11 \$101 to \$150
- 12 \$151 to \$200
- 13 \$201 to \$250
- 14 \$251 to \$300
- 15 \$301 to \$400
- 16 \$401 to \$500
- 17 \$501 and up

- OR -

Renter/Owner

- 18 Nothing
- 99 NR (No Response)

\_\_\_\_\_ (2)

**EXAMPLE 3: TYPICAL SURVEY REPORT FORMATS**

The format you use to present the data you have collected and analyzed will greatly affect its impact. Given the demand characteristics of your situation (i.e., time, budget, availability of expertise, audience sophistication, etc.), the data should be presented in simple a manner as possible. Three simple formats are presented in this Addendum.

**FORMAT A: GENERAL DATA LISTING**

Specific Examples of Data Gathered by Using the SAMPLE HOUSING SURVEY FORM

**QUESTION**

**SURVEY DATA**

- A. The majority (59%) owned their own property.
- B. Typically, rent was between \$100-\$150 per month. The typical average house payment was between \$151-\$200 per month.
- C. Summer utilities bills ranged between \$41 to \$60 per month. However, the modal category was \$21 to \$40.
- D. Utility costs are higher in winter, with the modal category being \$160 and up, or approximately four times the summer figure.
- E. Few people pay less than \$100 or more than \$300 for fire insurance. The average category was \$201 to \$300.
- F. Residents' complaints fell mainly in the "other" category, followed by paint, plumbing, and porches.
- G/H. Sixty-percent of the renters said they would buy rehabilitated property. However, 73% of the total can only pay less than \$100 additional per month.
- I. Twenty-eight percent of owners said they did not need help to fix up their property. Twenty-two percent needed more income. Nineteen percent needed a loan.
- J. Forty-nine percent of residents said they could not pay any extra per month to have their place fixed up. Forty-two percent could pay not more than \$100 extra.
- K. Thirty-one percent of respondents would not be able to assist in repairs to their property. Forty-six percent could do interior painting.

- **Cost vs. income** - Cross-tabulating income versus cost-to-rehab gives you a general picture of affordability or need for subsidy. Guidelines:
  - ▶ Incomes under \$7,000 indicate no additional rent or mortgage payment is generally possible.
  - ▶ Incomes of \$7,000 to \$12,000 may handle some minor rehabs with low subsidy, but will need ever-deeper subsidies for more costly work.
  - ▶ Incomes of \$12,000 to \$20,000 should indicate an ability to use more market-rate money for selective rehab and more moderate subsidies for gut rehab and new construction.
  
- **Ability to pay** - High or low existing housing costs, as well as willingness to pay more, will cause one to adjust the guidelines above. Whether housing costs are now "high" is very situational. Rural people who have built their own house might consider 20 percent of income high for housing costs. People accustomed to paying 40 percent of income for rent might still pay a little more. And in general, the poorer the people are, the less percentage of income they can devote to housing.
  
- **Mismatches** - Scan actual individual surveys and reports to find patterns; for example: very low-income renters in very substandard but historic houses that would be highly expensive to rehab and require great subsidy, while older residents are selling decent houses at a much lower cost. A strategy decision here could be to rehab and sell the "easy" houses and landbank the historic buildings until the market has turned around. Your strategies should encourage opportunities for residents to move to appropriately sized and priced housing. They should not necessarily try to remedy all current problems within a neighborhood through construction. Another way of saying this is that custom-tailoring solutions for individual households is **much** more expensive than simply putting appropriate products on to the market, and giving needy people better opportunities.
  
- **Estimate of participation factor** - The most common mistake of housing program planning is the assumption that 100 percent of needy families will participate in your program. Need is often instantly equated with program goals. This view is not practical. People's willingness, their desire for new or rehabbed housing, and the friction between what they want versus what your program wants will result in a "participation

rate" for whatever production model you invent of something like 20 percent to 80 percent of the need. Generally, the 80 percent is only obtained quickly by granting money for all the improvements. A target of 50 percent -- with some financial or other participation by needy households -- is a more reasonable estimate, will encourage self-reliance, and spread scarce subsidies to more families. In time, peer pressure may lead to higher participation.

- **Market rents and housing prices** - The survey, augmented by a trip to the tax assessor's office, will give you a sense of the range and maximum rents and sale prices. These maximums should be considered your ceiling for feasibility analysis.

*Program Planner*

### ● **Risk Control Variables**

- If your organization and potential funders have not reached some consensus on construction standards, your survey will be somewhat useless. Key areas for agreement are:
  - ▶ What kinds of buildings should be targeted for repair or demolition?
  - ▶ What is the standard for selective rehab? Agencies that only practice substantial rehab and new construction may have an approach to even selective rehab that is two or three times costlier than the standards advocated in these manuals. Conversely, they may not recognize the need for selective rehab and respond only to abandoned buildings.
  - ▶ What is the standard for gut rehab and new construction? Square footage, amenities, and design treatments are key areas that can affect your economic model.

## Step 6: Adopt Appropriate Production Model(s)

Up to this step, this manual is neutral as to which production model you might choose. In this step, we expect you will formally adopt one or more of the following production models: 1) Single-Family Selective Rehabilitation, 2) Multifamily Selective Rehabilitation and/or Substantial Rehabilitation/ New Construction Model.

### ☐ Work Tasks

- 6.1. **Reevaluate your earlier decision** on which production model(s) make sense and approximate volumes possible, annually and ultimately.

*Executive Director, Program Planner*

- 6.2. **Write an outline/program plan** based on your information. Make some workable cost and financing scenarios that include:

- Acquisition costs (if any)
- Site development costs (if any)
- Construction costs
- Soft costs such as: taxes, insurance, mortgage payments during construction, etc.
- Named sources of financing
- Some model household budgets for different ranges of income, including monthly income, rents and utilities paid, payment of preexisting housing debt (if any), potential payment on new housing debt, utilities, taxes, insurance, and maintenance. These will obviously vary for owners and renters. Some guideline income ranges to look at are: up to \$7,000, \$7,000 to \$12,000, and \$12,000 to \$20,000. These get at per-unit subsidy demands, a critical limitation of any program.

*Board of Directors, Executive Director*

**6.3. Formally adopt the plan.**

*Board of Directors, Executive Director*

**6.4. Obtain formal or informal commitments** from organizations with resources most critical to your program. You have ideally gone to them before. Now you have a written plan that may vary from what you said before. Incorporate as much of their feedback as you can.

*Executive Director*

**6.5. Think big.** If you do not have the resources you need, go ask for them. Likely candidates:

- People or organizations who have already made financing or "soft money" investments in the neighborhood and who might be impressed by a coherent plan.
- Citywide, area-wide, statewide, or national organizations who agree essentially with your goals and have probably seen a number of unprofessional attempts to attain them. Examples (in descending order of likelihood): community development agencies, local corporations and foundations, state housing finance agencies, national foundations and national corporations with an interest in community development in your locale.

*Executive Director*

## Step 7: Set Program Construction Standards

**These standards establish a baseline for the design process. They consist of basic decisions regarding room sizes, number of bathrooms, lineal feet of cabinet space, other storage, basic systems, finishes, etc.**

### ● Work Tasks

- 7.1. Make a list of standard issues** that can affect cost, such as square footage, amount of cabinets, site improvements, number of baths, etc.  
*Construction Specialist*
- 7.2. Price out options for the local market.** Do a construction budget for a mock project called "Standards Cost." Unit price the total cost of bringing the project up to the recommended standards. Using a low cost program standard, for example, the unit cost might be \$45,000; an upgrade standard might cost \$55,000 per unit. It is absolutely mandatory to use price information when making standards decisions.  
*Construction Specialist*
- 7.3. Review city and lenders minimum standards.** Identify conflicts between the proposed program standards and city and other lenders' minimum standards. Set up meetings with city and lender officials to discuss a flexible approach to housing renovation. Use the price information developed for the mock project to show the impact of the upgrade standards and negotiate for acceptance of low cost standards.  
*Construction Specialist*
- 7.4. Prepare recommendations** for the Board of Directors' approval clearly stating the economic impact of each decision concerning housing standards. Using a format that identifies the cost increase between the low cost standard and the upgrade standard, recommend a minimum standard to the Board and identify the cases in which that minimum standard would be exceeded.  
*Construction Specialist*

- 7.5. **Finalize the standards** as approved by the Board of Directors and adopt them for the program. Include them in the program brochure.

*Construction Specialist*

■ **Risk Control Variables**

- Not creating or revising your own construction standards will often result in a loss of control over the scope of work and the budget because funders, government programs and concerned citizens will apply their own standards rather than yours. The result is almost always like trying to build Cadillacs on a Volkswagen budget.
- Options must be priced out, or costs will escalate 10 to 50 percent.
- Higher standards also result in higher maintenance costs. The replacement reserve requirement for 10 feet of kitchen cabinets will always be higher than the replacement reserve requirement for four feet of kitchen cabinets.
- An investment in cost control through standards negotiation can significantly reduce risk. Not having your own position on construction standards slows negotiation and may leave critical questions unanswered until working drawings have been developed, or even until construction is under way. For example, the funder "was sure" you knew his/her minimum bedroom size was 80 square feet; or, "everyone knows" they require a minimum 12 lineal feet of kitchen cabinets and central air-conditioning.



## Step 8: Develop a Model Financing Pro Forma

**The program will need to develop a form for model financing pro formas which identifies the sources and uses of funds for "generic" projects. This form is used by the Project Manager to analyze the feasibility of projects and later as a form for a true development budget.**

A pro forma is a financial model of a project. It includes the uses of funds, i.e., the development budget, and the anticipated sources of funds to meet the costs. It also includes an analysis of the ongoing operating costs (for multifamily projects) or total housing costs for the homeowner in for-sale programs. It is necessary to create several project "models" based on different development costs (see Example 4, "Typical Multifamily Project Pro Forma," and Addendum 3, for complete document) and financing scenarios. These "models" should be developed **before** a group opts to do **any** Substantial Rehab or New Construction projects. It might be fictional, based on survey data, or done around a **potential** project for which there is no commitment (see Example 5, "Model Multifamily Pro Forma," and Addendum 4 for a sample).

The models are important to the Construction Specialist because they specify the expected construction costs and contingencies, that is, the proportion of overall funds required to fund unforeseen work items. The models should include enough detail in the construction cost items to be realistic. They should show different financing scenarios from **actual** potential sources, so funders' construction standards can be analyzed along with the cost estimate.

### ■ Work Tasks

- 8.1. **Identify the various sources of funds the program can use to acquire and rehab properties.** Identify, by funding source, interest, and limitations on use of funds.

*Development Director, Project Manager*

- 8.2. Decide what soft costs (such as overhead and other development costs) will occur in projects.**

*Project Manager*

- 8.3. Prepare a format, or model pro forma, for listing the possible sources and uses of funds similar to the example.**

*Project Manager*

- 8.4. Prepare a cost analysis of different funding mixes that will indicate the minimum and maximum costs for acquisition, rehab, and soft costs that can be used as a guide in the Feasibility Stage.**

*Project Manager*

- 8.5. Establish contingency levels for acquisition, construction and soft costs. Contingency levels are relative to how sure you are of potential costs. If you are sure of a cost, a minimum contingency of 6 percent is adequate; however, if unsure, 20 percent or more is appropriate in early planning stages.**

*Project Manager, Construction Specialist*

- 8.6. Update the model pro forma and cost analysis at least once a year.**

*Project Manager, Construction Specialist*

EXAMPLE 4: TYPICAL MULTIFAMILY PROJECT PRO FORMA

PROJECT: \_\_\_\_\_ STATUS: \_\_\_\_\_

UNITS: \_\_\_\_\_ DATE: \_\_\_\_\_

SOURCES OF FUNDS

<u>Type/Source</u>	<u>Rate/Term</u>	<u>Amount</u>
--------------------	------------------	---------------

Pre-development

Acquisition

Construction

Permanent

Total Permanent Financing      \$ \_\_\_\_\_

EXAMPLE 4: TYPICAL MULTIFAMILY PROJECT PRO FORMA

USES OF FUNDS

Acquisition Costs

	<u>AMOUNT</u>	<u>PER UNIT</u>
Land	\$	
Building		
Other		
Subtotal	\$ _____	_____

Rehabilitation

Residential	\$	
Commercial		
Site Improvements		
Contingency (10%)		
Other		
Subtotal	\$ _____	_____

Development Costs

Options	\$	
Holding Costs (property taxes, utilities during construction)		
Working Capital		
Architect		
Engineering		
Construction Supervision (EF)		
Construction Interest		
Security		
Legal		
Accounting		
Survey		
Appraisal		
Title Search, Insurance		
Loan Costs		
Builder's Risk, Liability Insurance		
Development Fees		
Organizational Overhead		
Real Estate Taxes		
Other: Initial Replacement Reserve		
Reserve for Rent Up		
Advertising		
Other Closing Costs		
Market Study		
Property Insurance Escrow		
Subtotal	\$ _____	_____

## EXAMPLE 5: MODEL MULTIFAMILY PRO FORMA

USES OF FUNDS - CONSTRUCTION PHASE

<u>Acquisition Costs</u>	<u>Amount</u>	<u>Per Unit</u>
Land	\$ 0	\$ 0
Building	0	0
Other	0	0
Subtotal	\$ 0	\$ 0
 <u>New Construction Costs</u>		
Construction	\$1,039,316	\$37,118
Contingency (6%)	60,623	2,166
Bond	29,248	1,045
Subtotal	\$1,129,198	\$40,329
 <u>Development Costs</u>		
Architectural & Engineering	\$ 22,000	\$ 786
Construction Management	30,000	1,071
Holding Costs	5,000	179
Insurance/Builders Risk	22,000	786
Legal	7,000	250
Appraisal	2,500	90
Title Search Insurance	4,350	155
Survey	4,400	157
Development Fee	56,000	2,000
Recording Fee	6,075	217
Transfer Tax	6,075	217
Loan Costs	20,250	723
Construction Interest	74,250	2,652
Subtotal	\$ 254,325	\$ 9,083
TOTAL	\$1,383,523	\$ 49,412 <sup>1</sup>

<sup>1</sup> Per unit costs will increase to \$54,528 if city charges group for land.



## Step 9: Develop Model Procedures

**The purpose of this step is to systematize the total process of Substantial Rehab/New Construction (SR/NC) with the goal of increasing the programs efficiency and production. This assumes that the previous steps resulted in a decision to pursue the SR/NC model.**

### ☉ Work Tasks

- 9.1. **Review this process manual in its entirety**, noting the execution variables, the risk control variables, and considerations for each step in the process. Review the model documents. If necessary, cut and paste until you have a complete SR/NC systems manual tailored to your own program. Have each member of the staff, including those involved with policy, financing, and construction, review the proposed process manual.  
*Construction Specialist, Project Manager*
- 9.2. **Set up a model work plan** for implementing a substantial rehab/new construction project identifying staff assignments throughout the process, a consultant pool to be tapped for special assignments (e.g., architects, engineers, etc.), and the program administrative resources to be deployed.  
*Executive Director*
- 9.3. **Formally adopt the process manual and work plan.**  
*Executive Director*
- 9.4. **Legal review.** When the manual has been approved by the board, submit all of the proposed documents and procedures to the nonprofits' attorney to review for conformance to local and city regulations, and state law. Minor modifications to the process and documents may be required.  
*Consultant*
- 9.5. **Finalize all changes** in the procedures and create stockpiles of documents.  
*Executive Director, Board of Directors*

☉ **Execution Variables**

- This task may be delegated to a single staff member to produce a draft or the Executive Director can assign sections of the process manual to various staff members and act as coordinator of this activity.

☉ **Other Considerations**

- The final form of the process guide will vary based on two main factors: volume and the type of client served.
- Breaking down the process into too many steps may add unnecessary costs to the program.

## Step 10: Develop a Contractor Qualification and Recruitment System

**In this step, we establish a set of guidelines to enable the program to select contractors capable and experienced in the type and scale of work being developed.**

### ☐ Work Tasks

- 10.1. Develop a contractor qualification system** (see Example 6, "Typical Contractor Qualification Procedures," repeated as Addendum 5).  
*Construction Specialist*
- 10.2. Estimate the annual construction volume in numbers, types, and value of contracts.** Estimate the total amount of construction to be completed in the upcoming year, based on the programs housing production goals and commitments for funding. Categorize this work by "type"; for example, single-family scattered-site gut rehabs, multifamily new construction, etc. Not only will these types of projects require different types of contractors, but the **qualifications** for contractors may be vastly different (insurance, bonding, etc.).  
*Construction Specialist*
- 10.3. Evaluate state and city licensing requirements.** Obtain copies of all state and city construction licensing requirements and review them. Incorporate these criteria.  
*Construction Specialist*
- 10.4. Determine the scope of responsibility (general conditions)** that is desired for contractors in general. This is done by evaluating the General Conditions language you will add to your construction contracts (see Example 7, "Typical General Conditions," and Addendum 6 for complete document). Review the complete standard form in Addendum 6 and identify items to be included. This will vary by types. Mark up a "model" General Conditions for each type.  
*Development Director, Construction Specialist*



- 10.5. Decide on insurance requirements for contractors.** Beyond the mandatory coverages required by federal and state law for workmen's compensation and unemployment, decisions must be made for the types and amounts of liability insurance the contractor will be required to carry. Survey your potential and actual funders. At a minimum, require \$300,000/\$1,000,000 General Liability. Builders Risk insurance, which covers property damage during construction where the property is increasing in value, is usually carried more cheaply by the project owner, and should be so obtained if possible.

*Development Director, Construction Specialist*

- 10.6. Decide on performance bonding requirements.** In most large projects funders will request or require a Performance and Payment Bond from the contractor (see Example 8, "Performance Bond and Payment Bond" and Addendum 7 for a complete form). Such a bond is a guarantee of job completion by a third-party bonding company. It is also the preferred "job insurance" if you are using a contractor that can obtain a bond easily and cheaply (under 3 percent of job cost). Within the "types" of projects determined in Task (b), above, determine funders requirements and set your own requirements.

*Development Director, Construction Specialist*

- 10.7. Determine which funding sources will accept an Irrevocable Letter of Credit,** an amount of money escrowed (set aside) to a bank to guarantee completion in lieu of performance and payment bonds.

*Project Manager, Construction Specialist*

- 10.8. Consolidate the above into contractor qualification criteria** for various types of projects. Determine options, such as when a Letter of Credit can be substituted for a bond.

*Executive Director, Development Director*

- 10.9. Start a list of contractors to be invited to qualify to do program work.** Use information from past program work, funders, contractor associations, and other programs.

*Construction Specialist*

- 10.10. Establish a contractor file** for each potential or active contractor. Include background information such as licensing, bonding capability, past jobs,

etc. Update and investigate contractor status prior to every bid award. Include job evaluations at the end of each job.

*Construction Specialist*

### ● Risk Control Variables

- On smaller jobs (such as a one-unit gut rehab), smaller contractors are often most appropriate and cost effective. Requiring performance bonding of this type of contractor will increase the probability of completing every job, but it will do so at a cost increase ranging from approximately 5 to 40 percent for each and every job. This results from fewer and larger contractors participating and building the bond cost into their bids. Contractors with fewer than 10 employees can have significantly lower overhead, and thus bid lower, but may shy away from bonding.
- Thorough and accurate research of a contractor's track record is the least expensive performance guarantee method, and it is the same process all bonding companies follow.

### ● Other Considerations

- **Bonding's main benefit is screening out weak contractors, not providing insurance.** On the surface, it is there to protect the owner and lenders against additional costs due to the contractor's default or nonpayment to subcontractors or suppliers. In reality, it is a screening tool for the lenders and the program because bonding companies are really in the business of certifying the capability of contractors, not insuring them. Funds secured by bonds can be very hard to collect. **Therefore, funders can often be persuaded to accept an Irrevocable Letter of Credit** as protection in case of default by the contractor. This is usually in the amount of 10 percent of the contract but can be as high as 25 percent of the contract. While this approach places a hardship on the contractor, since it is typically funded out of his operating cash, it is often easier for a smaller but financially strong contractor to obtain.
- Funders will sometimes "give in" to accepting an Irrevocable Letter of Credit during bid negotiation to secure a favorable price from a smaller contractor.
- One major construction lender in New York City actually refuses bonding and requires the letter of credit approach. Since it is less

expensive for the program and allows the use of smaller, and often less expensive, contractors, the letter-of-credit approach is a recommended method. However, since bonding companies screen contractors before they bond them, additional effort and care are required of the Construction Specialist in prescreening.

**EXAMPLE 6: TYPICAL CONTRACTOR QUALIFICATION PROCEDURES**

1. Contractor completed "Contractor's Qualification Statement," AIA Document A305 (or similar form) and filed with program
2. Contractor furnished certificate(s) of insurance
3. Program staff reviewed documentation for completeness and apparent appropriateness for the production model
4. Program or lending institution staff verified information
  - a. Creditor/business information
    - Dun and Bradstreet status reviewed
    - Trade references interviewed
    - Bank references interviewed
  - b. Review of contractor's previous work
    - On-site visit(s) conducted
    - Telephone interview with past customer(s) completed
  - c. Better Business Bureau contacted
  - d. Consumer Protection Office contacted
5. Program staff reviewed contractor's file and decision was made for inclusion or rejection of contractor on Bidders' List.

**EXAMPLE 7: TYPICAL GENERAL CONDITIONS****GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION****ARTICLE 1****GENERAL PROVISIONS****1.1 BASIC DEFINITIONS****1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of addenda relating to bidding requirements).

**1.1.2 THE CONTRACT**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Contractor, (2) between the Owner and a Subcontractor or Sub-subcontractor or (3) between any persons or entities other than the Owner and Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

**1.1.3 THE WORK**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

**1.1.4 THE PROJECT**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

**1.1.5 THE DRAWINGS**

The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

**1.1.6 THE SPECIFICATIONS**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equip-

ment, construction systems, standards and workmanship for the Work, and performance of related services.

**1.1.7 THE PROJECT MANUAL**

The Project Manual is the volume usually assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

**1.2 EXECUTION, CORRELATION AND INTENT**

**1.2.1** The Contract Documents shall be signed by the Owner and Contractor as provided in the Agreement. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

**1.2.2** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

**1.2.3** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by another. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

**1.2.4** Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

**1.2.5** Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

**1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

**1.3.1** The Drawings, Specifications and other documents prepared by the Architect are instruments of the Architect's service through which the Work to be executed by the Contractor is described. The Contractor may retain one contract record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect, and unless otherwise indicated the Architect shall be deemed the author of them and will retain all common law, statutory and other reserved rights, in addition to the copyright. All copies of them, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the

**EXAMPLE 8: PERFORMANCE BOND AND PAYMENT BOND**

## Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address): \_\_\_\_\_ SURETY (Name and Principal Place of Business): \_\_\_\_\_

OWNER (Name and Address): \_\_\_\_\_

**CONSTRUCTION CONTRACT**

Date: \_\_\_\_\_  
 Amount: \_\_\_\_\_  
 Description (Name and Location): \_\_\_\_\_

**BOND**

Date (Not earlier than Construction Contract Date): \_\_\_\_\_  
 Amount: \_\_\_\_\_  
 Modifications to this Bond  None  See Page 3

CONTRACTOR AS PRINCIPAL Company: \_\_\_\_\_ (Corporate Seal) SURETY Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_ Name and Title: \_\_\_\_\_ Signature: \_\_\_\_\_ Name and Title: \_\_\_\_\_

(Any additional signatures appear on page 3)

---

(FOR INFORMATION ONLY—Name, Address and Telephone)  
 AGENT or BROKER: \_\_\_\_\_ OWNER'S REPRESENTATIVE (Architect, Engineer or other party): \_\_\_\_\_

## Step 11: Determine Standard Payment Terms and Procedures

As work is completed under the contract, the contractor is paid, but not in full. Part of the value of the work, typically 10 percent, is retained by the program pending completion of the project (see Example 9, "Standard Contract Payment Language"). This amount, representing the contractor's profit from the project, is then paid to him upon completion. This acts as incentive for timely and satisfactory completion. The amount of the retainage is sometimes reduced after a substantial portion of the contract has been completed. When retainage is used in combination with a Letter of Credit, it is recommended that it remain at a full 10 percent until project completion. Payments for work completed should be made as quickly as possible to assist the contractor in cash flow management and reduce his cost of financing. Contractors will include their cost of financing projects in their bid to programs which are known to be "slow paying." This payment procedure is covered more completely under Escrow Agreements discussed later on in the manual. (See Step 37.)

### ☐ Work Tasks

- 11.1. Determine funders' requirements regarding retainage and payment approval.

*Construction Specialist*

- 11.2. Establish a payment policy.** This includes methods for determining progress payment amounts and retainage. The policy will determine who inspects and signs off before a payment and a standard "turnaround" time for a payment request from a contractor.

*Construction Specialist*

- 11.3. Establish a policy for change orders.** Have clear criteria to separate areas that are considered "necessary," such as unforeseen conditions or code-required changes, from "wish list" items such as site improvement upgrades. It should be clear that "wish list" items will only be approved late in the game, if ample contingency is still available. Determine how requests for change orders will be analyzed, who approves them, and, once approved, how they will be debited from the budget.

*Development Director, Project Manager, Construction Specialist*

- 11.4. Make this information known to the contractors** on the programs list of qualified contractors.

*Construction Specialist*

- 11.5. Establish accounting procedures** for approving, logging in, and processing contractor payments. This involves establishing a Chart of Accounts. This is an accounting format which enables the accountant or bookkeeper to accumulate project expenses under specified categories which corresponds to budget categories. (More information on development budgets is included in Step 21.) It is advisable to research outside sources for proper accounting format.

*Accounting Department, Construction Specialist*

#### ☐ **Risk Control Variables**

- Very low retainage can attract less solvent contractors and increase risk.



**EXAMPLE 9: STANDARD CONTRACT PAYMENT LANGUAGE****ARTICLE 5  
PROGRESS PAYMENTS**

**5.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**5.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows: *The application for payment shall include all work completed as of the twenty-fifth (25<sup>th</sup>) day of the month.*

**SAMPLE**

**5.3** Provided an Application for Payment is received by the Architect not later than the *Twenty-fifth (25<sup>th</sup>)* day of a month, the Owner shall make payment to the Contractor not later than the *Tenth (10<sup>th</sup>)* day of the *following* month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than *fifteen (15)* days after the Architect receives the Application for Payment.

**5.4** Each Application for Payment shall be based upon the Schedule of Values submitted by the Contractor in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This Schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

**5.5** Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**5.6** Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

**5.6.1** Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the Schedule of Values, less retainage of *Ten* percent (*10* %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Subparagraph 7.3.7 of the General Conditions even though the Contract Sum has not yet been adjusted by Change Order.

**5.6.2** Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of *Ten* percent (*10* %).

**5.6.3** Subtract the aggregate of previous payments made by the Owner, and

**5.6.4** Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Paragraph 9.5 of the General Conditions.

**5.7** The progress payment amount determined in accordance with Paragraph 5.6 shall be further modified under the following circumstances:

**5.7.1** Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to *Ninety-five* percent (*95* %) of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work and unsettled claims; and *incomplete work*

**5.7.2** Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Subparagraph 9.10.3 of the General Conditions

**5.8** Reduction or limitation of retainage, if any, shall be as follows:

*(If it is intended prior to Substantial Completion of the entire Work to reduce or limit the retainage resulting from the percentages inserted in subparagraphs 5.6.1 and 5.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)*

*None.*

## Step 12: Decide Use of Release of Lien

**Releases of Liens, or lien waivers, are another way to protect the program real estate from liens related to the contractor's failure to pay subcontractors and suppliers. While lien laws are enacted at the state level and their reliability varies from state to state, at a minimum, a Waiver of Lien must be required from the contractor before final payment of the contract. A Release of Liens (see Example 10, "Release of Liens," and Addendum 8 for full form) should be required at each payment request on larger contracts (over \$100,000, roughly) or with weaker contractors. Failure of the contractor to produce them has the effect of alerting the program to cash flow problems the contractor may be experiencing and provides an opportunity to confront the problem directly.**

### ■ Work Tasks

12.1. Research state lien laws.

*Construction Specialist*

12.2. Determine the funders' requirements.

*Construction Specialist*

12.3. Determine the requirements of state and local regulatory agencies.

*Construction Specialist*

12.4. Establish a Release of Liens policy.

*Construction Specialist*

12.5. Include the requirements in General Conditions (see Step 10).

*Construction Specialist*

EXAMPLE 10: RELEASE OF LIENS

WAIVER OF LIEN  
MATERIAL OR LABOR

STATE OF \_\_\_\_\_ 19 \_\_\_\_\_

COUNTY OF \_\_\_\_\_

To All Whom It May Concern:

Whereas the undersigned \_\_\_\_\_

has been employed by \_\_\_\_\_  
General Contractor/Owner

to furnish labor and/or materials for \_\_\_\_\_  
Nature of the Work

for the Building and Premises known as \_\_\_\_\_

At \_\_\_\_\_ In \_\_\_\_\_  
Address City, County, State

Lot No. \_\_\_\_\_ Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Now, Therefore, Know Ye, That \_\_\_\_\_ the undersigned  
for and in consideration of the sum of \_\_\_\_\_ Dollars  
and other good and valuable considerations, the receipt whereof is hereby  
acknowledged, do hereby waive and release any and all lien, or claim or right to  
lien on said above described building and premises under the Statutes of the State  
of \_\_\_\_\_ relating to Mechanics' Liens, on account of labor or  
materials, or both, furnished or which may be furnished, by the undersigned to or on  
account of the said firm or individual therein named for said building or premises.

Given under \_\_\_\_\_ hand \_\_\_\_\_ and seal this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 19\_\_

Witness: \_\_\_\_\_ (SEAL)

Witness: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_

Title \_\_\_\_\_

Subscribe and sworn to before me this  
\_\_\_\_\_ Day of \_\_\_\_\_ 19 \_\_\_\_

My Commission Expires \_\_\_\_\_

\_\_\_\_\_  
Notary Public

## Step 13: Select Construction Contract Documents

Contract documents are those that define the mutual responsibilities of the project owner or developer, the architect, and the contractor. The principal documents are the Agreement Between Owner and Architect and the Construction Contract. Other contract documents are referenced in these contracts. They are either a) amendments (such as a Change Order), or b) notices or record-keeping documents (such as bid documents or specifications). These are distinguished from "management" documents (such as a Master Project Schedule) used by the program for assigning and tracking work, and accounting for funds.

### ■ Work Tasks

- 13.1. Select the construction contract documents that are required to implement the policies and procedures developed in earlier steps. Create new documents to meet special program needs. Conditions vary widely from financing source to financing source, and state to state. This demands that you select from, review, and customize the following types of documents:

<b>Construction Contract Documents</b>	<b>Addendum Number</b>
General Conditions of the Contract . . . . .	6
Release of Liens Form . . . . .	8
Project Schedule . . . . .	9
Agreement Between Owner & Architect . . . . .	15
Construction Contract . . . . .	20
Application and Certificate for Payment . . . . .	23
Change Order . . . . .	24
Certificate of Substantial Completion . . . . .	25

*Construction Specialist*

- 13.2. Modify the documents to meet lenders' requirements.** There are conditions such as lien laws, minimum warranty terms, and minority involvement requirements that vary widely from lending source to lending source and state to state demanding specialized documentation.

*Construction Specialist*

- 13.3. Modify the documents to meet legal requirements of the state.** Local law often requires changes in the following areas: release of liens format, bidding documents, construction contract, and escrow agreement.

*Program Attorney*

- 13.4. Adopt the documents** and refer to them in your own process manual begun in Step 9. Have the documents printed for future use. Schedule and conduct a meeting to brief the staff on policies, procedures, roles, and responsibilities.

*Development Director*

#### ● **Execution Variables**

- Tailor construction contract documents for each project. The types of documents chosen and modifications must be balanced with job size and complexity. "Execution Variables" in the manual will point out where and when some of this tailoring should occur.

## Step 14: Develop an Internal Record-Keeping and Tracking System

Sooner or later everyone wants to know "where the money went" and "who's doing what." An efficient job data recording system provides both types of information without unnecessary extra data. It does two things: 1) records production data, and 2) tracks progress of jobs. The recommended system uses department checklists for details and tasks, and an overall tracking system based on seven to 12 milestones.

### ■ Work Tasks

- 14.1. Establish client and production data categories.** Have all the program departments and key funders create "wish lists" of items of information they would like to have available in various reports. Typical information categories include: sources of funding, neighborhood, census tract, client family composition, family income, political jurisdiction, cost of the job, etc. Prioritize the items on the "wish lists" and decide on the information to be collected. Some funders will be extremely specific about data required to qualify units for funding -- particularly income data.

*Program Planner*

- 14.2. Establish interdepartmental project milestones.** Have all departments identify milestones to be used for tracking each project. Financial closings, construction start and completion and client underwriting approvals would be examples of milestones. It is important that there not be too many nor too few milestones being tracked. Seven to 12 is about right.

*Program Planner*

### 14.3. Set up the project tracking tools:

- **Master Project Schedule** - Prepare a list of major tasks, on a time line, with responsibilities assigned, using a Gantt Chart, the formal name for a bar chart (see Example 11, "Typical Master Project Schedule" and Addendum 9, "Project Schedule," for blank form). Step 20 deals with this task in more detail.
- **Set up an "Original Documents" Project File** (for originals that always stay in the office).
- **Set up Construction Working File** (copies and notes for field use) for each project. These should include:
  - ▶ A Documents File for contracts, change orders, and other legal documents.
  - ▶ The Project File, which contains notes of important discussions, actions taken and dates, memos and correspondence.
  - ▶ Project Accounting Sheets (see Example 12, "Sample Accounting Report," repeated as Addendum 10).
  - ▶ Subcontractor files.

The Project Manager will keep working documents related to acquisition, financing, and other nonconstruction matters. Other members of the Development team will keep informal files related to their activities.

- **Set up a Project Construction Settlement Checklist.** This includes all the construction tasks and documents needed to close construction financing, such as final plans, firm bids, and milestones (discussed above).
- **Set up a Construction Checklist.** This includes all tasks and documents needed to start and complete construction, including the milestones discussed above. This and the checklist above should be in front of the main, active working file.

*Construction Specialist*

### 14.4. Set up a concise report format to collect and display the milestone performance data for a monthly evaluation by management.

*Program Planner*





## EXAMPLE 12: SAMPLE ACCOUNTING REPORT

<b>ADDRESS:</b>	<b>DATE:</b>
<b>DEVELOPER:</b>	<b>PROJECT #:</b>
	<b>CONTRACTOR:</b>
<b>CONSTRUCTION ESCROW:</b>	
CONSTRUCTION BUDGET:	\$
CONTINGENCY:	\$
	_____
SUBTOTAL CONSTRUCTION ESCROW:	<u>\$</u>
<b>OBLIGATIONS:</b>	
ORIGINAL CONTRACT(S):	\$
NET CHANGE DUE TO CHANGE ORDERS:	\$
TOTAL CONTRACT AMOUNT OBLIGATED:	<u>\$</u>
UNOBLIGATED CONSTRUCTION FUNDS (CONTINGENCY):	<u>\$</u>
<b>PAYMENTS:</b>	
NUMBER OF PAYMENTS TO DATE: ( / / ):	<u>\$</u>
TOTAL PAYMENTS TO DATE: (% COMPLETE: %)	<u>\$</u>
OBLIGATED CONSTRUCTION FUNDS REMAINING:	<u>\$</u>
TOTAL CONSTRUCTION FUNDS REMAINING:	<u>\$</u>
ESTIMATED NET CHANGE ORDERS PENDING:	<u>\$</u>
ESTIMATED COST TO COMPLETE:	<u>\$</u>
ESTIMATED SURPLUS (DEFICIT) AT COMPLETION:	<u>\$</u>

## ● Execution Variables

- If the program is expecting a very high volume, then a computer software consultant should be retained to set up a data base applications program to track: 1) the milestones, 2) production data, 3) cost data, and 4) client data; and make appropriate reports. Before hiring such a person, gather together all the reports you are required to submit to funders and others.

## *Stage: Project Conception*

This stage of development begins with no more than a project opportunity and ends with a concept and an organization to carry it out. It assumes there has been a property identified for potential construction, and there has been an informal evaluation even before this stage starts. Here, the concept must meet critical feasibility tests. It should be allowed to die if it cannot pass them. In the steps that follow, a development team is formed and some of the most critical decisions of the project are made.

In this stage of project development, the Development Team must integrate five critical issues to provide the information needed to determine its financial feasibility. These issues are:

- The Project's and Funder's Construction Standards
- The Preliminary Construction Cost Estimate
- The Preliminary Development Budget
- The financing method
- The financial feasibility of the project.

## Step 15: Organize the Development Team/Initial Work Plan

The development team is the nucleus of people from both inside and outside the organization who will determine its feasibility and direct its development. The team typically consists of the Executive Director or Development Director of the organization, the Project Manager, the Construction Specialist, the Marketing Director, and property management. It will later include the project architect and the contractor. Other possible members of the team on larger projects include the project attorney, syndicators, representatives of one or more funding agencies, and outside development consultants. Some individuals may carry out more than one responsibility.

### ● Work Tasks

- 15.1. Think out the political strategy of the project, including community relations and relations with local government agencies.

*Development Director*

- 15.2. Begin to conceive alternative financial and legal structures for the project.

*Project Manager*

- 15.3. Begin to conceive the physical development of the project. This includes concepts for both design and construction and who might carry them out.

*Construction Specialist*

- 15.4. Consider alternative strategies for marketing and/or property management.**

*Marketing/Property Management Department*

- 15.5. Review the complete list of tasks and make assignments to get the project through this stage.**

*Development Director*

- 15.6. Set dates for the tasks to be completed.**

*Project Manager*

- 15.7. Combine these elements into an Initial Project Work Plan.**

*Project Manager*

☐ **Execution Variables**

- When the program has a "tried and true" relationship with an architect, it is possible, at this stage, to use that situation to "bounce" ideas off him or her, for no fee.

## Step 16: Conduct a Site Evaluation

**A site evaluation is made to determine the physical characteristics and parameters of the project site and how they will impact project design and costs.**

### ■ Work Tasks

- 16.1. Visit the site** and not the conditions. Use a site evaluation checklist. Either for gut rehab (see Example 13, "Substantial Rehab Site Evaluation Checklist," repeated as Addendum 11) or new construction (see Example 14, "New Construction Site Evaluation Checklist," repeated as Addendum 12).
- Construction Specialist*
- 16.2. Gather basic information** about the site, including site conditions, as-built plans, existing site plans, engineering reports, or zoning requirements.
- Construction Specialist*
- 16.3. Order any engineering evaluations** necessary at this point (see Example 15, "Typical Engineering Report on a Multifamily Rehab Project," and Addendum 13 for full document), whether or not they are part of the Architect's contract.
- Construction Specialist*
- 16.4. Organize your field data** so that these can be incorporated into the Preliminary Construction Cost Estimate (discussed more thoroughly in Step 17).
- Construction Specialist*
- 16.5. List additional questions** that occur at this time, beyond the scope of your initial evaluation, such as structural questions, and incorporate them as tasks into your **Work Plan** assigning responsibility and deadlines.
- Construction Specialist*

**■ Risk Control Variables**

- It is often appropriate at this stage to use professionals with specialized expertise, such as structural or soil engineers, or site planners, for analysis and advice if the design issues are beyond the competence of the Construction Specialist.

## EXAMPLE 13: SUBSTANTIAL REHAB SITE EVALUATION CHECKLIST

DATE: \_\_\_\_\_

BUILDING ADDRESS: \_\_\_\_\_

FOOTPRINT: \_\_\_\_ (W) X \_\_\_\_ (D) # OF STORIES: \_\_\_\_ TOTAL SF: \_\_\_\_

# OF APTS: \_\_\_\_ AVG # OF BEDROOMS: \_\_\_\_ AVG SF FT/APT: \_\_\_\_

EXTERIOR WALLS: \_\_\_\_\_

WINDOWS: \_\_\_\_\_

SILLS: \_\_\_\_\_

LINTELS: \_\_\_\_\_

PARAPET WALLS: \_\_\_\_\_

CHIMNEYS: \_\_\_\_\_

FRONT STEPS: \_\_\_\_\_

CORNICE: \_\_\_\_\_

SIDEWALKS: \_\_\_\_\_

REAR EXTERIOR: \_\_\_\_\_

BASEMENT: \_\_\_\_\_

INTERIOR PARTITIONS: \_\_\_\_\_

BEARING: \_\_\_\_\_

NON-BEARING: \_\_\_\_\_

BEAMS: \_\_\_\_\_

FLOOR STRUCTURE: \_\_\_\_\_

DECK: \_\_\_\_\_

CEILINGS: \_\_\_\_\_

ROOF: \_\_\_\_\_

COMMENTS:



EXAMPLE 14: NEW CONSTRUCTION SITE EVALUATION CHECKLIST

Address: \_\_\_\_\_  
 Owner: \_\_\_\_\_  
 Legal Description: Lot: \_\_\_\_\_ Block: \_\_\_\_\_ Other Designation: \_\_\_\_\_

	Dimensions	Restrictions
Road frontage:	_____	_____
Left side:	_____	_____
Right side:	_____	_____
Rear:	_____	_____
Gross area:	_____	_____
Net buildable area:	_____	_____

Zoning Classification: \_\_\_\_\_

Description: \_\_\_\_\_

Density: \_\_\_\_\_ Max. units \_\_\_\_\_

Parking requirements: \_\_\_\_\_

Flood Plain: No \_\_\_\_\_ or Yes \_\_\_\_\_ Area \_\_\_\_\_

Physical Description

Soil: \_\_\_\_\_

Water: \_\_\_\_\_

Sewer: \_\_\_\_\_

Electric: \_\_\_\_\_

Road and walks: \_\_\_\_\_

Curb cuts: \_\_\_\_\_

Topography: \_\_\_\_\_

**EXAMPLE 15: TYPICAL ENGINEERING REPORT ON  
A MULTIFAMILY REHAB PROJECT**

October 3, 1988

Mr. John Doe  
Happy Housing Enterprise  
765 Congress Street  
Columbia, Maryland 04102

Subject: Geotechnical Site Visit  
Pleasant Park  
Columbia, Maryland 89-2432

Dear Mr. Doe:

In accordance with our agreement with Happy Housing Enterprise, a geotechnical site visit was made at Pleasant Park, Columbia, Maryland, on Friday, September 23, 1988. The purpose of the visit was to observe the foundation conditions at some of the 35 units Happy Housing Enterprise is considering rehabilitating. The observations were then used to prepare preliminary recommendations for repair. This letter summarizes the observations and recommendations.

Twenty-four of the structures were observed from the outside. Most structures observed were along Maine Avenue, 1st Avenue, and 2nd & 3rd Avenues. Two units, one on 1st Avenue with a crawl space foundation and one on 2nd Avenue with a full basement foundation, were looked at from the inside.

Structures and Foundations

The two-story, duplex, wood-frame buildings were constructed in about 1940/41. The buildings were approximately 45 feet by 24 feet in plan. Foundations are masonry block on concrete footing. The height of the masonry block is approximately 50 inches and is comprised of 6 blocks. The footing, as measured in one building, is approximately 24 inches wide by an estimated 12 inches deep. Two to two-and-a-half masonry blocks are exposed above grade at most structures.

In addition to an exterior front wall, there are 3 interior cross walls supporting load-bearing partitions. A single chimney footing, built as part of the middle cross foundation wall, is also present. The chimney is brick.

Several structures had an exterior brick facing on the short first-floor level. The remaining structures have a vinyl clayboard exterior

## Step 17: Develop a Preliminary Scope of Work

At this step we combine data about the site with the program's construction standards discussed in the Program Planning Stage, as well as funding criteria. These standards, as stated earlier, consist of basic guidelines regarding room sizes, number of bathrooms, lineal feet of cabinet space and other storage, basic systems, finishes, etc. Also, available funding may dictate numerous design criteria. Collectively, they are the design criteria of the product to be built.

### ● Work Tasks

- 17.1. Determine any design criteria or construction standards** associated with available funding. Examples are: required amenities (like air-conditioning or facade treatments), minimum square footage, numbers of bedrooms, handicapped access features, or historic preservation criteria.  
*Project Manager, Construction Specialist*
- 17.2. Develop a preliminary scope of work** based on site evaluation and applying your standards and those of potential funders (see Example 16, "Preliminary Estimate Summary Form," and Addendum 14 for complete form).  
*Construction Specialist*
- 17.3. Prioritize these items** into "must have," "should have," and "upgrade."  
*Construction Specialist*
- 17.4. Begin to fact-find and test** the flexibility of funders' standards that conflict with the scope of work desired by your organization, or that may make the project infeasible.  
*Construction Specialist*

**EXAMPLE 16: PRELIMINARY ESTIMATE SUMMARY FORM**

**PRELIMINARY ESTIMATE SUMMARY**

SHEET NO \_\_\_\_\_

PROJECT \_\_\_\_\_ ESTIMATE NO \_\_\_\_\_

LOCATION \_\_\_\_\_ TOTAL AREA/VOLUME \_\_\_\_\_ DATE \_\_\_\_\_

ARCHITECT \_\_\_\_\_ COST PER S F / C F \_\_\_\_\_ NO OF STORIES \_\_\_\_\_

PRICES BY \_\_\_\_\_ EXTENSIONS BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

NO	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST	COST/S F	% OF BLDG
<b>01.0</b>	<b>Foundation</b>						
.1-12	Spread Footings						
.1-14	Strip Footings						
.1-2	Foundation Walls						
.1-3	Pile Caps						
4	Piles & Caissons						
9	Structural Excavation						
<b>02.0</b>	<b>Substructure</b>						
.1	Slab on Grade						
.2	Special Substructures						
<b>03.0</b>	<b>Superstructure</b>						
.1-1	Columns						
.1-2	Beams						
4	Structural Walls						
5	Elevated Floors						
.7	Roof						
9	Stairs						
<b>04.0</b>	<b>Exterior Closure</b>						
.1-1	Concrete Walls						
.1-2	Masonry Walls						
.1-3	Steel Stud Walls						
.1-4	Wood Stud Walls						
.5	Finishes						
.6	Doors						
.7-1	Windows						
.7-5	Curtain & Window Walls						
<b>05.0</b>	<b>Roofing</b>						
.1-1	Built Up Roof						
.1-2	Elastomeric Roof						
.1-3	Metal						
.1-4	Shingle & Tile						
.1-6	Flashing & Gravel Stops						
.7	Insulation						
.8-1	Hatches & Sky Lights						
.8-4	Gutters & Downspouts						
<b>06.0</b>	<b>Interior Construction</b>						
.1-2	Block & Tile Partitions						
.1-5	Drywall Partitions						
.1-6	Plaster Partitions						
.1-8	Folding & Movable Partitions						
4	Doors						
.5	Wall Finishes						
.6	Floor Finishes						
.7	Ceiling Finishes						
<b>07.0</b>	<b>Conveying</b>						
.9	Elevators						
.2	Moving Stairs & Walks						
.6	Other Systems						
<b>08.0</b>	<b>Mechanical</b>						
.1	Pipe & Fittings						
.1-1	Water Heaters						
.1-3	Roof Drains						
.1-4	Single Fixtures						
.1-6	Special						

## Step 18: Make a Preliminary Construction Cost Estimate

Another major issue to be resolved throughout the life of a project is cost management. While time management is concerned with schedules, cost management focuses on estimates and budgets. The parallel tool to the Master Project Schedule is the Master Project Budget. At this stage, the construction portion of this budget relies on the Preliminary Construction Cost Estimates developed by the Construction Specialist (see Example 17, "Preliminary Cost Estimate"). Acquisition fees and other soft costs are generally determined by the Project Manager.

### ■ Work Tasks

**18.1. Gather or update cost data for your scope of work items.** Similar, recent, local projects are the best sources of information. Cost estimation manuals are also essential tools.

*Construction Specialist*

**18.2. Put quantities and costs next to your scope of work line items.** You will not have a complete design or completely reliable costs; however, you should include all cost information about the proposed project that you have at this time.

*Construction Specialist*

**18.3. Apply federal wage rates to the cost estimate if they apply to the job.**

*Construction Specialist*

**18.4. Add at least a 20 percent cost contingency to your estimate. This is an appropriate contingency in early planning stages.**

*Construction Specialist*

☐ **Risk Control Variables**

- All estimates are subject to error. Resist the temptation to use vague square foot costs or ballpark estimates. Estimates based on more line items are more accurate than estimates based on fewer ones, but balance must be struck at this stage on how much time to invest.
- Avoid the pressure to fit the estimate into a budget figure predetermined by financial considerations.

☐ **Other Considerations**

- If the project could involve federal wage rates, obtain from the area Department of Labor office the most recent decisions for projects most similar to yours, as a guideline. If your project is not already covered by a blanket decision (usually under some public financing program) you must request a decision for this project, and no other decision is authoritative. This can take months, and the decision **must** be in hand before you bid the work.

EXAMPLE 17: PRELIMINARY COST ESTIMATE

PRELIMINARY ESTIMATE SUMMARY

SHEET NO. 1 of 1

PROJECT HIGHVIEW TOWN HOMES

ESTIMATE NO.

LOCATION TOTAL AREA/VOLUME 1008 SF DATE 12/6/89

ARCHITECT COST PER S.F./C.F. 31.82 NO. OF STORIES 3

PRICES BY: B.D. EXTENSIONS BY: B.D. CHECKED BY: P.W.

NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST	COST/S.F.
<b>01.0</b>	<b>Foundation</b>					
.1-12	Spread Footings					
.1-14	Strip Footings	52	LF	12.93	672.36	
.1-2	Foundation Walls					
.1-3	Pile Caps					
.4	Piles & Caissons					
.9	Structural Excavation					
<b>02.0</b>	<b>Substructure</b>					
.1	Slab on Grade	336	SF	2.11	708.96	
.2	Special Substructures					
<b>03.0</b>	<b>Superstructure</b>					
.1-1	Columns					
.1-2	Beams	15	LF	22.80	342.00	
.4	Structural Walls					
.5	Elevated Floors	672	SF	1.68	1128.96	
.7	Roof	380	SF	3.37	1280.60	
.9	Stairs	2	EA	865.00	1730.00	
<b>04.0</b>	<b>Exterior Closure</b>					
.1-1	Concrete Walls					
.1-2	Masonry Walls	388	SF	3.57	1385.16	
.1-3	Steel Stud Walls					
.1-4	Wood Stud Walls	880	SF	1.10	968.00	
.5	Finishes VINYL SIDING	672	SF	2.87	1928.64	
.6	Doors	2	EA	625.00	1250.00	
.7-1	Windows	6	EA	140.00	840.00	
.7-5	Curtain & Window Walls STUCCO	224	SF	3.90	873.60	
<b>05.0</b>	<b>Roofing</b>					
.1-1	Built Up Roof					
.1-2	Elastomeric Roof					
.1-3	Metal					
.1-4	Shingle & Tile	380	SF	.91	345.80	
.1-6	Flashing & Gravel Stops					
.7	Insulation - TOTAL SLB	816	SF	1.20	979.20	
.8-1	Hatches & Sky Lights					
.8-4	Gutters & Downspouts	88	LF	2.21	194.48	
<b>06.0</b>	<b>Interior Construction</b>					
.1-2	Block & Tile Partitions					
.1-5	Drywall Partitions	1570	SF	2.40	3768.00	
.1-6	Plaster Partitions PERIMETER D.W.	1160	SF	.62	719.20	
.1-8	Folding & Movable Partitions					
.4	Doors	6	EA	65.00	390.00	
.5	Wall Finishes	2730	SF	.27	737.10	
.6	Floor Finishes	840	SF	1.93	1621.20	
.7	Ceiling Finishes	840	SF	.31	260.40	
<b>07.0</b>	<b>Conveying</b>					
.9	Elevators					
.2	Moving Stairs & Walks					
.6	Other Systems KITCHEN - BATH	LUMP SUM		1120.00	1120.00	
<b>08.0</b>	<b>Mechanical</b>					
.1	Pipe & Fittings HVAC	LUMP SUM		2350.00	2350.00	
.1-1	Water Heaters PB	LUMP SUM		1800.00	1800.00	
.1-3	Reef Drains ELCT.	LUMP SUM		2050.00	2050.00	
.1-4	Single Fixtures SITE WK.	LUMP SUM		1160.00	1160.00	
.1-6	Specht APPLIANCES	LUMP SUM		885.00	885.00	
	<b>TOTAL</b>				32073.66	



## Step 19: Set Up Procedures for Project Review Meetings

An important administrative task during this and all following stages is periodic review of the developing project by all members of the Development Team. They need to be intimately involved in the products being produced and will need to comment on the financial and marketing aspects of decisions being made during each stage. The Construction Specialist needs to be completely aware of the progress in all other project areas as well. It is the responsibility of the Project Manager, to schedule and hold Project Review Meetings, to chair them and move the meeting along.

### ■ Work Tasks

**19.1. Develop a schedule for Project Review Meetings** and incorporate it into the Initial Work Plan. Modify the schedule as necessary during the project.

*Project Manager*

**19.2. Give three to four days notice of an upcoming meeting.** Request agenda items from the other members. Send out work products (reports, budgets, etc.) to be reviewed at the meeting.

*Project Manager*

**19.3. Prepare an agenda for each meeting** listing topics to be discussed, reports to be presented or issues to be resolved. Circulate the agenda and other information to be discussed at the meeting ahead of time.

*Project Manager*



- 19.4. During the meeting, keep notes of:** 1) decisions made, 2) new tasks identified, and 3) unresolved issues to be discussed later and the process and timetable for their resolution. The Master Project Budget and Schedule should also be discussed and modified as necessary.

*Project Manager*

- 19.5. Distribute a follow-up memo or minutes** of the meeting within two days following each meeting.

*Project Manager*

☐ **Execution Variables**

- The responsibility for setting up meetings is sometimes delegated to another member of the Development Team. In that case, the Construction Specialist should make certain that scheduled meetings take place.
- Other, more specialized, meetings may also be necessary and, in that case, the same work tasks are required.

☐ **Other Considerations**

- Failure to plan for "tight" meetings will invariably waste a lot of time. Try to keep project meetings to an hour.

## Step 20: Develop a Preliminary Master Project Schedule

A major issue to be resolved throughout the life of the project is time management. In this stage of development, the task at hand is to create a broad-brush schedule for the entire project based on analysis and experience. It is the major time management tool for the project. At this stage, it is known as the Preliminary Master Schedule. At later stages, as data are received, the schedule is refined into the Master Project Schedule (see Example 11, "Typical Master Project Schedule," on page 65). The schedule signals the need to monitor events, speed up activities, engage in problem solving, or even change the plan to keep the project within the expected time frame.

### ☉ Work Tasks

**20.1.** Divide the project into major stages of development and assign approximate time frames for their completion. Time constraints of construction, financing, purchase options, and the like which are already known must be meshed. Only major milestones are established at this stage. Although a great many unknowns exist at this point, careful consideration should be given to the development of the Preliminary Master Schedule.

*Project Manager*

**20.2.** List the major activities necessary to complete each stage.

*Project Manager*

**20.3. Assign time frames** to the listed activities and include in the Project Work Plan.

*Project Manager*

**20.4. Indicate critical deadlines** that must be met such as construction start or occupancy dates.

*Project Manager*

**20.5. Make a Gantt (bar) Chart** and distribute to the Development Team.

*Project Manager*

**20.6. List unknowns** which need to be determined and included in the schedule as soon as possible.

*Project Manager*

#### ☐ **Execution Variables**

- If your source of funding is known, it is desirable to involve the funder(s) in these tasks.
- If the project could involve federal wage rates, obtain from the area Department of Labor office the most recent decisions for projects most similar to yours, as a guideline. If your project is not already covered by a blanket decision (usually under some public financing program), you must request a decision for this project, and no other decision is authoritative. This can take months, and the decision **must** be in hand before you bid the work.
- The necessity for federal wage rates on a project can delay cost estimating and bidding if a new "wage decision" is needed from the Department of Labor (see Step 18). This time lag should be built into the schedule for "Davis Bacon" jobs.
- Do not underestimate the time it may take to get public approvals if rezoning, "vacating" an old street, or other public approvals are needed.

## ■ Other Considerations

- Since feasibility is a critical issue during this stage, one of the most important "go/no go" points is deciding if it is possible to meet critical deadlines during the life of the project. If not, this is the time to scrap the project.

## Step 21: Prepare a Preliminary Development Budget

**This document provides a conceptual framework for planning and conducting the financing method study.**

### ● Work Tasks

- 21.1. Give the Preliminary Cost Estimate to the Project Manager.** Add to this cost estimates for design, engineering, structural testing, site planning, drainage plans, and other "soft" costs related to construction.

*Construction Specialist*

- 21.2. Prepare a Preliminary Development Budget** by combining the estimates above with those from other members of the Development Team (see Example 18, "Typical Development Budget from Project Pro Forma").

*Project Manager*

- 21.3. Obtain a copy of the Preliminary Development Budget and prepare to comment on all the line items.** A critical issue will be the average cost per dwelling unit. As a member of the Development Team, it is your job to notice and give advice about all line items which may cause the project to be too expensive or impossible to complete. You should also review the budget for errors and items left out. Depending on the pro forma being used, construction costs can be spread over a confusing number of line items.

*Construction Specialist*

### ● Risk Control Variables

- Be prepared to protect your projected construction cost estimate from pressures to reduce it to "make the budget work."

**Other Considerations**

- Do not neglect to build in enough fees to cover your *internal* costs of development. Long approval times and multiple sources of financing will increase these costs. Estimate them carefully.

## EXAMPLE 18: TYPICAL DEVELOPMENT BUDGET FROM PROJECT PRO FORMA

USES OF FUNDS - CONSTRUCTION PHASE

<u>Acquisition Costs</u>	<u>AMOUNT</u>	<u>PER UNIT</u>
Land	\$ 0	\$ 0
Building	0	0
Other	0	0
Subtotal	\$ 0	\$ 0
<u>New Construction Costs</u>		
Construction	\$1,039,316	\$37,118
Contingency (6%)	60,623	2,166
Bond (3%)	29,248	1,045
Subtotal	\$1,129,198	\$40,329
<u>Development Costs</u>		
Architectural & Engineering	22,000	786
Construction Management	30,000	1,071
Holding Costs	5,000	179
Insurance/Builders Risk	22,000	786
Legal	7,000	250
Appraisal	2,500	90
Title Search Insurance	4,350	155
Survey	4,400	157
Development Fee	56,000	2,000
Recording Fee	6,075	217
Transfer Tax	6,075	217
Loan Costs	20,250	723
Construction Interest	74,250	2,652
Subtotal	\$254,325	\$9,083
TOTAL	<u>\$1,383,523</u>	<u>\$49,412<sup>1</sup></u>

<sup>1</sup> Per unit costs will increase to \$54,528 if city charges group for land.

## Step 22: Determine Preliminary Feasibility

**This step is the basis for another "go/no go" decision. It is based on the Preliminary Development Budget and the limitations imposed by funding sources. This task is typically carried out by the Development Director or Project Manager responsible for the financing side of the project. The Construction Specialist's responsibility is to provide and refine objective cost estimates for construction and related soft costs.**

### ● Work Tasks

**22.1. Determine potentially feasible financing sources.** Possible sources include: existing federal, state, or local funding programs designed to assist your type of project; previously used private funding sources including corporations, foundations, banking institutions; and new potential funders.

*Project Manager*

**22.2. Supply objective and accurate estimates** for costs for which you are responsible and maintain awareness of the feasibility discussion.

*Construction Specialist*

**22.3. Prepare to make input** regarding how the construction standards or other requirements of the different potential funders will affect the cost of constructing the project.

*Construction Specialist*

**22.4. Make go/no go decision** on the project.

*Development Director*



☐ **Risk Control Variables**

- There is a danger that, even at this early stage, the Development Team will attempt to continue a project that is not really feasible from the standpoint of cost, available financing, market, or other factors. It may be advisable to obtain an outside objective review of the proposed project budgets and financing strategy to guard against this possibility.

## *Stage: Schematic Design*

The schematic design period is the stage in which architectural planning begins. The schematic design is the preliminary drawing which generally outlines the physical look of the project. Once accepted, it will be detailed into the final design.

Also during this stage, as design decisions are made, the Preliminary Master Schedule and the Preliminary Development Budget are further developed and financing strategies are further explored.

This stage does not begin unless the issue of project feasibility was affirmatively decided, and at least part of the pre-development money for site control and architectural fees was financed or allocated.

At the beginning of this stage, a project architect should be selected and contracted. A discussion of this process begins this section. The specific concern of this stage is getting the architect started, and controlling the time and cost limitations as the design for the project begins.

## Step 23: Hire the Project Architect (Site Planner)

**Substantial Rehab/New Construction** requires the services of an architect except on rare new construction projects that are predesigned by the builder. The purpose of the architect is to transfer the concept of the project into the plans and specifications from which a builder can bid and build the project. Choosing the right architect is one of the most important decisions to be made.

Most new construction projects will require a site planner, who may also be the architect. On larger land development projects, specialized site planners are often used. The steps are essentially the same. Unless otherwise indicated, in the design stages "architect" may also mean "site planner."

### ● Work Tasks

- 23.1. Determine the number and kinds of tests and detailed engineering** that will be required to carry out the project (such as soil borings, structural evaluations or structural/mechanical engineering).

*Construction Specialist*

- 23.2. Prepare a descriptive narrative** of the concept of the project and a basic scope of work for an architect. It should include any engineering work, as this clearly makes one party responsible for all design work. The scope of work should be in enough detail that an architect can bid on the project.

*Construction Specialist*

- 23.3. Prepare a list of architects** to be invited to submit bids. Sources of information about architects include: referrals from other nonprofit groups, city agencies, professional organizations, contractors, and others. All architects on the list should have experience with the kind of project under consideration and have a good professional reputation.

*Construction Specialist*

- 23.4. Prepare a "Request for Proposal" letter** and include the narrative mentioned above. At least three architects should be contacted.

*Construction Specialist*

- 23.5. Conduct assessment interviews** with each architect concerning the technical aspects of the project, the architect's experience with similar projects, his or her compatibility with the goals of the organization, and so forth. Review references and discuss any adverse comments that may be contained, for example, in a Better Business Bureau file. As mentioned before, this is a critical decision. It is important that the successful bidder be sympathetic to the goals of the organization and able to make a positive contribution to the "chemistry" of the Development Team.

*Construction Specialist, Project Manager*

- 23.6. Receive bids from each architect** in writing and select the architect based on a joint decision of the Development Team.

*Construction Specialist, Project Manager*

- 23.7. Enter into a clear contract.** The American Institute of Architects (AIA) Owner/Architect Contract is recommended as a model and it is widely understood and accepted within the industry. (See Example 19, "Standard Form of Agreement Between Owner and Architect," and Addendum 15 for a copy of the document.)

*Executive Director, Architect*

## ■ Execution Variables

- Sometimes the owner/developer, not the architect, hires and supervises engineering work. This is most appropriate for test borings, structural

evaluations or site planning (which are early steps). It is not recommended for design steps that are mingled with the architect's work -- such as structural and mechanical engineering. Here, the architect should be in control and responsible.

- When the Construction Specialist is unable to determine engineering requirements, architects should be advised to detail the scope of this work in their proposals.

#### ● **Risk Control Variables**

- The issue of "Errors and Omissions Insurance," beyond normal coverage routinely carried by architects, may come up in the context of contract discussions. This insures the architect against liability due to design and is paid for by the organization. Such risk control is not recommended because the kinds of projects described here generally do not involve this level of exposure.

#### ● **Other Considerations**

- The careful selection of the architect or site planner is one of the biggest variables for success of the project and cost control.

**EXAMPLE 19: STANDARD FORM OF AGREEMENT BETWEEN OWNER AND ARCHITECT**

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AIA Document B141

**Standard Form of Agreement Between  
Owner and Architect**

**1987 EDITION**

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.*

**AGREEMENT**

made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year of  
Nineteen Hundred and \_\_\_\_\_

**BETWEEN** the Owner:  
*(Name and address)*

and the Architect:  
*(Name and address)*

SAMPLE

For the following Project:  
*(Include detailed description of Project, location, address and scope.)*

The Owner and Architect agree as set forth below.

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## Step 24: Develop Design Schedule

In conjunction with hiring the architect, a Design Schedule must be developed and included in the Master Schedule. The Design Schedule, usually a bar chart, should establish the phases, steps, and time estimates for developing the project design from concept to contract documents.

### ● Work Tasks

- 24.1. Define the phases and steps necessary to complete the contract documents.

*Construction Specialist, Architect*

- 24.2. Identify review points, the work products to be reviewed (e.g., schematics, working drawings, etc.) and dates of review.

*Construction Specialist, Architect*

- 24.3. Identify for certain all regulatory reviews, such as for zoning approval, drainage plans, historic "appropriateness," etc. Provide enough time in the schedule to prepare submissions and presentations to hearings. Verify all typical approval times with the appropriate public agencies.

*Construction Specialist*

- 24.4. Incorporate the above into a schedule and distribute to all members of the Development Team.

*Construction Specialist*

- 24.5. Incorporate this schedule into the Master Schedule.

*Construction Specialist*

■ **Other Considerations**

- It is imperative in managing the overall project, that the Master Schedule be updated on a regular basis. Monitoring the Master Schedule enables the Project Manager to take corrective action to ensure that critical deadlines are met.



## Step 25: Develop and Evaluate Alternative Design Schemes

**The Construction Specialist should make cost-effective recommendations to the Architect concerning floor plans and various systems, and systematically evaluate and approve proposed solutions to various design problems. It is imperative the Construction Specialist have veto authority over the Architect where cost is a concern.**

### ☐ Work Tasks

- 25.1. Develop a list of the projects building systems** to be evaluated. Use a checklist of outline specifications in performing this task and in monitoring the development of the schematic design. (See Example 20, "Typical Outline Specifications" and Addendum 16.)

*Construction Specialist, Architect*

- 25.2. Input cost-effective solutions** to design problems.

*Construction Specialist*

- 25.3. Make an evaluation of proposed floor plans**, based on livability, durability, and standards and cost.

*Construction Specialist*

- 25.4. Meet regularly with the architect** to review progress on the schematic design.

*Construction Specialist*

- 25.5. Perform and input value engineering analyses** on the proposed systems according to the worksheets and formulas found in Example 21, "Value

Engineering Worksheet." This includes an analysis of life cycle costs versus installation costs, and an energy cost analysis. These activities have the effect of helping to develop not only the plans, but also the outline specifications.

*Construction Specialist*

**EXAMPLE 20: TYPICAL OUTLINE SPECIFICATIONS****Division 1 - General Conditions**

- 1.1 Permits
- 1.2 Legal contracts, waivers of liens
- 1.3 Insurance
- 1.4 Accounting
- 1.5 Job meetings, construction inspection
- 1.6 Contract limits, retentions

**Division 2 - Site Work**

- 2.1 Demolition
- 2.6 Landscape

**Division 3 - Concrete work****Division 4 - Masonry**

- 4.1 Steel lintel repair
- 4.2 Basement window bricking
- 4.3 Repointing
- 4.4 Work sketches
- 4.5.1 Patching precast panels
- 4.5.2 Replacing precast panels
- 4.6 Parapet work
- 4.7 Chimneys
- 4.8 Cleaning and sealing
- 4.9 Vestibule repair

**Division 5 - Metals**

- 5.10 Steel lintels
- 5.11 Security bars on basement windows

**Division 6 - Carpentry**

- 6.10 Apartment doors
- 6.10.1 Kitchen cabinet repair
- 6.10.2 Door hardware
- 6.10.3 Skylight removal
- 6.10.4 Roof sheathing
- 6.10.5 Repair floor damage
- 6.10.6 Secure trash chute openings
- 6.11 New apartment entrances
- 6.13 Cut new door openings

**EXAMPLE 21: VALUE ENGINEERING WORKSHEET**

Value engineering for cost cutting is the process of determining the optimum system choice to solve a shelter problem at least cost. The various options, their initial installed cost, maintenance cost, and expected useful life must be known in order to calculate the optimum choice. For instance:

**Tub surrounds: (per square foot)**

**System 1:** Water resistant drywall with ceramic tile  
**Installed cost:** \$0.75 (drywall) + \$3.13 (ceramic) = \$3.88  
**Maintenance cost:** Regrout every 10 years, \$0.75  
**Expected Life:** 30 years

**System 2:** Water resistant drywall with vinyl tub surround.  
**Installed cost:** \$0.75 (drywall) + \$1.95 (vinyl) = \$2.70  
**Maintenance cost:** Recaulk every 5 years, \$0.10  
**Expected Life:** 20 years

**Formula:** 
$$\frac{\text{Installed cost} + \text{Lifetime maintenance cost}}{\text{Expected life}} = \text{Annual Cost}$$

**System 1:** 
$$\frac{\$3.88 + (2 \times \$0.75)}{30} = \frac{\$5.38}{30} = \$0.18 \text{ per year}$$

**System 2:** 
$$\frac{\$2.70 + (3 \times \$0.10)}{20} = \frac{\$3.00}{20} = \$0.15 \text{ per year}$$

To prescreen options, certain criteria may be established to narrow the field such as: No options will be considered which exceed a maximum installation cost or which cannot be expected to last beyond the life of the mortgage.

For systems involving energy savings, the formula becomes more complicated. In these cases, the value added in terms of savings on energy costs must exceed the annual cost in terms of the most expensive mortgage payment. This calculation requires an estimated savings on energy versus the same unit without the additional system. For instance:

**Unit 1: R30 roof insulation:** \$0.63/sf x 1000 sf = \$630.00  
 Monthly cost of \$630 @ 10.5%/20 years = \$6.29

**Unit 2: R38 roof insulation:** \$0.85/sf x 1000 sf = \$850.00  
 Monthly cost of \$850 @ 10.5%/20 years = \$8.49  
 Additional cost of R38 insulation: \$2.20

## Step 26: Approve Schematic Design

After updating estimates and budgets, the Development Team should again review the schematic design, discuss the results of analyses of alternative design schemes, and approve the design. The schematic design should also be submitted for informal approval by the local building authority. Whenever possible, building authority approvals, formal or informal, should be in writing. This will eliminate the possibility of disapproval of any portion at a later time.

### ● Work Tasks

- 26.1. Update the Preliminary Construction Estimate** based on the systems analysis just performed.

*Construction Specialist*

- 26.2. Submit the schematic design, if approved by the Development Team, to the local building authority** for its review and approval.

*Construction Specialist*

- 26.3. Update the design line item in the Development Budget** to reflect the cost of the Architect's contract.

*Project Manager*

- 26.4. Update the construction line item or items in the Development Budget** based on revisions to the construction cost estimate.

*Project Manager*

**26.5. Update soft costs**, that is, costs which are not directly construction related, such as financial carrying costs and insurance line items based on changes in the project time line or scope of work.

*Project Manager*

**26.6. Reconvene the Development Team** to review the schematic design, design alternatives, and costs.

*Development Director*

**26.7. Make a "go/no go" decision.** If there are large cost overruns at this point, it is unlikely the project can be brought in within budget in succeeding stages.

*Development Director*

## Step 27: Determine Contracting and Bidding Modes

**The step involves decisions concerning the contractor mode to be utilized on the project and the bidding procedures to be implemented. The use of a general contractor as the contracting mode for Substantial Rehab/New Construction is assumed.**

### ☐ Work Tasks

- 27.1. Decide whether to competitively bid or negotiate a bid** after consultation with the Team. Each option has its pros and cons and its appropriateness in certain situations. Competitive bidding using sealed bids from a pre-qualified list of contractors tends to maintain competitive pricing; however, it also eliminates valuable input from the contractor on relative costs of alternative construction techniques during final design. Preselecting a contractor based on negotiating a contract fills out the development team quicker (thus speeding up the project) and allows for contractor input during design, but the competitive pricing aspect of bidding is lost. More responsibility for checking prices is put on the Construction Specialist under this second option. (Competitive bidding is discussed in more detail in Step 31.)

*Development Director, Construction Specialist*

- 27.2. Use a follow-up memo** to the members of the Development Team setting these decisions in writing.

*Development Director*

- 27.3. Modify the Master Project Schedule** by entering in activities and milestones related to contracting mode and bidding format.

*Construction Specialist*

### ● Execution Variables

- Depending on the organization's experience, work load, etc., and on the financial feasibility of the project, some shops may choose a more "hands on" contracting mode than hiring a general contractor. This could be choosing a major subcontractor who will bid out certain trades to other subcontractors while having some trades directly bid and managed by the Construction Specialist. Other options include:
  - ▶ Having all subcontractors bid separately;
  - ▶ Using in-house labor forces; or
  - ▶ Using sweat equity in conjunction with subcontractors.
- The above list represents a progression in difficulty of execution and intensity of management. Such options should usually be avoided. The number of units the program will be able to produce will be severely restricted if one of these alternative contracting modes is chosen.

### ● Risk Control Variables

- As nonstandard contracting modes and bidding procedures are selected, the risk to the organization increases. The more direct responsibility taken for more areas of implementation, the greater the risk. Not only does the general contractor method described above (whether bid or negotiated) provide for the most production capacity for the organization, it is also the least risky.
- Open bidding without prequalification is sometimes selected or required. This can lead to difficult situations where the low bidder is judged undesirable or unreliable, based on references but, for political or other reasons, it becomes difficult not to use the company.



## *Stage: Design Development*

Since the schematic design was formally adopted by the Development Team in the last stage, the process can move into the Design Development Stage in which detailed working drawings are developed.

The Design Schedule, developed and monitored in the previous stage, continues to be updated and monitored as is the Master Project Schedule. In addition, the Preliminary Construction Schedule is now developed.

As design details become available, the Preliminary Construction Estimate continues to be refined. It has been general in nature up to this point. It begins now to take on a level of detail approaching a final estimate and by the end of the Design Development Stage, is refined enough to be called simply the Construction Estimate. Along with the more accurate figures for the design costs, financing costs and other soft costs, the Construction Estimate is incorporated into the Master Project Budget.

It is very important that the Construction Specialist be aware of changing costs in areas outside of the actual construction costs such as marketing or financing. The Construction Specialist is also forewarned to keep the design under control or face pressure later to develop lower actual construction costs. The construction line item is the largest in the budget and typically where the most pressure is brought to bear to keep the project within budget.

Having defined the contracting and bidding modes, the Construction Specialist can now move to qualifying contractors in order to develop the contractor bid list.

## Step 28: Develop Detailed Working Drawings/Site Plan

Information from a number of engineers (e.g., electrical, mechanical, structural, civil) is fed to the Architect in developing the detailed working drawings. For example, tests may be required to develop the site plan or determine structural or mechanical deficiencies of a building. The result of these efforts is the final site plan and/or working drawings for the project.

### ☐ Work Tasks

**28.1. Give the go-ahead for consultants/subcontractors** to perform the necessary tests for detailed engineering (structural or mechanical) and contract for those services, either within or outside the Architect's contract.

*Construction Specialist, Architect*

**28.2. Monitor the information/products from these consultants/subcontractors** whether or not they are commissioned by the Architect.

*Construction Specialist*

**28.3. Immediately flag for the Development Team any "bad news"** that could jeopardize project feasibility -- such as extensive termite damage, poor soils, etc.

*Construction Specialist*

**28.4. Monitor the development of the Detailed Working Drawings.**

*Construction Specialist*

- 28.5. **Convene the Development Team** for periodic review of the Detailed Working Drawings as they are developed, culminating in final approval.

*Construction Specialist, Project Manager*

## Step 29: Develop Preliminary Construction Schedule

The chart or diagram developed as the Preliminary Construction Schedule enables the Construction Specialist to estimate the time needed for the construction activity and provides data to refine the Master Project Schedule. The best construction scheduling begins with a precedence sequencing model such as the Critical Path Method (CPM) which shows the logical sequence and duration of activities.

CPM and similar systems are complex scheduling models. Basically, they reduce a complex project into its component activities or events that need to be completed, then order them into a logical sequence, and finally assign a time duration to each activity. The sequence of critical activities, which must occur in a precise order, becomes the critical path. The sum of the time durations of these critical activities equals the estimated duration of the project. A full discussion of these techniques goes beyond the scope of this manual; however, several resources that would be helpful are: *Means Scheduling Manual*, by F. William Horsley (R.S. Means Co., Inc.) and *Construction Scheduling Simplified*, by Anthony L. Dannone and Andrew M. Civitello, Jr. (Prentice-Hall, Inc.).

## ☐ Work Tasks

- 29.1. Break down the overall construction** into a logical number of activities. Use a precedence scheduling system, such as Critical Path Method (CPM), to determine the critical path and the sequence of activities. This includes identifying time durations for all activities.

*Construction Specialist, Architect*

- 29.2. Determine milestones** (e.g., close, in, inspections, substantial completion, etc.) and identify approximately when each one will occur within the sequence of activities.

*Construction Specialist, Architect*

- 29.3. Modify the Master Project Schedule** after the overall construction period has been determined.

*Construction Specialist, Architect*

## ☐ Other Considerations

- While CPM (or another sequence model) is probably the most accurate way to diagram a construction project, it is not easily understood. Even when used, the CPM schedule should also be converted to a Gantt (bar) chart, which is more generally accepted and understandable by project managers, funders, etc. However, modifications to the schedule should first be worked through the CPM diagram before changing the Gantt chart because the CPM diagram more accurately indicates the relationships between activities.
- Consulting companies also can develop CPM and bar chart schedules. If the timing of the project is critical and/or the Construction Specialist lacks experience, this is a viable alternative. However, this service is costly and therefore not generally recommended except when it incorporates staff training.
- It is very important that the Construction Schedule not be artificially modified to "fit into" the Master Project Schedule. This would be self-defeating in terms of time management.

## Step 30: Make a Detailed Construction Estimate

The completion of the detailed working drawings enables much more refined cost estimating and the construction estimate can begin to be put into detailed final form. This may be the task of the Construction Specialist, a consultant estimator or Architect. Unless the Architect has an excellent track record in estimating, it is preferable to have "another eye" look at the project and determine the final estimate. In this manual, we assume the Construction Specialist has mastered this critical skill; however, *Means Unit Price Estimating*, by R.S. Means Co., Inc., provides detailed information on using the Means Estimating System. Many other resources are available on this topic.

### ■ Work Tasks

- 30.1. Develop the format to make an estimate** by trade, subtrade and activity (see Example 22, "Consolidated Cost Estimate Form," repeated as Addendum 17).

*Construction Specialist*

- 30.2. Perform a quantity takeoff** from the detailed working drawings. This task involves measuring the quantities of the various materials necessary to build the project off of the drawings (i.e., cubic yards of concrete, lineal feet of exterior framing, square feet of drywall, etc.).

*Construction Specialist*

- 30.3. Apply unit-cost figures** to the quantities and extend for total cost. Historical costs, that is, costs incurred on similar projects in the same

general location, are preferable. If they are unavailable, a reputable source such as **Means Repair and Remodeling Cost Data** (R.S. Means Co., Inc.) and **Home-Tech Remodeling and Renovation Cost Estimator** (Henry Reynolds, Ed., Home-Tech Publications), both of which are updated annually, can be used. Remember to adjust for local cost factors.

*Construction Specialist*

**30.4. Reduce the contingency from 20 percent to 15 percent.** This is acceptable due to the more refined nature of the estimate.

*Construction Specialist*

☉ **Execution Variables**

- Some good architects are bad estimators and should not be employed as such.

☉ **Risk Control Variables**

- On difficult or "strange" projects, consultants should be used to provide more detailed and accurate estimates. The cost of their services must be added to the overall project costs.





## Step 31: Qualify Contractors and Develop Bid List

**In this step we select from the universe of contractors those capable and experienced in the type and scale of work being developed. The goal is to develop a short list of contractors who are qualified to build the project so the competitive bidding can be clearly confined to price. See Step 10 for a detailed discussion of setting up a system to qualify and recruit contractors.**

**It is assumed that the Construction Specialist will be the "owner's representative" on the construction job for the life of the project. Therefore, it is critical that the Construction Specialist has the lead responsibility for selecting the contractor for the project, obviously with consultation and consensus from the Development Team.**

### ● Work Tasks

- 31.1. Prepare a list of suitable contractors to be invited to submit a bid, if this was not already done in the Program Planning Stage.**

*Construction Specialist*

- 31.2. Prepare packets of information to be distributed to suitable contractors. Include a brief description of the project, an AIA document #A305, "Contractor's Qualification Statement" (see Example 23, and Addendum 18 for complete document), any documentation of other procedures determined in Step 10, and a cover letter. The letter should include a deadline for returning the form. This procedure is recommended in advance of sending out bid packages.**

*Construction Specialist*

**31.3. Mail the packet of materials to each contractor on the list.**

*Construction Specialist*

**31.4. Evaluate the responses.** Check selected financial, customer and trade references for each contractor.

*Construction Specialist*

**31.5. Develop a protocol** for interviewing the contractors. (See Example 24 and Addendum 19, "Goals and Objectives of the Contractor Interview," for a typical interview format).

*Construction Specialist*

**31.6. Conduct interviews** with the most qualified respondents.

*Construction Specialist*

**EXAMPLE 23: CONTRACTOR'S QUALIFICATION STATEMENT**

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AIA Document A305

**Contractor's Qualification Statement**  
1986 EDITION

*This form is approved and recommended by The American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by the AIA or AGC.*

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

SAMPLE

- Corporation
- Partnership
- Individual
- Joint Venture
- Other

NAME OF PROJECT (if applicable):

TYPE OF WORK (file separate form for each Classification of Work):

- \_\_\_\_\_ General Construction
- \_\_\_\_\_ Plumbing
- \_\_\_\_\_ Other \_\_\_\_\_
- \_\_\_\_\_ HVAC
- \_\_\_\_\_ Electrical

(please specify)

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**EXAMPLE 24: GOALS AND OBJECTIVES OF THE  
CONTRACTOR INTERVIEW**

GOAL #1.           GATHER RELEVANT INFORMATION FROM EACH PROSPECTIVE  
CONTRACTOR

OBJECTIVE a.)       Determine contractor's scope of experience in  
projects similar in size and scope to the one  
proposed.

OBJECTIVE b.)       Assess contractor's ability to operate a  
successful business.

OBJECTIVE c.)       Determine contractor's organizational and  
financial capabilities.

GOAL #2.           GIVE PROSPECTIVE CONTRACTORS INFORMATION ABOUT THE  
PROGRAM

OBJECTIVE a.)       Explain program procedures and requirements.

**31.7. Establish your final bid list based on the results of the interview process.***Construction Specialist***☉ Execution Variables**

- In a "fast track" project, this step may be performed solely for the purpose of selecting the contractor with whom you intend to negotiate the contract. If so, you will state so in your invitation cover letter.
- If the "Contractor's Qualification Statement" is used as part of the bid package, you will be required to sift through bids from contractors who are not qualified.
- Selecting a contractor is sometimes handled more informally with the Construction Specialist conducting interviews with a select group of contractors. If this approach is used, it is recommended that clear criteria be developed prior to the interviews.
- Sometimes the Architect performs all the bidding functions. This is not recommended in a high-production shop, since much control over the project is lost if the Architect recruits and selects the contractor.

**☉ Risk Control Variables**

- The purpose of this effort is to minimize the risk of having an unqualified contractor build the project. More involved processes such as identifying and interviewing the prospective superintendent, requiring audited financial statements, and more in-depth investigation of the contractor's track record are generally not considered cost effective. They may, however, be required by some funders.

**☉ Other Considerations**

- Not all of the contractors within this "short list" will prove to be equally competent, but the Construction Specialist should be confident of being able to work with any of them.

## *Stage: Contract Documents*

This is the stage during which final decisions are arrived at and the last details are completed in preparation for bidding, financial closing, and construction. From a planning perspective, time schedules and budgets are reaching their final form. What had initially been a vision is now becoming a reality with the final pieces coming together.

An important action to be taken during this stage is organizing the plans and specifications into contract documents. This includes making final decisions regarding contract form, risk control measures, and other particulars, such as payments and retainage policies, usually included as "General Conditions." This is also the time for clearing administrative hurdles such as obtaining building permits, submitting documents for funders' review, and determining escrow arrangements. In general, the pace of construction management activity within the organization accelerates.

As the preceding Design Stage was coming to a close, the Design Schedule was closed out and corrections made to the Master Schedule. The Construction Schedule is now updated and incorporated into the Master Project Schedule. One new schedule is added: the Marketing Schedule based on the Marketing Plan. This is typically not the responsibility of the Construction Specialist and will only be briefly addressed here. However, the Construction Specialist must be familiar with the plan and schedule for occupying the units since most nonprofits are involved with this activity.

## Step 32: Develop Marketing Plan and Schedule

**The Marketing Plan and Schedule is developed and implemented to insure the timely occupancy of the project under development. Immediate occupancy will avoid expensive carrying costs and the possibility of vandalism in vacant units. This requires coordination between those responsible for the Construction Schedule and Marketing Schedule.**

### ☐ Work Tasks

- 32.1. Obtain the Marketing Plan and Schedule** and update it periodically in collaboration with the Development Team member responsible for developing and implementing it.

*Construction Specialist*

- 32.2. Adjust the Preliminary Construction Schedule** to include special dates or deadlines such as ground-breaking, dedication, financial commitment deadlines, or other events contained in the Marketing Schedule. These may create constraints on the Construction Schedule.

*Construction Specialist*

- 32.3. Monitor the progress in implementing the Marketing Plan** at Project Review Meetings, making input to assure the Marketing Schedule remains compatible with the Construction Schedule.

*Construction Specialist*

### ☐ Execution Variables

- Use a real estate firm to market the units, instead of an in-house department.

■ **Risk Control Variables**

- On a direct sales project, if a real estate firm experienced in low-income housing can be hired to implement the Marketing Plan it can reduce the risk of a lack of occupants. However, most real estate firms do not understand the difficulties of underwriting mortgages for low-income people and may not be able to deliver the desired result. The fees paid to the real estate firm can also be difficult to support within the Project Budget.



## Step 33: Review/Revise Contract Requirements

In developing the Construction Contract, a number of issues concerning risk control must be resolved. They include: the amount of the contractor's liability insurance; bonding versus irrevocable letter of credit; the amount of retainage of contractor's fees; and the contract form to be used. These decisions become part of the contract signed by the contractor. (See the Program Planning Stage, Steps 10-12, for a detailed discussion of these issues.)

### ■ Work Tasks

- 33.1. Review the contents of the Standard Contract form** (see Example 25 and Addendum 20, "Construction Contract," and Addendum 6, "Typical General Conditions") previously decided upon by the program and make necessary modifications.

*Construction Specialist*

- 33.2. Review insurance requirement decisions.** Revise as necessary.

*Development Director, Construction Specialist*

- 33.3. Decide on a method of performance guarantee** (bonding versus irrevocable letter of credit) after reviewing funders' requirements, scale, and scope of the project and costs.

*Development Director, Construction Specialist*

- 33.4. Review decision on the use of Releases of Liens** and take appropriate action.

*Development Director, Construction Specialist*

- 33.5. Approve the appropriate contract form.**

*Development Director, Construction Specialist*

**EXAMPLE 25: CONSTRUCTION CONTRACT**

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AIA Document A101

## Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a

STIPULATED SUM

1987 EDITION

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.*

*The 1987 Edition of AIA Document A201, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.*

This document has been approved and endorsed by The Associated General Contractors of America

**AGREEMENT**

made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year of  
Nineteen Hundred and \_\_\_\_\_

**BETWEEN** the Owner:  
(Name and address)

and the Contractor:  
(Name and address)

The Project is:  
(Name and location)

The Architect is:  
(Name and address)

The Owner and Contractor agree as set forth below.

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A101-1987 1

## Step 34: Finalize the Construction Estimate and Project Budget

The Detailed Construction Estimate is upgraded during this stage to the status of a Final Construction Estimate by making it complete in scope, current in costs, and accurate in reflecting the anticipated total cost of construction. At this stage, the Construction Estimate is often used to determine the exact amount of financing requested. Accuracy is all-important and so is establishing an adequate contingency, one which provides satisfactory comfort to the Construction Specialist, given the sense of risk.

### ■ Work Tasks

- 34.1. Make a final review of the construction estimate** compared to the final design. Add any last-minute items not previously included.

*Construction Specialist*

- 34.2. Verify and finalize all new or questionable cost figures.**

*Construction Specialist*

- 34.3. Add an 8- to 10-percent contingency** depending on the number and extent of cost approximations and unknown conditions still included in the project.

*Construction Specialist*

- 34.4. Review the change-order procedures** for this project to determine if they should vary from standard. It is a good idea to separate areas that are considered "necessary," such as unforeseen conditions or code-required

changes, from "wish list" items such as site improvement upgrades. It should be clear that "wish list" items will only be approved late in the game, **if**, for example, the contingency is still available.

*Development Director, Project Manager, Construction Specialist*

**34.5. Provide copies** of the Final Construction Estimate to the Development Team.

*Construction Specialist*

**34.6. Prepare a Final Development Budget.**

*Project Manager*

**34.7. Review the Final Development Budget** with the Development Team and check for accuracy and completeness.

*Project Manager*

**34.8. Approve the Development Budget** so that it becomes the Final Project Budget.

*Development Director*

● **Execution Variables**

- If the project is to be a negotiated contract, the contractor will already have been selected. In this case some or all of the final estimate will be performed by the contractor in what amounts to his bid. This does not relieve the Construction Specialist from his or her responsibility to independently verify, and then negotiate, if necessary, the contractor's cost figures.
- If a funder or funders require federal wage rates on the job, the Final Construction Estimate must reflect this fact.

● **Risk Control Variables**

- The higher the level of investigation by the Construction Specialist, the higher the degree of accuracy (and the lower the contingency budget) that should result. However, the degree of accuracy has its cost both in the Construction Specialists time and the cost of engineers and other

consultants. The decision to allocate more resources to achieve greater accuracy is dependent on the level of financial risk involved and the margin of safety between feasibility and the perceived sense of risk. This is a judgement that must be developed. Building on a contingency of 8-10 percent generally sets the appropriate balance. If accuracy is in question, the contingency must be higher.

## Step 35: Set Up Cash Flow Schedule

The Cash Flow Schedule is developed to estimate and schedule cash outlays of the project by time periods. It is particularly important on projects with multi-sources of construction financing to determine if enough funds will be available at the right times. This step should be done simultaneously with the previous step in order to determine the costs of construction period interest.

### ● Work Tasks

**35.1. Establish a spreadsheet**, computerized if possible, with columns used for time periods by months, and lines used for cost categories (see Example 26, "Typical Cash Flow Schedule").

*Project Manager*

**35.2. Estimate the cash needs for each month**, by category, based on the Final Project Budget. Pay special attention to the Final Construction Estimate as the largest component of the budget. The Final Construction Schedule, in combination with the Construction Estimate, is the source of information about the amount of cash needed to meet the requirements of each time period.

*Project Manager*

**35.3. Total each column and apply the established interest cost per month** for borrowing these funds. This is the projected Cash Flow for the project. The total of all columns should equal the Final Project Budget including the interest line item.

*Project Manager*

35.4. **Verify that the financial arrangements** for the project are capable of meeting these cash needs.

*Project Manager*

● **Execution Variables**

- Sometimes this projection is performed by the Accounting Department based on raw data from the Project Manager and Construction Specialist. Whoever performs must be well versed in cash flow projections.
- The cash flow schedule may also include a cumulative balance, arrived at by adding one month's cash flow to the next and maintaining a running balance; and including deductions for revenue received as the project comes on line and begins producing income.

## EXAMPLE 26: TYPICAL CASH FLOW SCHEDULE

## MODEL CASH FLOW SCHEDULE 30 UNIT PROJECT (SIMPLIFIED)

ITEM	PER UNIT	TOTAL PACKAGE	1 JAN 89	2 FEB 89	3 MAR 89	4 APR 89	5 MAY 89	6 JUNE 89	7 JULY 89	8 AUG 89	9 SEPT 89	10 OCT 89	11 NOV 89	TOTAL
<b>SOURCES:</b>														
EQUITY	333	10,000	10,000											10,000
AGENCY	25,000	750,000	50,000	30,000			12,000	166,000	185,000	260,000	47,000			750,000
BANK	25,747	772,400									212,300	184,300	220,000	616,600
<b>TOTAL SOURCES</b>	<b>51,080</b>	<b>1,532,400</b>	<b>60,000</b>	<b>30,000</b>			<b>12,000</b>	<b>166,000</b>	<b>185,000</b>	<b>260,000</b>	<b>259,300</b>	<b>184,300</b>	<b>220,000</b>	<b>1,376,600</b>
<b>USES:</b>														
<b>ACQ. COSTS:</b>														
LAND	1,000	30,000		30,000										30,000
<b>CONST COSTS:</b>														
CONST	35,000	1,050,000						100,000	175,000	250,000	250,000	175,000	100,000	1,050,000
CONT.	5,250	157,500												0
BOND	1,750	51,500						21,500						51,500
<b>DEV. COSTS:</b>														
RAE	700	21,000	5,250				8,400	3,150	700	700	700	700	1,400	21,000
CONST. MAN.	1,000	30,000						5,000	5,000	5,000	5,000	5,000	5,000	30,000
HOLDING	180	5,400			600	600	600	600	600	600	600	600	600	5,400
INS./BUILDERS RISK	700	21,000						21,000						21,000
LEGAL	200	6,000		3,000			1,500						1,500	6,000
APPRAISAL	100	3,000	1,000										2,000	3,000
TITLE INS.	150	4,500		4,500										4,500
SURVEY	150	4,500	1,500					1,500					1,500	4,500
DEV. FEE	2,000	60,000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	2,000	2,000	30,000	60,000
RECORD. FEE	200	6,000		6,000										6,000
TRAN. TAX	200	6,000		6,000										6,000
LOAN COSTS	700	21,000					21,000							21,000
CONST INT.	1,500	45,000											75,000	75,000
<b>TOTAL USES</b>	<b>51,080</b>	<b>1,532,400</b>	<b>1,750</b>	<b>52,500</b>	<b>3,600</b>	<b>2,600</b>	<b>34,500</b>	<b>165,750</b>	<b>184,300</b>	<b>253,300</b>	<b>259,300</b>	<b>184,300</b>	<b>220,000</b>	<b>1,374,900</b>
<b>NET SURPLUS (DEFICIT)</b>			<b>52,250</b>	<b>-22,500</b>	<b>-3,600</b>	<b>-3,600</b>	<b>-22,500</b>	<b>250</b>	<b>700</b>	<b>700</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>CUM SURPLUS (DEFICIT)</b>			<b>52,250</b>	<b>29,750</b>	<b>26,150</b>	<b>22,550</b>	<b>50</b>	<b>300</b>	<b>1,000</b>	<b>1,700</b>	<b>1,700</b>	<b>1,700</b>	<b>1,700</b>	

NOTE 1: CONTINGENCY NOT CALCULATED

NOTE 2: CONSTRUCTION INTEREST DEFERRED TO END OF JOB



## Step 36: Obtain Zoning Approvals and Building Permits

The local building authorities, by issuing building permits and (if necessary) zoning approvals, signify their approval of the final project design and grant permission to build. It is recommended that the Architect be responsible for these approvals with monitoring by the Project Manager and Construction Specialist.

### ☐ Work Tasks

- 36.1. Review and be thoroughly familiar with the building permit application approval processes.** Identify one or two individuals from the local building or zoning authority involved in the process, who are knowledgeable and in a position to help. If it becomes necessary to expedite the process it is useful to know how to contact them. At that point a diplomatic effort can be made to enlist their support in accelerating the process.

*Construction Specialist*

- 36.2. Apply for, and receive, any zoning approvals or variances required to construct the project.**

*Architect*

- 36.3. Monitor and assist with the zoning approval process.**

*Project Manager*

- 36.4. File a complete building permit application or multiple applications and all construction documents with local building authorities.**

*Architect*

● **Execution Variables**

- In higher-production shops, it is assumed that the Construction Specialist is obtaining permits. However, on either very small projects, or ones that are complex in design, the contractor or the architect should obtain the permits.
- If major problems arise, the Construction Specialist must be a part of the negotiations. The Architect should not make major changes without the Construction Specialist's approval.

● **Risk Control Variables**

- The schematic design should have been reviewed and accepted by an official in the local building authority during the Design Development Stage. All decisions or concessions made by the official should have been confirmed in writing at that time. A "paper trail" should exist so the project does not get entangled in red tape when applying for the building permits.

### Step 37: Obtain Formal Clearance from All Funding Sources

The final project design should be submitted to all appropriate local government funding agencies and private lenders along with a letter of transmittal requesting formal approval or, at the very least, tacit approval.

#### ☐ Work Tasks

**37.1. Submit project documents** to appropriate government funding agencies for a formal review.

*Project Manager*

**37.2. Contact involved banks and foundations** regarding their needs to approve the plans. They should receive at least a courtesy copy of the Architectural drawings and specifications. A follow-up should occur to see if they have any questions or concerns. A file copy of a letter of transmittal provides the documentation to settle any later challenge as to whether or not these organizations had an opportunity to review the design.

*Project Manager*

**37.3. Review Construction Loan Agreements** to make sure the terms do not contradict plans, contract forms, and procedures decided upon. Negotiate differences.

*Project Manager*

**37.4. Make sure the documents are properly referenced in the Construction Loan Agreement** attached to loans or grants. These are normally

"boilerplate," standardized documents that can be obtained well in advance of loan closings. Sometimes this is called the "Building Loan Agreement."

*Project Manager*

## Step 38: Negotiate Escrow Agreement(s)

An escrow agreement should be executed between the program and funding source(s). It identifies the amount and location of the funds for construction, and the procedures for release for payments. It might be called a Loan Escrow Agreement, an Inter-Lender Agreement or it could be part of the Construction Loan Agreement (see Example 27, "Typical Loan Escrow Agreement," and Addendum 21 for full document). The Construction Specialist must know the mechanics of these procedures to avoid delays in payments to the contractor and the resulting ill will.

### ☐ Work Tasks

- 38.1. Review the proposed Escrow Agreement prior to closing.** This review should take place far enough in advance of the closing for the Construction Specialist to effect any last-minute negotiations.

*Project Manager, Construction Specialist*

- 38.2. Develop a funding utilization or "earmarking" schedule** for the agreement if it involves multiple funding sources. Present this to the Development Team for approval. Here, sources of funds are linked to project uses. The schedule should establish, as policy, the use of low interest or grant funds first, followed by the use of higher interest-bearing money. Also, some funds may be restricted to certain uses by regulation, law, or contract.

*Project Manager*

- 38.3. Become thoroughly familiar with the contractor payment procedures in the agreement** to be followed throughout the life of the project and

monitor this process. At this point, you may have to modify your "ideal" process to match funder requirements. The following issues must be clarified for this process to be effective:

- **Know** whose signatures are required on the application for payment in order for it to be processed.
- **Negotiate** the required number of inspectors to be no more than three.
- **Know** the procedure for inspection and review and exactly what happens to the application after it is signed.
- **Know** exactly how long it is supposed to take for a signed application to be processed by the Escrow Agent (typically the bank holding the funds and sending the checks).
- **Intervene** at any point necessary to ensure a smooth cycle.

*Construction Specialist*

**38.4. Develop a schedule that will allow the Construction Specialist to pay the contractor as rapidly as possible, e.g., by the 10th of the month following the application for payment. Determine:**

- **When** the application for payment should be submitted by the contractor
- **When** the work will be inspected
- **When** the application should be signed by the inspectors and others
- **How** long it takes for the Escrow Agent to process the application, issue and mail the checks.

On the basis of these determinations set up the schedule to ensure that the application for payment is submitted on the same day each month and all the subsequent steps are taken in rapid order.

*Construction Specialist*

## ● Execution Variables

- Sometimes funders on multi-funded projects have separate escrow agreements. This is a dangerous practice that almost always leads to contradiction and conflicts. However, if this occurs, the Project Manager and Construction Specialist should make every effort to "harmonize" the agreements.
- In cases where there are two or more escrow accounts, all of the same steps apply. However, additional care needs to be taken so that a) there is no duplication of payments, and b) unnecessarily long processing time does not occur due to cumbersome government control procedures.
- In some cases, the project developer will have access to its own funds or other funds not controlled by escrow agreement. While this may have some benefits to the developer, it requires extremely high discipline to make sure the funds are reserved and spent for the required line items.
- In owner/general contractor projects, the owner/developer must have immediate access to working capital necessary to meet cash flow requirements. This must either be obtained from cash, some funding source, or freed up by the escrow agreement. Lenders rarely advance working cash from a real estate loan to profit-motivated developers, but they sometimes will do it for a nonprofit group. However, the best practice is to have a working capital loan or grant source.

**EXAMPLE 27: TYPICAL LOAN ESCROW AGREEMENT**

Introduction

This is an agreement between the borrower or grantee ("Borrower") and the lender(s) and/or grantor(s) described below ("Lenders") with regard to the project known as

\_\_\_\_\_ in \_\_\_\_\_  
 \_\_\_\_\_ ("The Project"). This agreement:

- a) Governs the disbursement and use of the grant(s) and/or loan(s) described below, and
  - b) Establishes certain responsibilities of Borrower for the management of the construction and development of the Project.
- A. **SCOPE OF AGREEMENT:** This agreement governs the use of all sources of funds for the Project described in the project budget and construction budget (attachments A and B, the "Budgets"). The sources may include some that are not parties to this agreement.

B. **PARTIES TO AGREEMENT AND DESCRIPTION OF SOURCES OF FUNDS:**

<u>Source #</u>	<u>Grantor/Lender</u>	<u>Fund Description</u>	<u>Amount</u>
1.			
2.			
3.			

- C. **LOAN SETTLEMENTS:** All Lenders will settle loans and/or grant contracts simultaneously.
- D. **EVIDENCE OF FUNDS AVAILABLE:** Prior to closing, Borrower will provide satisfactory evidence to Lenders of the receipt of, or firm commitments for, all budgeted sources of funds. Such commitments shall be unconditional and state the time and manner in which funds will be received.
- E. **FUND DISBURSEMENT:** The Lenders will disburse funds to the escrow account on the following dates or according to the following schedule:

Source #1: \_\_\_\_\_



## *Stage: Bidding*

As all design efforts were finalized during the Contract Documents stage, all activities aimed at identifying the contractor become the focus during the Bidding stage. What is to be built has been decided. Who is going to build it, and at what price, are now the issues. This is a pivotal stage but, if all the steps which preceded it have been completed, the process should advance smoothly without any surprises. Typically, the financial side of the project is also now approaching its conclusion at the closing. Many funders, prior to closing, require firm bids or actual contracts showing an adequate contingency.

All changes to the Master Project Schedule involving the Construction Schedule should be incorporated and deadlines confirmed. A bidding and award schedule must be developed to conform to the closing schedule. There is often pressure to carry out the bidding process quickly, but sufficient time must be allotted to conduct the bidding and to negotiate the contract. All the effort put into reducing costs in the construction line item or items could be wasted by not scheduling enough time to bargain with the contractor.

The bidding process is a central concern in the area of cost management. All estimating to this point has been an attempt to predict what the bids will be. If the integrity of the Development Budget is to be maintained, bids must be submitted within the limits established by the Construction Budget. If the bids turn out to be higher than estimated and cannot be negotiated to be lower, the predictions were in error and the Master Budget must be revised.

It is very important that competitive bidding be conducted according to accepted protocol. All facets of the process must be open and aboveboard to avoid the exercise or appearance of favoritism.

## Step 39: Establish Bidding and Award Schedule

**This schedule will establish the time frame within which to conduct the bidding, negotiate the contract, and coordinate with the proposed closing date. As stated previously, it is recommended that the Construction Specialist direct the bidding process for the purpose of cost containment, time management and tighter control of the product.**

### ☐ Work Tasks

- 39.1. Identify the day you will distribute bid packages.** Where necessary, allow time to notify bidders of the date selected.

*Construction Specialist*

- 39.2. Establish the length of the bidding period, i.e., the amount of time the bidders will need to develop their bids.** Two to three weeks is usually adequate.

*Construction Specialist*

- 39.3. Establish the date when the formal bids are due.** Unless changed by addendum, this day and time are absolute.

*Construction Specialist*

- 39.4. Set a day for a formal Pre-Bid Meeting** (discussed below) and a walk-through of the property near the beginning of the bidding period. Informal walk-throughs are at the discretion of the Construction Specialist but must be available to all the contractors if done for one.

*Construction Specialist*

- 39.5. Schedule two to three days to analyze the bids.**

*Construction Specialist*

- 39.6. Schedule at least two weeks to negotiate** with the apparently successful bidder.

*Construction Specialist*

- 39.7. Schedule three to five days for the contractor** to review and sign the final contract.

*Construction Specialist*

- 39.8. Schedule these activities with calendar dates** as the milestones of the bidding process, such as walk-through, bid date, and contract signing. Advise the Development Team, especially the Project Manager.

*Construction Specialist*

- 39.9. Distribute the bid packages** and conduct the bidding, contract negotiations, and signing with strict adherence to this schedule.

*Construction Specialist*

☐ **Execution Variables**

- The bidding process is sometimes carried out by the Architect, instead of the Construction Specialist.
- Government regulations and/or your own organizational goals may require special outreach to minority contractors and/or female contractors. Be sure to adhere to these requirements. At this point, to have the outcome of the bidding challenged could bring the project to a halt for a long time and potentially kill it.
- Negotiated bids may be handled far more informally; however, the basic schedule remains the same. With negotiated bids, the minority requirements are established during the selection of the bidder.

☐ **Other Considerations**

- The Architect should always be available to answer technical questions about the design or the property and assist in analyzing the bids.

## Step 40: Send Invitations to Bid

The purpose of the Invitation to Bid is to establish the ground rules and provide other information to bidders concerning how the bidding process is to be conducted. Basically, the Invitation to Bid consists of two parts: 1) a narrative covering the requirements and process, and 2) the format which provides the basis for comparing competing bids. (See Example 28, "Invitation to Bid.")

### ● Work Tasks

- 40.1. Prepare the narrative part of the invitation** including dates and deadlines, procedures for getting answers to questions, insurance and bonding requirements, general conditions, special bidding conditions required by funding agencies, other forms required, and other information which pertains to bidding on the project. These are discussed in Step 10.

*Construction Specialist*

- 40.2. Prepare a Bid Proposal form** showing the detail in which the bidders are expected to submit their bids (see Example 29, "Bid Proposal Form," and Addendum 22 for a complete form). Typically, this form includes a price breakdown by trade, a total bid price, spaces for alternate bids, and spaces for required unit pricing.

*Construction Specialist*

- 40.3. Include all required forms** which must be completed and returned with the bids. It must be clear from the narrative which forms are required with the bids and that incomplete bids will be rejected.

*Construction Specialist*

- 40.4. Send a form letter to preselected bidders** informing them the bid packages are available and the date and time of the pre-bid meeting.

*Construction Specialist*

● **Execution Variables**

- If bidders have not been preselected, efforts to inform the local contracting community may include: advertising in the local papers; sending letters to a larger list of possible bidders; and providing plans to local bidding services such as Dodge or Blue centers. These services provide access and space to members of the service to review and bid on project plans. They are particularly useful in locating prospective subcontractors. The Construction Specialist may want to provide these services with the bid packages even if the general contractor bidders have been preapproved. This will increase the level of competition among subcontractors submitting bids to the general contractors.

● **Risk Control Variables**

- It is highly recommended the process of preselecting contractors and bidding within this closed list be used. A general Invitation to Bid runs the risk of receiving low bids which may be drastic attempts by weaker contractors to stay in business by bidding work with which they are unfamiliar. The Construction Specialist can then be forced into the situation of accepting a risky contractor who submitted the lowest bid.

**EXAMPLE 28: INVITATION TO BID**

Notice is given hereby that

HIGHVIEW COMMUNITY DEVELOPMENT CORPORATION

will accept bids for construction of

HIGHVIEW TOWNHOMES

according to Drawings and Specifications prepared by Acme Architects, Inc., and described in general as:

Twenty-eight, two-story townhouse units in two blocks with block and tie-beam construction, truss roofs, wood stud with drywall interiors plus site development with grading, asphalt paving, and landscaping.

Sealed bids will be received at the office of the Architect until:

Wednesday, November 30, 1988 at 2:00 PM

Bids will be opened and read aloud at that time and that place. Bids received after that time will not be accepted. Interested parties are invited to attend.

Proposed Contract Documents may be examined at:

Plan Room

Acme Architects

123 West Fourth Street

Hometown, USA

Plan Room

Daily Atlantic Builder

2450 17th Street

Hometown, USA

Bonafide general contract bidders may secure copies of the proposed Contract Documents from the office of the Architect on the following basis:

1. Two copies of the Project Manual, including Specifications, plus two sets of prints of the Drawings, upon payment of \$50 deposit, completely refundable if both sets are returned to the Architect, postpaid, in satisfactory condition, within five calendar days after bid opening.
2. Additional copies of the Project Manual, including Specifications, plus additional sets of prints of the Drawings, upon payment of \$25 per set, nonrefundable.
3. No partial sets will be issued.

The Owner reserves the right to reject any of all bids and to waive irregularity in the bids and in the bidding.

## EXAMPLE 29: BID PROPOSAL FORM

TO: \_\_\_\_\_  
 hereinafter called "Owner"

1. The undersigned, having examined the proposed Contract Documents titled:
 

and having visited the site and examined the conditions affecting the Work, hereby proposes and agrees to furnish all labor, materials, equipment, and appliances, and to perform operations necessary to complete the Work as required by said proposed Contract Documents, for that portion of the Work identified as "Base Bid," for the stipulated sum of \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
2. Should the Owner decide to proceed with the portion of the Work identified as "Alternative No. 1," add to the Base Bid amount stated above the sum of \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
3. Should the Owner decide to proceed with the portion of the Work identified as "Alternative No. 2," add to the Base Bid amount stated above the sum of \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
4. Should the Owner elect to proceed with additional work, the undersigned proposes the following unit prices.
  - A. Partitions:
    1. Unit price per 100 lin ft of partition: \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
    2. Unit price for each additional lin ft of partition: \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
  - B. Doors:
    1. Interior door type 1:
      - a. Total unit price for four such doors: \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).

## Step 41: Conduct Pre-Bid Meeting

The pre-bid meeting provides an opportunity to clarify procedures for bidding and to answer general questions. The pre-bid meeting is also often used in combination with a walk-through of the project.

### ● Work Tasks

- 41.1. Verify that the date and time for the pre-bid meeting was stated in the Invitation to Bid.**

*Construction Specialist*

- 41.2. Prepare an agenda** which schedules time to review the information contained in the General Conditions and the Invitation to Bid. Arrange to have the Architect attend the meeting prepared to answer all technical questions raised by the contractors.

*Construction Specialist*

- 41.3. Begin the meeting on time.** Distribute the agenda and follow it. Be brief on each point but allow time for questions and answers. Circulate a sign-in sheet.

*Construction Specialist*

- 41.4. Conduct a tour of the project site.** Be candid in answering all questions. Note any follow-up needed to answer contractors' questions. Take whatever time is necessary to ensure that all bidders are satisfied they have had opportunity to inspect the project site.

*Construction Specialist*

- 41.5. Follow up with written responses** to all bidders concerning any significant questions raised during the meeting.

*Construction Specialist*



## Step 42: Develop Bid Addenda

**Bid addenda modify bid documents to clarify any issue affecting the scope of the project including specifications, time frames, or special contract conditions. Addenda are developed to ensure the integrity of the bid process, provide or refine information, and maintain fairness in bidding.**

### ■ Work Tasks

- 42.1. Develop individual, numbered addenda** stating the change or qualification and specifically indicating whether the due date for bids is affected.

*Construction Specialist, Architect*

- 42.2. Mail addenda to each bidder** who has received a bid package. Also mail the addenda to all bidding services being used by the program.

*Construction Specialist*

- 42.3. Check each bid form** as it is received for acknowledgement of receipt of the addenda by the contractor. The blank bid forms should contain a space for this acknowledgement.

*Construction Specialist*

### ■ Execution Variables

- An addendum should be developed by the Architect if the design or clarification of the design is the subject matter of the addendum. Addenda should be reviewed and sent out by the Construction Specialist.
- For minor issues, it is sometimes preferable to wait and negotiate with the successful bidder.

## Step 43: Conduct Bid Opening Meeting

**A public bid opening meeting is used in competitive bidding situations. It follows a standardized format intended to demonstrate fairness and integrity in the bidding process and an absence of favoritism.**

### ☐ Work Tasks

- 43.1. Close out receiving bids** at the time announced in the cover letter accompanying the bid package, or as modified by addenda, by announcing to all those present for the opening that the bidding period is over.  
*Construction Specialist*
- 43.2. Distribute a sign-in sheet** and request those in attendance to sign it.  
*Construction Specialist*
- 43.3. Open each bid and read it aloud** including the amounts. State whether or not the bid acknowledges receipt of all addenda and if all required forms are included. Record receipt of the bid.  
*Construction Specialist*
- 43.4. After the last bid has been opened** and the contents made public, thank everyone for coming and close the meeting. Do not make any comments regarding who will likely receive the contract. Apparent low bidders will expect to be contacted.  
*Construction Specialist*

### ☐ Execution Variables

- On smaller projects, more informal procedures are generally followed. However, the principles of fairness and informing all bidders of the results should be followed.

- An alternate procedure is to receive the bids on the due date and open them in private. Contractors can be notified after the bids have been evaluated as to the results of the bidding. The intent here is to leave as much room as possible for the Construction Specialist to negotiate with contractors who have submitted attractive bids; however, it gives the unsuccessful contractors potential cause to challenge the outcome and is therefore not recommended.

## Step 44: Tabulate and Analyze Bids

**In tabulating the bids, the Construction Specialist identifies the most responsive bid(s) containing the best prices. The analysis also reveals those items and areas that will need to be negotiated.**

### ☉ Work Tasks

- 44.1. Make a spreadsheet** to compare each contractor's bid with the Construction Estimate (see Example 30, "Bid Tabulation Worksheet").

*Construction Specialist*

- 44.2. Examine and compare the bid totals.**

*Construction Specialist*

- 44.3. Compare individually priced alternatives and unit prices** for all items likely to become change orders during construction, e.g., replacement joists, drywall, etc. This will ensure the Construction Specialist has enough specific information to negotiate each bid.

*Construction Specialist*

### ☉ Execution Variables

- In projects where there is to be a negotiated bid, the Construction Estimate is the basis of comparison. The bidder should be required to bid in some line-item detail -- at a minimum by the basic trades (demolition, rough carpentry, etc.). Significant variations from the Construction Estimate by the contractor are flags for negotiation or possible error by the contractor.

■ **Risk Control Variables**

- Carefully consider the use of Bid Bonds. These are bonds which guarantee the contractor, if selected, will contract for the project at his bid price. If the low bidder decides later the work cannot be performed for the price and withdraws, the bond, usually 2 percent of his bid, is forfeited. While this tends to encourage conscientious bidding on the part of the contractor, a contractor forced to take a contract that he is unhappy with may be a liability. He may later attempt to recoup lost profits through the use of change orders or by producing shoddy work. Bid Bonds add cost to the project and contain loopholes that can dilute their intended effect. It is generally not recommended they be used.

EXAMPLE 30: BID TABULATION WORKSHEET

PROJECT:	_____	BID DATE:	_____
CONTRACTORS:	_____	_____	_____
BASE BID:	_____	_____	_____
ALTERNATE #1:	_____	_____	_____
ALTERNATE #2:	_____	_____	_____
ALTERNATE #3:	_____	_____	_____
TOTAL W/ALT.:	_____	_____	_____
UNIT PRICES:			
ADD/(DEDUCT)			
LF 2 X 10 JOIST:	_____	_____	_____
LF INT. PART.:	_____	_____	_____
APT. ENTRY DOOR:	_____	_____	_____
ADD. PAINT/RM:	_____	_____	_____
REQUIRED SUBMISSIONS:			
LIABILITY INS. (Y/N)	_____	_____	_____
CONTRACTOR'S LIC. (Y/N)	_____	_____	_____
TABULATION BY:	_____		

## Step 45: Verify Compliance with Insurance and Bonding Requirements

The required risk control measures identified in the Program Planning and Contract Documents Stages must be carried out. The contractor must provide documentation to prove the risk control requirements have been met.

### ☐ Work Tasks

- 45.1. Establish a file and secure all required documentation.** Use a checklist (see Example 31, "Model Preconstruction Checklist").

*Construction Specialist*

- 45.2. Review all certificates and bonds** and ensure they specifically name your project and are for the amounts specified. (See Example 32, "Performance Bond and Payment Bond," and Addendum 7 for complete document.)

*Construction Specialist*

- 45.3. Establish a "tickler" system** for verifying coverage for the duration of the project. The insurance or bonding companies are required to contact you in case of cancelled or lapsed coverage; however, the "tickler" system will act as a risk control.

*Construction Specialist*

EXAMPLE 31: MODEL PRECONSTRUCTION CHECKLIST

	<u>Check as Completed</u>
1. Complete final plans and specifications, sealed.	_____
2. Complete final lot layouts showing footprints and elevations, utility connection points, drives and walks, and landscaping. Surveyed and sealed if necessary.	_____
3. Obtain final approval of funds, complete escrow agreement.	_____
4. Obtain site control.	_____
5. File for building permits.	_____
6. Complete bidding and negotiations.	_____
7. Award contracts.	_____
8. Establish final construction budget including contingency.	_____
9. Establish final construction schedule.	_____
10. Obtain necessary insurance certificates from contractor.	_____
11. Obtain trade payment breakdown, schedule of payments.	_____
12. Establish progress payment procedure including forms, inspections, sign-offs, check-writing process.	_____
13. Schedule and conduct preconstruction meeting.	_____
14. Send out written Notice to Proceed.	_____
15. Schedule progress meetings.	_____
16. Establish project file.	_____



**EXAMPLE 32: PERFORMANCE BOND AND PAYMENT BOND**

## Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address): \_\_\_\_\_ SURETY (Name and Principal Place of Business): \_\_\_\_\_

OWNER (Name and Address): \_\_\_\_\_

**CONSTRUCTION CONTRACT**

Date: \_\_\_\_\_  
 Amount: \_\_\_\_\_  
 Description (Name and Location): \_\_\_\_\_

**BOND**

Date (Not earlier than Construction Contract Date): \_\_\_\_\_  
 Amount: \_\_\_\_\_  
 Modifications to this Bond:  None  See Page 3

CONTRACTOR AS PRINCIPAL Company: \_\_\_\_\_ (Corporate Seal) SURETY Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_ Name and Title: \_\_\_\_\_ Signature: \_\_\_\_\_ Name and Title: \_\_\_\_\_

(Any additional signatures appear on page 3)

*(FOR INFORMATION ONLY—Name, Address and Telephone)*  
 AGENT or BROKER: \_\_\_\_\_ OWNER'S REPRESENTATIVE (Architect, Engineer or other party): \_\_\_\_\_

## Step 46: Negotiate Final Contract

**The Construction Specialist must meet with the contractor to bring the construction price within, or even below, the Construction Estimate by negotiating specific trade or unit line-item prices that were higher than originally estimated.**

### ☐ Work Tasks

- 46.1. Identify areas where significant differences exist between the bid and the Construction Estimate.** If the contractor has bid "lump sum," this will require a more detailed version of the bid.

*Construction Specialist*

- 46.2. Discuss these differences with the bidder.** While this generally means reducing figures higher than those estimated, it could also mean adjusting upwards figures which are significantly lower. It is not in the interest of the program to engage a contractor who is losing money on some or all of the job through error or intention. Ever more detailed cost information should be requested from the bidder concerning trades and items in question until a clear cost picture is provided.

*Construction Specialist*

- 46.3. Investigate and discuss the differences** to determine which is more correct, the estimate or the bid. This may indicate that the estimate is in error. Make the necessary corrections.

*Construction Specialist*

- 46.4. Negotiate all discrepancies** to the satisfaction of both parties and reach agreement on a final contract amount.

*Construction Specialist*

**46.5. This is an important go/no go decision point.** If the construction cost cannot be brought into line with the budget, alternatives including changing the scope of work, rebidding the project, seeking additional financing or dropping the project will have to be pursued.

*Development Director, Project Manager, Construction Specialist*

● **Risk Control Variables**

- Occasionally, specified risk control measures, especially bonding, must become part of the negotiations either to reduce the bid or to meet the needs of the contractor. While there may be some flexibility to move and still maintain adequate coverage (for instance, a letter of credit in lieu of bond), it is important to keep to the original intent of the risk control provisions.

## Step 47: Award Contract

**In awarding the contract, the contractor and the program enter into a binding agreement obligating the contractor to construct the project for the price stipulated and the owner to proceed with the project. The only possible contingencies at this point are a) obtaining financing within a specified period of time, and b) developing a schedule of values and construction schedule.**

### ☉ Work Tasks

- 47.1. Draft the final contract** with all the blanks filled in. In addition to total cost, time, payment procedures, etc., special attention needs to be paid to the "Additional Conditions" section of the contract. These include funder-dictated clauses, references to federal or local government requirements such as minority participation, federal wage rates, or other terms that might have been agreed to during negotiations.

*Construction Specialist*

- 47.2. Send a draft contract to the contractor** or his attorney for final review prior to signing.

*Construction Specialist*

- 47.3. Sign the contract.**

*Executive Director*

### ☉ Execution Variables

- There is sometimes an intermediate step utilized before contract signing called a "Letter of Intent." This letter states the intention of an owner to enter into a contract with a contractor for a specified price,

providing certain contingencies are met, such as securing the financing. Using a Letter of Intent serves to bind the contractor to a price and scope of work while remaining issues are resolved.

#### ● Risk Control Variables

- Some funders require a contract signed by a contractor prior to closing. Under no circumstances should the owner execute a contract with a contractor without the financing in place or a financing contingency clause. However, it is reasonable to expect the contractor to sign a binding contract for construction especially if it is accompanied by a Letter of Intent from the owner.

## Step 48: Negotiate Contractor's Schedule of Values and Construction Schedule

**This negotiation requires the contractor to clarify specified contract obligations within designated time limitations. During the interaction, the basis for assessing the value of the work-in-place for the purpose of progress payments is also negotiated and agreed upon.**

### ● Work Tasks

- 48.1. Carefully review the documents** received from the contractor and compare them to the in-house Construction Schedule and the final Construction Estimate as adjusted in the final contract price.
- Construction Specialist*
- 48.2. Analyze the Schedule of Values** (see Example 33, "Typical Schedule of Values") and ensure that it reflects the trade lines in the bid, as negotiated, in sufficient detail to be easily verifiable during payment inspections.
- Construction Specialist*
- 48.3. Analyze the contractor's Construction Schedule** (see Example 34, "Typical Construction Schedule") to ensure it compares favorably with the Preliminary Construction Schedule and the Master Project Schedule. While it, more than the schedule of values, is adjustable while the project is in progress, it should demonstrate careful preparation and be realistic to the Construction Specialist.
- Construction Specialist*

- 48.4. Resolve all questions and items to be negotiated prior to the pre-construction meeting.**

*Construction Specialist*

## EXAMPLE 33: TYPICAL SCHEDULE OF VALUES

General Requirements	\$ 104,800
Site Work	26,900
Concrete	52,600
Masonry	59,400
Carpentry	242,800
Roofing	49,600
Insulation	21,200
Doors	62,700
Windows	94,300
Finishes	71,400
Mechanical	148,700
Electrical	<u>160,900</u>
<b>TOTAL</b>	<b>\$ 1,095,300</b>





### ☉ Execution Variables

- Although it is less desirable, in a situation where immediate start-up is necessary, these items may be completed by the first progress meeting. However, the contractor should be notified in writing with the Notice to Proceed that no progress payments can be approved until both the Schedule and Schedule of Values are complete and agreed upon.

### ☉ Risk Control Variables

- Pay special attention to looking for "front loading" which is sometimes attempted by contractors to unreasonably draw more money at the beginning of the project and assign lower values to later work items. This tactic is employed by contractors to improve their cash position near the beginning of a project. This risks not having enough cash toward the end of the project. After negotiation and acceptance by all parties, the Schedule of Values becomes the tool to measure payments to the contractor. The Construction Specialist should be satisfied that if the contractor defaults at any stage, sufficient funds remain in the budget to hire another contractor to complete the project.

**Step 49: Conduct Pre-Construction Meeting;  
Give Notice to Proceed**

**The Pre-Construction meeting provides the opportunity to introduce all of the participants involved in the project, review all of the contract documents, establish the start-up date, and finalize communication procedures and forms to be used.**

☐ **Work Tasks**

- 49.1. Notify all members of the Development Team**, all inspectors of the project, all funders, and the contractor, of the date and time of the meeting.

*Construction Specialist*

- 49.2. Prepare the agenda for the Pre-Construction meeting** listing the items to be covered (see Example 35, "Typical Pre-Construction Meeting Agenda"). These include: review of all paperwork (contracts, bonds, certificates of insurance, etc.), communications procedures (progress meeting frequency, forms, etc.), the contractor's Construction Schedule and Schedule of Values, the roles of the various participants in the project, and the start-up date.

*Construction Specialist*

- 49.3. Provide the Contractor with an official Notice to Proceed** which is a formal notification that the clock for the project schedule is now running. Copy the Architect.

*Construction Specialist*

**EXAMPLE 35: TYPICAL PRE-CONSTRUCTION MEETING AGENDA**

- Introduction of persons present with description of roles
- Designated owner's representative
- Description of current status
  - Status of contract, insurance forms, permits
  - Start date
  - Work under way
- Schedule of progress meetings
  - Frequency
  - Date, time, and place
  - Who is expected
- Discussion of payment procedure
  - Status of trade payment breakdown (acceptable?)
  - Frequency of progress payments and format (AIA form? Current to what day?)
  - Inspections and signatures required
  - Expected lag time, explanation of payment process (source of funds, escrow agent)
  - Explanation of retainage and reduction of retainage (if any)
- Discussion of schedule
  - Status from contractor
  - Start date
- Discussion of change orders
  - Forms (AIA)?
  - Base cost, acceptable markup, level of detail
  - Approval process (who initiates, who receives)
- Other discussion
- Adjournment

## *Stage: Construction*

For the Construction Specialist, at least, the major part of his or her work now comes to fruition. Not only have the designing and bidding been completed and contracts signed, but all the financing is now in place.

The Construction Specialist's focus must now turn from planning to monitoring the execution of the project. It is the contractor's responsibility to manage the work. It is the Architect's job to assure quality, conformance to the specifications, and approval of payments. The Construction Specialist monitors all these functions, with a critical concern for not running overtime or overbudget.

It is a well-worn but truthful statement in construction that when the planning is done, the project is half completed.

One main effort now is monitoring the Construction Schedule. From this ongoing activity, the Master Project Schedule is updated and the Marketing Schedule is implemented to keep pace with construction.

The other big effort is overseeing the payment schedule and ensuring the contractor gets paid promptly, as work is completed, and controlling the contingency funds by managing the change-order process.

## Step 50: Initiate Project Start-Up

**This is the point at which the control of the building site is transferred to the contractor and the long-awaited construction gets under way.**

### ■ Work Tasks

- 50.1. Turn over a set of keys to the contractor,** following the issuance of the Notice to Proceed, and inform the contractor he is now in control of the worksite.

*Construction Specialist*

- 50.2. Verify the contractor's actual start date.**

*Construction Specialist*

- 50.3. Verify the presence at the work site** of the expected crews and supervisors, availability of utilities, security, and office space. Establish the precedence that throughout the job, all activities, milestones, and quality will be monitored.

*Construction Specialist*

## Step 51: Maintain Daily Log

**This is an ongoing record of significant events in the life of the project. It is of great importance, especially in cases of arbitration or litigation.**

### ☐ Work Tasks

**51.1. Keep a separate notebook for this purpose.**

*Architect, Construction Specialist*

**51.2. Make periodic entries** noting significant events and quality control issues raised during site visits, issues discussed during meetings, important phone calls, payments made, and other information deemed pertinent during the development of the project. Make notations clear and concise.

*Architect, Construction Specialist*

### ☐ Risk Control Variables

- Events which could have possible legal implications should receive special attention. This could include, for example, lax performance by the Architect, unauthorized substitution of materials, breaches in safety procedures, etc. If relations with the Architect or contractor begin to deteriorate, notations should become much more detailed.

## Step 52: Monitor Construction Schedule

**This activity involves not only revising the schedule to reflect the operations under way at the construction site, but also includes making regular visits to the construction site to assess compliance with the Construction Schedule and monitor the work.**

**The Construction Schedule is of particular interest to the Construction Specialist, since it is the owner, rather than the Architect, who is most likely to flag a contract default due to untimely performance.**

### ☐ Work Tasks

**52.1. Review and update the construction schedule on at least a weekly basis.**

*Construction Specialist*

**52.2. Review the Construction Schedule prior to monitoring the work site.**

What milestones should have been reached by this date? What activities should be in progress? What critical activities for the future should the contractor already be preparing for? Make a list of what to expect to see or questions to ask.

*Construction Specialist*

**52.3. Visit the site at least twice a week and note the activities in progress and the status of the work. Ask questions of the superintendent concerning apparent discrepancies between the schedule and work-in-progress.**

Update the schedule indicating actual milestones reached or in progress.

*Construction Specialist*



**52.4. Request revisions to the Construction Schedule** from the contractor when there is inconsistency between the schedule and activities actually taking place.

*Construction Specialist*

**52.5. Work out with the contractor how to regain the time lost** if the project falls behind schedule. This is sometimes accomplished with the superintendent. More often, the problem needs to be discussed with the contractor or principal of the company who has the authority to take the necessary action such as adding crews or working overtime.

*Construction Specialist*

**52.6. Extend the overall duration of the project** as a last resort, but only if financial feasibility is still assured. Construction delays increase construction-period interest and delay project income. The Construction Specialist should always be aware of the precise monetary results of delay. On a delay, the contractor must submit a change-order request to that effect even if no money is involved.

*Construction Specialist, Project Manager, Architect*

## Step 53: Inspect Contractor's Work

**Regular inspections of the construction site by the Architect are essential. A major focus is quality control. Is the program receiving from the contractor what it is paying for? Does the work in place meet the standards of the performance specifications?**

Another area of focus during inspections is on safety and security measures. The General Conditions should include a requirement for the contractor to submit a safety and security plan. Monitoring implementation of the contractor's plan is a part of the regular inspection routine.

These issues are primarily the responsibility of the Architect, but the Construction Specialist is acting as "owner's representative," a second line of defense to ensure the work meets standards.

### ■ Work Tasks

**53.1. Make periodic inspections**, at least twice weekly if not daily. They are expected by the contractor and if they do not occur, the quality of the work will often begin to decline.

*Architect*

**53.2. Make a list of all quality tests** that are to be made to systems during construction. These should be scheduled and monitored, the results reviewed, and certificates entered into the Architect's and Construction Specialist's Job Logs and the project file.

*Architect*

**53.3. Keep accurate notes** concerning comments made to the superintendent. Verify and note corrections recommended during previous inspections. This last point is very important.

*Architect*

**53.4. Follow up immediately**, in writing, with the contractor, all significant discrepancies noted during an inspection.

*Architect*

**53.5. Review the contractor's safety and security plan** and verify compliance with its provisions.

*Architect*

**53.6. Enforce compliance** with the provisions of the Occupational Safety and Health Act and other local regulations as they apply to the project.

*Architect*

● **Execution Variables**

- Technical tests may be required by the specifications such as pressure tests on gas piping. Both the Architect and the Construction Specialist should understand the procedures and the significance of these tests to the project. It is generally the responsibility of the Architect to order these tests.
- The Construction Specialist sometimes may perform the Architect's function of quality inspections and contractor payment. In this case, the Architect's contract should be severely curtailed as to function during construction. Two "bosses" of the contractor is a difficult situation. However, the Construction Specialist can augment this work by "backstopping" the Architect on his or her regular inspections. This requires good and frequent communication with the Architect.

## Step 54: Conduct Progress Meetings

**Progress meetings are intended to provide periodic review of the project by the inspectors and opportunity for open discussion.**

### ● Work Tasks

- 54.1. Implement the schedule for the progress meetings** established at the pre-construction meeting.

*Project Manager*

- 54.2. Prepare for the meetings** by circulating payment requests, change-order requests, and other special items to be discussed.

*Project Manager, Construction Specialist, Architect*

- 54.3. Develop an agenda** (see Example 36, "Typical Progress Meeting Agenda") for the meeting to include a report by the contractor, discussion and action on the payment request, change orders, verifying the construction schedule, and an open discussion of any problems.

*Project Manager*

- 54.4. Keep minutes of the meeting** noting persons in attendance, matters discussed, and actions taken, and circulate them within one to two days after the meeting.

*Project Manager*

- 54.5. Be tough and resolve problems.** As simplistic as it sounds, progress meetings, especially early ones, can be surprisingly overpolite. When evidence points to a schedule, quality, or money problem, get it solved before an unmanageable number of problems jam up. This requires intense assertiveness and negotiating skills.

*Project Manager, Construction Specialist*

■ **Execution Variables**

- Progress meetings can be scheduled simply for information exchange. The basic process and format should remain the same.

**EXAMPLE 36: TYPICAL PROGRESS MEETING AGENDA**

Who should attend:

Owner's representative (from CDC), construction manager, contractor, subcontractors (optional), all inspectors, architect and/or engineer (optional, if necessary).

How often:

At least once a month, usually at time of progress invoicing. Date, time, and place should be standard; example, fourth Tuesday of the month, 10:00, program office.

Preparation:

Application for payment should be circulated three days before meeting (usually is not, but saves time -- inspectors should come prepared to discuss and approve application especially if meeting is not near job site; i.e., inspect before the meeting). Likewise pending change orders, major issues. Minutes from previous meetings should be sent within one week (does not have to be detailed -- major discussion, actions, list of those present, action on application for payment).

**Typical Agenda**

**Report by Contractor**

General status of the work, relation to schedule, significant problems, presentation of change-orders, and application for payment.

[It is a good idea to try to discuss and approve payment application first; however, schedule and significant problems sometimes take precedence.]

**Discussion and approval of application for payment**

**Discussion of problems** and change orders resulting in action by appropriate representatives.

**Discussion of schedule.**

**Adjournment.**

## Step 55: Make Progress Payments to Contractor

It is understood the contractor needs to be able to pay his workers, suppliers, and subcontractors in a timely manner. However, the contractor is not entitled to any money in excess of the cost of the work produced. Based on the agreed-upon Schedule of Values discussed in the Bidding Stage, progress payments are made to the contractor on a regular basis, usually monthly. The central idea is that the contractor only gets paid for the value of the work in place, less any retainage agreed to. In addition to fulfilling the contract obligations of the program, careful attention to prompt payment maintains the good will of the contractor and provides an effective bargaining chip in future negotiations. It is the Architect's and Construction Specialist's (as owner representative) responsibility to approve the payments. The Construction Specialist's additional role is to facilitate rapid payment after approval.

### ● Work Tasks

- 55.1. Have the contractor submit a Progress Payment Request prior to the progress meeting and with enough time for all inspectors to review the progress of the work. AIA document G702, "Application and Certificate for Payment" (see Example 37, and Addendum 23 for full document and

"Continuation Sheet," G703) is generally used. The format and values shown on these forms should be reviewed to ensure that they follow the contractor's Schedule of Values. Check to see that the Release of Liens (see Example 38, "Release of Liens") is included, if required.

*Architect*

**55.2. Visit the site and make an inspection** in order to discuss the request at the progress meeting. The Schedule of Values should provide enough detail to be able to validate the progress of the work with reasonable accuracy.

*Architect, Construction Specialist*

**55.3. Approve the request payment** at the progress meeting. Adjust it, if necessary, and signify approval with required signatures.

*Architect, Construction Specialist*

**55.4. Track the first contractor payment request step by step.** This provides the opportunity to actually connect with the persons involved and state the importance of the progress payment process to the success of the project. This will typically result in future payments being expedited.

*Construction Specialist*

**55.5. Monitor future payments** until the process is fluid and automatic.

*Construction Specialist*

#### ● Risk Control Variables

- When partial release of liens is not required, a list of major suppliers and subcontractors should be required from the contractor. This allows the program to make contact with selected representatives from the list to verify the contractor's credit standing.



**EXAMPLE 37: APPLICATION AND CERTIFICATE FOR PAYMENT**

**APPLICATION AND CERTIFICATE FOR PAYMENT** AIA DOCUMENT G702 (Instructions on reverse side) PAGE ONE OF TWO PAGES

TO (OWNER) PROJECT \_\_\_\_\_ APPLICATION NO. \_\_\_\_\_ Distribution to  
 FROM (CONTRACTOR) VIA (ARCHITECT) ARCHITECT'S PROJECT NO. \_\_\_\_\_ PERIOD TO \_\_\_\_\_ OWNER  
 CONTRACT FOR: CONTRACT DATE \_\_\_\_\_ CONTRACTOR

**CONTRACTOR'S APPLICATION FOR PAYMENT**

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Change Orders approved in previous months by Owner: _____			
TOTAL _____			
Approved this Month	Date Approved		
Number _____			
TOTALS			
Net change by Change Orders _____			

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

4. This document is intended for use as a "consumable" (consumables are defined by Senate Report No. 473 on the Copyright Act of 1976). The Contractor is advised to be sure "model language" language taken from an existing document and incorporated, without attribution, into a newly created document. Rather, it is a standard form which is intended to be modified by appending separate amendment sheets and/or fill in provided blank spaces.

CONTRACTOR.

By: \_\_\_\_\_

**ARCHITECT'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AIA DOCUMENT G702 • APPLICATION AND CERTIFICATE FOR PAYMENT • MAY 1962 EDITION • AIA • 1983 EDITION • THE AMERICAN INSTITUTE OF ARCHITECTS • 1735 NEW YORK AVENUE, N.W. WASHINGTON, D.C. 20006

Application is made for Payment, as shown below, in connection with the Contract Continuation Sheet, AIA Document G703, is attached

- 1 ORIGINAL CONTRACT SUM \$ \_\_\_\_\_
- 2 Net change by Change Orders \$ \_\_\_\_\_
- 3 CONTRACT SUM TO DATE (Line 1 + 2) \$ \_\_\_\_\_
- 4 TOTAL COMPLETED & STORED TO DATE \$ \_\_\_\_\_  
(Column G on G703)
- 5 RETAINAGE:
  - a. \_\_\_\_\_ % of Completed Work \$ \_\_\_\_\_  
(Column D + E on G703)
  - b. \_\_\_\_\_ % of Stored Material \$ \_\_\_\_\_  
(Column F on G703)
- Total Retainage (Line 5a + 5b of above) \$ \_\_\_\_\_
- 6 TOTAL EARNED LESS RETAINAGE \$ \_\_\_\_\_  
(Line 4 less Line 5 total)
- 7 LESS PREVIOUS CERTIFICATES FOR PAYMENT (Lines 6 from prior Certificate) \$ \_\_\_\_\_
- 8 CURRENT PAYMENT DUE \$ \_\_\_\_\_
- 9 BALANCE TO FINISH, PLUS RETAINAGE \$ \_\_\_\_\_  
(Line 6 less Line 6)

State of \_\_\_\_\_ County of \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_  
 Notary Public  
 My Commission expires \_\_\_\_\_

**AMOUNT CERTIFIED** \$ \_\_\_\_\_  
 (Attach explanation if amount certified differs from the amount applied for)  
 ARCHITECT

By: \_\_\_\_\_ Date \_\_\_\_\_  
 This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

EXAMPLE 38: RELEASE OF LIENS

WAIVER OF LIEN  
MATERIAL OR LABOR

STATE OF \_\_\_\_\_ 19\_\_\_\_

COUNTY OF \_\_\_\_\_

To All Whom It May Concern:

Whereas the undersigned \_\_\_\_\_

has been employed by \_\_\_\_\_  
General Contractor/Owner

to furnish labor and/or materials for \_\_\_\_\_  
Nature of the Work

for the Building and Premises known as \_\_\_\_\_

At \_\_\_\_\_ In \_\_\_\_\_  
Address City, County, State

Lot No. \_\_\_\_\_ Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Now, Therefore, Know Ye, That \_\_\_\_\_ the undersigned  
for and in consideration of the sum of \_\_\_\_\_ Dollars  
and other good and valuable considerations, the receipt whereof is hereby  
acknowledged, do hereby waive and release any and all lien, or claim or right to  
lien on said above described building and premises under the Statutes of the State  
of \_\_\_\_\_ relating to Mechanics' Liens, on account of labor or  
materials, or both, furnished or which may be furnished, by the undersigned to or on  
account of the said firm or individual therein named for said building or premises.

Given under \_\_\_\_\_ hand \_\_\_\_\_ and seal this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 19\_\_

Witness: \_\_\_\_\_ (SEAL)

Witness: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_  
Title \_\_\_\_\_

Subscribe and sworn to before me this  
\_\_\_\_\_ Day of \_\_\_\_\_ 19\_\_

My Commission Expires \_\_\_\_\_

Notary Public

## Step 56: Manage Contingency and Change-Order Procedures

The contingency line item is established to fund unforeseen work items uncovered during construction. This line item needs to be protected as pressure is brought to bear to introduce changes in construction by other program representatives and the contractor. The procedures must be clearly spelled out, monitored, and enforced. The Construction Specialist should be involved in the analysis of each request and in managing the change-order process in general.

### ● Work Tasks

**56.1. Establish that it is the contractor's responsibility** to request a change order if he believes a situation exceeds the scope of work contained in the contract documents. Both the AIA and AGC publish forms suitable for this request.

*Architect*

**56.2. Monitor each change-order request** (see Example 39, "Change Order," and Addendum 24) to be sure it contains the original contract amount, previous adjustments, the amount requested and any request for additional time to complete the project. Require, either on the request form or as backup documentation, a description of the work required by the change, price quotations if appropriate, and a cost breakdown.

*Architect, Construction Specialist*

**56.3. Prevent the beginning of any work on a change, except in an emergency, until a change order request is approved. Authorization to approve change orders should have been established at the pre-construction meeting.**

*Architect*

**56.4. Approve change order.**

*Architect, Construction Specialist*

**56.5. Add the amount of the change order to the Schedule of Values once it is negotiated and approved. Then work can begin.**

*Architect*

☐ **Risk Control Variables**

- Architects and Construction Specialists should be aware that the new AIA contracts (1987) allow contractors to receive payment for undisputed amounts of change orders without limiting their rights to continue negotiating for additional amounts. While this clause may be fair to the contractor, it puts the Construction Specialist at a disadvantage in a change-order dispute. Therefore, it should always be the policy not to allow work to begin on a change order until the price has been finally negotiated.

☐ **Other Considerations**

- Most projects contain a "wish list" of extras to be included if resources become available. This is often impossible to avoid. However, a clear policy should have been set at the Contract Documents Stage giving the highest priority to using contingency funds for unforeseen work only, and "wish list" items only late in the game, if ample contingency funds exist. The "wish lists" should have been planned in advance and prioritized. This area requires constant vigilance and, even with a clear policy, can be difficult to enforce.
- Bear in mind that an approved change order is an amendment to the contract.

**EXAMPLE 39: CHANGE ORDER**

**CHANGE ORDER**

AIA DOCUMENT G701

- OWNER
- ARCHITECT
- CONTRACTOR
- FIELD
- OTHER

PROJECT:  
(name, address)

CHANGE ORDER NUMBER:

DATE:

TO CONTRACTOR  
(name, address)

ARCHITECT'S PROJECT NO.

CONTRACT DATE:

CONTRACT FOR:

The Contract is changed as follows:

1. AIA copyrighted material has been reproduced with the permission of the American Institute of Architects under license number 91027. Permission expires December 31, 1991. FURTHER REPRODUCTION IS PROHIBITED.
2. Because AIA Documents are revised from time to time, users should ascertain from the AIA the current edition of this document.
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SAMPLE

**Not valid until signed by the Owner, Architect and Contractor.**

The original (Contract Sum) (Guaranteed Maximum Price) was \$

Net change by previously authorized Change Orders \$

The (Contract Sum) (Guaranteed Maximum Price) prior to this Change Order was \$

The (Contract Sum) (Guaranteed Maximum Price) will be (increased) (decreased) (unchanged) by this Change Order in the amount of \$

The new (Contract Sum) (Guaranteed Maximum Price) including this Change Order will be \$

The Contract Time will be (increased) (decreased) (unchanged) by ( ) days

The date of Substantial Completion as of the date of this Change Order therefore is

NOTE This summary does not reflect changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive

ARCHITECT	CONTRACTOR	OWNER
Address	Address	Address
BY	BY	BY
DATE	DATE	DATE

## Step 57: Trade Construction and Development Costs Versus Budget

**It is imperative that both the Architect and Construction Specialist continuously monitor expenditures and be immediately aware of the status of the budget throughout the life of the project. It is only with this information that decisions can be made in relation to change-order requests or problems that may threaten the possibility of completing the project within budget.**

The Construction Specialist must also oversee the organization's internal project accounting function to ensure it conforms to all regulations and accepted business practices.

### ■ Work Tasks

**57.1. Maintain an accurate running balance of the construction funds using AIA Application for Payment and Change-Order Request forms.**

*Architect*

**57.2. Account for trade draws and other construction-related expenses (such as interest payments, Architect's fees, etc.) against the Development Budget (see Example 40, "Typical Budget Report").**

*Accounting Department*

**57.3. Review this accounting with the Architect and Accounting Department at least monthly.**

*Program Manager, Construction Specialist*

**57.4. Forecast construction cost-to-complete**, at least monthly, based upon "hard" expenditures, pending change orders and contingent liabilities (see Example 41, "Typical Construction Cost to Complete Worksheet").

*Construction Specialist*

**57.5. Forecast a project cost-to-complete**, at least monthly, based on construction cost-to-complete, nonconstruction costs that have run over budget, pending soft cost overruns, and contingent liabilities.

*Project Manager*

● **Execution Variables**

- Contingent liabilities (such as the bad outcome of a wage rate decision or a pending insurance rate increase) should be built into a "worst case" cost-to-complete.

## EXAMPLE 40: TYPICAL BUDGET REPORT

PROJECT: Highview Town Homes DATE OF REPORT: 1/7/89  
 CONSTRUCTION PERCENT COMPLETE 42%

<u>Acquisition Costs</u>	<u>BUDGETED</u>	<u>OBLIGATED</u>	<u>REMAINING</u>
Land	\$ 0	0	0
Building	0	0	0
Other	0	436	(436)
Subtotal	\$ 0	\$ 436	\$ (436)
 <u>Construction Costs</u>			
Construction	\$1,039,316	\$ 993,500	\$ 45,816
Contingency	60,634	11,250	49,384
Bond	29,248	27,959	1,289
Subtotal	\$1,129,198	\$1,032,709	\$ 96,489
 <u>Development Costs</u>			
Architectural & Engineering	\$ 22,000	\$ 21,200	\$ 800
Construction Management	30,000	21,683	8,317
Holding Costs	5,000	4,230	770
Insurance/Builders Risk	22,000	19,780	2,220
Legal	7,000	5,620	1,380
Appraisal	2,500	2,360	140
Title Search Insurance	4,350	4,620	(270)
Survey	4,400	2,800	1,600
Development Fee	56,000	0	56,000
Recording Fee	6,075	6,321	(246)
Transfer Tax	6,075	6,074	1
Loan Costs	20,250	20,230	20
Construction Interest	74,250	18,342	55,908
Subtotal	\$ 254,325	\$ 127,685	\$ 126,651
TOTAL	<u>\$1,383,523</u>	<u>\$1,160,830</u>	<u>\$ 222,693</u>



## EXAMPLE 41: TYPICAL CONSTRUCTION COST TO COMPLETE WORKSHEET

Address: Highview Town Homes Date: 1/7/88  
 Developer: Highview CDC Project #: 010  
 Contractor: Acme Construction

Construction Escrow:	
Construction Budget:	\$ 1,039,316
Contingency (and bond):	<u>89,882</u>
Subtotal Construction Escrow	<u>\$ 1,129,198</u>
Obligations:	
Original Contract(s):	\$ 993,500
Net Change Due to Change Orders:	<u>39,209</u>
Total Contract Amount Obligated:	<u>\$ 1,032,709</u>
Unobligated Construction Funds (contingency):	<u>\$ 96,489</u>
Payments:	
Number of Payments to Date: (12/28/87): <u>4</u>	
Total Payments to Date: (% Complete: 42%)	<u>\$ 431,685</u>
Obligated Construction Funds Remaining:	<u>601,024</u>
Total Construction Funds Remaining:	<u>697,513</u>
Estimated Net Change Orders Pending:	<u>48,000 (E)</u>
Estimated Cost to Complete:	<u>1,080,709 (E)</u>
Estimated Surplus (Deficit) at Completion:	<u>48,489 (E)</u>

## Step 58: Coordinate Marketing Schedule with Construction Schedule

In order to avoid holding costs, it is necessary to coordinate the rent-up or sales of the units with the completion of construction and obtaining the Certificate of Occupancy. Failure to rent or sell the units immediately upon completion results not only in holding costs and revenue, but also risks vandalism in vacant finished units.

### ☐ Work Tasks

- 58.1. On a routine basis inform the member of the Development Team in charge of marketing of the status of the project. Be especially clear about any possible delays or early completion of the project.

*Construction Specialist*

- 58.2. Review the status of the Marketing Schedule in order to coordinate the construction schedule with it.

*Construction Specialist*

### ☐ Other Considerations

- Be aware that the marketing schedule usually can be more easily adjusted than the construction schedule since binding contracts and loan agreements usually require on-time performance.

## Step 59: Develop "As-Built" Drawings

**"As-built" drawings record all deviations from the original design so those responsible for future maintenance will have accurate drawings with which to work.**

### ☐ Work Tasks

**59.1. Note in the daily log** and on the set of project plans all changes due to job conditions, or made for the convenience of the contractor, which require "as-built" drawings. Significant changes should be covered by change orders regardless of a change in price.

*Architect*

**59.2. Verify that the contractor is preparing "as-built" drawings.** Keep a running record of all changes requiring "as-built" drawings in order to initiate a quality control check on them and verify the drawings are accurate.

*Architect*

**59.3. Receive formal "as-built" drawings** from the contractor at the conclusion of the construction. State this as a condition of final payment.

*Construction Specialist*

## Step 60: Collect and Distribute Manuals and Warranties

It is standard procedure to provide operating manuals, warranties, and maintenance procedures and schedule to the person assuming responsibility for project maintenance when the project is complete. The warranties provide assurance the systems purchased will be replaced if defective. The operating manuals and the maintenance procedures and schedule provide the paper tools for servicing the systems and moving parts, contributing to the longevity of the structures as viable housing.

### ■ Work Tasks

- 60.1. Ensure the contractor supplies warranties, maintenance procedures, and operating manuals for all systems installed during construction as part of the closeout of construction. This was required by the contract documents and is a condition for final payment.**

*Construction Specialist*

- 60.2. Prepare, or oversee the preparation of, a schedule for future owners or maintenance personnel for performing routine preventive maintenance on such things as the HVAC equipment, appliances, windows, and other moving parts.**

*Construction Specialist, Marketing/Property Management Department*

- 60.3.** Create a notebook containing the warranties, operating manuals, and maintenance program and give it to the person in charge of maintenance. A notation should be put into the daily log to record this transaction.

*Construction Specialist*

## Step 61: Approve Certificate of Substantial Completion

**The Certificate of Substantial Completion (see Example 42, "Certificate of Substantial Completion," repeated as Addendum 25) formally marks the transition to the final or "punch list" phase of the project. Substantial completion is an important milestone representing the point at which the project is made available to the owner with incomplete work items few enough to list. This milestone is often conditioned upon obtaining at least a provisional Certificate of Occupancy from the local building authorities and marks the limit for liquidated damages which might have been included in the contract.**

### ● Work Tasks

- 61.1. Determine the point at which substantial completion has been reached.** This point should be determined by the Architect; however, the Construction Specialist should be pushing toward it and the certificate issued when both concur on its issuance.

*Architect, Construction Specialist*

- 61.2. Apply for the Certificate of Occupancy** from the local building authorities. It is highly recommended that the issuance of the Certificate of Substantial Completion be contingent upon receipt of the Certificate of Occupancy.

*Construction Specialist*

**61.3. Inspect the entire project** to be certain it is fit for occupancy, even though a Certificate of Occupancy has been issued.

*Construction Specialist*

**61.4. Approve Certificate of Substantial Completion.**

*Architect, Construction Specialist*

☐ **Risk Control Variables**

- The Certificate of Substantial Completion holds important legal implications of which the Construction Specialist must be aware. These include limiting liquidated damages which are, in part, determined by local law. Both approving a certificate too soon or delaying without good reason can lead to confrontation with the contractor.

**EXAMPLE 42: CERTIFICATE OF SUBSTANTIAL COMPLETION**

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

AIA DOCUMENT G704

Distribution to:  
 OWNER   
 ARCHITECT   
 CONTRACTOR   
 FIELD   
 OTHER

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PROJECT:  
(name, address)

ARCHITECT:

ARCHITECT'S PROJECT NUMBER

TO (Owner)

CONTRACTOR

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CONTRACT FOR:

CONTRACT DATE

DATE OF ISSUANCE

PROJECT OR DESIGNATED PORTION SHALL INCLUDE

The Work performed under this Contract has been reviewed and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby established as

which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below

**DEFINITION OF DATE OF SUBSTANTIAL COMPLETION**

The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Architect when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, prepared by the Contractor and verified and amended by the Architect, is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list will be the date of final payment unless otherwise agreed to in writing.

\_\_\_\_\_  
 ARCHITECT

BY

\_\_\_\_\_  
 DATE

The Contractor will complete or correct the Work on the list of items attached hereto within \_\_\_\_\_ days from the above Date of Substantial Completion.

\_\_\_\_\_  
 CONTRACTOR

BY

\_\_\_\_\_  
 DATE

The Owner accepts the Work or designated portion thereof as substantially complete and will assume full possession thereof at \_\_\_\_\_ (time) on \_\_\_\_\_ (date)

\_\_\_\_\_  
 OWNER

BY

\_\_\_\_\_  
 DATE

The responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

*State - O, etc. and Contractor - legal and insurance counsel should determine and review insurance requirements and coverage. Contractor to state cost of surety company, if any.*



## Step 62: Develop Punch List

**The Punch List itemizes incomplete or unacceptable work items. When they are completed, it discharges the contractor's obligation under the contract. Final payment is contingent on the completion of the punch list.**

### ☐ Work Tasks

- 62.1. Conduct an inspection or series of inspections** at the time of substantial completion with the contractor for the purpose of preparing the Punch List. Other inspectors representing the funders may also be invited.  
*Architect, Construction Specialist*
- 62.2. Check all moving parts** such as windows, drawers, doors, plumbing, light fixtures, and so on.  
*Architect, Construction Specialist*
- 62.3. Conduct the inspection in a consistent manner**, either bottom up or top down.  
*Architect*
- 62.4. Use a prepared checklist** (see Example 43, "Typical Punch List Items," and Addendum 26 for a complete form) and a tape recorder for recording deficient items.  
*Architect*
- 62.5. See that the completed checklist is typed and distributed** to the other inspectors to give them an opportunity for review and comment.  
*Architect*

**62.6. Develop a schedule for completion of the Punch List** and have it agreed to by the contractor. Monitor completion of the list carefully.

*Architect*

**62.7. Expedite the completion of the Punch List** using the leverage of the final payment. Stress that final payment and retainage will be paid to the contractor promptly upon completion.

*Architect*

**62.8. Conduct a final inspection** to verify the completion of the Punch List.

*Architect, Construction Specialist*

■ **Risk Control Variables**

- Pressure is often brought by the contractor to substantially reduce the retainage at the point of substantial completion and preceding the Punch List. The best case is to deny this; however, it may be impossible to justify. In any case, an amount far exceeding the value of the Punch List should remain to encourage rapid completion by the contractor.

**EXAMPLE 43: TYPICAL PUNCH LIST ITEMS**  
(Check off missing items and note location)

**ELECTRIC**      Location(s) of List Items

- All outlets and switches work.
- Plates are straight and level.
- All outlet plates installed tight to drywall.
- Panel labeled for new circuits.
- All lights have bulbs.
- Final inspection completed.
- Batteries in smoke detectors.
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**PLUMBING**

- All fixtures work; not chipped.
- Fixtures are secure to wall or floor.
- Air gap for dishwasher installed.
- Tub is caulked.
- Aerators/escutcheon plates installed.
- All gas connections working.
- Final permit inspection completed.
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**PLASTER/DRYWALL**

- Finished properly, sanded, ready for paint.
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**HVAC**

- Diffuses are installed and working.
- Return grille installed.
- System operable.
- Thermostat properly installed.
- Condensate line for A/C is installed.
- Flue is installed properly.
- Humidifier and/or air cleaner installed, if applicable.
- Filters installed, proper size.
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**CARPENTRY**

- Trim is installed properly; nails set.
- Kitchen cabinets installed properly; with enough screws.
- Counter top screwed down.

## Step 63: Initiate Construction Closeout

**This step marks the end of the construction stage of the project.**

### ● Work Tasks

- 63.1. Approve the contractor's final payment request and make the final payment including retainage.**

*Architect, Construction Specialist*

- 63.2. Prepare final accounting.**

*Architect, Accounting Department*

- 63.3. Consolidate all project records.**

*Project Manager*

- 63.4. Brief maintenance personnel on the buildings systems and turn over warranties, maintenance manuals, the "as-built" drawings, keys, and so on.**

*Construction Specialist*

## *Stage: Post-Construction*

Two activities take place during the Post-Construction Stage. Evaluation data about the contractor's and program's performance are gathered and processed, and inspections are conducted to ensure normal use of the premises and that their mechanical systems in particular have not resulted in defects. Where inspection reveals defects, corrections must be made by the contractor.

## Step 64: Perform Evaluations

**The use of standardized evaluation forms and procedures is designed to collect data on both contractor and program performance.**

### ☐ Work Tasks

- 64.1. Fill out standardized evaluation forms** (see Example 44, "Contractor Evaluation Form") assessing the contractor's performance during the execution of the contract.

*Project Manager, Construction Specialist, Architect*

- 64.2. Give the contractor a copy of the standardized form** and have one or more key employees evaluate the project. The Architect collects the completed forms.

*Construction Specialist*

- 64.3. File the evaluation data in the contractor's file for future reference.**

*Construction Specialist*

- 64.4. Forward evaluation data to program management.** Management can then exercise the option of responding to extremely low or high ratings by taking action to remove the contractor from the bidding list or encourage continued submission of bids on program projects.

*Construction Specialist*

### ☐ Other Considerations

- On smaller projects, the evaluation may be performed only by the Construction Specialist. The most important function is to a) determine whether or not to use the contractor again, and b) if so, what are future negotiating points (e.g., more timely performance, etc.).

- Program evaluation of the contractor is an ongoing process during construction and the results of a final evaluation should not be a surprise.
- The contractor's evaluation of the program is important data used to determine if the program should revise current policy or procedures.

**EXAMPLE 44: CONTRACTOR EVALUATION FORM**

	YES	NO
1. Did the work progress without unreasonable or unexplained delays?	_____	_____
2. Was the contractor receptive to program concerns?	_____	_____
3. Were technical guidelines (materials, quality, methods) followed?	_____	_____
4. Were attempts made by the contractor to deviate from the agreed-upon procedures or work?	_____	_____
5. Did the contractor respond to problems and complaints adequately?	_____	_____
6. Were appropriate behavior, attitude, and working relationships maintained by the contractor?	_____	_____
7. Should this contractor be considered for additional work?	_____	_____

**ADD REMARKS ON ANY ITEMS WITH NEGATIVE EVALUATIONS:**

---



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## Step 65: Make Warranty Inspections

**Warranty inspections are conducted to verify the completed work is operating properly.**

### ☐ Work Tasks

- 65.1. Schedule warranty inspections on large projects** two months and 10 months following the retainage release inspection.  
*Construction Specialist*
- 65.2. Verify appointments** with unit owners or renters and the contractor 10 days prior to a scheduled warranty inspection.  
*Construction Specialist*
- 65.3. Conduct the two-month inspection.** Use the initial specifications and all change orders that were executed. Walk through the house, location by location, checking the operation of all equipment and any assembly with moving parts such as windows, doors, toilets, etc.  
*Construction Specialist*
- 65.4. Conduct the 10-month inspection,** again using the initial set of specifications with change orders, and notes from the two-month inspection. Reinspect the property, location by location. Develop a Punch List of all unacceptable equipment or assemblies with moving parts that are defective.  
*Construction Specialist*
- 65.5. Use a form letter** and include the warranty inspection Punch List, notifying the contractor of the items to be corrected within a 30-day period.  
*Construction Specialist*

- 65.6. Verify completion of the repairs** to the warranty items at the end of the 30-day period by performing a final Punch List inspection. Log Warranties Inspections in the job file as the final entries and then process it for filing.

*Construction Specialist*

■ **Execution Variables**

- On smaller projects, the two-month inspection might be skipped in favor of responding to complaints about broken or unserviceable items.

## **ADDENDA**

- 1 Sample Housing Survey Form
- 2 Typical Survey Report Formats
- 3 Typical Multifamily Project Pro Forma
- 4 Model Multifamily Pro Forma
- 5 Typical Contractor Qualification Procedures
- 6 Typical General Conditions
- 7 Performance Bond and Payment Bond
- 8 Release of Liens
- 9 Project Schedule
- 10 Sample Accounting Report
- 11 Substantial Rehab Site Evaluation Checklist
- 12 New Construction Site Evaluation Checklist
- 13 Typical Engineering Report on a Multifamily Rehab Project
- 14 Preliminary Estimate Summary Form
- 15 Standard Form of Agreement Between Owner and Architect
- 16 Typical Outline Specifications
- 17 Consolidated Cost Estimate Form
- 18 Contractor's Qualification Statement
- 19 Goals and Objectives of the Contractor Interview
- 20 Construction Contract
- 21 Typical Loan Escrow Agreement
- 22 Bid Proposal Form
- 23 Application and Certificate for Payment
- 24 Change Order
- 25 Certificate of Substantial Completion
- 26 Typical Punch List Items

**ADDENDUM 1: SAMPLE HOUSING SURVEY FORM**

1st try day/time \_\_\_\_\_ Go back time/day \_\_\_\_\_

**HOUSEHOLD SURVEY**

Interviewer(s) \_\_\_\_\_ Date Complete: \_\_\_\_\_

# Dwelling units: \_\_\_\_\_ Address: \_\_\_\_\_

FIRST, I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE HOME YOU LIVE IN. YOUR ANSWERS WILL BE CONFIDENTIAL AND USED TO PLAN HOW BEST TO HELP YOUR NEIGHBORHOOD WITH HOUSING.

A. Do you own, rent, or have some other arrangements?

- |                 |                                   |
|-----------------|-----------------------------------|
| 1 Own           | 3 Other (specify): _____          |
| 2 Rent or lease | 99 NR/DK (No Response/Don't Know) |

\_\_\_\_\_ (1)

B. How much do you spend each month for housing?

**RENTER**

Rent per month

- |                  |                  |
|------------------|------------------|
| 1 Under \$50     | 5 \$201 to \$250 |
| 2 \$51 to \$100  | 6 \$251 to \$300 |
| 3 \$101 to \$150 | 7 \$301 to \$400 |
| 4 \$151 to \$200 | 8 \$401 and up   |

- OR -

**HOMEOWNER**

House Payment (including taxes, or add in an estimate of taxes)

- |                   |                   |
|-------------------|-------------------|
| 9 Under \$50      | 14 \$251 to \$300 |
| 10 \$51 to \$100  | 15 \$301 to \$400 |
| 11 \$101 to \$150 | 16 \$401 to \$500 |
| 12 \$151 to \$200 | 17 \$501 and up   |
| 13 \$201 to \$250 |                   |

- OR -

Renter/Owner

- |                     |
|---------------------|
| 18 Nothing          |
| 99 NR (No Response) |

\_\_\_\_\_ (2)

ADDENDUM 1

Page 2

C. How much per month do you spend in the spring and summer for utilities? (If multi-unit, divide cost)

- |   |                |    |                  |
|---|----------------|----|------------------|
| 1 | Under \$20     | 7  | \$121 to \$140   |
| 2 | \$21 to \$40   | 8  | \$141 to \$160   |
| 3 | \$41 to \$60   | 9  | \$161 & up       |
| 4 | \$61 to \$80   | 10 | Nothing          |
| 5 | \$81 to \$100  | 99 | NR (No Response) |
| 6 | \$101 to \$120 |    |                  |

\_\_\_\_\_  
(3)

D. How much do you spend per month in the fall and winter for utilities (Divide cost for multi-unit).

- |   |                |    |                  |
|---|----------------|----|------------------|
| 1 | Under \$20     | 7  | \$121 to \$140   |
| 2 | \$21 to \$40   | 8  | \$141 to \$160   |
| 3 | \$41 to \$60   | 9  | \$161 & up       |
| 4 | \$61 to \$80   | 10 | Nothing          |
| 5 | \$81 to \$100  | 99 | NR (No Response) |
| 6 | \$101 to \$120 |    |                  |

\_\_\_\_\_  
(4)

E. OWNERS ONLY: How much do you pay each year for fire insurance? (If multi-unit, divide cost per unit).

- |   |               |    |                  |
|---|---------------|----|------------------|
| 1 | \$ 1 - \$100  | 6  | Can't get        |
| 2 | \$101 - \$200 | 7  | Don't know       |
| 3 | \$201 - \$300 | 8  | Don't want it    |
| 4 | \$301 - \$400 | 99 | NR (No Response) |
| 5 | \$401 - \$500 |    |                  |

\_\_\_\_\_  
(5)

F. What don't you like about your house/apartment?

(DON'T PROMPT, SIMPLY CIRCLE THE 3 RESPONSES WHICH ARE CLOSEST TO ANSWERS GIVEN TO THIS QUESTION).

- |    |                        |    |                    |
|----|------------------------|----|--------------------|
| 1  | Too small              | 9  | Bad Wiring         |
| 2  | Too big                | 10 | Needs new kitchen  |
| 3  | Needs paint            | 11 | Needs new bathroom |
| 4  | Needs minor repair     | 12 | Bad porches/sheds  |
| 5  | Landlord slow to fix   | 13 | Needs roof         |
| 6  | Can't afford           | 14 | Bad windows        |
| 7  | Bad neighborhood       | 15 | No heat/poor heat  |
| 8  | Bad plumbing           | 99 | NR (No Response)   |
| 16 | Other (specify): _____ |    |                    |

\_\_\_\_\_  
(6)

\_\_\_\_\_  
(7)

\_\_\_\_\_  
(8)

**ADDENDUM 1**

Page 3

G. RENTERS ONLY: Would you like to buy this house or another house if it were fixed up the way you wanted it and you could afford it?

1	Yes	3	Not sure
2	No	99	NR (No Response)

---

(9)

Comments, if any: \_\_\_\_\_

H. RENTERS ONLY: IF YES TO QUESTION G (ABOVE)  
How much per month would you be willing to pay to own a house that you liked?

2	\$100 - \$150	6	\$301 - \$350
3	\$151 - \$200	7	\$351 & up
4	\$201 - \$250	99	NR (No Response)
5	\$251 - \$300		

---

(10)

I. OWNERS ONLY: ONLY IF THERE WERE COMPLAINTS ABOUT THE CONDITION OF THE HOUSE (see question F). What help do you need to get your house fixed up? (DON'T PROMPT - PICK UP TO THREE)

1	No help	5	Materials
2	Loan	6	Family Help
3	Good contractor(s)	7	Grant
4	More income/cash	8	Time
99	NR (No Response)	9	Other (specify):

---

(11)

---

(12)

---

(13)

[THE FOLLOWING QUESTIONS ARE FOR BOTH RENTERS AND OWNERS]

J. How much more would you be willing to pay each month if this place were fixed up?

1	Nothing more	7	\$101 to \$140
2	Won't take loan	8	\$141 to \$200
3	\$1 to \$20	9	\$201 and up
4	\$21 to \$40	10	Not sure
5	\$41 to \$60	99	NR (No Response)
6	\$61 to \$100		

---

(14)

ADDENDUM 1

Page 4

K. ONLY IF THERE WERE COMPLAINTS ABOUT THE  
CONDITION OF THE HOUSE OR APT. (see  
Question F) Would you or your family be  
willing to do some of the repairs on your  
home (apartment) if materials were provided?

\_\_\_\_\_ (15)

1 No 2 Yes 99 NR (No Response)

If so, what kind of repairs? \_\_\_\_\_

(DON'T PROMPT - PICK UP TO TWO)

3 Painting inside 7 Electrical

4 Painting outside 8 Roofing

5 Carpentry 9 Demolition

6 Plumbing 10 Other (Specify): \_\_\_\_\_

99 NR (No Response)

\_\_\_\_\_ (16)

\_\_\_\_\_ (17)

NOW I'D LIKE TO ASK YOU A COUPLE OF QUESTIONS ABOUT YOUR NEIGHBORHOOD.

L. Is there an active neighborhood association  
here?

1 Yes

3 Don't know

2 No

99 NR (No Response)

\_\_\_\_\_ (18)

M. Would you be willing to work with that  
group or another group to improve  
housing in the neighborhood?

1 Yes

3 Don't know

2 No

99 NR (No Response)

\_\_\_\_\_ (19)

DEMOGRAPHICS

SO THAT I CAN COMPARE THE NEEDS OF DIFFERENT FAMILIES, I'D LIKE TO ASK  
ABOUT YOU AND YOUR FAMILY. LET ME REMIND YOU THAT ALL ANSWERS WILL BE  
KEPT STRICTLY CONFIDENTIAL.

N. How many years have you lived in your  
neighborhood?

1 5 or less

4 21 to 30

2 6 to 10

5 31 or more

3 11 to 20

99 NR (No Response)

\_\_\_\_\_ (20)

ADDENDUM 1

Page 5

O. How long have you lived at your current address?

1	less than 1 year	5	10 - 20 years
2	1 - 2 years	6	Over 20
3	2 - 5 years	99	NR (No Response)
4	5 - 10 years		

---

(21)

P. Including yourself, how many persons live in your household?

1	One	5	Five
2	Two	6	Six
3	Three	7	Seven
4	Four	8	Eight or more
		99	NR (No Response)

---

(22)

Q. How many elderly persons (62 years or older) live in your household? (If living alone: are you 62 years or older?)

1	One	6	Six
2	Two	7	Seven
3	Three	8	Eight or more
4	Four	99	NR (No Response)
5	Five	0	None

---

(23)

R. How many children 18 years of age or younger live in your household?

1	One	5	Five
2	Two	6	Six
3	Three	99	NR (No Response)
4	Four	0	None

---

(24a)

S. How many of these are six years or younger

1	One	4	Four
2	Two	5	Five or more
3	Three	99	NR (No Response)

---

(24b)



ADDENDUM 1

Page 6

T. Have any children been diagnosed to have lead poisoning?

1	Yes	3	Don't know
2	No	99	NR (No Response)

\_\_\_\_\_  
(24c)

U. If yes, has this house been abated for lead?

1	Yes	3	Don't know
2	No	99	NR (No Response)

\_\_\_\_\_  
(24d)

V. What is the race of most of the people in your household? (25)

1	White	5	Native American Indian
2	Black	6	Other (Specify) _____
3	Hispanic	99	NR (No Response)
4	Asian		

\_\_\_\_\_  
(25)

W. I am going to read several categories of yearly income. When I come to the category that you think includes the total income from everyone in the household per year, please tell me. This information is completely confidential and is for statistical comparisons only. I need only an estimate, not an exact figure.

1	Below \$4,500
2	\$4,501 - \$7,999
3	\$8,000 - \$9,999
4	\$10,000 - \$14,999
5	\$15,000 - \$19,999
6	\$20,000 - \$29,000
7	\$30,000 and above
8	Not known
99	NR (No Response)

\_\_\_\_\_  
(26a)

X. What is the source of your income?

1	DSS (AFDC, GA)
2	Social Security
3	Employment
4	Other
5	Pension

\_\_\_\_\_  
(26b)

ADDENDUM 1

Page 7

Y. Is there anyone in the household who needs help in obtaining a job?

1	Yes	3	Don't know
2	No	99	NR (No Response)

---

(27)

Z. Is there anyone in the household who is looking to upgrade his or her reading, education, job training skills?

1	Yes	3	Don't know
2	No	99	NR (No Response)

---

(28)

ADDENDUM 1

Page 8

HOUSING CONDITION

HOUSE TYPE (Circle answer):

1. Number of stories:                    1     2     3     4
2. Unit Type:                            \_\_\_\_\_ Inside                    \_\_\_\_\_ End
3. Number of bedrooms:                1     2     3     4     5
4. Number of baths:                    1     1-1/2                    2
5. Does the roof leak?                YES     NO
6. Do you have good water pressure? YES     NO
7. What type of heat?                    OIL  
    GAS  
    ELECTRIC  
    CENTRAL DUCTED TO ALL ROOMS  
    CENTRAL PARTIAL  
    SPACE 1,2,3,4
8. How many electric outlets per room (average)? 1   2   3   4
9. Do the lights have wall switches?     All     None     Some
10. Do you have rats or mice?                YES                    NO
11. Does anything need to be fixed?    \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INTERIOR (Inspect and rate A-D)

14. Wall finish (plaster repair): OK     A     B     C     D
15. Floor finish/VCT:                    OK     A     B     C     D
16. Kitchen (42" Cabinets up and down): OK                    REPLACE
17. Bath (3 pieces working):                OK                    REPLACE
- TOILET:                OK                    REPLACE
- TUB:                    OK                    REPLACE
- SINK:                    OK                    REPLACE

ADDENDUM 1

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EXTERIOR (Inspect and rate)

- |                               |      |    |    |   |       |
|-------------------------------|------|----|----|---|-------|
| 18. House needs trim painted: | YES  | NO |    |   |       |
| 19. Entire front painted:     | YES  | NO |    |   |       |
| 20. Condition of windows:     | GOOD |    | OK |   | WORST |
|                               | 1    | 2  | 3  | 4 | 5     |
| 21. Storm windows:            | YES  | NO |    |   |       |
| 22. Needs replacement doors:  | YES  | NO |    |   |       |
| How many?                     | 1    | 2  | 3  | 4 |       |
| 23. Any additions:            | YES  | NO |    |   |       |
| Condition:                    | GOOD |    | OK |   | WORST |
|                               | 1    | 2  | 3  | 4 | 5     |

**HOMEOWNER REQUESTS**

1. What items would you like to have  
done if loan money were available?

How much money would you  
spend on each of these ?

A. \_\_\_\_\_

\$ \_\_\_\_\_

B. \_\_\_\_\_

\$ \_\_\_\_\_

C. \_\_\_\_\_

\$ \_\_\_\_\_

D. \_\_\_\_\_

\$ \_\_\_\_\_

E. \_\_\_\_\_

\$ \_\_\_\_\_

F. \_\_\_\_\_

\$ \_\_\_\_\_

G. \_\_\_\_\_

\$ \_\_\_\_\_

## ADDENDUM 2: TYPICAL SURVEY REPORT FORMATS

The format you use to present the data you have collected and analyzed will greatly effect its impact. Given the demand characteristics of your situation (i.e., time, budget, availability of expertise, audience sophistication, etc.), the data should be presented in as simple a manner as possible. Three sample formats are presented in this Addendum.

### FORMAT A: GENERAL DATA LISTING

Specific Examples of Data Gathered by Using the SAMPLE HOUSING SURVEY FORM

#### QUESTION

#### SURVEY DATA

- A. The majority (59%) owned their own property.
- B. Typically rent was between \$100-\$150 per month. The typical average house payment was between \$151-\$200 per month.
- C. Summer utilities bills ranged between \$41 and \$60 per month. However, the modal category was \$21 to \$40.
- D. Utility costs are higher in winter, with the modal category being \$160 and up, or approximately four times the summer figure.
- E. Few people pay less than \$100 or more than \$300 for fire insurance. The average category was \$201 to \$300.
- F. Residents' complaints fell mainly in the "other" category, followed by paint, plumbing, and porches.
- G/H. Sixty percent of the renters said they would buy rehabilitated property. However, 73% of the total can only pay less than \$100 additional per month.
- I. Twenty-eight percent of owners said they did not need help to fix up their property. Twenty-two percent needed more income. Nineteen percent needed a loan.
- J. Forty-nine percent of residents said they couldn't pay any extra per month to have their place fixed up. Forty-two percent could pay not more than \$100 extra.
- K. Thirty-one percent of respondents would not be able to assist in repairs to their property. Forty-six percent could do interior painting.

## ADDENDUM 2

Page 2

- L. Twenty-six percent of respondents are aware of an active neighborhood association in their area. Forty-two percent said there is no active neighborhood association.
- M. Seventy-three percent said they were willing to work with the neighborhood group.
- N. The majority (76%) lived in their neighborhood over 5 years. The average category was 11 to 20 years.
- O. Sixty-two percent were at their current address over 5 years.
- P. Thirty-two percent were living alone and twenty-seven percent were living with only one other person.
- Q. Fifty-five percent of the households have at least one elderly person at that residence.
- R. Sixty-four percent of the households have no children under 18 years.
- S. Fifty-nine percent of the households were black.
- T. Fifty-five percent of the households made less than \$10,000 per year household income. Twenty-three percent of the households made less than \$5,000 per year.
- U. Thirty-nine percent of the properties had no insulation.

### SAMPLES OF DATA FROM OTHER SOURCES

- o Fifty-four percent of the properties are owner occupied, and thirty-four percent of the properties with owners lived within the city limits.
- o Eighty-two percent of the properties have land valued at less than \$3,000.
- o Fifty-seven percent of the properties were in R-2 (duplex) zones.
- o Thirty percent were in R-3 (apartment) zones; while seventy-six percent of the structures themselves were single-family design.
- o Eighty-seven percent of the properties were approximately 2,500 feet from industrial activities.
- o Average rooms per unit are 4, and the mode is 5 room units.

**ADDENDUM 2**

Page 3

- o Ninety-four percent of the properties are one-story houses.
- o Forty-two percent of the properties have BCW type foundation.
- o There was an average 1,416 square feet per structure.
- o The average dwelling unit size was 1,167 square feet.
- o The average of the replacement costs as estimated by the Tax Assessment Office was \$28,167.
- o The cost per dwelling unit was \$22,972.
- o The average replacement cost per square foot was \$19.71.
- o The average of the condition percentage as estimated by the Tax Assessment Office was 52%.
- o Fifty-seven percent of the houses were built before 1941.
- o The average total appraisal market value was \$17,981 at a condition level of 52% good.



**ADDENDUM 2**

Page 4

ADJUSTED REHAB COST

A. AVERAGE REHAB COST FOR CASES BETWEEN \$1,000 AND \$25,000

<u>TRADE CATEGORY</u>	<u>MIN</u>	<u>MAX</u>	<u>SUM</u>
1. ROOF	0	1,740	80,160
2. SIDING	0	1,080	88,700
3. EXTERIOR	0	2,489	84,281
4. WINDOW	0	2,250	41,615
5. GENERAL	0	12,825	323,488
6. FOUNDATION	0	1,200	13,750
7. HEATER	0	2,000	32,555
8. INSULATION	0	800	40,450
9. ELECTRIC	0	1,480	41,800
10. PLUMBING	0	1,560	28,450
11. TOTAL	1,040	21,583	620,259
12. RANGE	2	6	255

<u>TRADE CATEGORY</u>	<u>MEAN</u>	<u>STD</u>	<u>N</u>
1. ROOF	327	525	92
2. SIDING	366	463	92
3. EXTERIOR	372	488	92
4. WINDOW	452	487	92
5. GENERAL	3,516	3,139	92
6. FOUNDATION	149	292	92
7. HEATER	357	608	92
8. INSULATION	439	314	92
9. ELECTRIC	454	497	92
10. PLUMBING	309	414	92
11. TOTAL	6,741	4,834	92
12. RANGE	2	1	92

B. REHAB COSTS BY REPAIR CATEGORY

	<u>MIN</u>	<u>MAX</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD</u>	<u>N</u>
1. ROOF	0	1,740	31,300	274	489	114
2. SIDING	0	1,980	35,201	388	437	114
3. EXTERIOR	0	2,439	36,595	321	470	114
4. WINDOW	0	2,250	44,755	392	472	114
5. GENERAL	0	13,949	341,754	2,997	3,268	114
6. FOUND.	0	1,200	14,950	131	286	114
7. HEATER	0	2,900	35,465	313	614	114
8. INSULAT.	0	800	42,250	370	322	114
9. ELECTRIC	0	1,480	43,860	384	439	114
10. PLUMBING	0	1,905	30,355	266	420	114
11. TOTAL	0	25,377	656,486	5,758	5,305	114

ADDENDUM 2

Page 5

C. DISTRIBUTION OF REHAB COST RANGE

	CODE	FREQ.	%	CUM %
1.	\$ 0-\$ 1,000	21	18.42	18.42
2.	\$ 1,001-\$ 5,000	42	36.84	55.26
3.	\$ 5,001-\$10,000	29	25.44	80.70
4.	\$10,001-\$15,000	13	11.40	92.11
5.	\$15,001-\$20,000	6	5.26	97.37
6.	\$20,001-\$25,000	2	1.75	99.12
7.	\$25,001 +	1	.88	100.00

TOTAL GOOD CASES = 114

FORMAT B: DATA PRESENTED BY TOPIC AREA

Organizing data by topic area can help focus the audience on issues that are of importance. The choice of topics should reflect the needs of both the audience and the program.

REHAB COST BY HOUSEHOLD INCOME

1. Forty-six percent of the respondents with a household income below \$4,999 had a rehab cost of \$1,001-\$5,000.
2. All the properties with a rehab cost of \$15,001-\$20,000 were occupied by those with a household income less than \$10,000.
3. All the properties with a rehab cost of \$20,001-\$25,000 were occupied by those with a household income of \$10,000-\$14,999.
4. Less than 1% of the properties had a rehab cost over \$25,000.
5. Thirty-seven of the properties had a rehab cost of \$1,001-\$5,000. The average rehab cost was \$5,758.65
6. Twenty-nine percent of the houses with a rehab cost of \$1,001-\$5,000 were occupied by those with a household income below \$4,000, and twenty-seven percent by those with income of \$20,000-\$29,999.

## ADDENDUM 2

Page 6

### FORMAT C: SAMPLE DATA CHARTS

Selectively presenting data via charts can be very effective. However, the overuse of charts can obscure important information and confuse the audience. Mixing charts with selected data can enhance the effectiveness of both.

1. The most frequent complaints (23%) of the renters were about paint, followed by plumbing, while the most frequent complaints by owners were "others," followed by porches and plumbing. See the chart below for a detailed breakout.

**ADDENDUM 2**

Page 7

CHART #1: TYPE OF COMPLAINT BY OWNERS AND RENTERS

CELL CONTENTS:

NUMBER OF RESPONSES PERCENT OF RESPONSES	OWNERS	RENTERS	TOTALS
TOO SMALL	4 7.69	2 5.71	6
NEEDS PAINT	5 9.62	8 22.86	13
NEEDS MINOR REPAIR	1 1.92	2 5.71	3
OWNER SLOW TO FIX	0 0	2 5.71	2
PLUMBING	6 11.54	7 20	13
WIRING	5 9.52	0 0	5
KITCHEN	3 5.77	1 2.85	4
BATHROOM	3 5.77	3 8.57	6
PORCHES	8 15.38	2 5.71	10
ROOF	2 3.85	1 2.86	3
WINDOWS	2 3.85	1 2.86	3
HEATING	1 1.92	3 8.57	4
OTHER	12 23.08	3 8.57	15
TOTALS	52 59.77	35 40.23	87

ADDENDUM 2 Page 8

CHART #2: OWNER COMPLAINTS BY TYPE OF HELP NEEDED  
(CELL CONTENTS: NUMBER OF RESPONSES, COLUMN PERCENT TYPE OF HELP NEEDED)

	GOOD			MORE			FAMILY			TOTALS
	NO HELP	LOAN	CONTRACTOR	INCOME	MATERIALS	HELP	GRANT	OTHER		
TOO SMALL	0	0	1	2	0	0	0	0	3	
	0	0	50	18.18	0	0	0	0		
NEEDS PAINT	2	0	0	1	1	0	1	0	5	
	18.18	0	0	9.09	25	0	12.5	0		
NEEDS MINOR REPAIR	1	0	0	0	0	0	0	0		
	9.09	0	0	0	0	0	0	0		
PLUMBING	0	1	0	2	1	0	1	1	5	
	0	11.11	0	18.19	25	0	12.5	100		
WIRING	0	2	0	1	0	0	1	0	4	
	0	22.22	0	9.09	0	0	12.5	0		
KITCHEN	0	1	0	1	0	0	1	0	3	
	0	11.11	0	9.09	0	0	12.5	0		
BATHROOM	0	1	0	0	1	0	0	0	2	
	0	11.11	0	0	25	0	0	0		
PORCHES	3	0	1	2	1	0	0	0	7	
	27.27	0	50	18.18	25	0	0	0		
ROOF	1	0	0	1	0	0	0	0	2	
	9.09	0	0	9.09	0	0	0	0		
WINDOWS	0	1	0	0	0	0	1	0	2	
	0	11.11	0	0	0	0	12.5	0		
HEATING	0	0	0	0	0	0	1	0	1	
	0	0	0	0	0	0	12.5	0		
OTHER	4	3	0	1	0	1	2	0	11	
	36.36	33.33	0	9.09	0	100	25	0		
TOTALS	11	9	2	11	4	1	8	1	47	

**ADDENDUM 2**

Page 9

**C. WILLINGNESS TO PAY EXTRA FOR A REHABBED HOUSE**

1. Fifty-four percent of those who said they could not pay any extra per month if their places were fixed up were owners.
2. Fifty percent of the owners said they could not pay any extra per month if their places were fixed up, while forty-eight percent of the renters said they could not pay any extra.
3. Those willing to pay over \$100 extra per month for their places to be fixed up were all owners.

**CHART #3: WILLINGNESS TO PAY EXTRA**

**CELL CONTENTS:**

NUMBER OF RESPONSES  
COLUMN PERCENT

	OWNERS	RENTERS	TOTALS
NOTHING MORE	21 50	18 48.65	39
WON'T TAKE LOAN	2 4.76	0 0	2
\$1-20	3 7.14	7 18.92	10
\$21-40	2 4.76	2 5.41	4
\$41-60	4	3	7
\$61-100	5 14.29	4 10.81	9
\$101-140	1 2.38	1 0	2
\$141-200	2 4.76	0 0	2
NOT SURE	1 2.38	3 8.11	4
TOTALS	42	37	79

ADDENDUM 3: TYPICAL MULTIFAMILY PROJECT PRO FORMA

PROJECT: \_\_\_\_\_ STATUS: \_\_\_\_\_

UNITS: \_\_\_\_\_ DATE: \_\_\_\_\_

SOURCES OF FUNDS

<u>Type/Source</u>	<u>Rate/Term</u>	<u>Amount</u>
--------------------	------------------	---------------

Pre-development

Acquisition

Construction

Permanent

Total Permanent Financing \$ \_\_\_\_\_

**ADDENDUM 3**

Page 2

USES OF FUNDS

<u>Acquisition Costs</u>	AMOUNT	PER UNIT
Land	\$	\$
Building		
Other		
Subtotal	\$	\$
<u>Rehabilitation</u>		
Residential	\$	\$
Commercial		
Site Improvements		
Contingency (10%)		
Other		
Subtotal	\$	\$
<u>Development Costs</u>		
Options	\$	\$
Holding Costs (property taxes, utilities during construction)		
Working Capital		
Architect		
Engineering		
Construction Supervision (EF)		
Construction Interest		
Security		
Legal		
Accounting		
Survey		
Appraisal		
Title Search, Insurance		
Loan Costs		
Builder's Risk, Liability Insurance		
Development Fees		
Organizational Overhead		
Real Estate Taxes		
Other: Initial Replacement Reserve		
Reserve for Rent Up		
Advertising		
Other Closing Costs		
Market Study		
Property Insurance Escrow		
Subtotal	\$	\$



**ADDENDUM 3**

Page 3

Syndication Costs

Legal  
Accounting  
Broker/Dealer  
Printing and Misc.  
Investor Service Fee  
Other

Subtotal	\$ _____	\$ _____
<b>TOTAL</b>	<b>\$ _____</b>	<b>\$ _____</b>

ADDENDUM 3

Page 4

RENTAL PROJECT  
INCOME AND EXPENSE STATEMENT

PROJECT: \_\_\_\_\_ STATUS: \_\_\_\_\_

UNITS: \_\_\_\_\_ DATE: \_\_\_\_\_

INCOME

MONTHLY  
INCOME                      ANNUAL  
INCOME

Gross Residential Rents

Bdrm      # of      Monthly  
Size      Units      Rents/Unit

Gross Residential Rents	_____	_____
	\$	\$
Less Vacancy (    )		
Subtotal	_____	_____
	\$	\$

Other Income

Type

Subtotal	_____	_____
	\$	\$
<b>EFFECTIVE GROSS INCOME</b>	<b>\$ _____</b>	<b>\$ _____</b>



RENTAL PROJECT  
UNDERWRITING ANALYSIS

PROJECT: \_\_\_\_\_ STATUS: \_\_\_\_\_

UNITS: \_\_\_\_\_ DATE: \_\_\_\_\_

CASH FLOW ANALYSIS:

EFFECTIVE GROSS INCOME \_\_\_\_\_

LESS OPERATING EXPENSES ( \_\_\_\_\_ )

NET OPERATING INCOME \_\_\_\_\_

LESS DEBT SERVICE ( \_\_\_\_\_ )

NET CASH FLOW \_\_\_\_\_

PER UNIT DEVELOPMENT COST \_\_\_\_\_

ENTERPRISE LEVERAGE RATIO \_\_\_\_\_

LOAN/VALUE RATIO ( \_\_\_\_\_ / \_\_\_\_\_ ) \_\_\_\_\_

DEBT COVERAGE RATIO ( \_\_\_\_\_ / \_\_\_\_\_ ) \_\_\_\_\_

TOTAL ANNUAL RENT TO TENANT (PER MONTH \_\_\_\_\_) \_\_\_\_\_

TOTAL ANNUAL OTHER COSTS TO TENANT  
(PER MONTH \_\_\_\_\_) \_\_\_\_\_

TOTAL ANNUAL HOUSING COST (PER MONTH \_\_\_\_\_) \_\_\_\_\_

PERCENT OF \$12,100 INCOME \_\_\_\_\_

PERCENT OF UNITS AFFORDABLE TO \$12,100 INCOME

**ADDENDUM 4: MODEL MULTIFAMILY PRO FORMA**

Awaiting

PROJECT: Highview Townhomes STATUS: Financing Approval

UNITS: 28 DATE: February 8, 1988

SOURCES OF FUNDS - CONSTRUCTION PHASE

<u>Type/Source</u>	<u>Rate / Term</u>	<u>Amount</u>
<u>Pre-development</u>		
Loan Enterprise Foundation	6% / 1 year	\$ 7,500
Grant/Dandeker Foundation		7,500
	Subtotal	<u>\$ 15,000</u>
<u>Acquisition</u>		
		-0 <sup>-1</sup>
	Subtotal	<u>\$</u>
<u>Construction</u>		
Loan/Enterprise	6% / 1 year	50,000
Loan/Dandeker	6% / 1 year	50,000
Homes for the region (HFTR)	10% / 1 year	1,283,523
		<u>\$1,383,523</u>
	<b>TOTAL</b>	<b><u>\$1,383,523</u></b>

---

<sup>1</sup> Assumes free transfer of land from city.

**ADDENDUM 4**

Page 2

**USES OF FUNDS - CONSTRUCTION PHASE**

<u>Acquisition Costs</u>	<u>Amount</u>	<u>Per Unit</u>
Land	\$ 0	\$ 0
Building	0	0
Other	0	0
Subtotal	\$ 0	\$ 0
<u>New Construction Costs</u>		
Construction	\$1,039,316	\$ 37,118
Contingency (6%)	60,623	2,166
Bond	29,248	1,045
Subtotal	\$1,129,198	\$ 40,329
<u>Development Costs</u>		
Architectural & Engineering	\$ 22,000	\$ 786
Construction Management	30,000	1,071
Holding Costs	5,000	179
Insurance/Builders' Risk	22,000	786
Legal	7,000	250
Appraisal	2,500	90
Title Search Insurance	4,350	155
Survey	4,400	157
Development Fee	56,000	2,000
Recording Fee	6,075	217
Transfer Tax	6,075	217
Loan Costs	20,250	723
Construction Interest	74,250	2,652
	\$ 254,325	\$ 9,083
TOTAL	<u>\$1,383,523</u>	<u>\$ 49,412<sup>1</sup></u>

---

<sup>1</sup> Per-unit costs will increase to \$54,528 if city charges group for land.

**ADDENDUM 4**

Page 3

**DIRECT HOMEOWNERSHIP PROJECT  
PURCHASE ANALYSIS**

SOURCES OF FUNDS

<u>Type/Source</u>	<u>Rate/Term</u>	<u>Amount</u>
Purchaser's Cash		\$ 2,600
First Mortgage (HFTR)	10.56%/30 years	20,900
Second Mortgage (dedicated fund)	3%/30 years	28,500
	<b>TOTAL</b>	<b><u>\$52,000</u></b>

USES OF FUNDS AT SALE

Sale Price	49,412
Closing Costs	2,588 <sup>1</sup>
	<b>TOTAL</b>
	<b><u>\$52,000</u></b>

SUMMARY OF INDIVIDUAL HOUSING COSTS

	<u>MONTHLY</u>	<u>ANNUAL</u>
Property Taxes	\$ 82	\$ 980
Insurance	25	300
Maintenance	30	360
Utilities	<u>40</u>	<u>480</u>
	<b>SUBTOTAL</b>	<b>\$2,120</b>
Debt Service		
First Mortgage	192	2,304
Second Mortgage	25	300
	<b>SUBTOTAL</b>	<b><u>\$2,604</u></b>
	<b>TOTAL COSTS</b>	<b><u>\$4,724</u></b>

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<sup>1</sup> Closing costs included in sales price

ADDENDUM 4

Page 4

DIRECT HOMEOWNERSHIP PROJECT  
UNDERWRITING ANALYSIS

PROJECT: Highview Townhomes STATUS \_\_\_\_\_

UNITS: 28 DATE: February 8, 1988

PER-UNIT DEVELOPMENT COST \$49,412

ENTERPRISE LEVERAGE RATIO 28/1

LOAN/VALUE RATIO (1,310,723/1,584,631) 82.7%

TOTAL ANNUAL HOUSING COST \$ 4,724

PERCENT OF \$ 14,000 INCOME 35%

PERCENT OF UNITS AFFORDABLE TO \$14,000 INCOME 100%

PITI - PURCHASE PHASE \$ 324

PERCENT OF \$14,000 INCOME 28%



## ADDENDUM 5: TYPICAL CONTRACTOR QUALIFICATION PROCEDURES

1. Contractor completed "Contractor's Qualification Statement," AIA Document A305 (or similar form) and filed with program
2. Contractor furnished certificate(s) of insurance
3. Program staff reviewed documentation for completeness and apparent appropriateness for the production model
4. Program or lending institution staff verified information
  - a. Creditor/business information
    - o Dun and Bradstreet status reviewed
    - o Trade references interviewed
    - o Bank references interviewed
  - b. Review of contractor's previous work
    - o On-site visit(s) conducted
    - o Telephone interview with past customer(s) completed
  - c. Better Business Bureau contacted
  - d. Consumer Protection Office contacted
5. Program staff reviewed contractor's file and decision was made for inclusion or rejection of contractor on Bidders' List.

**ADDENDUM 6: TYPICAL GENERAL CONDITIONS**

**AIA DOCUMENT A201**

**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

# INSTRUCTION SHEET

FOR AIA DOCUMENT A201, GENERAL CONDITIONS OF THE  
CONTRACT FOR CONSTRUCTION—1987 Edition

SAMPLE

## A. GENERAL INFORMATION

### 1. Purpose

AIA Document A201, a general conditions form, is intended to be used as one of the Contract Documents forming the Construction Contract. In addition, it is frequently adopted by reference into a variety of other agreements, including the Owner-Architect agreements and the Contractor-Subcontractor agreements, in order to establish a common basis for the primary and secondary relationships on the typical construction project.

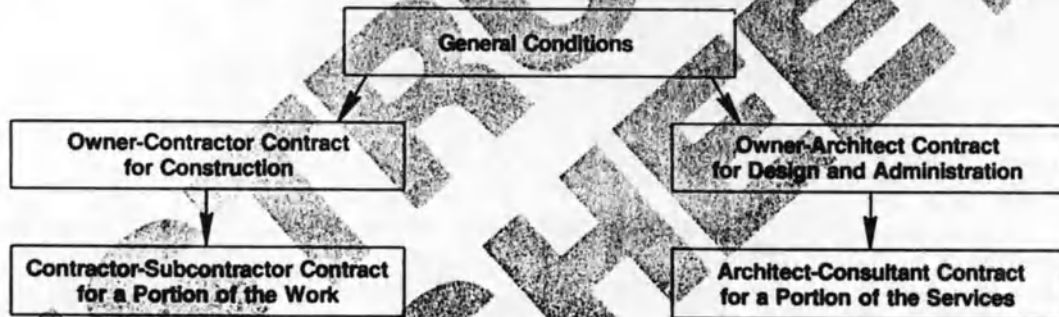
### 2. Related Documents

The current edition of A201 is incorporated by specific reference into two AIA Owner-Contractor agreements (A101 and A111) and several AIA Owner-Architect agreements (B141, B151, B161 and B181). It may also be adopted by indirect reference when the prime Agreement between the Owner and Contractor is adopted into a Subcontract, such as AIA Document A401, or when the prime Agreement between the Owner and Architect is adopted into Architect-Consultant agreements such as AIA Documents C141, C142, C161 and C431. Such incorporation by reference is a valid legal drafting method, and documents so incorporated are generally interpreted as part of the respective contract.

The Contract Documents, including A201, record the Contract for Construction between the Owner and the Contractor. The other Contract Documents include:

- Owner-Contractor Agreement Form (i.e., A101 or A111)
- Supplementary and Other Conditions
- Drawings
- Specifications
- Modifications

Also included in the Contract Documents are addenda issued prior to execution of the Contract and other documents listed in the Agreement. The A201 document is considered the keystone document coordinating the many parties involved in the construction process. As mentioned above and diagramed below, it is a vital document used to allocate the proper legal responsibilities of the parties.



The AIA publishes other General Conditions that parallel A201 for the construction management family of documents (AIA Document A201/CM) and the interiors family of documents (AIA Document A271). For certain federal projects, the AIA publishes the A201 document with Federal Supplementary Conditions (AIA Document A201/SC).

### 3. Arbitration

The A201 document incorporates ARBITRATION according to the Construction Industry Arbitration Rules of the American Arbitration Association. Arbitration is BINDING AND MANDATORY in most states and under the federal Arbitration Act. In a minority of states, arbitration provisions related to future disputes are not enforceable, but arbitration is enforceable if agreed to after the dispute arises. A few states require that the contracting parties be especially notified that the written contract contains an arbitration provision by: a warning on the face of the document; specific placement of the arbitration provision within the document; or specific discussions among the parties prior to signing the document.

Arbitration provisions have been included in most AIA contract forms since 1888 in order to encourage alternative dispute resolution procedures and to provide users of AIA documents with legally enforceable arbitration provisions when the parties choose to adopt arbitration into their contract. Individuals may, however, choose to delete the arbitration provisions based upon their business decisions with the advice of counsel. To obtain a copy of the Construction Industry Arbitration Rules, write to the American Arbitration Association, 140 West 51st St., New York, NY 10020.

#### 4. Use of Non-AIA Forms

If a combination of AIA documents and non-AIA documents is to be used, particular care must be taken to achieve consistency of language and intent. Certain owners require the use of owner-contractor agreements with general conditions and other contract forms which they prepare. Such forms should be carefully compared with the standard AIA forms for which they are being substituted before execution of an agreement. If there are any significant omissions, additions or variances from the terms of the related standard AIA forms, both legal and insurance counsel should be consulted.

#### 5. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents Price List to determine the current edition of each document.

#### 6. Reproduction

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### B. CHANGES FROM THE PREVIOUS EDITION

#### 1. Format Changes

The provisions dealing with the rights and responsibilities of the Architect have been moved from Article 2 to Article 4, retitled Administration of the Contract, in order to focus on the Owner and the Contractor as the parties to the Construction Contract. Miscellaneous Provisions, formerly Article 7, is now Article 13.

#### 2. Changes in Content

The 1987 edition of A201 revises the 1976 edition to reflect changes in construction industry practices and the law. Comments and assistance in this revision were received from numerous individuals and organizations, including those representing owners, architects, engineers, specifiers, general contractors, subcontractors, sureties, attorneys and arbitrators.

Substantial changes have been made to the A201 document. The principal changes are as follows.

##### Article 3: Contractor

**Warranty**—The warranty provision now explicitly excludes damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, and normal wear and tear under normal usage.

##### Article 4: Administration of the Contract

**Review of Shop Drawings**—The provision governing architect's review of shop drawings has been expanded, and now requires that the architect be given sufficient time in his or her professional judgment to conduct an adequate review. The general limitation on the purpose of the Architect's review to checking for conformance with the information given and the design concept expressed in the Contract Documents has been retained. In addition, language has been added specifically excluding purposes of checking details that are the responsibility of the Contractor.

**Claims and Disputes**—Provisions governing the handling of Claims and disputes have been expanded and brought together in a single paragraph to spell out procedures more clearly and sequentially; diagrams of the Change Order and Claims processes may be found on the last page of this Instruction Sheet. In the interest of expediting arbitration proceedings, a notice of demand for arbitration is now required to include all causes of action then known to the party filing the demand. Limitations on consolidation or joinder in arbitration of the Architect or the Architect's employees or consultants have been retained.

**Delays Due to Adverse Weather Conditions**—Claims for delay due to adverse weather conditions must now be substantiated by data showing that such conditions were out of the ordinary and had an adverse effect on the scheduled construction.

##### Article 5: Subcontractors

**Contingent Assignment of Subcontracts**—A new provision assigns Subcontracts to the Owner in the event that the Contract is terminated, and also provides for adjustment of the Subcontractor's compensation if termination has resulted in suspension of the Work for more than 30 days. Both Owner and Subcontractors are thus given a measure of protection from the effects of termination.

## Article 7: Changes in the Work

This article has undergone substantial revision, and provides for a new type of document. The Change Order is now required to be signed by the Owner, Contractor and Architect. In the event the Contractor's agreement cannot be obtained, a new document, a Construction Change Directive which is signed by the Owner and Architect, shall be issued. Both of these situations were previously covered by Change Orders. Now they are separated so that they can, if necessary, be handled independently. A diagram of the process may be found on the last page of this Instruction Sheet.

## Article 9: Payments and Completion

**Substantial Completion**—The Substantial Completion provisions now explicitly allow for partial occupancy or use. A Certificate of Substantial Completion covering a portion of Work is provided for, and consent of the insurer of the property is required.

## Article 10: Protection of Persons and Property

**Asbestos, PCB and Other Hazardous Wastes**—The problem of hazardous wastes is addressed, for the first time, in a paragraph prescribing procedures to be followed in the event such substances are encountered on the site. Under its provisions, the Work may only proceed in the affected area by written consent of the Owner and Contractor, or in accordance with a determination of the Architect upon which arbitration has not been demanded.

## Article 11: Insurance and Bonds

This article has been expanded to cover bonds as well, and it is now provided that bonding requirements must be made known to the Contractor in the bidding requirements or at the time the Contract is signed. The Contractor, in turn, is required to furnish copies of the bonds on request to any person appearing to be a beneficiary of them.

Owner's property insurance is now required to be written in the full amount of the Contract Sum and adjusted for changes in the Contract Sum effected by Change Order. The coverages to be included on the "all-risk" policy form are given in much greater detail because "all-risk" merely means coverage of all risks not specifically excluded. In addition, the Owner is now required to insure materials stored off-site or in transit.

## Article 12: Uncovering and Correction of Work

**Correction of Work**—The correction period has been extended with respect to Work performed after Substantial Completion, so that such Work is also covered by a one-year correction period.

## Article 13: Miscellaneous Provisions

**Statutory Limitation Period**—A separate paragraph has been included under Miscellaneous Provisions giving the dates of commencement of the statutory limitation period with respect to acts or failures to act occurring at different points in the Project. This paragraph covers a range of situations and sets three commencement dates: one for occurrences before Substantial Completion, another for those taking place between Substantial Completion and issuance of the final Certificate for Payment, and a third for those taking place after the final Certificate has been issued.

## Article 14: Termination or Suspension of the Contract

Procedures are set out for suspension of the Contract by the Owner for reasons other than the fault of the Contractor. A provision allowing for termination in like circumstances has been included in AIA Document A511, Guide for Supplementary Conditions.

Further details on these changes may be found in the *Architect's Handbook of Professional Practice* when revised. A side-by-side comparison of the 1976 and 1987 editions of A201 will be available for a limited time after publication of the 1987 edition.

## C. USING THE A201 FORM

### Modifications

Users are encouraged to consult an attorney before using an AIA document. Particularly with respect to licensing laws, duties imposed by building codes, interest charges, arbitration and indemnification, this document may require modification with the assistance of legal counsel to fully comply with state or local laws regulating these matters.

Generally, necessary modifications to the General Conditions may be accomplished by Supplementary Conditions included in the Project Manual and referenced in the Owner-Contractor Agreement. See AIA Document A511, Guide for Supplementary Conditions, for model provisions and suggested format for the Supplementary Conditions.

Because A201 is designed for general usage, it does not provide all the information and legal requirements needed for a specific Project and location. Necessary additional requirements must be provided in the other Contract Documents, such as the Supplementary Conditions. Consult AIA Document A521, Uniform Location of Subject Matter, to determine the proper location for such additional stipulations.

It is definitely not recommended practice to retype the standard document. Besides being a violation of copyright, retyping can introduce typographical errors and cloud the legal interpretation given to a standard clause when blended with modifications. Retyping eliminates one of the principal advantages of standard form documents. By merely reviewing the modifications to be made to a standard form document, parties familiar with that document can quickly understand the essence of the proposed relationship. Commercial exchanges are greatly simplified and expedited, good-faith dealing is encouraged, and otherwise latent clauses are exposed for scrutiny. In this way, contracting parties can more confidently and fairly measure their risks.

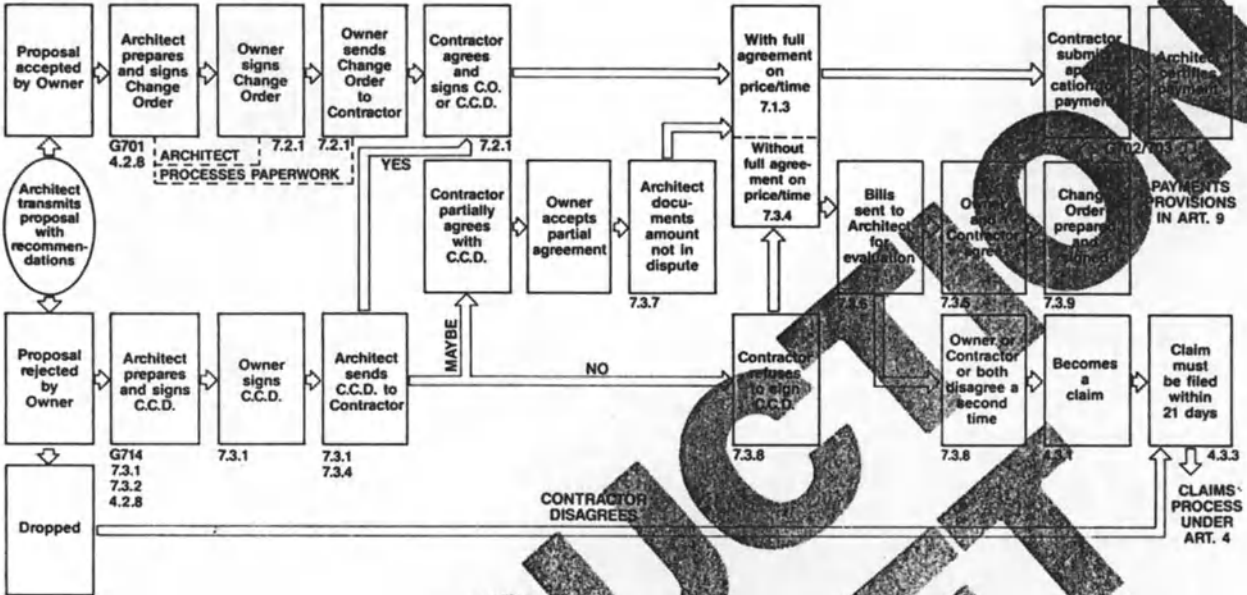


**D. CHANGE ORDERS AND CLAIMS**

The diagrams below are graphic examples of the Change Order and Claims processes under the 1987 edition of AIA Document A201. These diagrams are presented for instructional purposes only, and are not intended to augment or supersede any contract language contained in the document. Users are urged to read the document in its entirety and to consult the relevant contract language regarding the particulars of the processes diagrammed below.

A Change Order may be initiated by the Owner, Contractor or Architect. Typically, upon initiation of the Change Order process, the Architect prepares a copy of AIA Document G709, Proposal Request, and submits it to the Contractor for pricing. This is then conveyed back through the Architect to the Owner, beginning the process diagrammed below.

**CHANGE ORDER PROCESS**



The Claims process may be started through a variety of circumstances, including failure to agree upon the terms of a Change Order as shown in the diagram above. Once the Claim arises, the Owner and Contractor, together with the Architect, seek resolution of the dispute by following specific steps established in the Contract Documents and particularly in A201. These steps are generalized in the diagram below.

**CLAIMS PROCESS**



13.7

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*AIA Document A201*

# General Conditions of the Contract for Construction

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SAMPLE

**ARTICLE 1**

**GENERAL PROVISIONS**

**1.1 BASIC DEFINITIONS**

**1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of addenda relating to bidding requirements).

**1.1.2 THE CONTRACT**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Contractor, (2) between the Owner and a Subcontractor or subcontractor or (3) between any persons or entities other than the Owner and Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

**1.1.3 THE WORK**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

**1.1.4 THE PROJECT**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

**1.1.5 THE DRAWINGS**

The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

**1.1.6 THE SPECIFICATIONS**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equip-

ment, construction systems, standards and workmanship for the Work, and performance of related services.

**1.1.7 THE PROJECT MANUAL**

The Project Manual is the volume usually assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

**1.2 EXECUTION, CORRELATION AND INTENT**

**1.2.1** The Contract Documents shall be signed by the Owner and Contractor as provided in the Agreement. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

**1.2.2** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

**1.2.3** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

**1.2.4** Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

**1.2.5** Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

**1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

**1.3.1** The Drawings, Specifications and other documents prepared by the Architect are instruments or the Architect's service through which the Work to be executed by the Contractor is described. The Contractor may retain one contract record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect, and unless otherwise indicated the Architect shall be deemed the author of them and will retain all common law, statutory and other reserved rights, in addition to the copyright. All copies of them, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the

Work without the specific written consent of the Owner and Architect. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's copyright or other reserved rights.

#### 1.4 CAPITALIZATION

1.4.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in the document or (3) the titles of other documents published by the American Institute of Architects.

#### 1.5 INTERPRETATION

1.5.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

## ARTICLE 2

### OWNER

#### 2.1 DEFINITION

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Owner" means the Owner or the Owner's authorized representative.

2.1.2 The Owner upon reasonable written request shall furnish to the Contractor in writing information which is necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein at the time of execution of the Agreement and, within five days after any change, information of such change in title, recorded or unrecorded.

#### 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 The Owner shall, at the request of the Contractor, prior to execution of the Agreement and promptly from time to time thereafter, furnish to the Contractor reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. *[Note. Unless such reasonable evidence were furnished on request prior to the execution of the Agreement, the prospective contractor would not be required to execute the Agreement or to commence the Work.]*

2.2.2 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site.

2.2.3 Except for permits and fees which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assess-

ments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

2.2.4 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in orderly progress of the Work.

2.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

2.2.6 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Article 6 (Construction by Owner or by Separate Contractors), Article 9 (Payments and Completion) and Article 11 (Insurance and Bonds).

#### 2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2 or persistently fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3.

#### 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may after such seven-day period give the Contractor a second written notice to correct such deficiencies within a second seven-day period. If the Contractor within such second seven-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's additional services and expenses made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

## ARTICLE 3

### CONTRACTOR

#### 3.1 DEFINITION

3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.

### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

**3.2.1** The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to Subparagraph 2.2.2 and shall at once report to the Architect errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner or Architect for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized such error, inconsistency or omission and knowingly failed to report it to the Architect. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

**3.2.2** The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Architect at once.

**3.2.3** The Contractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 3.12.

### 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

**3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.

**3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

**3.3.3** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect or the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

**3.3.4** The Contractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

### 3.4 LABOR AND MATERIALS

**3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**3.4.2** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

### 3.5 WARRANTY

**3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and not, unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

### 3.6 TAXES

**3.6.1** The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### 3.7 PERMITS, FEES AND NOTICES

**3.7.1** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.

**3.7.2** The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

**3.7.3** It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

**3.7.4** If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs.

### 3.8 ALLOWANCES

**3.8.1** The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities against which the Contractor makes reasonable objection.

**3.8.2** Unless otherwise provided in the Contract Documents:

- 1 materials and equipment under an allowance shall be selected promptly by the Owner to avoid delay in the Work;
- 2 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts.

- .3 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum and not in the allowances;
- .4 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Clause 3.8.2.2 and (2) change in Contractor's costs under Clause 3.8.2.3.

### 3.9 SUPERINTENDENT

**3.9.1** The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

### 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

**3.10.1** The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

**3.10.2** The Contractor shall prepare and keep current, for the Architect's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

**3.10.3** The Contractor shall conform to the most recent schedules.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

**3.11.1** The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, addenda, Change Orders and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work.

### 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

**3.12.1** Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

**3.12.2** Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

**3.12.3** Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

**3.12.4** Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for

which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Architect is subject to the limitations of Subparagraph 4.2.7.

**3.12.5** The Contractor shall review, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action.

**3.12.6** The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect. Such Work shall be in accordance with approved submittals.

**3.12.7** By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

**3.12.8** The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

**3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals.

**3.12.10** Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents.

**3.12.11** When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

### 3.13 USE OF SITE

**3.13.1** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### 3.14 CUTTING AND PATCHING

**3.14.1** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

**3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the

Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

### 3.15 CLEANING UP

**3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

**3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

### 3.16 ACCESS TO WORK

**3.16.1** The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

### 3.17 ROYALTIES AND PATENTS

**3.17.1** The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

### 3.18 INDEMNIFICATION

**3.18.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.

**3.18.2** In claims against any person or entity indemnified under this Paragraph 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 3.18 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

**3.18.3** The obligations of the Contractor under this Paragraph 3.18 shall not extend to the liability of the Architect, the Archi-

tect's consultants, and agents and employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, the Architect's consultants, and agents and employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

## ARTICLE 4

### ADMINISTRATION OF THE CONTRACT

#### ARCHITECT

**4.1.1** The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

**4.1.2** Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

**4.1.3** In case of termination of employment of the Architect, the Owner shall appoint an architect against whom the Contractor makes no reasonable objection and whose status under the Contract Documents shall be that of the former architect.

**4.1.4** Disputes arising under Subparagraphs 4.1.2 and 4.1.3 shall be subject to arbitration.

#### 4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

**4.2.1** The Architect will provide administration of the Contract as described in the Contract Documents, and will be the Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the correction period described in Paragraph 12.2. The Architect will advise and consult with the Owner. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified by written instrument in accordance with other provisions of the Contract.

**4.2.2** The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work. On the basis of on-site observations as an architect, the Architect will keep the Owner informed of progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work.

**4.2.3** The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in Paragraph 3.3. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Con-



tractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

**4.2.4 Communications Facilitating Contract Administration.** Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate through the Architect. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

**4.2.5** Based on the Architect's observations and evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

**4.2.6** The Architect will have authority to reject Work which does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable for implementation of the intent of the Contract Documents, the Architect will have authority to require additional inspection or testing of the Work in accordance with Subparagraphs 3.2.2 and 4.3.5, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

**4.2.7** The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other detail such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Paragraphs 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

**4.2.8** The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph 7.4.

**4.2.9** The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner for the Owner's review and records written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

**4.2.10** If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying

out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

**4.2.11** The Architect will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made with reasonable promptness and within any time limits agreed upon. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Paragraph 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretations until 15 days after written request is made for them.

**4.2.12** Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

**4.2.13** The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

### 4.3 CLAIMS AND DISPUTES

**4.3.1 Definition.** A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate Claims shall rest with the party making the claim.

**4.3.2 Decision by Architect.** Claims, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for action as provided in Paragraph 4.4. A decision by the Architect, as provided in Subparagraph 4.4.4, shall be required as a condition precedent to arbitration or litigation of a Claim between the Contractor and Owner as to all such matters arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and progress of the Work or (2) the extent to which the Work has been completed. The decision by the Architect in response to a Claim shall not be a condition precedent to arbitration or litigation in the event (1) the position of Architect is vacant, (2) the Architect has not received evidence or has failed to render a decision within agreed time limits, (3) the Architect has failed to take action required under Subparagraph 4.4.4 within 30 days after the Claim is made, (4) 45 days have passed after the Claim has been referred to the Architect or (5) the Claim relates to a mechanic's lien.

**4.3.3 Time Limits on Claims.** Claims by either party must be made within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be made by written notice. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted in a timely manner.

**4.3.4 Continuing Contract Performance.** Pending final resolution of a Claim including arbitration, unless otherwise agreed in writing the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**4.3.5 Waiver of Claims: Final Payment.** The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

**4.3.6 Claims for Concealed or Unknown Conditions.** In conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for final determination, subject to further proceeding pursuant to Paragraph 4.4.

**4.3.7 Claims for Additional Cost.** If the Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Paragraph 10.3. If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with the procedure established herein.

**4.3.8 Claims for Additional Time**

**4.3.8.1** If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

**4.3.8.2** If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data

substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the scheduled construction.

**4.3.9 Injury or Damage to Person or Property.** If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after first observance. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided in Paragraphs 4.3.7 or 4.3.8.

**4.4 RESOLUTION OF CLAIMS AND DISPUTES**

**4.4.1** The Architect will review Claims and take one or more of the following preliminary actions within ten days of receipt of a Claim: (1) request additional supporting data from the claimant, (2) submit a schedule to the parties indicating when the Architect expects to take action, (3) reject the Claim in whole or in part, stating reasons for rejection, (4) recommend approval of the Claim by the other party or (5) suggest a compromise. The Architect may also, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim.

**4.4.2** If a Claim has been resolved, the Architect will prepare or obtain appropriate documentation.

**4.4.3** If a Claim has not been resolved, the party making the Claim shall, within ten days after the Architect's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested by the Architect, (2) modify the initial Claim or (3) notify the Architect that the initial Claim stands.

**4.4.4** If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Architect, the Architect will notify the parties in writing that the Architect's decision will be made within seven days, which decision shall be final and binding on the parties but subject to arbitration. Upon expiration of such time period, the Architect will render to the parties the Architect's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both. If there is a surety and there appears to be a possibility of a Contractor's default, the Architect may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**4.5 ARBITRATION**

**4.5.1 Controversies and claims Subject to Arbitration.** Any controversy or Claim arising out of or related to the Contract, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator or arbitrators may be entered in any court having jurisdiction thereof, except controversies or Claims relating to aesthetic effect and except those waived as provided for in Subparagraph 4.3.5. Such controversies or Claims upon which the Architect has given notice and rendered a decision as provided in Subparagraph 4.4.4 shall be subject to arbitration upon written demand of either party. Arbitration may be commenced when 45 days have passed after a Claim has been referred to the Architect as provided in Paragraph 4.3 and no decision has been rendered.

**4.5.2 Rules and Notices for Arbitration.** Claims between the Owner and Contractor not resolved under Paragraph 4.4 shall, if subject to arbitration under Subparagraph 4.5.1, be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect, unless the parties mutually agree otherwise. Notice of demand for arbitration shall be filed in writing with the other party to the Agreement between the Owner and Contractor and with the American Arbitration Association, and a copy shall be filed with the Architect.

**4.5.3 Contract Performance During Arbitration.** During arbitration proceedings, the Owner and Contractor shall comply with Subparagraph 4.3.4.

**4.5.4 When Arbitration May Be Demanded.** Demand for arbitration of any Claim may not be made until the earlier of (1) the date on which the Architect has rendered a final written decision on the Claim, (2) the tenth day after the parties have presented evidence to the Architect or have been given reasonable opportunity to do so, if the Architect has not rendered a final written decision by that date, or (3) any of the five events described in Subparagraph 4.3.2.

**4.5.4.1** When a written decision of the Architect states that (1) the decision is final but subject to arbitration and (2) a demand for arbitration of a Claim covered by such decision must be made within 30 days after the date on which the party making the demand receives the final written decision, then failure to demand arbitration within said 30 days' period shall result in the Architect's decision becoming final and binding upon the Owner and Contractor. If the Architect renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence, but shall not supersede arbitration proceedings unless the decision is acceptable to all parties concerned.

**4.5.4.2** A demand for arbitration shall be made within the time limits specified in Subparagraphs 4.5.1 and 4.5.4 and Clause 4.5.4.1 as applicable, and in other cases within a reasonable time after the Claim has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations as determined pursuant to Paragraph 13.7.

**4.5.5 Limitation on Consolidation or Joinder.** No arbitration arising out of or relating to the Contract Documents shall include, by consolidation or joinder or in any other manner, the Architect, the Architect's employees or consultants, except by written consent containing specific reference to the Agreement and signed by the Architect, Owner, Contractor and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the Owner, Contractor, a separate contractor as described in Article 6 and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Owner, Contractor or a separate contractor as described in Article 6 shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a dispute not described therein or with a person or entity not named or described therein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

**4.5.6 Claims and Timely Assertion of Claims.** A party who files a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded. When a party fails to include a Claim through oversight, inadvertence or excusable neglect, or when a Claim has matured or been acquired subsequently, the arbitrator or arbitrators may permit amendment.

**4.5.7 Judgment on Final Award.** The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

## ARTICLE 5

### SUBCONTRACTORS

#### 5.1 DEFINITIONS

**5.1.1** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

**5.1.2** A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

#### 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

**5.2.1** Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection.

**5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**5.2.3** If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. The Contract Sum shall be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

**5.2.4** The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such change.

### 5.3 SUBCONTRACTUAL RELATIONS

**5.3.1** By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

**5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Paragraph 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

**5.4.2** If the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted.

## ARTICLE 6

### CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

#### 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

**6.1.1** The Owner reserves the right to perform Construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided elsewhere in the Contract Documents.

**6.1.2** When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

**6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule and Contract Sum deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

**6.1.4** Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights which apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

#### 6.2 MUTUAL RESPONSIBILITY

**6.2.1** The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

**6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

**6.2.3** Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

**6.2.4** The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.2.5.

**6.2.5** Claims and other disputes and matters in question between the Contractor and a separate contractor shall be subject to the provisions of Paragraph 4.3, provided the separate contractor has reciprocal obligations.

**6.2.6** The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Paragraph 3.14.

#### 6.3 OWNER'S RIGHT TO CLEAN UP

**6.3.1** If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.15, the Owner may clean up and allocate the cost among those responsible as the Architect determines to be just.

## ARTICLE 7

### CHANGES IN THE WORK

#### 7.1 CHANGES

**7.1.1** Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

**7.1.2** A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

**7.1.3** Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

**7.1.4** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

#### 7.2 CHANGE ORDERS

**7.2.1** A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

- .1 a change in the Work;
- .2 the amount of the adjustment in the Contract Sum, if any; and
- .3 the extent of the adjustment in the Contract Time, if any.

**7.2.2** Methods used in determining adjustments to the Contract Sum may include those listed in Subparagraph 7.3.3.

#### 7.3 CONSTRUCTION CHANGE DIRECTIVES

**7.3.1** A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract: consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

**7.3.2** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

**7.3.3** If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
- .2 unit prices stated in the Contract Documents or subsequently agreed upon.

.3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 as provided in Subparagraph 7.3.6.

**7.3.4** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

**7.3.5** A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

**7.3.6** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, and also under Clause 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph 7.3.6 shall be limited to the following:

- .1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' or workmen's compensation insurance;
- .2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 costs of premiums for all bonds and insurance, permit fees and sales tax or similar taxes related to the Work; and
- .5 additional costs of supervision and field office personnel directly attributable to the change.

**7.3.7** Pending final determination of cost to the Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

**7.3.8** If the Owner and Contractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Architect for determination.

**7.3.9** When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

#### 7.4 MINOR CHANGES IN THE WORK

**7.4.1** The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

### ARTICLE 8

#### TIME

##### 8.1 DEFINITIONS

**8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, stated in the Contract Documents for Substantial Completion of the Work.

**8.1.2** The date of commencement of the Work is the date established in the Agreement. The date shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.

**8.1.3** The date of Substantial Completion is the date certified by the Architect in accordance with Paragraph 9.8.

**8.1.4** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

##### 8.2 PROGRESS AND COMPLETION

**8.2.1** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

**8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgage mechanic's liens and other security interests.

**8.2.3** The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

##### 8.3 DELAYS AND EXTENSIONS OF TIME

**8.3.1** If the Contractor is delayed at any time in progress of the work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

**8.3.2** Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3.

**8.3.3** This Paragraph 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

### ARTICLE 9

#### PAYMENTS AND COMPLETION

##### 9.1 CONTRACT SUM

**9.1.1** The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

##### 9.2 SCHEDULE OF VALUES

**9.2.1** Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. The schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

##### 9.3 APPLICATIONS FOR PAYMENT

**9.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for elsewhere in the Contract Documents.

**9.3.1.1** Such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

**9.3.1.2** Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

**9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

**9.3.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

##### 9.4 CERTIFICATES FOR PAYMENT

**9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the

Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Subparagraph 9.5.1.

**9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections to find deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

## 9.5 DECISIONS TO WITHHOLD CERTIFICATION

**9.5.1** The Architect may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representation to the Owner. The Architect may also decide not to certify payment if, because of subsequently discovered evidence or subsequent observation, it may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.

**9.5.2** When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

## 9.6 PROGRESS PAYMENTS

**9.6.1** After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

**9.6.2** The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in similar manner.

**9.6.3** The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

**9.6.4** Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

**9.6.5** Payment to material suppliers shall be treated in a manner similar to that provided in Subparagraphs 9.6.2, 9.6.3 and 9.6.4.

**9.6.6** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

## 9.7 FAILURE OF PAYMENT

**9.7.1** If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by arbitration, then the Contractor shall, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended proportionately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, which shall be accomplished as provided in Article 7.

## 9.8 SUBSTANTIAL COMPLETION

**9.8.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

**9.8.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or design-



nated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. The Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. When items required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof, unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate.

**9.8.3** Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Architect, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents.

## **9.9 PARTIAL OCCUPANCY OR USE**

**9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Subparagraph 11.3.11 and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, any security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Subparagraph 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

## **9.10 FINAL COMPLETION AND FINAL PAYMENT**

**9.10.1** Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make

such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

**9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims. The making of final payment shall constitute a waiver of claims by the Owner as provided in Subparagraph 4.3.5.

**9.10.4** Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Such waivers shall be in addition to the waiver described in Subparagraph 4.3.5.



## ARTICLE 10

### PROTECTION OF PERSONS AND PROPERTY

#### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

**10.1.1** The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

**10.1.2** In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Architect in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner and Contractor in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless by written agreement of the Owner and Contractor, or in accordance with final determination by the Architect on which arbitration has not been demanded, or by arbitration under Article 4.

**10.1.3** The Contractor shall not be required pursuant to Article 7 to perform without consent any Work relating to asbestos or polychlorinated biphenyl (PCB).

**10.1.4** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Owner or anyone directly or indirectly employed by the Owner or anyone for whose acts the Owner may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Subparagraph 10.1.4.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

**10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors, and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction

**10.2.2** The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

**10.2.3** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

**10.2.4** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and caution on such activities under supervision of properly qualified personnel.

**10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.18.

**10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**10.2.7** The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

#### 10.3 EMERGENCIES

**10.3.1** In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

## ARTICLE 11

### INSURANCE AND BONDS

#### 11.1 CONTRACTOR'S LIABILITY INSURANCE

**11.1.1** The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable

- .1 claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed.

- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;
- .5 claims for damages, other than to the Work itself because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
- .7 claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph 3.18.

**11.1.2** The insurance required by Subparagraph 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.

**11.1.3** Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates and the insurance policies required by this Paragraph 11.1 shall contain a provision that coverages afforded under the policies will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Subparagraph 9.10.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

## **11.2 OWNER'S LIABILITY INSURANCE**

**11.2.1** The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance. Optionally, the Owner may purchase and maintain other insurance for self-protection against claims which may arise from operations under the Contract. The Contractor shall not be responsible for purchasing and maintaining this optional Owner's liability insurance unless specifically required by the Contract Documents.

## **11.3 PROPERTY INSURANCE**

**11.3.1** Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Paragraph 9.10 or until no person or entity

other than the Owner has an insurable interest in the property required by this Paragraph 11.3 to be covered, whichever is earlier. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

**11.3.1.1** Property insurance shall be on an all-risk policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, false-work, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for architect's services and expenses required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise provided in the Contract Documents.

**11.3.1.2** If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

**11.3.1.3** If the property insurance requires minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles. If deductibles are not identified in the Contract Documents, the Owner shall pay costs not covered because of deductibles.

**11.3.1.4** Unless otherwise provided in the Contract Documents, this property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

**11.3.2 Boiler and Machinery Insurance.** The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

**11.3.3 Loss of Use Insurance.** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

**11.3.4** If the Contractor requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

**11.3.5** If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Subparagraph 11.3.7 for damages caused by fire or other perils covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

**11.3.6** Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Paragraph 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Contractor.

**11.3.7 Waivers of Subrogation.** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this Paragraph 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

**11.3.8** A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgage clause and of Subparagraph 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

**11.3.9** If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or in accordance with an arbitration award in which case the procedure shall be as provided in Paragraph 4.5. If after such loss no other special agreement is made, replacement of damaged property shall be covered by appropriate Change Order

**11.3.10** The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection be made, arbitrators shall be chosen as provided in Paragraph 4.5. The Owner as fiduciary shall, in that case, make settlement with insurers in accordance with directions of such arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

**11.3.11** Partial occupancy or use in accordance with Paragraph 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

## **11. PERFORMANCE BOND AND PAYMENT BOND**

**11.4.1** The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

**11.4.2** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

## **ARTICLE 12**

### **UNCOVERING AND CORRECTION OF WORK**

#### **12.1 UNCOVERING OF WORK**

**12.1.1** If a portion of the Work is covered contrary to the Architect's requirements or requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, be uncovered for the Architect's observation and be replaced at the Contractor's expense without change in the Contract Time.

**12.1.2** If a portion of the Work has been covered which the Architect has not specifically requested to observe prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

#### **12.2 CORRECTION OF WORK**

**12.2.1** The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby.

**12.2.2** If, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date

## ARTICLE 13

### MISCELLANEOUS PROVISIONS

#### 13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the law of the place where the Project is located.

#### 13.2 SUCCESSORS AND ASSIGNS

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

#### 13.3 WRITTEN NOTICE

13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

#### 13.4 RIGHTS AND REMEDIES

13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

#### 13.5 TESTS AND INSPECTIONS

13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so the Architect may observe such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so the Architect may observe such procedures.

for commencement of warranties established under Subparagraph 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This period of one year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation under this Subparagraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

12.2.3 The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

12.2.4 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Paragraph 2.4. If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten days after written notice, the Owner may upon ten additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation for the Architect's services and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

12.2.5 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

12.2.6 Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the time period of one year as described in subparagraph 12.2.2 related only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

#### 12.3 ACCEPTANCE OF NONCONFORMING WORK

12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

The Owner shall bear such costs except as provided in Subparagraph 13.5.3.

**13.5.3** If such procedures for testing, inspection or approval under Subparagraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses.

**13.5.4** Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

**13.5.5** If the Architect is to observe any inspection or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

**13.5.6** Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

### 13.6 INTEREST

**13.6.1** Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

### 13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

**13.7.1** As between the Owner and Contractor:

- .1 Before Substantial Completion.** As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion.
- .2 Between Substantial Completion and Final Certificate for Payment.** As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and
- .3 After Final Certificate for Payment.** As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any warranty provided under Paragraph 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Paragraph 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last

## ARTICLE 14

### TERMINATION OR SUSPENSION OF THE CONTRACT

#### 14.1 TERMINATION BY THE CONTRACTOR

**14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of 30 days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor, for any of the following reasons:

- .1** assistance of an order of a court or other public authority having jurisdiction;
- .2** an act of government, such as a declaration of national emergency, making material unavailable;
- .3** because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Subparagraph 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents;
- .4** if repeated suspensions, delays or interruptions by the Owner as described in Paragraph 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less; or
- .5** the Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Subparagraph 2.2.1.

**14.1.2** If one of the above reasons exists, the Contractor may, upon seven additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, and construction equipment (and machinery), including reasonable overhead, profit and damages.

**14.1.3** If the Work is stopped for a period of 60 days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Subparagraph 14.1.2.

#### 14.2 TERMINATION BY THE OWNER FOR CAUSE

**14.2.1** The Owner may terminate the Contract if the Contractor:

- .1** persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2** fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3** persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- .4** otherwise is guilty of substantial breach of a provision of the Contract Documents

**14.2.2** When any of the above reasons exist, the Owner, upon certification by the Architect that sufficient cause exists to justify

tify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 accept assignment of subcontracts pursuant to Paragraph 5.4; and
- .3 finish the Work by whatever reasonable method the Owner may deem expedient.

**14.2.3** When the Owner terminates the Contract for one of the reasons stated in Subparagraph 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

**14.2.4** If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the

Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

#### **14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE**

**14.3.1** The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

**14.3.2** An adjustment shall be made for increases in the cost of performance of the Contract, including profit on the increased cost of performance, caused by suspension, delay or interruption. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of this Contract.

**14.3.3** Adjustments made in the cost of performance may have a mutually agreed fixed or percentage fee.

SAMPLE

ADDENDUM 7  
TYPICAL PERFORMANCE BOND  
AND PAYMENT BOND

ADDENDUM 7  
TYPICAL PERFORMANCE BOND  
AND PAYMENT BOND

# Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description (Name and Location):

**BOND**

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond:

None

See Page 3

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature: \_\_\_\_\_

Name and Title:

Signature: \_\_\_\_\_

Name and Title:

(Any additional signatures appear on page 3)

---

*(FOR INFORMATION ONLY Name, Address and Telephone)*

AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):



ADDENDUM 7

Page 2

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for

which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation avail-

SAMPLE

able to sureties as a defense in the jurisdiction of the surety shall be applicable.

10 Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the signature page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Con-

tractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL  
Company: \_\_\_\_\_ (Corporate Seal)

SURETY  
Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title:  
Address:

Signature: \_\_\_\_\_  
Name and Title:  
Address:

# Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable

---

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description (Name and Location):

**BOND**

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond:

None

See Page 6

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature: \_\_\_\_\_

Name and Title:

Signature: \_\_\_\_\_

Name and Title:

(Any additional signatures appear on page 6)

---

*(FOR INFORMATION ONLY—Name, Address and Telephone)*

AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

- 1** The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.
- 2** With respect to the Owner, this obligation shall be null and void if the Contractor.
- 2.1** Promptly makes payment, directly or indirectly, for all sums due Claimants, and
- 2.2** Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default
- 3** With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
- 4** The Surety shall have no obligation to Claimants under this Bond until:
- 4.1** Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim
- 4.2** Claimants who do not have a direct contract with the Contractor:
- .1** Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
  - .2** Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
  - .3** Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.
- 5** If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.
- 6** When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
- 6.1** Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
- 6.2** Pay or arrange for payment of any undisputed amounts.
- 7** The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
- 8** Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
- 9** The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
- 10** The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations
- 11** No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable
- 12** Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
- 13** When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this

Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the

Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

SAMPLE

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL Company: (Corporate Seal)

SURETY Company: (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title:  
Address:

Signature: \_\_\_\_\_  
Name and Title:  
Address:

**ADDENDUM 8: RELEASE OF LIENS**

**WAIVER OF LIEN  
MATERIAL OR LABOR**

STATE OF \_\_\_\_\_ 19 \_\_\_\_\_

COUNTY OF \_\_\_\_\_

To All Whom It May Concern:

Whereas the undersigned \_\_\_\_\_

has been employed by \_\_\_\_\_  
General Contractor/Owner

to furnish labor and/or materials for \_\_\_\_\_  
Nature of the Work

for the Building and Premises known as \_\_\_\_\_

At \_\_\_\_\_ In \_\_\_\_\_  
Address City, County, State

Lot No. \_\_\_\_\_ Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Now, Therefore, Know Ye, That \_\_\_\_\_ the undersigned  
for and in consideration of the sum of \_\_\_\_\_ Dollars  
and other good and valuable considerations, the receipt whereof is hereby  
acknowledged, do hereby waive and release any and all lien, or claim or right to  
lien on said above described building and premises under the Statutes of the State  
of \_\_\_\_\_ relating to Mechanics' Liens, on account of labor or  
materials, or both, furnished or which may be furnished, by the undersigned to or on  
account of the said firm or individual therein named for said building or premises.

Given under \_\_\_\_\_ hand \_\_\_\_\_ and seal this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 19\_\_

Witness: \_\_\_\_\_ (SEAL)

Witness: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_

Title \_\_\_\_\_

Subscribe and sworn to before me this

\_\_\_\_\_ Day of \_\_\_\_\_ 19 \_\_\_\_

My Commission Expires \_\_\_\_\_

\_\_\_\_\_  
Notary Public

**ADDENDUM 9: PROJECT SCHEDULE**





ADDENDUM 10: SAMPLE ACCOUNTING REPORT

<b>ADDRESS:</b>	<b>DATE:</b>
<b>DEVELOPER:</b>	<b>PROJECT #:</b>
	<b>CONTRACTOR:</b>
<b>CONSTRUCTION ESCROW:</b>	
CONSTRUCTION BUDGET:	\$
CONTINGENCY:	\$
<b>SUBTOTAL CONSTRUCTION ESCROW:</b>	<b>\$ _____</b>
<b>OBLIGATIONS:</b>	
ORIGINAL CONTRACT(S):	\$
NET CHANGE DUE TO CHANGE ORDERS:	\$ _____
TOTAL CONTRACT AMOUNT OBLIGATED:	<b>\$ _____</b>
	\$ _____
UNOBLIGATED CONSTRUCTION FUNDS (CONTINGENCY):	<b>\$ _____</b>
<b>PAYMENTS:</b>	
NUMBER OF PAYMENTS TO DATE: ( / / ): _____	
TOTAL PAYMENTS TO DATE: (% COMPLETE: %)	<b>\$ _____</b>
OBLIGATED CONSTRUCTION FUNDS REMAINING:	<b>\$ _____</b>
TOTAL CONSTRUCTION FUNDS REMAINING:	<b>\$ _____</b>
ESTIMATED NET CHANGE ORDERS PENDING:	<b>\$ _____</b>
ESTIMATED COST TO COMPLETE:	<b>\$ _____</b>
ESTIMATED SURPLUS (DEFICIT) AT COMPLETION:	<b>\$ _____</b>

**ADDENDUM 11: SUBSTANTIAL REHAB SITE EVALUATION CHECKLIST**

DATE: \_\_\_\_\_

BUILDING ADDRESS: \_\_\_\_\_

GROUP: \_\_\_\_\_

FOOTPRINT: \_\_\_\_ (W) X \_\_\_\_ (D) # OF STORIES: \_\_\_\_ TOTAL SF: \_\_\_\_

# OF APTS: \_\_\_\_ AVG # OF BEDROOMS: \_\_\_\_ AVG SF FT/APT: \_\_\_\_

EXTERIOR WALLS: \_\_\_\_\_

WINDOWS: \_\_\_\_\_

SILLS: \_\_\_\_\_

LINTELS: \_\_\_\_\_

PARAPET WALLS: \_\_\_\_\_

CHIMNEYS: \_\_\_\_\_

FRONT STEPS: \_\_\_\_\_

CORNICE: \_\_\_\_\_

SIDEWALKS: \_\_\_\_\_

REAR EXTERIOR: \_\_\_\_\_

BASEMENT: \_\_\_\_\_

INTERIOR PARTITIONS: \_\_\_\_\_

BEARING: \_\_\_\_\_

NON-BEARING: \_\_\_\_\_

BEAMS: \_\_\_\_\_

FLOOR STRUCTURE: \_\_\_\_\_

DECK: \_\_\_\_\_

CEILINGS: \_\_\_\_\_

ROOF: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

ADDENDUM 12: NEW CONSTRUCTION SITE EVALUATION CHECKLIST

Address: \_\_\_\_\_

Owner: \_\_\_\_\_

Legal Description: Lot: \_\_\_\_\_ Block: \_\_\_\_\_ Other Designation: \_\_\_\_\_

	Dimensions	Restrictions
Road frontage:	_____	_____
Left side:	_____	_____
Right side:	_____	_____
Rear:	_____	_____
Gross area:	_____	_____
Net buildable area:	_____	_____

Zoning Classification: \_\_\_\_\_

Description: \_\_\_\_\_

Density: \_\_\_\_\_ Max. units \_\_\_\_\_

Parking requirements: \_\_\_\_\_

Flood Plain: No \_\_\_\_\_ or Yes \_\_\_\_\_ Area \_\_\_\_\_

Physical Description

Soil: \_\_\_\_\_

Water: \_\_\_\_\_

Sewer: \_\_\_\_\_

Electric: \_\_\_\_\_

Road and walks: \_\_\_\_\_

Curb cuts: \_\_\_\_\_

Topography: \_\_\_\_\_

Features/Comments: \_\_\_\_\_

**ADDENDUM 13: TYPICAL ENGINEERING REPORT ON  
A MULTIFAMILY REHAB PROJECT**

October 3, 1988

Mr. John Doe  
Happy Housing Enterprise  
765 Congress Street  
Columbia, Maryland 04102

Subject: Geotechnical Site Visit  
Pleasant Park  
Columbia, Maryland 89-2432

Dear Mr. Doe:

In accordance with our agreement with Happy Housing Enterprise, a geotechnical site visit was made at Pleasant Park, Columbia, Maryland on Friday, September 23, 1988. The purpose of the visit was to observe the foundation conditions at some of the 35 units Happy Housing Enterprise is considering rehabilitating. The observations were then used to prepare preliminary recommendations for repair. This letter summarizes the observations and recommendations.

Twenty-four of the structures were observed from the outside. Most structures observed were along Maine Avenue, 1st Avenue, and 2nd & 3rd Avenues. Two units, one on 1st Avenue with a crawl space foundation, and one on 2nd Avenue, with a full basement foundation, were looked at from the inside.

Structures and Foundations

The two-story, duplex, wood frame buildings were constructed in about 1940/41. The buildings were approximately 45 feet by 24 feet in plan. Foundations are masonry block on concrete footing. The height of the masonry block is approximately 50 inches and is comprised of 6 blocks. The footing, as measured in one building, is approximately 24 inches wide by an estimated 12 inches deep. Two to two-and-a-half masonry blocks are exposed above grade at most structures.

In addition to an exterior front wall, there are 3 interior cross walls supporting load-bearing partitions. A single chimney footing, built as part of the middle cross foundation wall, is also present. The chimney is brick.

Several structures had an exterior brick facing on the short first- floor level. The remaining structures have a vinyl clayboard exterior finish.

According to Happy Housing Enterprise, renovations and repairs were done approximately 17 years ago. Many foundations showed evidence of patching, some block replacement, and surfacing with stucco mortar cement.

The structural framing of the buildings have the first and second level floor joists running in the long dimension of the building, while the roof pitches toward the long walls.

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October 3, 1988  
Page 2

### Observations

Several significant foundation observations were made.

1. All the structures appeared to be in good structural condition, that is, the buildings were relatively straight and square. Sight lines along the exterior finishes and brick courses were straight.
2. Much of the surrounding landscaped area showed the characteristic unevenness of frost-disturbed ground. From previous work in the Pleasant Park area, we know that most of the soils are clay and that the water table is high.
3. Characteristic vertical cracks were seen on all structures. The cracks were at the four corners of the masonry block foundations and were mostly located one "narrow" block width in from the corner along the short side of the structures.
4. A depression was seen immediately adjacent to the foundation walls, in many locations.
5. Both of the structures looked at from inside showed inward bowing or movement of the block wall foundations. The crawl space foundation had several blocks that had been thrust inward up to an inch. These pushed-in blocks appeared most prominently between the cross wall support foundations. The full basement foundation also showed characteristic bowing. The stair stringers, which touched the exterior wall, had a bow of about one inch in a 6-foot span.
6. Several of the buildings along 1st Avenue showed "pushed-in" foundation blocks. Also, many other structures appeared to have been repaired in the past, which may also indicate blocks have been "pushed-in."
7. Chimneys and interior cross wall foundations do not appear to be moved, either laterally or vertically.
8. No structure appeared to be in imminent danger of collapse.

### Evaluation

There are several possible reasons why structures, like those at Pleasant Park, could show distress in their foundations. These are:

- Bearing failure
- Settlement
- Frost action - vertical heaving or horizontal thrust
- Differential foundation loading

## ADDENDUM 13

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Based on my observations, I believe that the structures are suffering from horizontal thrust from frost action and differential foundation loading. There appears to be no evidence to support either settlement of the underlying soils or gross bearing failure. I believe bearing failure and settlement can be eliminated because the structures are level and the conditions seen in the foundations show no evidence of such conditions even though the underlying soils likely vary. The size of the footings, in relation to the probable building loads, is large, precluding the bearing failure possibility. Also, it is reported that the distress seen is occurring continuously since the buildings were constructed, also indicating that settlement or bearing failure are not likely explanations. These phenomena are most likely to occur early in a structure's life.

Vertical frost heaving is also unlikely, again, because the buildings are level and show no differential movements. The explanation for the horizontal crack in the building corners probably lies in differential loading. The exterior long walls are carrying most of the structural load, in particular, wind and snow loads, and would be more heavily loaded than the end walls. This would cause more straining of the soil beneath these foundations. Because block walls are inherently brittle, in time frost action forced the blocks apart. Also, it is possible, although not measured by my on-site visit, that outward thrust at the top of the wall could be occurring because of structural loading.

The movement of blocks and walls inward is caused by horizontal frost action. As the soil freezes, ice lenses and layers can form if groundwater is at a shallow depth. These ice lenses can create very high lateral forces. One block unit may be pushed further than another as uneven frost action occurs. Where the wall is supported on the inside, such as a cross wall location, inward movement would be less.

The frost action is unlikely to act uniformly winter after winter. Rather during those periods when snow-free cold weather occurs, more frost lenses may form than when the ground is insulated. Therefore, it is not surprising that, although the buildings are some 47 years old, significant failures of the foundations have not occurred, and that some buildings in certain areas show more frost-produced problems than others.

### Recommendations

The structural problem creating the vertical cracks in the corners does not, in my opinion, indicate serious foundation distress. Therefore, no remedial action appears warranted. The frost-created problems require remedial actions because the problems are those of cold penetration into the ground and high groundwater. There are several intermediate actions that would reduce the risk of frost action damage. These range from maintenance only to installing full foundation drains with insulation. Each one of these options carries with it a different cost and risk reduction. The attached sketch shows the basic, schematic, details of the options.

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<u>OPTION</u>	<u>DESCRIPTION</u>	<u>RISK REDUCTION/COST</u>
Maintenance	Leave buildings as is; monitor foundations and repair as needed	This option reduces the risk only slightly, as monitoring is done, and obviously has the lowest cost.
Insulation	Insulate outside the foundations	This option would reduce the risks significantly at moderate costs.
Insulation/ Soil Replacement	Insulate foundations and replace soil immediately below insulation with non- frost susceptible material	This option would reduce slightly over the preceding but with a considerably higher cost.
Insulate & Drain	Insulate foundations and install full foundation drains	This option is the technique used to essentially eliminate the risk of foundation frost action; however, it carries the highest cost.



**ADDENDUM 13**

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The decision as to which option is most appropriate must be made by Happy Housing Enterprise as it involves risk versus cost consideration. ABC Inspections, Inc. cannot suggest one option over another.

Further Studies

Once a repair option or options are selected, it is recommended that each structure's foundation be observed from the inside and the appropriate remedial action be based on that building-by-building study. ABC Inspections, Inc. can undertake such a study as part of its work upon authorization.

If you should have any questions concerning this preliminary evaluation or require additional geotechnical services, please do not hesitate to call.

Very truly yours,

ABC Inspections, Inc.

George S. Farmer, P.E.  
Geotechnical Engineer

Attachment

**ADDENDUM 14: PRELIMINARY ESTIMATE SUMMARY FORM**

**PRELIMINARY  
ESTIMATE SUMMARY**

SHEET NO \_\_\_\_\_

PROJECT \_\_\_\_\_

ESTIMATE NO \_\_\_\_\_

LOCATION \_\_\_\_\_

TOTAL AREA/VOLUME \_\_\_\_\_

DATE \_\_\_\_\_

ARCHITECT \_\_\_\_\_

COST PER S.F./C.F \_\_\_\_\_

NO OF STORIES \_\_\_\_\_

PRICES BY \_\_\_\_\_

EXTENSIONS BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

NO	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST	COST/S F	% OF BLDG
<b>01.0</b>	<b>Foundation</b>						
.1-12	Spread Footings						
.1-14	Strip Footings						
.1-2	Foundation Walls						
.1-3	Pile Caps						
.4	Piles & Caissons						
.9	Structural Excavation						
<b>02.0</b>	<b>Substructure</b>						
.1	Slab on Grade						
.2	Special Substructures						
<b>03.0</b>	<b>Superstructure</b>						
.1-1	Columns						
.1-2	Beams						
.4	Structural Walls						
.5	Elevated Floors						
.7	Roof						
.9	Stairs						
<b>04.0</b>	<b>Exterior Closure</b>						
.1-1	Concrete Walls						
.1-2	Masonry Walls						
.1-3	Steel Stud Walls						
.1-4	Wood Stud Walls						
.5	Finishes						
.6	Doors						
.7-1	Windows						
.7-5	Curtain & Window Walls						
<b>05.0</b>	<b>Roofing</b>						
.1-1	Built Up Roof						
.1-2	Elastomeric Roof						
.1-3	Metal						
.1-4	Shingle & Tile						
.1-6	Flashing & Gravel Stops						
.7	Insulation						
.8-1	Hatches & Sky Lights						
.8-4	Gutters & Downspouts						
<b>06.0</b>	<b>Interior Construction</b>						
.1-2	Block & Tile Partitions						
.1-5	Drywall Partitions						
.1-6	Plaster Partitions						
.1-8	Folding & Movable Partitions						
.4	Doors						
.5	Wall Finishes						
.6	Floor Finishes						
.7	Ceiling Finishes						
<b>07.0</b>	<b>Conveying</b>						
.9	Elevators						
.2	Moving Stairs & Walks						
.6	Other Systems						
<b>08.0</b>	<b>Mechanical</b>						
.1	Pipe & Fittings						
.1-1	Water Heaters						
.1-3	Roof Drains						
.1-4	Single Fixtures						
.1-6	Special						

NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST				COST/S F	% OF BLDG
<b>08.2-1</b>	<b>Sprinkler Systems</b>									
.2-3	Stand Pipe Risers									
.2-8	Halon Fire Suppression									
.3-1	Heating									
.3-6	Solar									
.4	Air Conditioning									
.5	Special									
<b>09.0</b>	<b>Electrical</b>									
.1-1	H.V. Shielded Conductors									
.1-2	Electrical Service									
.1-3	Electrical Feeder									
.1-4	Panel Boards									
.2-2	Lighting & Power									
.2-5	Receptacles & Switches									
.2-7	Motor & Starters									
.4	Special									
<b>BASIC BUILDING SUBTOTAL</b>										
<b>11.0</b>	<b>Equipment</b>									
.1-2	Architectural									
.1-5	Furnishings									
.1-7	Special Construction									
.1-8	Solar Equipment									
<b>TOTAL BUILDING COST, SUBTOTAL</b>										
<b>12.0</b>	<b>Site Work</b>									
.1-1	Cut & Fill									
.1-4	Site Excavation									
.1-6	Load & Haul									
.1-7	Backfill									
.3	Utilities									
.5	Roadways & Parking									
.7	Site Improvements									
<b>CONSTRUCTION COST, SUBTOTAL</b>										
<b>10.0</b>	<b>General Conditions &amp; Profit</b>									
.1	Mobilization & Initial Expenses									
.2	Site Overhead									
.3	Demobilization									
.4	Main Office Expenses & Profit									
<b>ESTIMATED CONSTRUCTION CONTRACT</b>										
<b>14.0</b>	<b>Contingencies</b>									
.1	Construction & Design _____ %									
.2	Scope & Information Increase _____ %									
.3	Field Change Orders _____ %									
.4	Escalation to Bid Date ___ / ___ 19 __ %									
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>										
<b>15.0</b>	<b>Projected Related Costs</b>									
.1	Site Costs									
.2	Design & Review Costs									
.3	Management & Inspection Costs									
.4	Furnishings & Fixtures									
<b>ESTIMATED TOTAL PROJECT COST</b>										
<b>19.0</b>	<b>City Cost Factor</b>									
<b>ADJUSTED TOTAL PROJECT COST</b>										
	Estimate Projected to a Bid Date of:									

# INSTRUCTION SHEET

FOR AIA DOCUMENT B141, STANDARD FORM OF AGREEMENT BETWEEN OWNER AND ARCHITECT—1987 EDITION

## A. GENERAL INFORMATION

### 1. Purpose

AIA Document B141 is a standard form of agreement between Owner and Architect intended for use on construction projects where services are based on the customary five phases: Schematic Design, Design Development, Construction Documents, Bidding or Negotiation, and Construction.

### 2. Related Documents

B141 is intended to be used in conjunction with AIA Document A201, General Conditions of the Contract for Construction, which it incorporates by reference. It can be used with Architect-Consultant agreements such as AIA Documents C141, C142, C161, C431 or C727.

Other AIA Owner-Architect Agreements available for use in connection with customary services or in special circumstances include:

B141/CM	Owner-Architect Agreement, Construction Management Edition
B151	Abbreviated Owner-Architect Agreement for Projects of Limited Scope
B161	Owner-Architect Agreement for Designated Services
B161/CM	Owner-Architect Agreement for Designated Services, Construction Management Edition
B162	Scope of Designated Services (to be used in conjunction with B161 or B161/CM)
B171	Interior Design Services Agreement
B177	Abbreviated Interior Design Services Agreement
B181	Owner-Architect Agreement for Housing Services
B727	Owner-Architect Agreement for Special Services
B801	Owner-Construction Manager Agreement
B901	Design/Builder-Architect Agreement

### 3. Arbitration

This document incorporates ARBITRATION by adoption of the Construction Industry Arbitration Rules of the American Arbitration Association. Arbitration is BINDING AND MANDATORY in most states and under the federal Arbitration Act. In a minority of states, arbitration provisions relating to future disputes are not enforceable, but arbitration is enforceable if agreed to after the dispute arises. A few states require that the contracting parties be especially notified that the written contract contains an arbitration provision by: a warning on the face of the document, specific placement of the arbitration provision within the document or specific discussions among the parties prior to signing the document.

Arbitration provisions have been included in most AIA contract forms since 1888 in order to encourage alternative dispute resolution procedures and to provide users of AIA documents with legally enforceable arbitration provisions when the parties choose to adopt arbitration into their contract. Individuals may, however, choose to delete the arbitration provisions based upon their business decisions with the advice of counsel. To obtain a copy of the Construction Industry Arbitration Rules, write the American Arbitration Association, 140 West 51st Street, New York, NY 10020.

### 4. Use of Non-AIA Forms

If a combination of AIA documents and non-AIA documents is to be used, particular care must be taken to achieve consistency of language and intent. Certain owners require the use of owner-architect agreements and other contract forms which they prepare. Such forms should be carefully compared to the standard AIA forms for which they are being substituted before execution of an agreement. If there are any significant omissions, additions or variances from the terms of the related standard AIA forms, both legal and insurance counsel should be consulted. Of particular concern is the need for consistency between the Owner-Architect Agreement and the anticipated General Conditions of the Contract for Construction in the delineation of the Architect's Construction Phase services and responsibilities.

### 5. Letter Forms of Agreement

Letter forms of agreement are generally discouraged by the AIA, as is the performance of a part or the whole of professional services based on oral agreements or understandings. The standard AIA agreement forms have been developed through more than seventy-five years of experience and have been tested repeatedly in the courts. In addition, the standard forms have been carefully coordinated with other AIA documents.

### 6. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents Price List to determine the current edition of each document.

**ADDENDUM 15: AIA DOCUMENT B141**

**STANDARD FORM OF AGREEMENT BETWEEN OWNER AND ARCHITECT**

## 7. Limited License for Reproduction

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## B. CHANGES FROM THE PREVIOUS EDITION

### 1. Format Changes

Former Article 1, Architect's Services and Responsibilities, has been subdivided into three new articles. All provisions dealing with payments to the Architect, including Direct Personnel Expense, Reimbursable Expenses and Architect's Accounting Records, have been consolidated and moved to the end of the document.

### 2. Changes in Content

The 1987 edition of B141 has been revised to reflect changes made in the 1987 edition of AIA Document A201, General Conditions of the Contract for Construction. The following changes in content have been made on the recommendation of owners, AIA members, committees and the AIA board of directors.

#### Article 2: Scope of Architect's Basic Services

##### Subparagraphs 2.2.4, 2.3.2 and 2.4.3

The term "Statement of Probable Construction Cost" has been changed to "preliminary estimate of Construction Cost" to simplify the terminology of the document.

##### Subparagraph 2.6.5

New language has been added to indicate that the Architect's on-site visits are for the purpose of determining that the Work, when completed, will be in accordance with the Contract Documents. A note has been added to alert users of the form that more extensive site representation is available under Additional Services.

##### Subparagraph 2.6.6

It is noted that the Contractor, not the Architect, is responsible for construction means, methods and schedules.

##### Subparagraph 2.6.9

During construction, communications between the Owner and Contractor are to be directed through the Architect.

##### Subparagraph 2.6.10

The Architect's Certificates for Payment are further qualified as not indicating a review of construction means or methods or review of Subcontractors' requisitions.

##### Subparagraph 2.6.11

It is specifically noted that the Architect's authority to reject Work is not intended to be exercised for the benefit of the Contractor, Subcontractors, suppliers or their agents or employees.

##### Subparagraph 2.6.12

The Architect's review of submittals is further qualified to limit such review to the information and design concepts expressed in the Contract Documents. When professional certificates of performance are required from the Contractor, the Architect shall be entitled to rely upon them.

##### Subparagraph 2.6.13

Preparation of Change Orders and Construction Change Directives by the Architect is a Basic Service, but preparation of supporting documentation and data is now an Additional Service.

#### Article 3: Additional Services

Three new categories of Additional Services have been consolidated under this new article. The Contingent Additional Services are commenced upon notification of the Owner by the Architect of the need for such services. The other two categories, Project Representation Beyond Basic Services and Optional Additional Services, require the Owner's written approval before or after their commencement to authorize payment for those Additional Services.

#### Article 4: Owner's Responsibilities

A new Paragraph 4.3 has been added requiring the Owner to furnish evidence that financial arrangements have been made to pay the Architect. The Owner is now required to furnish tests for hazardous materials at the Owner's expense. If the Owner requires the Architect to provide certificates or certifications, the Owner must allow the Architect 14 days for review.

#### Article 6: Use of Architect's Drawings, Specifications and Other Documents

It is noted that documents prepared by the Architect in addition to the Drawings and Specifications are also the property of the Architect, who retains all common law, statutory and other reserved rights.

**Article 8: Termination, Suspension or Abandonment**

New provisions allow the Architect to terminate the Agreement if the Owner abandons the Project for more than 90 days or fails to make payments to the Architect.

**Article 9: Miscellaneous Provisions**

Provisions have been added noting that the Architect has no responsibility for the discovery, removal or disposal of toxic or hazardous substances encountered on the site. Another provision allows the Architect to use representations of the Project in promotional and professional materials.

**Article 10: Payments to the Architect**

Computer-aided drafting has been added to the list of Reimbursable Expenses.

**Article 11: Basis of Compensation**

A new provision has been added to indicate when payments are due and payable.

**C. COMPLETING THE B141 FORM**

**1. Modifications**

Users are encouraged to consult an attorney before completing an AIA document. Particularly with respect to professional licensing laws, duties imposed by building codes, interest charges, arbitration and indemnification, this document may require modification with the assistance of legal counsel to fully comply with state or local laws regulating these matters.

Generally, necessary modifications may be accomplished by writing or typing the appropriate terms in the blank spaces provided on the form, or by supplementary conditions, special conditions or amendments referenced in this document. The form may also be modified by striking out language directly on the pre-printed form. Care must be taken in making these kinds of deletions, however. Under NO circumstances should pre-printed language be struck out in such a way as to render it illegible (as, for example, with blocking tape, correction fluid or X's that completely obscure the text). This may raise suspicions of fraudulent concealment, or suggest that the completed and signed document has been tampered with. Handwritten changes should be initialed by both parties to the contract.

It is definitely not recommended practice to retype the standard document. Besides being outside the limited license for reproduction granted under these Instructions, retyping can introduce typographical errors and cloud the legal interpretation given to a standard clause when blended with modifications.

Retyping eliminates one of the principal advantages of the standard form documents. By merely reviewing the modifications to be made to a standard form document, parties familiar with that document can quickly understand the essence of the proposed relationship. Commercial exchanges are greatly simplified and expedited, good-faith dealing is encouraged, and otherwise latent clauses are exposed for scrutiny. In this way, contracting parties can more fairly measure their risks.

**2. Cover Page**

**Date:** The date represents the date the Agreement becomes effective. It may be the date that an oral agreement was reached, the date the Agreement was originally submitted to the Owner, the date authorizing action was taken or the date of actual execution. Professional services should not be performed prior to the effective date of the Agreement.

**Identification of Parties:** Parties to this Agreement should be identified using the full legal name under which the Agreement is to be executed, including a designation of the legal status of both parties (sole proprietorship, partnership, joint venture, unincorporated association, limited partnership or corporation [general, closed or professional], etc.). Where appropriate, a copy of the resolution authorizing the individual to act on behalf of the firm or entity should be attached.

**Project Description:** The proposed Project should be described in sufficient detail to identify (1) the official name or title of the facility, (2) the location of the site, if known, (3) the proposed building type and usage, and (4) the size, capacity or scope of the Project, if known.

**3. Article 11—Basis of Compensation**

**Paragraph 11.1**

Insert the dollar amount of the initial payment.

**Subparagraph 11.2.1**

Sample language is provided below for describing four methods of computing compensation.

**Compensation—Multiple of Direct Personnel Expense:** "Compensation for services rendered by Principals, employees and professional consultants shall be based on a Multiple of Direct Personnel Expense in the same manner as described in Subparagraph 11.3.2."

**Compensation—Professional Fee Plus Expenses:** "Compensation shall be a Fixed Fee of \_\_\_\_\_ Dollars (\$) plus compensation for services rendered by Principals, employees and professional consultants, in the same manner as described in Subparagraph 11.3.2."

**Compensation—Stipulated Sum:** "Compensation shall be a stipulated sum of \_\_\_\_\_ Dollars (\$) ."



Compensation—Percentage of Construction Cost: "Compensation shall be based on one of the following Percentages of Construction Cost, as defined in Article 5:

For portions of the Project to be awarded under:

- |   |           |   |     |
|---|-----------|---|-----|
| A single stipulated-sum construction contract:  | percent ( | ) | %   |
| Separate stipulated-sum construction contracts: | percent ( | ) | %   |
| A single cost-plus construction contract:       | percent ( | ) | %   |
| Separate cost-plus construction contracts:      | percent ( | ) | %)" |

**Subparagraph 11.2.2**

Only for compensation based on stipulated sum or percentage of Construction Cost, insert the percentages of total payment payable for each separate phase of services. These percentages may vary with each Project and do not necessarily have a direct relationship to the time and efforts of the Architect.

Because phases may overlap in time, these percentages have been expressed separately for each phase, rather than cumulatively. This facilitates billing when services are being provided in more than one phase at a time.

**Subparagraph 11.3.1**

Insert the basis of compensation for Project Representation Beyond Basic Services.

**Subparagraph 11.3.2**

If billing rates are used and professional consultants are classified in accordance with the AIA publication *Compensation Guidelines for Architectural/Engineering Services*, insert:

- (a) Principals' time at the fixed rate of \_\_\_\_\_ Dollars (\$) \_\_\_\_\_ per hour.  
For the purposes of this Agreement, the Principals are: (list Principals)
- (b) Supervisory time at the fixed rate of \_\_\_\_\_ Dollars (\$) \_\_\_\_\_ per hour.  
For the purposes of this Agreement, supervisory personnel include: (Describe supervisory personnel by job title, such as Project Architect.)
- (c) Technical Level I time at the fixed rate of \_\_\_\_\_ Dollars (\$) \_\_\_\_\_ per hour.  
For the purposes of this Agreement, Technical Level I personnel include: (Describe by job title, such as Senior Designer, Specifier, etc.)
- (d) Technical Level II time at the fixed rate of \_\_\_\_\_ Dollars (\$) \_\_\_\_\_ per hour.  
For the purposes of this Agreement, Technical Level II personnel include: (Describe by job title, such as Junior Designer, Senior Draftsman, etc.)
- (e) Technical Level III and clerical time at the fixed rate of \_\_\_\_\_ Dollars (\$) \_\_\_\_\_ per hour.  
For the purposes of this Agreement, Technical Level III and clerical personnel include: (Describe by job title, such as Junior Draftsman, Secretary, etc.)

If a multiple of Direct Personnel Expense is used, insert: "Principals', employees' and professional consultants' time at a multiple of ( ) times their Direct Personnel Expense as defined by the AIA publication *Compensation Guidelines for Architectural/Engineering Services*."

If a multiple of direct salaries is used, the term "Direct Salaries" should be substituted for Direct Personnel Expense above.

**Subparagraph 11.3.3**

Insert the multiple to be used to determine the cost to the Architect of Additional Services of consultants as defined in Article 3 or Article 12.

**Subparagraph 11.4.1**

Insert the multiple to be used to determine the amount due the Architect, Architect's employees or consultants for Reimbursable Expenses as described in Paragraph 10.2 of Article 10.

**Subparagraph 11.5.1**

Insert the number of months beyond which the Architect shall be compensated for Basic Services on the same basis as for Additional Services.

**Paragraph 11.5.2**

Insert the percentage rate and basis (monthly, annual) of interest charges.

**Article 12—Other Conditions or Services**

Insert provisions, if any, on additional phases of services, Additional Services, special compensation arrangements, other consultants, the choice of project delivery method or any other conditions.

**D. EXECUTION OF THE AGREEMENT**

Each person executing the Agreement should indicate the capacity in which they are acting (i.e., president, secretary, partner, etc.) and the authority under which they are executing the Agreement. Where appropriate, a copy of the resolution authorizing the individual to act on behalf of the firm or entity should be attached.



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2. Because AIA Documents are revised from time to time, users should ascertain from the AIA the current edition of this document.

3. Copies of the current edition of this AIA document may be purchased from The American Institute of Architects or its local distributors.

4. This document is intended for use as a "consumable" (consumables are further defined by Senate Report 94-473 on the Copyright Act of 1976). This document is not intended to be used as "model language" (language taken from an existing document and incorporated, without attribution, into a newly - created document.) Rather, it is a standard form which is intended to be modified by appending separate amendment sheets and/or fill in provided blank spaces.

AIA Document B141

# Standard Form of Agreement Between Owner and Architect

1987 EDITION

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.*

## AGREEMENT

made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year of  
Nineteen Hundred and \_\_\_\_\_

**BETWEEN** the Owner:  
*(Name and address)*

and the Architect:  
*(Name and address)*

**SAMPLE**

For the following Project:  
*(Include detailed description of project, location, address and scope.)*

The Owner and Architect agree as set forth below.

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# TERMS AND CONDITIONS OF AGREEMENT BETWEEN OWNER AND ARCHITECT

## ARTICLE 1

### ARCHITECT'S RESPONSIBILITIES

#### 1.1 ARCHITECT'S SERVICES

**1.1.1** The Architect's services consist of those services performed by the Architect, Architect's employees and Architect's consultants as enumerated in Articles 2 and 3 of this Agreement and any other services included in Article 12.

**1.1.2** The Architect's services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the Work. Upon request of the Owner, the Architect shall submit for the Owner's approval a schedule for the performance of the Architect's services which may be adjusted as the Project proceeds, and shall include allowances for periods of time required for the Owner's review and for approval of submissions by authorities having jurisdiction over the Project. Time limits established by this schedule approved by the Owner shall not, except for reasonable cause, be exceeded by the Architect or Owner.

**1.1.3** The services covered by this Agreement are subject to the time limitations contained in Subparagraph 11.5.1.

## ARTICLE 2

### SCOPE OF ARCHITECT'S BASIC SERVICES

#### 2.1 DEFINITION

**2.1.1** The Architect's Basic Services consist of those described in Paragraphs 2.2 through 2.6 and any other services identified in Article 12 as part of Basic Services, and include normal structural, mechanical and electrical engineering services.

#### 2.2 SCHEMATIC DESIGN PHASE

**2.2.1** The Architect shall review the program furnished by the Owner to ascertain the requirements of the Project and shall arrive at a mutual understanding of such requirements with the Owner.

**2.2.2** The Architect shall provide a preliminary evaluation of the Owner's program, schedule and construction budget requirements, each in terms of the other, subject to the limitations set forth in Subparagraph 5.2.1.

**2.2.3** The Architect shall review with the Owner alternative approaches to design and construction of the Project.

**2.2.4** Based on the mutually agreed-upon program, schedule and construction budget requirements, the Architect shall prepare, for approval by the Owner, Schematic Design Documents consisting of drawings and other documents illustrating the scale and relationship of Project components.

**2.2.5** The Architect shall submit to the Owner a preliminary estimate of Construction Cost based on current area, volume or other unit costs.

#### 2.3 DESIGN DEVELOPMENT PHASE

**2.3.1** Based on the approved Schematic Design Documents and any adjustments authorized by the Owner in the program,

schedule or construction budget, the Architect shall prepare, for approval by the Owner, Design Development Documents consisting of drawings and other documents to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, materials and such other elements as may be appropriate.

**2.3.2** The Architect shall advise the Owner of any adjustments to the preliminary estimate of Construction Cost.

#### 2.4 CONSTRUCTION DOCUMENTS PHASE

**2.4.1** Based on the approved Design Development Documents and any further adjustments in the scope or quality of the Project or in the construction budget authorized by the Owner, the Architect shall prepare, for approval by the Owner, Construction Documents consisting of Drawings and Specifications setting forth in detail the requirements for the construction of the Project.

**2.4.2** The Architect shall assist the Owner in the preparation of the necessary bidding information, bidding forms, the Conditions of the Contract, and the form of Agreement between the Owner and Contractor.

**2.4.3** The Architect shall advise the Owner of any adjustments to previous preliminary estimates of Construction Cost indicated by changes in requirements or general market conditions.

**2.4.4** The Architect shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

#### 2.5 BIDDING OR NEGOTIATION PHASE

**2.5.1** The Architect, following the Owner's approval of the Construction Documents and of the latest preliminary estimate of Construction Cost, shall assist the Owner in obtaining bids or negotiated proposals and assist in awarding and preparing contracts for construction.

#### 2.6 CONSTRUCTION PHASE—ADMINISTRATION OF THE CONSTRUCTION CONTRACT

**2.6.1** The Architect's responsibility to provide Basic Services for the Construction Phase under this Agreement commences with the award of the Contract for Construction and terminates at the earlier of the issuance to the Owner of the final Certificate for Payment or 60 days after the date of Substantial Completion of the Work.

**2.6.2** The Architect shall provide administration of the Contract for Construction as set forth below and in the edition of AIA Document A201, General Conditions of the Contract for Construction, current as of the date of this Agreement, unless otherwise provided in this Agreement.

**2.6.3** Duties, responsibilities and limitations of authority of the Architect shall not be restricted, modified or extended without written agreement of the Owner and Architect with consent of the Contractor, which consent shall not be unreasonably withheld.

**2.6.4** The Architect shall be a representative of and shall advise and consult with the Owner (1) during construction until final payment to the Contractor is due, and (2) as an Additional Service at the Owner's direction from time to time during the correction period described in the Contract for Construction. The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement unless otherwise modified by written instrument.

**2.6.5** The Architect shall visit the site at intervals appropriate to the stage of construction or as otherwise agreed by the Owner and Architect in writing to become generally familiar with the progress and quality of the Work completed and to determine in general if the Work is being performed in a manner indicating that the Work when completed will be in accordance with the Contract Documents. However, the Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of on-site observations as an architect, the Architect shall keep the Owner informed of the progress and quality of the Work, and shall endeavor to guard the Owner against defects and deficiencies in the Work. *(More extensive site representation may be agreed to as an Additional Service, as described in Paragraph 3.2.)*

**2.6.6** The Architect shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility under the Contract for Construction. The Architect shall not be responsible for the Contractor's schedules or failure to carry out the Work in accordance with the Contract Documents. The Architect shall not have control over or charge of acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

**2.6.7** The Architect shall at all times have access to the Work wherever it is in preparation or progress.

**2.6.8** Except as may otherwise be provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall communicate through the Architect. Communications by and with the Architect's consultants shall be through the Architect.

**2.6.9** Based on the Architect's observations and evaluation of the Contractor's Applications for Payment, the Architect shall review and certify the amounts due the Contractor.

**2.6.10** The Architect's certification for payment shall constitute a representation to the Owner, based on the Architect's observations at the site as provided in Subparagraph 2.6.5 and on the data comprising the Contractor's Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment shall further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment shall not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or

quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

**2.6.11** The Architect shall have authority to reject Work which does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable for implementation of the intent of the Contract Documents, the Architect will have authority to require additional inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees or other persons performing portions of the Work.

**2.6.12** The Architect shall review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action shall be taken with such reasonable promptness as to cause no delay in the Work or in the construction of the Owner or of separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities or for substantiating instructions for installation or performance of equipment or systems designed by the Contractor, all of which remain the responsibility of the Contractor to the extent required by the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. When professional certification of performance characteristics of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon such certification to establish that the materials, systems or equipment will meet the performance criteria required by the Contract Documents.

**2.6.13** The Architect shall prepare Change Orders and Construction Change Directives, with supporting documentation and data if deemed necessary by the Architect as provided in Subparagraphs 3.1.1 and 3.3.3, for the Owner's approval and execution in accordance with the Contract Documents, and may authorize minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time which are not inconsistent with the intent of the Contract Documents.

**2.6.14** The Architect shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, shall receive and forward to the Owner for the Owner's review and records written warranties and related documents required by the Contract Documents and assembled by the Contractor, and shall issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

**2.6.15** The Architect shall interpret and decide matters concerning performance of the Owner and Contractor under the requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests shall be made with reasonable promptness and within any time limits agreed upon.

**2.6.16** Interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When making such interpretations and initial decisions, the Architect shall endeavor to secure faithful performance by both Owner and Contractor, shall not show partiality to either, and shall not be liable for results of interpretations or decisions so rendered in good faith.

**2.6.17** The Architect's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

**2.6.18** The Architect shall render written decisions within a reasonable time on all claims, disputes or other matters in question between the Owner and Contractor relating to the execution or progress of the Work as provided in the Contract Documents.

**2.6.19** The Architect's decisions on claims, disputes or other matters, including those in question between the Owner and Contractor, except for those relating to aesthetic effect as provided in Subparagraph 2.6.17, shall be subject to arbitration as provided in this Agreement and in the Contract Documents.

### **ARTICLE 3 ADDITIONAL SERVICES**

#### **3.1 GENERAL**

**3.1.1** The services described in this Article 3 are not included in Basic Services unless so identified in Article 12, and they shall be paid for by the Owner as provided in this Agreement, in addition to the compensation for Basic Services. The services described under Paragraphs 3.2 and 3.4 shall only be provided if authorized or confirmed in writing by the Owner. If services described under Contingent Additional Services in Paragraph 3.3 are required due to circumstances beyond the Architect's control, the Architect shall notify the Owner prior to commencing such services. If the Owner deems that such services described under Paragraph 3.3 are not required, the Owner shall give prompt written notice to the Architect. If the Owner indicates in writing that all or part of such Contingent Additional Services are not required, the Architect shall have no obligation to provide those services.

#### **3.2 PROJECT REPRESENTATION BEYOND BASIC SERVICES**

**3.2.1** If more extensive representation at the site than is described in Subparagraph 2.6.5 is required, the Architect shall provide one or more Project Representatives to assist in carrying out such additional on-site responsibilities.

**3.2.2** Project Representatives shall be selected, employed and directed by the Architect, and the Architect shall be compensated therefor as agreed by the Owner and Architect. The duties, responsibilities and limitations of authority of Project Representatives shall be as described in the edition of AIA Document B352 current as of the date of this Agreement, unless otherwise agreed.

**3.2.3** Through the observations by such Project Representatives, the Architect shall endeavor to provide further protection for the Owner against defects and deficiencies in the Work, but the furnishing of such project representation shall not modify the rights, responsibilities or obligations of the Architect as described elsewhere in this Agreement.

#### **3.3 CONTINGENT ADDITIONAL SERVICES**

**3.3.1** Making revisions in Drawings, Specifications or other documents when such revisions are:

- 1 inconsistent with approvals or instructions previously given by the Owner, including revisions made necessary by adjustments in the Owner's program or Project budget;
- 2 required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents; or
- 3 due to changes required as a result of the Owner's failure to render decisions in a timely manner.

**3.3.2** Providing services required because of significant changes in the Project including, but not limited to, size, quality, complexity, the Owner's schedule, or the method of bidding or negotiating and contracting for construction, except for services required under Subparagraph 5.2.5.

**3.3.3** Preparing Drawings, Specifications and other documentation and supporting data, evaluating Contractor's proposals, and providing other services in connection with Change Orders and Construction Change Directives.

**3.3.4** Providing services in connection with evaluating substitutions proposed by the Contractor and making subsequent revisions to Drawings, Specifications and other documentation resulting therefrom.

**3.3.5** Providing consultation concerning replacement of Work damaged by fire or other cause during construction, and furnishing services required in connection with the replacement of such Work.

**3.3.6** Providing services made necessary by the default of the Contractor, by major defects or deficiencies in the Work of the Contractor, or by failure of performance of either the Owner or Contractor under the Contract for Construction.

**3.3.7** Providing services in evaluating an extensive number of claims submitted by the Contractor or others in connection with the Work.

**3.3.8** Providing services in connection with a public hearing, arbitration proceeding or legal proceeding except where the Architect is party thereto.

**3.3.9** Preparing documents for alternate, separate or sequential bids or providing services in connection with bidding, negotiation or construction prior to the completion of the Construction Documents Phase.

#### **3.4 OPTIONAL ADDITIONAL SERVICES**

**3.4.1** Providing analyses of the Owner's needs and programming the requirements of the Project.

**3.4.2** Providing financial feasibility or other special studies.

**3.4.3** Providing planning surveys, site evaluations or comparative studies of prospective sites.

**3.4.4** Providing special surveys, environmental studies and submissions required for approvals of governmental authorities or others having jurisdiction over the Project.

**3.4.5** Providing services relative to future facilities, systems and equipment.

**3.4.6** Providing services to investigate existing conditions or facilities or to make measured drawings thereof.

**3.4.7** Providing services to verify the accuracy of drawings or other information furnished by the Owner.

**3.4.8** Providing coordination of construction performed by separate contractors or by the Owner's own forces and coordination of services required in connection with construction performed and equipment supplied by the Owner.

**3.4.9** Providing services in connection with the work of a construction manager or separate consultants retained by the Owner.

**3.4.10** Providing detailed estimates of Construction Cost.

**3.4.11** Providing detailed quantity surveys or inventories of material, equipment and labor.

**3.4.12** Providing analyses of owning and operating costs.

**3.4.13** Providing interior design and other similar services required for or in connection with the selection, procurement or installation of furniture, furnishings and related equipment.

**3.4.14** Providing services for planning tenant or rental spaces.

**3.4.15** Making investigations, inventories of materials or equipment, or valuations and detailed appraisals of existing facilities.

**3.4.16** Preparing a set of reproducible record drawings showing significant changes in the Work made during construction based on marked-up prints, drawings and other data furnished by the Contractor to the Architect.

**3.4.17** Providing assistance in the utilization of equipment or systems such as testing, adjusting and balancing, preparation of operation and maintenance manuals, training personnel for operation and maintenance, and consultation during operation.

**3.4.18** Providing services after issuance to the Owner of the final Certificate for Payment, or in the absence of a final Certificate for Payment, more than 60 days after the date of Substantial Completion of the Work.

**3.4.19** Providing services of consultants for other than architectural, structural, mechanical and electrical engineering portions of the Project provided as a part of Basic Services.

**3.4.20** Providing any other services not otherwise included in this Agreement or not customarily furnished in accordance with generally accepted architectural practice.

#### **ARTICLE 4**

#### **OWNER'S RESPONSIBILITIES**

**4.1** The Owner shall provide full information regarding requirements for the Project, including a program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements.

**4.2** The Owner shall establish and update an overall budget for the Project, including the Construction Cost, the Owner's other costs and reasonable contingencies related to all of these costs.

**4.3** If requested by the Architect, the Owner shall furnish evidence that financial arrangements have been made to fulfill the Owner's obligations under this Agreement.

**4.4** The Owner shall designate a representative authorized to act on the Owner's behalf with respect to the Project. The Owner or such authorized representative shall render decisions in a timely manner pertaining to documents submitted by the Architect in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

**4.5** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site, of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data pertaining to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a project benchmark.

**4.6** The Owner shall furnish the services of geotechnical engineers when such services are requested by the Architect. Such services may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, ground corrosion and resistivity tests, including necessary operations for anticipating subsoil conditions, with reports and appropriate professional recommendations.

**4.6.1** The Owner shall furnish the services of other consultants when such services are reasonably required by the scope of the Project and are requested by the Architect.

**4.7** The Owner shall furnish structural, mechanical, chemical, air and water pollution tests, tests for hazardous materials, and other laboratory and environmental tests, inspections and reports required by law or the Contract Documents.

**4.8** The Owner shall furnish all legal, accounting and insurance consulting services as may be necessary at any time for the Project, including auditing services the Owner may require to verify the Contractor's Applications for Payment or to ascertain how or for what purposes the Contractor has used the money paid by or on behalf of the Owner.

**4.9** The services, information, surveys and reports required by Paragraphs 4.5 through 4.8 shall be furnished at the Owner's expense, and the Architect shall be entitled to rely upon the accuracy and completeness thereof.

**4.10** Prompt written notice shall be given by the Owner to the Architect if the Owner becomes aware of any fault or defect in the Project or nonconformance with the Contract Documents.

**4.11** The proposed language of certificates or certifications requested of the Architect or Architect's consultants shall be submitted to the Architect for review and approval at least 14 days prior to execution. The Owner shall not request certifications that would require knowledge or services beyond the scope of this Agreement.



**ARTICLE 5**  
**CONSTRUCTION COST**

**5.1 DEFINITION**

**5.1.1** The Construction Cost shall be the total cost or estimated cost to the Owner of all elements of the Project designed or specified by the Architect.

**5.1.2** The Construction Cost shall include the cost at current market rates of labor and materials furnished by the Owner and equipment designed, specified, selected or specially provided for by the Architect, plus a reasonable allowance for the Contractor's overhead and profit. In addition, a reasonable allowance for contingencies shall be included for market conditions at the time of bidding and for changes in the Work during construction.

**5.1.3** Construction Cost does not include the compensation of the Architect and Architect's consultants, the costs of the land, rights-of-way, financing or other costs which are the responsibility of the Owner as provided in Article 4.

**5.2 RESPONSIBILITY FOR CONSTRUCTION COST**

**5.2.1** 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.

**5.2.2** No fixed limit of Construction Cost shall be established as a condition of this Agreement by the furnishing, proposal or establishment of a Project budget, unless such fixed limit has been agreed upon in writing and signed by the parties hereto. If such a fixed limit has been established, the Architect shall be permitted to include contingencies for design, bidding and price escalation, to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents, to make reasonable adjustments in the scope of the Project and to include in the Contract Documents alternate bids to adjust the Construction Cost to the fixed limit. Fixed limits, if any, shall be increased in the amount of an increase in the Contract Sum occurring after execution of the Contract for Construction.

**5.2.3** If the Bidding or Negotiation Phase has not commenced within 90 days after the Architect submits the Construction Documents to the Owner, any Project budget or fixed limit of Construction Cost shall be adjusted to reflect changes in the general level of prices in the construction industry between the date of submission of the Construction Documents to the Owner and the date on which proposals are sought.

**5.2.4** If a fixed limit of Construction Cost (adjusted as provided in Subparagraph 5.2.3) is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall:

- .1 give written approval of an increase in such fixed limit;
- .2 authorize rebidding or renegotiating of the Project within a reasonable time;

- .3 if the Project is abandoned, terminate in accordance with Paragraph 8.3; or
- .4 cooperate in revising the Project scope and quality as required to reduce the Construction Cost.

**5.2.5** If the Owner chooses to proceed under Clause 5.2.4.4, the Architect, without additional charge, shall modify the Contract Documents as necessary to comply with the fixed limit, if established as a condition of this Agreement. The modification of Contract Documents shall be the limit of the Architect's responsibility arising out of the establishment of a fixed limit. The Architect shall be entitled to compensation in accordance with this Agreement for all services performed whether or not the Construction Phase is commenced.

**ARTICLE 6**

**USE OF ARCHITECT'S DRAWINGS,  
SPECIFICATIONS AND OTHER DOCUMENTS**

**6.1** The Drawings, Specifications and other documents prepared by the Architect for this Project are instruments of the Architect's service for use solely with respect to this Project and, unless otherwise provided, the Architect shall be deemed the author of these documents and shall retain all common law, statutory and other reserved rights, including the copyright. The Owner shall be permitted to retain copies, including reproducible copies, of the Architect's Drawings, Specifications and other documents for information and reference in connection with the Owner's use and occupancy of the Project. The Architect's Drawings, Specifications or other documents shall not be used by the Owner or others on other projects, for additions to this Project or for completion of this Project by others, unless the Architect is adjudged to be in default under this Agreement, except by agreement in writing and with appropriate compensation to the Architect.

**6.2** Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication in derogation of the Architect's reserved rights.

**ARTICLE 7**  
**ARBITRATION**

**7.1** Claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreement or breach thereof shall be subject to and decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect unless the parties mutually agree otherwise.

**7.2** Demand for arbitration shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. A demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statutes of limitations.

**7.3** No arbitration arising out of or relating to this Agreement shall include, by consolidation, joinder or in any other manner, an additional person or entity not a party to this Agreement,

except by written consent containing a specific reference to this Agreement signed by the Owner, Architect, and any other person or entity sought to be joined. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent or with a person or entity not named or described therein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by the parties to this Agreement shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

7.4 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

## ARTICLE 8

### TERMINATION, SUSPENSION OR ABANDONMENT

8.1 This Agreement may be terminated by either party upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

8.2 If the Project is suspended by the Owner for more than 30 consecutive days, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect's compensation shall be equitably adjusted to provide for expenses incurred in the interruption and resumption of the Architect's services.

8.3 This Agreement may be terminated by the Owner upon not less than seven days' written notice to the Architect in the event that the Project is permanently abandoned. If the Project is abandoned by the Owner for more than 90 consecutive days, the Architect may terminate this Agreement by giving written notice.

8.4 Failure of the Owner to make payments to the Architect in accordance with this Agreement shall be considered substantial nonperformance and cause for termination.

8.5 If the Owner fails to make payment when due the Architect for services and expenses, the Architect may, upon seven days' written notice to the Owner, suspend performance of services under this Agreement. Unless payment in full is received by the Architect within seven days of the date of the notice, the suspension shall take effect without further notice. In the event of a suspension of services, the Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services.

8.6 In the event of termination not the fault of the Architect, the Architect shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due and all Termination Expenses as defined in Paragraph 8.7.

8.7 Termination Expenses are in addition to compensation for Basic and Additional Services, and include expenses which are directly attributable to termination. Termination Expenses shall be computed as a percentage of the total compensation for Basic Services and Additional Services earned to the time of termination, as follows:

- .1 Twenty percent of the total compensation for Basic and Additional Services earned to date if termination occurs before or during the predesign, site analysis, or Schematic Design Phases; or

- .2 Ten percent of the total compensation for Basic and Additional Services earned to date if termination occurs during the Design Development Phase; or
- .3 Five percent of the total compensation for Basic and Additional Services earned to date if termination occurs during any subsequent phase.

## ARTICLE 9

### MISCELLANEOUS PROVISIONS

9.1 Unless otherwise provided, this Agreement shall be governed by the law of the principal place of business of the Architect.

9.2 Terms in this Agreement shall have the same meaning as those in AIA Document A201, General Conditions of the Contract for Construction, current as of the date of this Agreement.

9.3 Causes of action between the parties to this Agreement pertaining to acts or failures to act shall be deemed to have accrued and the applicable statutes of limitations shall commence to run not later than either the date of Substantial Completion for acts or failures to act occurring prior to Substantial Completion, or the date of issuance of the final Certificate for Payment for acts or failures to act occurring after Substantial Completion.

9.4 The Owner and Architect waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, but only to the extent covered by property insurance during construction, except such rights as they may have to the proceeds of such insurance as set forth in the edition of AIA Document A201, General Conditions of the Contract for Construction, current as of the date of this Agreement. The Owner and Architect each shall require similar waivers from their contractors, consultants and agents.

9.5 The Owner and Architect, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement. Neither Owner nor Architect shall assign this Agreement without the written consent of the other.

9.6 This Agreement represents the entire and integrated agreement between the Owner and Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Architect.

9.7 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or Architect.

9.8 Unless otherwise provided in this Agreement, the Architect and Architect's consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials in any form at the Project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic substances.

9.9 The Architect shall have the right to include representations of the design of the Project, including photographs of the exterior and interior, among the Architect's promotional and professional materials. The Architect's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the Architect in writing of



the specific information considered by the Owner to be confidential or proprietary. The Owner shall provide professional credit for the Architect on the construction sign and in the promotional materials for the Project.

## **ARTICLE 10 PAYMENTS TO THE ARCHITECT**

### **10.1 DIRECT PERSONNEL EXPENSE**

**10.1.1** Direct Personnel Expense is defined as the direct salaries of the Architect's personnel engaged on the Project and the portion of the cost of their mandatory and customary contributions and benefits related thereto, such as employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions and similar contributions and benefits.

### **10.2 REIMBURSABLE EXPENSES**

**10.2.1** Reimbursable Expenses are in addition to compensation for Basic and Additional Services and include expenses incurred by the Architect and Architect's employees and consultants in the interest of the Project, as identified in the following Clauses.

**10.2.1.1** Expense of transportation in connection with the Project; expenses in connection with authorized out-of-town travel; long-distance communications; and fees paid for securing approval of authorities having jurisdiction over the Project.

**10.2.1.2** Expense of reproductions, postage and handling of Drawings, Specifications and other documents.

**10.2.1.3** If authorized in advance by the Owner, expense of overtime work requiring higher than regular rates.

**10.2.1.4** Expense of renderings, models and mock-ups requested by the Owner.

**10.2.1.5** Expense of additional insurance coverage or limits including professional liability insurance, requested by the Owner in excess of that normally carried by the Architect and Architect's consultants.

**10.2.1.6** Expense of computer-aided design and drafting equipment time when used in connection with the Project.

### **10.3 PAYMENTS ON ACCOUNT OF BASIC SERVICES**

**10.3.1** An initial payment as set forth in Paragraph 11.1 is the minimum payment under this Agreement.

**10.3.2** Subsequent payments for Basic Services shall be made monthly and, where applicable, shall be in proportion to services performed within each phase of service, on the basis set forth in Subparagraph 11.2.2.

**10.3.3** If and to the extent that the time initially established in Subparagraph 11.5.1 of this Agreement is exceeded or extended through no fault of the Architect, compensation for any services rendered during the additional period of time shall be computed in the manner set forth in Subparagraph 11.3.2.

**10.3.4** When compensation is based on a percentage of Construction Cost and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Subparagraph 11.2.2, based on (1) the lowest bona fide bid or negotiated proposal, or (2) if no such bid or proposal is received, the most recent preliminary estimate of Construction Cost or detailed estimate of Construction Cost for such portions of the Project.

### **10.4 PAYMENTS ON ACCOUNT OF ADDITIONAL SERVICES**

**10.4.1** Payments on account of the Architect's Additional Services and for Reimbursable Expenses shall be made monthly upon presentation of the Architect's statement of services rendered or expenses incurred.

### **10.5 PAYMENTS WITHHELD**

**10.5.1** No deductions shall be made from the Architect's compensation on account of penalty, liquidated damages or other sums withheld from payments to contractors, or on account of the cost of changes in the Work other than those for which the Architect has been found to be liable.

### **10.6 ARCHITECT'S ACCOUNTING RECORDS**

**10.6.1** Records of Reimbursable Expenses and expenses pertaining to Additional Services and services performed on the basis of a multiple of Direct Personnel Expense shall be available to the Owner or the Owner's authorized representative at mutually convenient times.

## **ARTICLE 11 BASIS OF COMPENSATION**

The Owner shall compensate the Architect as follows:

**11.1** AN INITIAL PAYMENT of \_\_\_\_\_ Dollars (\$) shall be made upon execution of this Agreement and credited to the Owner's account at final payment.

### **11.2 BASIC COMPENSATION**

**11.2.1** FOR BASIC SERVICES, as described in Article 2, and any other services included in Article 12 as part of Basic Services, Basic Compensation shall be computed as follows:

*(Insert basis of compensation, including stipulated sums, multiples or percentages, and identify phases to which particular methods of compensation apply, if necessary)*

**11.2.2** Where compensation is based on a stipulated sum or percentage of Construction Cost, progress payments for Basic Services in each phase shall total the following percentages of the total Basic Compensation payable:  
*(Insert additional phases as appropriate.)*

Schematic Design Phase:	percent ( %)
Design Development Phase:	percent ( %)
Construction Documents Phase:	percent ( %)
Bidding or Negotiation Phase:	percent ( %)
Construction Phase:	percent ( %)
Total Basic Compensation:	one hundred percent (100%)

**SAMPLE**

**11.3 COMPENSATION FOR ADDITIONAL SERVICES**

**11.3.1** FOR PROJECT REPRESENTATION BEYOND BASIC SERVICES, as described in Paragraph 3.2, compensation shall be computed as follows:

**11.3.2** FOR ADDITIONAL SERVICES OF THE ARCHITECT, as described in Articles 3 and 12, other than (1) Additional Project Representation, as described in Paragraph 3.2, and (2) services included in Article 12 as part of Basic Services, but excluding services of consultants, compensation shall be computed as follows:

*(Insert basis of compensation including rates and/or multiples of Direct Personnel Expense for Principals and employees, and identify Principals and classify employees, if required. Identify specific services to which particular methods of compensation apply, if necessary.)*

**SAMPLE**

**11.3.3** FOR ADDITIONAL SERVICES OF CONSULTANTS, including additional structural, mechanical and electrical engineering services and those provided under Subparagraph 3.4.19 or identified in Article 12 as part of Additional Services, a multiple of ( ) times the amounts billed to the Architect for such services.

*(Identify specific types of consultants in Article 12, if required.)*

**11.4 REIMBURSABLE EXPENSES**

**11.4.1** FOR REIMBURSABLE EXPENSES, as described in Paragraph 10.2, and any other items included in Article 12 as Reimbursable Expenses, a multiple of ( ) times the expenses incurred by the Architect, the Architect's employees and consultants in the interest of the Project.

**11.5 ADDITIONAL PROVISIONS**

**11.5.1** IF THE BASIC SERVICES covered by this Agreement have not been completed within ( ) months of the date hereof, through no fault of the Architect, extension of the Architect's services beyond that time shall be compensated as provided in Subparagraphs 10.3.3 and 11.3.2.

**11.5.2** Payments are due and payable ( ) days from the date of the Architect's invoice. Amounts unpaid ( ) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Architect.

*(Insert rate of interest agreed upon.)*

*(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Architect's principal places of business, the location of the Project and elsewhere may affect the validity of this provision. Specific legal advice should be obtained with respect to deletions or modifications, and also regarding requirements such as written disclosures or waivers.)*

**11.5.3** The rates and multiples set forth for Additional Services shall be annually adjusted in accordance with normal salary review practices of the Architect.

**ARTICLE 12**  
**OTHER CONDITIONS OR SERVICES**

*(Insert descriptions of other services, identify Additional Services included within Basic Compensation and modifications to the payment and compensation terms included in this Agreement.)*

SAMPLE

This Agreement entered into as of the day and year first written above.

OWNER

ARCHITECT

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
*(Printed name and title)*

## ADDENDUM 16: TYPICAL OUTLINE SPECIFICATIONS

### Division 1 - General Conditions

- 1.1 Permits
- 1.2 Legal contracts, waivers of liens
- 1.3 Insurance
- 1.4 Accounting
- 1.5 Job meetings, construction inspection
- 1.6 Contract limits, retentions

### Division 2 - Site Work

- 2.1 Demolition
- 2.6 Landscape

### Division 3 - Concrete work

### Division 4 - Masonry

- 4.1 Steel lintel repair
- 4.2 Basement window bricking
- 4.3 Repointing
- 4.4 Work sketches
- 4.5.1 Patching precast panels
- 4.5.2 Replacing precast panels
- 4.6 Parapet work
- 4.7 Chimneys
- 4.8 Cleaning and sealing
- 4.9 Vestibule repair

### Division 5 - Metals

- 5.10 Steel lintels
- 5.11 Security bars on basement windows

### Division 6 - Carpentry

- 6.10 Apartment doors
- 6.10.1 Kitchen cabinet repair
- 6.10.2 Door hardware
- 6.10.3 Skylight removal
- 6.10.4 Roof sheathing
- 6.10.5 Repair floor damage
- 6.10.6 Secure trash chute openings
- 6.11 New apartment entrances
- 6.13 Cut new door openings
- 6.14 Underlayment
- 6.15 Door repair
- 6.16 Stair railings
- 6.17 Hallway doors
- 6.18 Exit doors
- 6.19 Exterior doors
- 6.20 Kitchen sink base cabinet
- 6.21 Counter tops

**ADDENDUM 16**

Page 2

**Division 7 - Thermal and Moisture Protection**

- 7.2 Insulation - roof (ceiling insulation)
- 7.4 Roofing - replacement of roof
- 7.5 Gutters and downspouts

**Division 8 - Doors and Windows**

- 8.1 See 6.10, 6.15, 6.17, 6.18, 6.19 for doors
- 8.2 Windows
- 8.3 Lobby entrance windows

**Division 9 - Finishes**

- 9.2 Plastering
- 9.3 Drywall
- 9.5 Resilient flooring
- 9.6 Carpeting
- 9.7 Wood floor refinishing
- 9.8 Painting
  - 9.8.1 Trim
  - 9.8.2 Walls
  - 9.8.3 Bathrooms
  - 9.8.4 Kitchens
  - 9.8.5 Basement floors
  - 9.8.6 Basement ceilings
  - 9.8.7 Stairs

**Division 10 - Specialties**

- 10.1 Bath accessories
- 10.2 Bath grouting
- 10.3 Closet accessories
- 10.4 Handicapped access allowance

**Division 13 - Elevator**

- 13.1 Elevator repair
- 13.2 Handicapped lift

**Division 14 - Equipment**

- 14.1 Entry System
- 14.2 Telephone

**Division 15 - Electric**

- 15.1 Smoke detectors
- 15.2 Electric power distribution
  - 15.21 Permits
  - 15.22 Apartment wiring
  - 15.23 Laundry room, public areas
  - 15.24 Hallway outlets

**ADDENDUM 16**

Page 3

- 15.25 Exterior lighting
- 15.26 Breaker panels
- 15.27 Risers/feeders
- 15.28 Meters and service entrances

**Division 16 - Plumbing and Heating**

- 16.1 Plumbing
  - 16.1.1 Toilets
  - 16.1.2 Sinks
  - 16.1.3 Faucets and showers at tub
  - 16.1.4 Kitchen sink
  - 16.1.5 Water heaters
  - 16.1.6 Testing
  - 16.1.7 Laundry
- 16.2 Sprinklers
- 16.4 Heating
  - 16.4.1 Radiators
  - 16.4.2 Testing lines
  - 16.4.4 Boiler capacity
  - 16.4.5 Boiler
  - 16.4.6 Testing
  - 16.4.7 Combustion air louvers
  - 16.4.8 Make up air unit

**ADDENDUM 17: CONSOLIDATED COST ESTIMATE FORM**





**ADDENDUM 18: AIA DOCUMENT A305**  
**CONTRACTOR'S QUALIFICATION STATEMENT**



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AIA Document A305

# Contractor's Qualification Statement

## 1986 EDITION

*This form is approved and recommended by The American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by the AIA or AGC.*

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

**SAMPLE**

- Corporation
- Partnership
- Individual
- Joint Venture
- Other

NAME OF PROJECT (if applicable):

TYPE OF WORK (file separate form for each Classification of Work):

- \_\_\_\_\_ General Construction
- \_\_\_\_\_ Plumbing
- \_\_\_\_\_ Other \_\_\_\_\_
- \_\_\_\_\_ HVAC
- \_\_\_\_\_ Electrical

(please specify)

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## 1. ORGANIZATION

- 1.1 How many years has your organization been in business as a Contractor?
  
- 1.2 How many years has your organization been in business under its present business name?
  - 1.2.1 Under what other or former names has your organization operated?
  
- 1.3 If your organization is a corporation, answer the following:
  - 1.3.1 Date of incorporation:
  - 1.3.2 State of incorporation:
  - 1.3.3 President's name:
  - 1.3.4 Vice-president's name(s):
  
  - 1.3.5 Secretary's name:
  - 1.3.6 Treasurer's name:
  
- 1.4 If your organization is a partnership, answer the following:
  - 1.4.1 Date of organization:
  - 1.4.2 Type of partnership (if applicable):
  - 1.4.3 Name(s) of general partner(s):
  
- 1.5 If your organization is individually owned, answer the following:
  - 1.5.1 Date of organization:
  - 1.5.2 Name of owner:

SAMPLE

1.6 If the form of your organization is other than those listed above, describe it and name the principals:

## 2. LICENSING

2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

2.2 List jurisdictions in which your organization's partnership or trade name is filed.

SAMPLE

## 3. EXPERIENCE

3.1 List the categories of work that your organization normally performs with its own forces.

3.2 Clams and Surts. (If the answer to any of the questions below is yes, please attach details.)

3.2.1 Has your organization ever failed to complete any work awarded to it?

3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

- 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.
- 3.4.1 State total worth of work in progress and under contract:
- 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.
- 3.5.1 State average annual amount of construction work performed during the past five years:
- 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

#### 4. REFERENCES

- 4.1 Trade References:

SAMPLE

- 4.2 Bank References:

- 4.3 Surety:

- 4.3.1 Name of bonding company:

- 4.3.2 Name and address of agent:

## 5. FINANCING

### 5.1 Financial Statement.

5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

5.1.3 Is the attached financial statement for the identical organization named on page one?

5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

**6. SIGNATURE**

6.1 Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_

Name of Organization:

By:

Title:

6.2

M \_\_\_\_\_ being  
duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be  
misleading.

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_

Notary Public:

My Commission Expires:

**SAMPLE**

**ADDENDUM 19: GOALS AND OBJECTIVES OF THE  
CONTRACTOR INTERVIEW**

**GOAL #1.**

**GATHER RELEVANT INFORMATION FROM EACH PROSPECTIVE CONTRACTOR**

**OBJECTIVE a.) Determine contractor's scope of experience in projects similar in size and scope to the one proposed.**

**OBJECTIVE b.) Assess contractor's ability to operate a successful business.**

**OBJECTIVE c.) Determine contractor's organizational and financial capabilities.**

**GOAL #2.**

**GIVE PROSPECTIVE CONTRACTORS INFORMATION ABOUT THE PROGRAM**

**OBJECTIVE a.) Explain program procedures and requirements.**



**ADDENDUM 19**

Page 2

**SUGGESTED QUESTIONS FOR INTERVIEWING CONTRACTORS**

In the initial interview with the contractor, consider asking the following questions:

- o How long have you been in business?
- o How many workers do you employ and which trades do they cover? How long have they worked for you?
- o If you had your choice of construction work, with which type do you feel most comfortable: New construction, remodeling, or rehab?

Determine the contractor's ability to perform by asking the following questions:

- o What did you do prior to starting your construction business?
  - If you have no construction background, who in your company has it? Describe.
  - If your background is in a specialty (masonry, drywall, etc.), who has general knowledge of construction in your company? Describe his/her background.
- o Do you work with your tools?
- o Which trades are subcontracted?
  - Do you use the same subs on all jobs?
  - If not, do you get bids from several subs prior to submitting your quotation, or do you rely solely on your experience in estimating the job?
- o Have you or has your company ever been in litigation?
- o How do you respond to client complaints?
  - During construction?
  - During close-out?
  - 6 months later?
  - 2 years later?

**ADDENDUM 19**

Page 3

Determine the contractor's ability to operate a business by asking the following questions:

- o Financial responsibility:
  - Are you able to obtain a payment and performance bond?
  - Do you typically use bonds as performance guarantees? What is your bonding limit?
  - Have you used an Irrevocable Letter of Credit as a performance guarantee?
  - Have you established a line of credit? To what limit?
  - Who keeps the accounting records for your business?
  - Do you have other resources available to you? What are they?
  - Do you pay your withholding taxes on time?
  - Do you have a consulting accountant?
  - Do you have a consulting attorney?
- o What is the estimated value of your tools and equipment?
- o How many trucks do you have?
- o What other kinds of equipment do you have?

ADDENDUM 19

Page 4

SUGGESTED QUESTIONNAIRE FOR INTERVIEWING  
CONTRACTOR'S PAST CUSTOMERS

CLIENT'S NAME: \_\_\_\_\_

- |    |  |     |    |
|----|--|-----|----|
| 1. | Were you satisfied with work performed?                          | Yes | No |
| 2. | Was the job completed on time?                                   | Yes | No |
| 3. | Were you satisfied with the work performed by the contractor(s)? | Yes | No |
| 4. | If problems arose, was the contractor receptive to discussion?   | Yes | No |

5. What type of work did the contractor perform? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. What was the scope of the job? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. On a scale of 1 to 10, how would you rate his/her overall performance on the job? (circle)

1    2    3    4    5    6    7    8    9    10

8. Would you hire the contractor again?                      Yes    No

**ADDENDUM 19**

Page 5

**QUESTIONNAIRE -- CONTRACTOR'S BANKING REFERENCES:**

1. How long has contractor or individual been doing business with your bank?
  
2. What kind of accounts associated with construction financing, development, or mortgages has contractor or individual been involved with at your bank?
  
3. How would you rate the contractor's or individual's repayment history relative to such bank loans?
  
4. What kind of credit line does the bank afford or make available to such construction firms or individuals?
  
5. If you were asked to do so, would you have enough knowledge of this firm or individual to recommend them for a construction project in the range of \$500,000 to \$1,000,000?

**ADDENDUM 19**

Page 6

**QUESTIONNAIRE FOR CONTRACTOR'S SUPPLIER  
(PRODUCTS) REFERENCES:**

1. What is the range of building and/or construction products, materials that you supply to the building trades?
  
2. How long has the contractor and/or individual been doing business with you?
  
3. What kind of credit line do you extend to your contractor customers?
  - A. What is the ceiling maximum for credit?
  
4. What kind of credit history does the contractor and/or individual have with you?

**ADDITIONAL STEPS IN THE VERIFICATIONS  
OF CONTRACTOR'S LISTED PROJECTS:**

Step #1. Verify contractor's corporation, individuals, or other information with legal department or Office of Consumer Affairs.

Step #2. Check contractor's track record with construction officials, and building inspectors in the municipalities in which referenced projects are located.

Step #3. Field check referenced projects that are:

A. In progress:

Project Description	Location
1) _____	_____
2) _____	_____
3) _____	_____

B. Completed within the past year:

Project Description	Location
1) _____	_____
2) _____	_____
3) _____	_____



**ADDENDUM 20: AIA DOCUMENT A101**

**CONSTRUCTION CONTRACT**

**STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**



# INSTRUCTION SHEET

FOR AIA DOCUMENT A101, STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR where the Basis of Payment is a STIPULATED SUM—1987 EDITION

## A. GENERAL INFORMATION

### 1. Purpose

AIA Document A101 is intended for use on construction projects where the basis of payment is a stipulated sum (fixed price). It is suitable for any arrangement between the Owner and Contractor where the cost has been set in advance, either by bidding or by negotiation.

### 2. Related Documents

This document has been prepared for use in conjunction with the 1987 edition of AIA Document A201, General Conditions of the Contract for Construction, which is adopted into A101 by a specific reference. This integrated set of documents is suitable for most projects; however, for projects of limited scope, use of AIA Document A107 may be considered.

The A101 document may be used as one part of the Contract Documents which record the Contract for Construction between the Owner and the Contractor. The other Contract Documents are:

- General Conditions (i.e., A201)
- Supplementary Conditions
- Drawings
- Specifications
- Modifications

Although the AIA does not produce standard documents for Supplementary Conditions, Drawings or Specifications, a variety of model and guide documents are available, including AIA's MASTERSPEC.

### 3. Arbitration

This document incorporates ARBITRATION by adoption of AIA Document A201, which provides for arbitration according to the Construction Industry Arbitration Rules of the American Arbitration Association. Arbitration is BINDING AND MANDATORY in most states and under the federal Arbitration Act. In a minority of states, arbitration provisions relating to future disputes are not enforceable, but arbitration is enforceable if agreed to after the dispute arises. A few states require that the contracting parties be especially notified that the written contract contains an arbitration provision by: a warning on the face of the document, specific placement of the arbitration provision within the document or specific discussions among the parties prior to signing the document.

Arbitration provisions have been included in most AIA contract forms since 1888 in order to encourage alternative dispute resolution procedures and to provide users of AIA documents with legally enforceable arbitration provisions when the parties choose to adopt arbitration into their contract. Individuals may, however, choose to delete the arbitration provisions based upon their business decisions with the advice of counsel. To obtain a copy of the Construction Industry Arbitration Rules, write the American Arbitration Association, 140 West 51st Street, New York, NY 10020.

### 4. Use of Non-AIA Forms

If a combination of AIA documents and non-AIA documents is to be used, particular care must be taken to achieve consistency of language and intent. Certain owners require the use of owner-contractor agreements and other contract forms which they prepare. Such forms should be carefully compared with the standard AIA forms for which they are being substituted before execution of an agreement. If there are any significant omissions, additions or variances from the terms of the related standard AIA forms, both legal and insurance counsel should be consulted.

### 5. Letter Forms of Agreement

Letter forms of agreement are generally discouraged by the AIA, as is the performance of a part or the whole of the Work on the basis of oral agreements or understandings. The standard AIA agreement forms have been developed through more than seventy-five years of experience and have been tested repeatedly in the courts. In addition, the standard forms have been carefully coordinated with other AIA documents.

### 6. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents Price List to determine the current edition of each document.

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A limited license is hereby granted to retail purchasers to reproduce a maximum of ten copies of a completed or executed A101, but only for use in connection with a particular Project. A101 may not be reproduced for Project Manuals. Rather, if a user wishes to

include it as an example in a Project Manual, the normal practice is to purchase a quantity of the pre-printed forms and bind one in each of the Project Manuals. Partial modifications, if any, may be accomplished without completing the form by using separate Supplementary Conditions.

Upon reaching agreement concerning the Contract Sum and other conditions, the form may be removed from the manual and such information, except for the signatures, may be added to the blank spaces of the form. The user may then reproduce up to ten copies to facilitate the execution (signing) of multiple original copies of the form, or for other administrative purposes in connection with a particular Project. Please note that at least three original copies of A101 should be signed by the parties as required by the last provision of A101.

## B. CHANGES FROM THE PREVIOUS EDITION

### 1. Format Changes

Two new articles have been added: Article 6, Termination or Suspension; and Article 9, Enumeration of Contract Documents.

### 2. Changes in Content

The 1987 edition of A101 revises the 1977 edition to reflect changes made in the most recent (1987) edition of A201. It incorporates alterations proposed by architects, contractors, owners and professional consultants. The following are some of the significant changes made to the contents from the 1977 edition of A101:

**Article 1:** A specific statement has been added that the Contract represents the entire agreement between the parties, superseding previous negotiations and writings.

**Article 2:** Space has been provided to describe any exceptions to the description of Contractor's scope of Work.

**Article 3:** In the title of this article, "Time of Commencement" has been changed to "Date of Commencement."

**Article 4:** Space has been provided for insertion of the amounts relating to alternates and unit prices.

**Article 5:** The Progress Payments article has been substantially rewritten and expanded. Detailed directions have been added on how and when payments shall be calculated and applied for.

**Article 6:** Further details have been added to clarify the conditions under which final payment shall be made by the Owner.

**Article 7:** The reference to definitions contained in the Conditions of the Contract has been deleted because the A201 document is now specifically adopted by reference under Article 9.

**Article 8:** This is a new article containing references to the General Conditions.

**Article 9:** This article is new. The A101 Document and the A201 Document are explicitly enumerated as parts of the Contract Documents. Spaces are provided for information specifically identifying the other Contract Documents, including the Supplementary Conditions, Specifications, Drawings and Addenda, if any.

**Signature Page:** It is noted above the signature lines that this agreement is executed on at least three original copies. See the instructions pertaining to Limited License for Reproduction.

## C. COMPLETING THE A101 FORM

1. Prospective bidders should be informed of any additional provisions which may be included in A101, such as liquidated damages or provisions for stored materials, by an appropriate notice in the Bidding Documents and the Supplementary Conditions.

### 2. Modifications

Users are encouraged to consult an attorney before completing an AIA document. Particularly with respect to contractor's licensing laws, duties imposed by building codes, interest charges, arbitration and indemnification, this document may require modification with the assistance of legal counsel to fully comply with state or local laws regulating these matters.

Generally, necessary modifications may be accomplished by writing or typing the appropriate terms in the blank spaces provided on the form or by Supplementary Conditions, special conditions or amendments included in the Project Manual and referenced in this document. The form may also be modified by striking out language directly on the original pre-printed form. Care must be taken in making these kinds of deletions, however. Under NO circumstances should pre-printed language be struck out in such a way as to render it illegible (as, for example, with blocking tape, correction fluid or X's that completely obscure the text). This may raise suspicions of fraudulent concealment or suggest that the completed and signed document has been tampered with. Handwritten changes should be initialed by both parties to the contract.

It is definitely not recommended practice to retype the standard document. Besides being outside the Limited License for Reproduction granted under these Instructions, retyping can introduce typographical errors and cloud the legal interpretation given to a standard clause when blended with modifications.

Retyping eliminates one of the principal advantages of the standard form documents. By merely reviewing the modifications to be made to a standard form document, parties familiar with that document can quickly understand the essence of the proposed relationship. Commercial exchanges are greatly simplified and expedited, good-faith dealing is encouraged, and otherwise latent clauses are exposed for scrutiny. In this way, contracting parties can more fairly measure their risks.

### 3. Cover Page

**Date:** The date represents the date the Agreement becomes effective. It may be the date that an oral agreement was reached, the date the Agreement was originally submitted to the owner, the date authorizing action was taken or the date of actual execution. It

will be the date from which the Contract Time is measured unless a different date is inserted under Paragraph 3.1.

Identification of Parties: Parties to this Agreement should be identified using the full address and legal name under which the Agreement is to be executed, including a designation of the legal status of both parties (sole proprietorship, partnership, joint venture, unincorporated association, limited partnership or corporation [general, closed or professional], etc.). Where appropriate, a copy of the resolution authorizing the individual to act on behalf of the firm or entity should be attached.

Project Description: The proposed Project should be described in sufficient detail to identify (1) the official name or title of the facility, (2) the location of the site, if known, (3) the proposed building type and usage, and (4) the size, capacity or scope of the Project, if known.

Architect: As in the other Contract Documents, the Architect's full legal or corporate titles should be used.

#### 4. Article 1—The Contract Documents

The Contract Documents must be enumerated in detail in Article 9. The Contractor's bid itself may be incorporated into the Contract; similarly, other bidding documents, bonds, etc., may be incorporated, especially in public work.

#### 5. Article 2—The Work of This Contract

Portions of the Work which are the responsibility of persons other than the Contractor and which have not been otherwise indicated should be listed here.

#### 6. Article 3—Date of Commencement and Substantial Completion

The following items should be included as appropriate:

##### Paragraph 3.1

The date of commencement of the Work should be inserted if it is different from the date of the Agreement. It should not be earlier than the date of execution (signing) of the Contract. After the first sentence, enter either the specific date of commencement of the Work, or if a notice to proceed is to be used, enter the sentence, "The date of commencement shall be stipulated by the notice to proceed." When time of performance is to be strictly enforced, the statement of starting time should be carefully weighed.

##### Paragraph 3.2

The time within which Substantial Completion of the Work is to be achieved may be expressed as a number of days (preferably calendar days) or as a specified date. Any requirements for earlier Substantial Completion of portions of the Work should be entered here if not specified elsewhere in the Contract Documents.

Also insert any provisions for liquidated damages relating to failure to complete on time. Liquidated damages are not a penalty to be inflicted on the Contractor, but must bear an actual and reasonably estimable relationship to the Owner's loss if construction is not completed on time. If liquidated damages are to be assessed because delayed construction will result in actual loss to the Owner, the amount of damages due for each day lost should be entered in the Supplementary Conditions or the Agreement. Factors such as confidentiality or the need to inform Subcontractors about the amount of liquidated damages will help determine the location chosen.

The provision for liquidated damages, which should be carefully reviewed or drafted by the Owner's attorney, may be as follows:

The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums hereinafter stipulated as liquidated damages for each calendar day of delay until the Work is substantially complete: Dollars  
(\$            ).

For further information on liquidated damages, penalties and bonus provisions, see AIA Document A511, Guide for Supplementary Conditions, Paragraph 9.11.

#### 7. Article 4—Contract Sum

##### Paragraph 4.1

Enter the Contract Sum payable to the Contractor.

##### Paragraph 4.2

Identify any alternates described in the Contract Documents and accepted by the Owner. If decisions on alternates are to be made subsequent to execution of A101, attach a schedule showing the amount of each alternate and the date until which that amount is valid.

##### Paragraph 4.3

Enter any unit prices, cash allowances or cash contingency allowances.

If unit prices are not covered in greater detail elsewhere in the Contract Documents, the following provision for unit prices is suggested:

The unit prices listed below shall determine the value of extra Work or changes in the Work, as applicable. They shall be considered complete and shall include all material and equipment, labor, installation costs, overhead and profit. Unit prices shall be used uniformly for additions or deductions.

Specific allowances for overhead and profit on Change Orders may be included under this paragraph to forestall disputes over future Change Order costs.

#### 8. Article 5—Progress Payments

##### Paragraph 5.2

Insert the time period covered by each Application for Payment if it differs from the one given.

### **Paragraph 5.3**

Insert the time schedule for presenting Applications for Payment. Insert the day of the month progress payments are due, indicating whether such day is to be in the same or the following month after receipt by the Architect of the relevant Application for Payment.

The last day upon which Work may be included in an Application should normally be no less than 14 days prior to the payment date, in consideration of the 7 days required for the Architect's evaluation of an Application and issuance of a Certificate for Payment and the time subsequently accorded the Owner to make payment in Article 9 of A201. The Contractor may prefer a few additional days to prepare the Application.

Due dates for payment should be acceptable to both the Owner and Contractor. They should allow sufficient time for the Contractor to prepare an Application for Payment, for the Architect to certify Payment, and for the Owner to make payment. They should also be in accordance with time limits established by this Article and Article 9 of A201.

### **Subparagraph 5.6.1**

Indicate the percent retainage, if any, to be withheld when computing the amount of each progress payment.

The Owner frequently pays the Contractor 90 percent of the earned sum when payments fall due, retaining 10 percent to ensure faithful performance. These percentages may vary with circumstances and localities. The AIA endorses the practice of reducing retainage as rapidly as possible, consistent with the continued protection of all affected parties. See AIA Document A511, Guide for Supplementary Conditions, for a complete discussion.

### **Subparagraph 5.6.2**

Insert any additional retainage to be withheld from that portion of the Contract Sum allocable to materials and equipment stored at the site.

Payment for materials stored off the site should be provided for in a specific agreement and enumerated in Paragraph 7.3. Provisions regarding transportation to the site and insurance protecting Owner's interests should be included.

### **Subparagraph 5.7.1**

Enter the percentage of the Contract Sum to be paid to the Contractor upon Substantial Completion.

### **Paragraph 5.8**

Describe any arrangements to reduce or limit retainages indicated in Subparagraphs 5.6.1 and 5.6.2, if not explained elsewhere in the Contract Documents.

A provision for reducing retainage should provide that the reduction will be made only if the Architect judges that the Work is progressing satisfactorily. If the Contractor has furnished a bond, demonstration of the surety's consent to reduction in or partial release of retainage must be provided before such reduction is effected. Use of AIA Document G707A is recommended.

## **9. Article 6—Final Payment**

Insert the date by which Owner shall make final payment, if it differs from the one stated.

When final payment is requested, the Architect should ascertain that all claims have been settled or should define those which remain unsettled. The Architect should obtain the Contractor's certification required by Article 9 of A201 and must determine that, to the best of the Architect's knowledge and belief and according to final inspection, the requirements of the Contract have been fulfilled.

## **10. Article 7—Miscellaneous Provisions**

### **Paragraph 7.2**

Enter any agreed-upon interest rate due on overdue payments.

### **Paragraph 7.3**

Insert other provisions here.

## **11. Article 9—Enumeration of Contract Documents**

A detailed enumeration of all Contract Documents must be made in this Article.

## **D. EXECUTION OF THE AGREEMENT**

The Agreement should be executed in not less than triplicate by the Owner and the Contractor. Each person executing the Agreement should indicate the capacity in which they are acting (i.e., president, secretary, partner, etc.) and the authority under which they are executing the Agreement. Where appropriate, a copy of the resolution authorizing the individual to act on behalf of the firm or entity should be attached.





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AIA Document A101

# Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a

STIPULATED SUM

1987 EDITION

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.*

*The 1987 Edition of AIA Document A201, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.*

This document has been approved and endorsed by The Associated General Contractors of America.

## AGREEMENT

made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year of  
Nineteen Hundred and \_\_\_\_\_

**BETWEEN** the Owner:

*(Name and address)*

and the Contractor:

*(Name and address)*

The Project is:

*(Name and location)*

The Architect is:

*(Name and address)*

The Owner and Contractor agree as set forth below.

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**ARTICLE 1**  
**THE CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

**ARTICLE 2**  
**THE WORK OF THIS CONTRACT**

The Contractor shall execute the entire Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others, or as follows:

**SAMPLE**

**ARTICLE 3**  
**DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

**3.1** The date of commencement is the date from which the Contract Time of Paragraph 3.2 is measured, and shall be the date of this Agreement, as first written above, unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

*(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed )*

Unless the date of commencement is established by a notice to proceed issued by the Owner, the Contractor shall notify the Owner in writing not less than five days before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.

**3.2** The Contractor shall achieve Substantial Completion of the entire Work not later than

*(Insert the calendar date or number of calendar days after the date of commencement. Also insert any requirements for earlier Substantial Completion of certain portions of the Work, if not stated elsewhere in the Contract Documents.)*

subject to adjustments of this Contract Time as provided in the Contract Documents.

*(Insert provisions, if any, for liquidated damages relating to failure to complete on time )*

**ARTICLE 4**  
**CONTRACT SUM**

**4.1** The Owner shall pay the Contractor in current funds for the Contractor's performance of the Contract the Contract Sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), subject to additions and deductions as provided in the Contract Documents.

**4.2** The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If decisions on other alternates are to be made by the Owner subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date until which that amount is valid.)*

**SAMPLE**

**4.3** Unit prices, if any, are as follows:

**ARTICLE 5**  
**PROGRESS PAYMENTS**

**5.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**5.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

**SAMPLE**

**5.3** Provided an Application for Payment is received by the Architect not later than the \_\_\_\_\_ day of a month, the Owner shall make payment to the Contractor not later than the \_\_\_\_\_ day of the \_\_\_\_\_ month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than \_\_\_\_\_ days after the Architect receives the Application for Payment.

**5.4** Each Application for Payment shall be based upon the Schedule of Values submitted by the Contractor in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This Schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

**5.5** Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**5.6** Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

**5.6.1** Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the Schedule of Values, less retainage of \_\_\_\_\_ percent ( \_\_\_\_\_ %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Subparagraph 7.3.7 of the General Conditions even though the Contract Sum has not yet been adjusted by Change Order;

**5.6.2** Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of \_\_\_\_\_ percent ( \_\_\_\_\_ %);

**5.6.3** Subtract the aggregate of previous payments made by the Owner; and

**5.6.4** Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Paragraph 9.5 of the General Conditions.

**5.7** The progress payment amount determined in accordance with Paragraph 5.6 shall be further modified under the following circumstances:

**5.7.1** Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to \_\_\_\_\_ percent ( \_\_\_\_\_ %) of the Contract Sum, less such amounts as the Architect shall determine for incomplete work and unsettled claims; and

**5.7.2** Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Subparagraph 9.10.3 of the General Conditions.

**5.8** Reduction or limitation of retainage, if any, shall be as follows:

*(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Subparagraphs 5.6.1 and 5.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)*



**ARTICLE 6**  
**FINAL PAYMENT**

Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when (1) the Contract has been fully performed by the Contractor except for the Contractor's responsibility to correct nonconforming Work as provided in Subparagraph 12.2.2 of the General Conditions and to satisfy other requirements, if any, which necessarily survive final payment; and (2) a final Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

**SAMPLE**

**ARTICLE 7**  
**MISCELLANEOUS PROVISIONS**

**7.1** Where reference is made in this Agreement to a provision of the General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

**7.2** Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

*(Insert rate of interest agreed upon, if any )*

*(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Contractor's principal places of business, the location of the Project and elsewhere may affect the validity of this provision. Legal advice should be obtained with respect to deletions or modifications, and also regarding requirements such as written disclosures or waivers )*

**7.3** Other provisions:

**ARTICLE 8**  
**TERMINATION OR SUSPENSION**

**8.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of the General Conditions.

**8.2** The Work may be suspended by the Owner as provided in Article 14 of the General Conditions.

**ARTICLE 9**  
**ENUMERATION OF CONTRACT DOCUMENTS**

**9.1** The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

**9.1.1** The Agreement is this executed Standard Form of Agreement Between Owner and Contractor, AIA Document A101, 1987 Edition.

**9.1.2** The General Conditions are the General Conditions of the Contract for Construction, AIA Document A201, 1987 Edition.

**9.1.3** The Supplementary and other Conditions of the Contract are those contained in the Project Manual dated \_\_\_\_\_, and are as follows:

<b>Document</b>	<b>Title</b>	<b>Pages</b>
-----------------	--------------	--------------

**SAMPLE**

**9.1.4** The Specifications are those contained in the Project Manual dated as in Subparagraph 9.1.3, and are as follows:

*(Either list the Specifications here or refer to an exhibit attached to this Agreement )*

<b>Section</b>	<b>Title</b>	<b>Pages</b>
----------------	--------------	--------------

**9.1.5** The Drawings are as follows, and are dated  
*(Either list the Drawings here or refer to an exhibit attached to this Agreement.)*

unless a different date is shown below:

<b>Number</b>	<b>Title</b>	<b>Date</b>
---------------	--------------	-------------

SAMPLE

**9.1.6** The Addenda, if any, are as follows:

<b>Number</b>	<b>Date</b>	<b>Pages</b>
---------------	-------------	--------------

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

**9.1.7** Other documents, if any, forming part of the Contract Documents are as follows:

*(List here any additional documents which are intended to form part of the Contract Documents. The General Conditions provide that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)*

**SAMPLE**

The Agreement is entered into as of the day and year first written above and is executed in at least three original copies of which one is to be delivered to the Contractor, one to the Architect for use in the administration of the Contract, and the remainder to the Owner.

OWNER

CONTRACTOR

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
*(Printed name and title)*

**ADDENDUM 21: TYPICAL LOAN ESCROW AGREEMENT**

Introduction

This is an agreement between the borrower or grantee ("Borrower") and the lender(s) and/or grantor(s) described below ("Lenders") with regard to the project known as \_\_\_\_\_ in \_\_\_\_\_ ("The Project"). This agreement:

- a) Governs the disbursement and use of the grant(s) and/or loan(s) described below, and
  - b) Establishes certain responsibilities of Borrower for the management of the construction and development of the Project.
- A. **SCOPE OF AGREEMENT:** This agreement governs the use of all sources of funds for the Project described in the project budget and construction budget (attachments A and B, the "Budgets"). The sources may include some that are not parties to this agreement.

B. **PARTIES TO AGREEMENT AND DESCRIPTION OF SOURCES OF FUNDS:**

<u>Source #</u>	<u>Grantor/Lender</u>	<u>Fund Description</u>	<u>Amount</u>
1.			
2.			
3.			

- C. **LOAN SETTLEMENTS:** All Lenders will settle loans and/or grant contracts simultaneously.
- D. **EVIDENCE OF FUNDS AVAILABLE:** Prior to closing, Borrower will provide satisfactory evidence to Lenders of the receipt of, or firm commitments for, all budgeted sources of funds. Such commitments shall be unconditional and state the time and manner in which funds will be received.
- E. **FUND DISBURSEMENT:** The Lenders will disburse funds to the escrow account on the following dates or according to the following schedule:

Source #1: \_\_\_\_\_  
\_\_\_\_\_

Source #2: \_\_\_\_\_  
\_\_\_\_\_

Source #3: \_\_\_\_\_  
\_\_\_\_\_

Source #4: \_\_\_\_\_  
\_\_\_\_\_

**ADDENDUM 21**

Page 2

- F. **DRAWS AT SETTLEMENT OR FROM ESCROW ACCOUNT:** Funds shall be drawn in accordance with Attachment C, Restriction of Sources of Funds.
- G. **UNEXPENDED FUNDS:** Funds unexpended at the final close out of the project will be used to prepay the loan.
- H. **FUND INVESTMENT:** The funds shall be deposited in an interest bearing account at \_\_\_\_\_ bank at closing.
- I. **ELIGIBLE EXPENSES:** Eligible project expenses for payment from the project account will be limited to those items and amounts described in the Budget, except as these are amended by change orders. These change orders shall be required for all construction and non-construction expenses not in the Budget.
- J. **APPROVAL OF DRAWS AND CHANGE ORDERS:** No expense will be paid from the escrow account without a draw request and/or change order, if required, signed by the following parties and in a form acceptable to Lenders:
- Construction expenses: Borrower's construction manager and Lender Representative.
- Non-Construction expenses: Borrower's project manager and Lender Representative.
- K. **CONTINGENCY ACCOUNTING:** With each draw and/or change order being submitted for approval, Borrower will provide an accounting of the original contingency amounts, credits and debits to date as a result of change orders, and current balances, and any change orders known by Borrower to be pending. Pending change order amounts may be estimated.
- L. **WORKING CAPITAL:** Notwithstanding any other requirement of this agreement, Borrower may draw the sum of \$\_\_\_\_\_, on or within 10 days of the date of the establishment of the escrow account. These funds may be used as working capital to pay subcontractors, suppliers and internal costs in accordance with the project budget. Said funds may be mingled with other funds of Borrower but must be returned to the escrow account on or before \_\_\_\_\_(date).
- M. **LENDER REPRESENTATIVE:** One Lender Representative shall be appointed to approve draws on behalf of both lenders. The Lender Representative is. \_\_\_\_\_  
\_\_\_\_\_(name).
- N. **BORROWER RESPONSIBILITIES FOR CONSTRUCTION:** Borrower shall be responsible for managing project construction as described in Attachment D.

**ADDENDUM 21**

Page 3

O. **REPORTS AND INSPECTION:** Each Lender shall have a right to inspect the construction site and all project files. No later than 15 days after the first day of each month during construction, and after final project close out, borrower shall provide each Lender with:

a) Line item and total costs as of the end of the previous month, compared with the Project Budget.

b) Copies of all approved draw requests and change orders as of the end of the previous month.

In Witness Thereof:  
Signed in the presence of:

Date:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(For borrower)  
\_\_\_\_\_  
\_\_\_\_\_

**ADDENDUM 21**

Page 4

**ATTACHMENT D: BORROWER RESPONSIBILITIES FOR CONSTRUCTION**

Borrower shall be responsible for project construction, monitoring the work of the trade contractors and coordinating the work to complete the project in accordance with the purposes set forth in the loan documents. More specifically, Borrower shall:

1. Perform or cause to be performed all work in The Specifications by Trade and Specifications by Location for the line item prices described in The Trade Payment Breakdown.
2. Maintain competent staff to coordinate and provide general direction of the work and progress of the trade contractors on the project.
3. Engage trade contractors to perform all work indicated as "contract" on the Trade Payment Breakdown. Such contractors shall have executed contracts with Borrower that incorporate the Specification by Location and Specification by Trade. Borrower shall provide the Lender's representative with copies of all such contracts.
4. Establish procedures for coordination among the trade contractors with respect to all aspects of the project and implement such procedures.
5. Schedule and conduct a preconstruction meeting and progress meetings at which trade contractors, lender representative, and the construction manager can discuss jointly such matters as procedures, progress, problems, and scheduling. Keep minutes of such meeting.
6. Provide monthly monitoring of the project schedule as construction progresses (or more frequently if required). Identify potential variances between scheduled and probable completion dates. Review schedule for work not started or incomplete and recommend to the trade contractors adjustments in the schedule to meet the probable complete date. Provide summary reports of each monitoring and document all changes in schedule.
7. Determine the adequacy of the trade contractors' personnel and equipment and the availability of materials and supplies to meet the schedule. Implement courses of action when requirements of the trade contract are not being met.
8. Provide all supervision, labor, materials, construction equipment, tools and subcontract items that are necessary for the completion of the General Condition Items that are not provided by the trade contractors.
9. Develop and monitor an effective system of project cost control. Keep current the approved project budget and Trade Payment Breakdown, incorporate approved changes as they occur, and develop cash flow reports and forecasts as requested by the Lender Representative. Identify variances between budgeted costs and actual costs based on change orders. Provide all Lenders with cost reports each month in the format of the Trade Payment Breakdown, to be mailed to each Lender by the 15th of the month following. Such reports shall show units of work completed, payments to date, and expenses accrued and approved but not paid. New change orders and approved draw requests during the month shall be attached to the report.



ADDENDUM 21

Page 5

10. Maintain cost accounting records on authorized work performed under subcontractor's approved costs, actual costs for labor and materials, or other basis requiring accounting records. For all project sources and uses, Borrower shall establish one income and one expense account in its accounting system, which shall be used only for projected related purposes. All interest from the escrow account or other investments approved by the Lenders shall accrue as income to this account and be used only for project expenses. Transactions with approved working capital will be charged to this account.
11. Develop and implement a system for the preparation, review and processing of Change Orders. Recommend necessary or desirable changes to the lender representative, review requests for changes, and negotiate Change Orders for approval by Borrower's representative and Lender's representative.
12. Develop and implement a procedure for the review, approval, processing, and payment of applications by trade contractors for progress and final payments, each in coordination with, and with the approval of, the lender representative.
13. Obtain all building permits and special permits for permanent improvements, excluding any permits required to be obtained by the various trade contractors, such as permits for inspection, temporary facilities, etc. Obtain approvals from all the authorities having jurisdiction.
14. If required by the Lender Representative, select and retain professional services of a surveyor, testing laboratories, and special consultants, and coordinate these services.
15. Review the work of trade contractors for defects and deficiencies in the work. Review the safety programs of each of the trade contractors and make appropriate recommendations. The performance of such services by the borrower shall not relieve the trade contractors of their responsibilities for performance of the work and for the safety of persons and property, and for compliance with all federal, state and local statutes, rules, regulations, and orders applicable to the conduct of the work.
16. Interpret for the trade contractors the contract documents, as necessary, within the intent of those documents.
17. Determine substantial completion of work or designated portions thereof and prepare a list of incomplete or unsatisfactory items and a schedule for their completion.
18. Determine final completion and provide written notice to the lender representative that the work is ready for final inspection. Secure required guarantees, affidavits, releases, bonds, and waivers.
19. Collect any specific written warranties or guarantees given by others, including all required trade contractor guarantees and warranties.

**ADDENDUM 22: BID PROPOSAL FORM**

TO: \_\_\_\_\_  
hereinafter called "Owner"

1. The undersigned, having examined the proposed Contract Documents titled:  
  
and having visited the site and examined the conditions affecting the Work, hereby proposes and agrees to furnish all labor, materials, equipment, and appliances, and to perform operations necessary to complete the Work as required by said proposed Contract Documents, for that portion of the Work identified as "Base Bid," for the stipulated sum of \_\_\_\_\_  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
2. Should the Owner decide to proceed with the portion of the Work identified as "Alternative No. 1," add to the Base Bid amount stated above the sum of \_\_\_\_\_  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
3. Should the Owner decide to proceed with the portion of the Work identified as "Alternative No. 2," add to the Base Bid amount stated above the sum of \_\_\_\_\_  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
4. Should the Owner elect to proceed with additional work, the undersigned proposes the following unit prices.
  - A. Partitions:
    1. Unit price per 100 lin ft of partition:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
    2. Unit price for each additional lin ft of partition: \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
  - B. Doors:
    1. Interior door type 1:
      - a. Total unit price for four such doors:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
      - b. Unit price for each additional such door:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
    2. Interior door type 2:
      - a. Unit price for four such doors:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
      - b. Unit price for each additional such door:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
    3. Entry door type 1:
      - a. Unit price for one such door:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
  - C. Floor covering:
    1. Carpet:
      - a. Unit price per sq ft:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).
    2. Resilient tile flooring:
      - a. Unit price per sq ft:  
\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).

ADDENDUM 22

D. Electrical:

1. Wall switches:

a. Unit price for one such switch:

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).

2. Wall receptacles:

a. Unit price for one such receptacle:

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_).

5. The undersigned understands and agrees to comply with and be bound by instructions to bidders issued for this Work.

6. The undersigned acknowledges receipt of Addenda numbers:

\_\_\_\_\_

7. Enclosed with this bid is bid security in the amount of not less than 2% of the bidder's proposed Contract Sum.

BIDDER:

( )  
( )  
( )  
( )  
( )  
( CORPORATE )  
( SEAL )  
( )  
( )  
( )  
( )

\_\_\_\_\_

by \_\_\_\_\_

Address \_\_\_\_\_

License number \_\_\_\_\_

License type \_\_\_\_\_

Bid dated this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_

END OF BID FORM

**ADDENDUM 23: AIA DOCUMENT G702a/G703a**

**APPLICATION AND CERTIFICATE FOR PAYMENT**

# APPLICATION AND CERTIFICATE FOR PAYMENT

AIA DOCUMENT G702

(Instructions on reverse side)

PAGE ONE OF TWO

TO (OWNER):

PROJECT:

APPLICATION NO:

Distribution to:

- OWNER
- ARCHITECT
- CONTRACTOR
- 
- 

FROM (CONTRACTOR):

VIA (ARCHITECT):

PERIOD TO:

ARCHITECT'S

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

## CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for Payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Change Order approved in previous months by owner			
<b>TOTAL</b>			
Approved this Month	Date Approved		
Number			
<b>TOTALS</b>			
Net change by Change Orders			

1. ORIGINAL CONTRACT SUM ..... \$
2. Net change by Change Orders ..... \$
3. CONTRACT SUM TO DATE (Line 1 + 2) ..... \$
4. TOTAL COMPLETED & STORED TO DATE ..... \$  
(Column G on G703)

5. RETAINAGE:

- a. \_\_\_ % of Completed Work \$  
(Column D + E on G703)
- b. \_\_\_ % of Stored Material \$  
(Column F on G703)

Total Retainage (Line 5a + 5b or

6. TOTAL EARNED LESS RETAINAGE ..... \$  
(Line 4 less Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from Prior Certificate) ..... \$

8. CURRENT PAYMENT DUE ..... \$

9. BALANCE TO FINISH PLUS RETAINAGE ..... \$  
(line 3 less line 6)

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CONTRACTOR:

State of: \_\_\_\_\_ County of: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_

Notary Public:

My Commission expires:

By: \_\_\_\_\_

## ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ..... \$  
(Attach explanation if amount certified differs from the amount applied for.)

ARCHITECT:

By: \_\_\_\_\_ Date: \_\_\_\_\_

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

# INSTRUCTION SHEET

AIA DOCUMENTS G702a/G703a

---

## A. GENERAL INFORMATION:

AIA Document G702, *Application and Certificate for Payment*, is to be used in conjunction with AIA Document G703, *Continuation Sheet*. These documents are designed to be used on a project where a Contractor has a direct Agreement with the Owner. Procedures for their use are covered in AIA Document A201, *General Conditions of the Contract for Construction*, 1976 Edition.

## B. COMPLETING THE G702 FORM:

After the Contractor has completed AIA Document G703, *Continuation Sheet*, summary information should be transferred to AIA Document G702, *Application and Certificate for Payment*.

The Contractor should sign the form, have it notarized and submit it, together with G703, to the Architect.

The Architect should review it and, if it is acceptable, complete the Architect's Certificate for Payment on this form. The completed form should be forwarded to the Owner.

## C. COMPLETING THE G703 FORM:

**Heading:** Complete the information here consistent with similar information on AIA Document G702, *Application and Certificate for Payment*.

**Columns A, B & C:** These columns should be completed by identifying the various portions of the project and their scheduled value consistent with the schedule of values submitted to the Architect at the commencement of the project or as subsequently adjusted. The breakdown may be by sections of the Work or by Subcontractors and should remain consistent throughout the Project. Multiple pages should be used when required.

Column C should be subtotaled at the bottom when more than one page is used and totaled on the last page. Initially, this total should equal the original Contract Sum. The total of column C may be adjusted by Change Orders during the project.

**Column D:** Enter in this column the amount of completed Work covered by the previous application. This is the sum of columns D and E from the previous application. Values from column F (Materials Presently Stored) from prior payments should not be entered in this column.

**Column E:** Enter here the value of Work completed until the time of this application, including the value of materials incorporated in the project which were listed on the previous Application and Certificate for Payment under Materials Presently Stored (column F).

**Column F:** Enter here the value of Materials Presently Stored for which payment is sought. The total of the column *must* be recalculated at the end of each pay period. This value covers both materials newly stored for which payment is sought and materials previously stored which are not yet incorporated into the Project. Mere payment by the Owner for stored materials does not result in a deduction from this column. Only as materials are incorporated into the Project is their value deducted from this column and incorporated into column E (Work Completed-This Period).

**Column G:** Enter here the total of columns D, E and F. Calculate the percentage completed by dividing column G by column C.

**Column H:** Enter here the difference between column C (Scheduled Value) and column G (Total Completed and Stored to Date).

**Column I:** This column is normally used only for contracts where variable retainage is permitted on a line-item basis. It need not be completed on projects where a constant retainage is withheld from the overall contract amount.

**Change Orders:** Although Change Orders could be incorporated by changing the schedule of values each time a Change Order is added to the Project, this is not normally done. Usually, Change Orders are listed separately, either on their own G703 form or at the end of the basic schedule. The amount of the original contract adjusted by Change Orders is to be entered in the appropriate location on the G702 form.

## D. MAKING PAYMENT

The Owner should make payment directly to the Contractor based on the amount certified by the Architect on AIA Document G702, *Application and Certificate for Payment*. The completed form contains the name and address of the Contractor. Payment should not be made to any other party unless specifically indicated on this form.

# CONTINUATION SHEET

AIA DOCUMENT G703 (Instructions on reverse side) PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.  
 In tabulations below, amounts are stated to the nearest dollar.  
 Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER:  
 APPLICATION DATE:  
 PERIOD TO:  
 ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		E THIS PERIOD	F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D + E + F)		H BALANCE TO FINISH (C - G)	I RETAINAGE
			FROM PREVIOUS APPLICATION (D + E)				(G - C)	%		

**ADDENDUM 24: AIA DOCUMENT G701**

**CHANGE ORDER**



# INSTRUCTION SHEET

## FOR AIA DOCUMENT G701, CHANGE ORDER

---

### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use in implementing changes in the Work agreed to by the Owner, Architect and Contractor. Execution of a completed G701 form indicates agreement upon all the terms of the change, including any changes in the Contract Sum (or Guaranteed Maximum Price) and Contract Time.

#### 2. Related Documents

This document was prepared for use under the terms of AIA general conditions first published in 1987, including AIA Document A201, General Conditions of the Contract for Construction, and the general conditions contained in AIA Documents A107 and A117.

#### 3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents Price List to determine the current edition of each document.

#### 4. Limited License for Reproduction

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A limited license is hereby granted to retail purchasers to reproduce a maximum of ten copies of a completed or executed G701, but only for use in connection with a particular Project.

### B. CHANGES FROM THE PREVIOUS EDITION

Unlike the previous edition, the 1987 edition of AIA Document G701 requires the signatures of the Owner, Architect *and Contractor* for validity. Changes to be made over the Contractor's objection (with disputed terms to be settled afterwards) should be effected through the use of AIA Document G714, Construction Change Directive.

### C. COMPLETING THE G701 FORM

#### 1. Description of Change in the Contract

Insert a detailed description of the change to be made in the Contract by this Change Order, including any Drawings, Specifications, documents or other supporting data to clarify the scope of the change.

#### 2. Determination of Costs

Insert the following information in the blanks provided, and strike out the terms in parentheses that do not apply.

- a) the original Contract Sum or Guaranteed Maximum Price;
- b) the net change by previously authorized Change Orders (note that this does not include changes authorized by Construction Change Directive unless such a change was subsequently agreed to by the Contractor and recorded as a Change Order);
- c) the Contract Sum or Guaranteed Maximum Price prior to this Change Order;
- d) the amount of increase or decrease, if any, in the Contract Sum or Guaranteed Maximum Price; and
- e) the new Contract Sum or Guaranteed Maximum Price as adjusted by this Change Order.

#### 3. Change in Contract Time

Insert the following information in the blanks provided, and strike out the terms in parentheses that do not apply:

- a) the amount in days of the increase or decrease, if any, in the Contract Time; and
- b) the date of Substantial Completion, including any adjustment effected by this Change Order.

### D. EXECUTION OF THE DOCUMENT

When the Owner, Architect and Contractor have reached agreement on the change to be made in the Contract, including any adjustments in the Contract Sum (or Guaranteed Maximum Price) and Contract Time, the G701 document should be executed in triplicate by the two parties and the Architect, each of whom retains an original.

# CHANGE ORDER

AIA DOCUMENT G701

OWNER   
 ARCHITECT   
 CONTRACTOR   
 FIELD   
 OTHER

PROJECT:  
(name, address)

CHANGE ORDER NUMBER:

TO CONTRACTOR:  
(name, address)

DATE:

ARCHITECT'S PROJECT NO:

CONTRACT DATE:

CONTRACT FOR:

The Contract is changed as follows:

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# SAMPLE

**Not valid until signed by the Owner, Architect and Contractor.**

The original (Contract Sum) (Guaranteed Maximum Price) was ..... \$  
 Net change by previously authorized Change Orders ..... \$  
 The (Contract Sum) (Guaranteed Maximum Price) prior to this Change Order was ..... \$  
 The (Contract Sum) (Guaranteed Maximum Price) will be (increased) (decreased)  
 (unchanged) by this Change Order in the amount of ..... \$  
 The new (Contract Sum) (Guaranteed Maximum Price) including this Change Order will be ... \$

The Contract Time will be (increased) (decreased) (unchanged) by ( ) days.  
 The date of Substantial Completion as of the date of this Change Order therefore is

NOTE: This summary does not reflect changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive.

ARCHITECT _____	CONTRACTOR _____	OWNER _____
Address _____	Address _____	Address _____
BY _____	BY _____	BY _____
DATE _____	DATE _____	DATE _____

**ADDENDUM 25: AIA DOCUMENT G704**  
**CERTIFICATE OF SUBSTANTIAL COMPLETION**

# CERTIFICATE OF SUBSTANTIAL COMPLETION

AIA DOCUMENT G704

Distribution to:  
OWNER   
ARCHITECT   
CONTRACTOR   
FIELD   
OTHER

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3. Copies of the current edition of this AIA document may be purchased from The American Institute of Architects or its local distributors.

PROJECT:  
(name, address)

ARCHITECT:

ARCHITECT'S PROJECT NUMBER:

TO (Owner):

CONTRACTOR:

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CONTRACT FOR:

CONTRACT DATE:

DATE OF ISSUANCE:

PROJECT OR DESIGNATED PORTION SHALL INCLUDE:



The Work performed under this Contract has been reviewed and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby established as

which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

### DEFINITION OF DATE OF SUBSTANTIAL COMPLETION

The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Architect when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, prepared by the Contractor and verified and amended by the Architect, is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list will be the date of final payment unless otherwise agreed to in writing.

\_\_\_\_\_  
ARCHITECT

BY

\_\_\_\_\_  
DATE

The Contractor will complete or correct the Work on the list of items attached hereto within \_\_\_\_\_ days from the above Date of Substantial Completion.

\_\_\_\_\_ days

\_\_\_\_\_  
CONTRACTOR

BY

\_\_\_\_\_  
DATE

The Owner accepts the Work or designated portion thereof as substantially complete and will assume full possession thereof at \_\_\_\_\_ (time) on \_\_\_\_\_ (date).

\_\_\_\_\_  
OWNER

BY

\_\_\_\_\_  
DATE

The responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

*Note—Owners and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage; Contractor shall secure consent of surety company, if any.*

**ADDENDUM 26: TYPICAL PUNCH LIST ITEMS**  
**(Check off missing items and note location)**

**ELECTRIC**                      Location(s) of List Items

\_\_\_ All outlets and switches work.  
\_\_\_ Plates are straight and level.  
\_\_\_ All outlet plates installed tight to drywall.  
\_\_\_ Panel labeled for new circuits.  
\_\_\_ All lights have bulbs.  
\_\_\_ Final inspection completed.  
\_\_\_ Batteries in smoke detectors.  
\_\_\_ Other: \_\_\_\_\_  
\_\_\_ Other: \_\_\_\_\_

**PLUMBING**

\_\_\_ All fixtures work; not chipped.  
\_\_\_ Fixtures are secure to wall or floor.  
\_\_\_ Air gap for dishwasher installed.  
\_\_\_ Tub is caulked.  
\_\_\_ Aerators/escutcheon plates installed.  
\_\_\_ All gas connections working.  
\_\_\_ Final permit inspection completed.  
\_\_\_ Other: \_\_\_\_\_  
\_\_\_ Other: \_\_\_\_\_

**PLASTER/DRYWALL**

\_\_\_ Finished properly, sanded, ready for paint.  
\_\_\_ Other: \_\_\_\_\_  
\_\_\_ Other: \_\_\_\_\_

**HVAC**

\_\_\_ Diffuses are installed and working.  
\_\_\_ Return grille installed.  
\_\_\_ System operable.  
\_\_\_ Thermostat properly installed.  
\_\_\_ Condensate line for A/C is installed.  
\_\_\_ Flue is installed properly.  
\_\_\_ Humidifier and/or air cleaner installed, if applicable.  
\_\_\_ Filters installed, proper size.  
\_\_\_ Other: \_\_\_\_\_  
\_\_\_ Other: \_\_\_\_\_

**ADDENDUM 26**

Page 2

**CARPENTRY**

- \_\_\_ Trim is installed properly; nails set.
- \_\_\_ Kitchen cabinets installed properly, with enough screws.
- \_\_\_ Counter top screwed down.
- \_\_\_ Built-in units complete and acceptable.
- \_\_\_ All finish hardware, special items installed and working:
  - \_\_\_ Strikers, knobs, stops on:
    - \_\_\_ Doors
    - \_\_\_ Cabinets
    - \_\_\_ Fireplace units
    - \_\_\_ Window locks
    - \_\_\_ Other: \_\_\_\_\_
- \_\_\_ Decks done in good workmanlike manner; structurally sound.
- \_\_\_ Exterior weathertight;
  - \_\_\_ Flashing
  - \_\_\_ Caulk
  - \_\_\_ Weatherstripping
- \_\_\_ Shelves, closet poles installed and level.
- \_\_\_ New roof installation checked, flashing done properly.
- \_\_\_ Downspouts, splashblocks, soffit vents installed.
- \_\_\_ Fan(s) working.
- \_\_\_ Disposal clear.
- \_\_\_ Dishwasher screwed in, air gap installed.
- \_\_\_ Other: \_\_\_\_\_
- \_\_\_ Other: \_\_\_\_\_

**DOORS, WINDOWS**

- \_\_\_ All exterior doors weatherstripped.
- \_\_\_ Hinged on correct side; operate properly; cut off for carpet height if in contact.
- \_\_\_ Doors checked for tightness, lasp alignment and lock function.
- \_\_\_ Keys available.
- \_\_\_ Windows have locks that tightly close.
- \_\_\_ Window operates smoothly.
- \_\_\_ Screen in place.
- \_\_\_ Glass clean.

**FINISHES**

- \_\_\_ Grout cleaned from tile.
- \_\_\_ Mastic cleaned from sheet goods or VAT.
- \_\_\_ Flash-patched for carpet, if in contact.
- \_\_\_ Thresholds installed as needed.
- \_\_\_ Shoe molding, vinyl cove installed.
- \_\_\_ Other: \_\_\_\_\_
- \_\_\_ Other: \_\_\_\_\_
- \_\_\_ Paint removed from hardware, glass.
- \_\_\_ MISC.
- \_\_\_ Trash removed.
- \_\_\_ Other: \_\_\_\_\_

**ADDENDUM 26**

Page 3

**GENERAL**

- Job broom-clean, or maid-clean as appropriate.
- Windows and newly installed glass cleaned; screens installed.
- Trash removed.
- Countertops cleaned.
- All subs have cleaned up, hauled away debris.
- Yard put back into good order.
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**COMMENTS**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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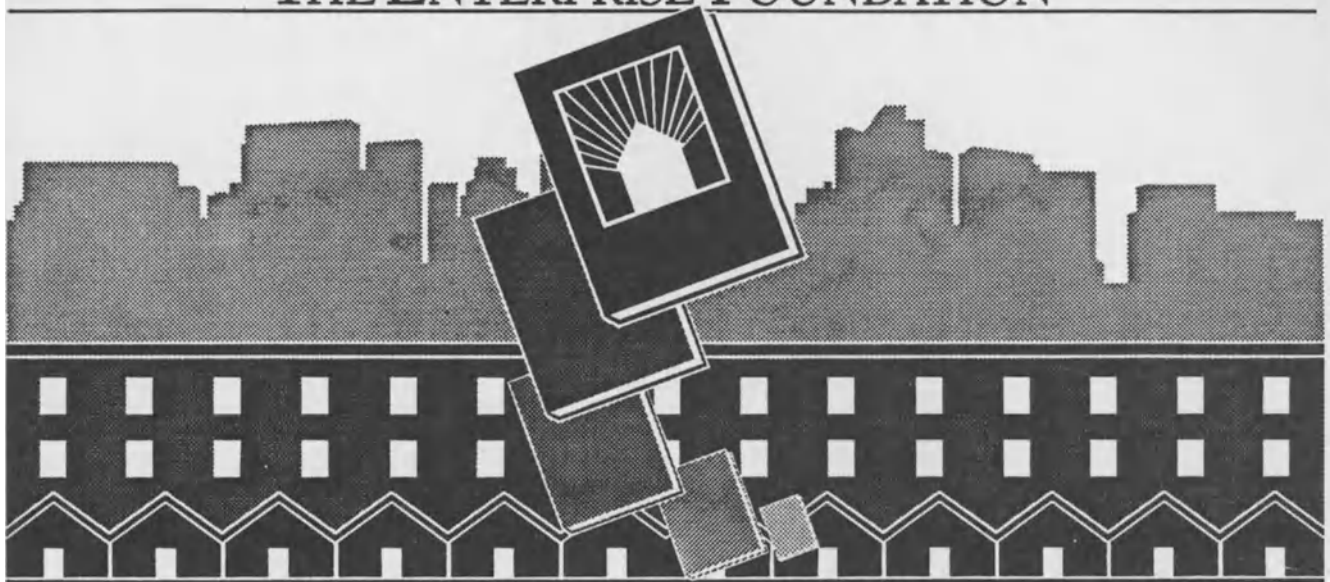
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# THE ENTERPRISE FOUNDATION



## PUBLICATIONS & TRAINING

*In addition to this series of manuals published by Van Nostrand Reinhold, The Enterprise Foundation also has available other publications, training workshops, and construction software. Listed below are a few examples.*

### The Consumer's Guide to Home Improvement, Renovation & Repair

This how-to manual, an Alternate Selection of the Book-of-the-Month Club, explains in clear, non-technical writing problems and solutions to home improvement, with or without a contractor. Over 200 line drawings and photographs help illustrate the repair process and finished projects. Skill-level of the project, materials needed, best short-term and long-term solutions, and costs involved are included in the manual. This book is based on Chapter 4 of *The Cost Cuts Manual*.

### The Cost Cuts Manual

This compendium of construction methods and materials is targeted to nonprofit developers and catalogs legislation and policy actions that have encouraged lower-cost rehab across the nation. It includes chapters on Acquiring Property Cheaply, Designing Out Unneeded Rehab, Managing the Job Efficiently, and Saving on Labor with Self-Help and Volunteers.

### Specmaster Construction Software

This time-saving construction software generates specifications and cost estimates for organizations working on selective rehab or home repair. Designed by The Enterprise Foundation's Rehab Work Group and TSA/

Advet of Pittsburgh, PA, & is available along with a Training and Technical Assistance package. It enjoys widespread success with city housing departments and nonprofit housing development organizations across the nation.

### Housing Production Training Workshops

These workshops, attended by construction and program managers across the country, offer the tools for efficient housing production. Conducted by Enterprise trainers with many years of experience in assisting low-


income housing developers in 56 cities, topics covered include cost-saving techniques, risk control, time and team management, effective communication and negotiation, value engineering, organizing for high production, using computers in construction, evaluating project documentation, setting up financial controls, and much more.

*For more information on these and other products, please fill in the box below and return to The Enterprise Foundation, P.O. Box 1490-VNR, Alexandria, VA 22313.*

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