
Chapter 1

Gathering the Information

A project always begins as a vision in a person's mind. The vision starts to become reality in the form of building plans and specification documents. It becomes further detailed because of local building codes and finally results in approved building plans.

Accuracy of Information

The most important aspect of gathering information for an estimate is that it accurately describes the project. It is easy to make errors in this initial phase of a project. The first, and potentially greatest, error you can make in estimating is to gather incomplete or inaccurate information.

What's good advice if you don't take it?

Choosing the Level of Accuracy

In some estimating cases, you can accept a lower level of accuracy. The accuracy level depends on how critical the cost is for that item in the estimate. You may choose to be accurate within a range that is comfortable for you and the nature of the item or project.

For example, a carpenter estimating a lumber package for a house may use an estimating process that produces a few extra pieces at the end. The extra pieces can always be used later. A quick process within a proper range can be useful here.

However, it is more important to be sure to have the specific amount of concrete that is to be placed in a floor area. The concrete truck has to come with sufficient concrete to cover the space at the desired depth.

It is also true that when measuring for a replacement window to fit an existing surround, only the exact size will do.

Know the Level of Accuracy Required

The more specific the estimating information required, the greater the problem an error can cause later. Therefore, in some cases, information may have to be very detailed.

In every project you estimate, determine the level of accuracy required for specific items being measured.



Tip

Accuracy is high enough for you when you feel good about the information you have collected. This means you are satisfied your information will give you an accurate estimate.

"There is nothing so useless as doing efficiently that which should not be done at all."
Peter Drucker

Complete Information

Your information is complete when every detail of the project is included in the estimate. Examples of information that can make a big difference are:

- The size and grade of lumber needed
- The exterior color of a vinyl clad window
- The exact brand name and model number of a skylight
- The correct pattern and grade of carpet
- The exact name for the garage door feature panels

In construction law it falls to the contractor to be responsible for details of code, details of the plans and details of design. This means that the designer or architect can draw plans, the building department can approve the plans, but the contractor is responsible for all aspects of construction of the project once the contract is signed. Errors have to be caught and corrected by the contractor. As you might guess, it is in your best interest as well to catch errors as early as possible to avoid disputes during construction.

Recording the Information Accurately and Completely

Do not use the estimating information until you correctly record it. This is not too difficult while working with plans and specifications at a desk. However, in many cases, you have to visit the project site to record details and exact measurements. With that in mind, go to the site prepared to record information.

Gathering information at the project site often requires tools for special conditions. Sometimes conditions at the site are not good for writing information. It could be wet or windy, cold or hot, or too bright or dark. It could be hard to keep things in place while you are trying to measure and write.

The best strategy is to be prepared to do what is necessary to get the information you need and to fully record it. Have the correct tools for each project's conditions with you.

Process of Recording

It is important that you have a process of measuring and recording that is adequate for your estimating purposes. For example:

- Have a simple clipboard with a notebook.
- Use pens or pencils that write under adverse conditions.
- Use a tape recorder when writing is not practical.
- Use a camera to record a situation for later study.

"Following instructions is one of the most difficult comprehension tasks encountered in daily life."

H. A. Simon
J. R. Hayes

Estimating Checklist

Every contracting business can benefit from an estimating checklist form designed for its needs. Look at Exhibit 1, "Estimate Checklist," at the end of this chapter, for a detailed checklist that includes most of the items you can use to develop your estimate.

The checklist used in your business should cover every item you are likely to see during the process of estimating a project. We suggest you adapt the checklist in Exhibit 1 for your use by choosing those items that you might use.



Tip

Use your checklist to develop specifications for the contract. For a specific project, some items may need brand names, model numbers, or dollar allowances.

Measurement

There are different types of estimating measures and they are used in different ways.

Guess

It is true that in some cases you can guess. This is usually acceptable only in the opening stages of the estimate. For example you could start out with a guess to estimate:

- The existing roof pitch you have to tie into on a remodel project
- The range of variation in the level of a lot; two to four feet
- The number of small trees that have to be removed

The secret of getting what you want is to ask for it.

Areas to Measure

Every estimating process has to break the project into manageable areas or units. You have to identify these units and choose what they include.

As you get down to these more detailed areas, you have to narrow your estimates. Sometimes you can estimate a large area in a way that allows some slack. This is true in the case of:

- Excavation areas
- Large roof areas
- Large painted areas

However, when the area is small and requires great detail, your estimates have to be accurate. A large section of upper cabinets has to be measured to fit correctly. Close will not do.

Eventually you will accumulate many pieces of information in your estimating puzzle. As this happens, you should be confident that you have accounted for everything necessary to provide a complete and accurate estimate.

Just showing wall studs is not enough. You have to know what is called for: green or kiln dried lumber, fir, pine or steel material, finger jointed or standard kiln dried, standard stud length or 8', 2 x 4 or 2 x 6.

Pieces of the Project

Pieces in the estimate are different for various stages in the estimating process. When we use the term "pieces," we are referring to specific project groups that are apparent in plans and specifications. Normally, these pieces are similar and you can add them together to find a total.

Pieces of a project may include:

- The number of construction steps that it takes to complete a major part of the project. An extra step in the construction process could be a significant issue.
- The number of windows of the same size in the total project.
- The number of pieces of a special type of trim. These are important to count so you know exactly how many you need.

Unit Costs

Unit costs are normally the same, no matter what the total quantity. A unit price incorporates the dimensions of a specific area and the price of a piece. When estimating, make sure to determine accurate unit prices and the exact dimensions of the area you are covering.

Typically, the estimate is unit cost times the area's dimensions. These can include:

- Lineal footage on a framed wall
- Number of squares of roofing
- Number of square yards of carpet

Are you sure you have the latest plans and specifications on the project? Are there changes you are not aware of? Ask!

Unit of Measure

To complete an estimate you will use at least one, if not all, of the common units of measure. If you use an incorrect unit of measure, an otherwise accurate measurement will be useless.

Exhibit 2, "Checklist Summary," at the end of this chapter, shows all units of measure clearly distinguished at the top. You can use this form to record measurements for an entire project or just for part of a project.

The most common units of measure are:

- Lineal foot
- Square foot
- Cubic foot

Lineal Foot

A lineal foot measures the continuing length of a part of the project. Use the initials L.F. for lineal feet. Examples of this measure include:

- Exterior framed wall
- Sidewalk
- Irrigation pipe

In each of the above mentioned cases, you will need more information to make an accurate estimate. For example:

After all is said and done, more is said than done.

- Exterior framed wall
 - ◆ Size of studs
 - ◆ Size of sheathing
 - ◆ Fire blocking required
- Sidewalk
 - ◆ Width of walk
 - ◆ Depth of concrete
 - ◆ Finish texture
- Irrigation pipe
 - ◆ Size of pipe
 - ◆ Depth of installation
 - ◆ Type of pipe

There is a great difference between a decent estimate and one that gets the project costs and business costs correct. On a regular basis, most estimators can get 90 to 95% accuracy. Getting the last 5 to 10% takes attention to detail and a willingness to constantly review the project results for changes to the estimating process.

Square Foot

A square foot includes all materials that cover a flat space. As already noted, you need to determine what materials you will be using in a square foot unit. Use the initials S.F. for square foot.

For example, on a roofing project this measure should include:

- Dry sheeting

- Fasteners
- Labor to install

"I make it a rule to only believe that which I understand."
Benjamin Disraeli

Cubic Foot

A cubic foot includes not only length and width, but also the depth of an area. Use the initials C.F. for cubic foot.

Normally, you calculate cubic feet by first multiplying length and width and then multiplying the specified depth.

For example, to determine the cubic feet of concrete necessary for a 24' x 20' garage floor, you would calculate as follows:

- 24' times 20' = 480 S.F. (the length and width of the floor)
- Depth of concrete = 6" or 1/2 foot
- Cubic feet of concrete required = 1/2 of 480 or 240 C.F.

Including Every Item

An estimating checklist allows you to pay attention to each project piece that has to be measured separately. For example, an excavation requires several steps that have to be completed in the correct order. You have to ask a number of questions about how your excavating project will proceed and what will be the parts of the total project.

There are as many ways to look at a project as there are parts of a project.

Many customers want a "rough estimate" of the cost of a project. Avoid this. Do not give a price based on a guess. If the customer wants an estimate for the feasibility of a project, offer to do an estimate and quote a price for the feasibility estimate. If the customer does the project with you, put the estimate fee against the project cost.

Experience in the Business of Estimating

The more you estimate and the more types of estimating you do, the better you become at the routines of estimating. Experience in estimating is measured by the amount of accuracy that it generates, as opposed to the speed with which you can generate an estimate.

The Principles of Estimating

As you develop your estimating processes and routines, keep the basic principles of estimating in mind. These principles are the building blocks for any estimating you may do.

One Project at a Time

Accuracy in estimating depends on your ability to focus on a single project. Keep all of the information for one estimate, or part of an estimate, separate from any other estimate or part of an estimate.

One of the best ways to do this is by setting up a file for every estimate or part of an estimate that you do. Anything that has to do with that estimate or that part of an estimate goes into that file. This includes notes of any conversations you have with the owner that affect the estimate. It also includes all other notes as well as recorded tapes of conversations.



Tip

Get a new notebook for every new project and label it. Number the pages and leave them in the notebook. Date every entry and write everything in the notebook that has to do with conversations you have with the owner, architect, or any significant person on that project.

These notes are especially important for tracking changes, proposed changes, or other adjustments. Do not tear any sheets out of the notebook. You may have to use these notes as evidence to prove certain items were discussed or certain directions were given.

If you don't understand, say so!

Include Everything

We again remind you to use a checklist or some other process that helps you include everything that goes into a project. The checklist has to cover every conceivable question about any project item you prepare estimates for. That enables you to choose the items that apply to a specific project.

Round Up Costs

Whenever you are not sure what the price for an item should be (and

"The trouble with the rat race is that even if you win you're still a rat."
Lily Tomlin

you cannot be exact), round up the cost. For certain projects, or at some stages in the estimating process, it may be difficult to be accurate. Use this principle to find an acceptable number when accuracy is not critical.

Never estimate by rounding down a cost.

**Note**

Do not abuse this principle to make a quick estimate. Rounding up in place of accuracy usually means owners will accept fewer bids because the estimates are consistently higher than your competition's.

Qualify a Condition on the Spot

Do not allow yourself to say, "I don't have time to check this. I'll come back and check it later." Stop immediately to clarify any situation that is not clear.

Take the time now to find out what it is about. If the ground seems a little wet, find out if there is a spring running underneath. If the floor seems a little mushy, check for dry rot.

Keep an eye out for unusual situations.

Have Someone Check the Completed Estimate

Another principle of estimating is to always have someone else check a completed estimate. This helps even if the person is not familiar with the entire project. If someone else looks at the estimate and sees something that raises questions, that person can ask you about it and you can check it.

Always have a pad and pencil to make notes on project changes and extra details. The project file has to hold all information for the estimator.

Plans: Preliminary, Designer or Architect, and Approved

Plans provide a substantial amount of the information you will need to complete an estimate. These plans can be in a preliminary state

or incomplete. They may also be completed and approved by the planning department. If any detail is missing, they will most likely notice it. In all cases, the building department is a big help for answering questions about sticky code issues.

When you look at plans, it is important to determine the complexity of the project. Complexity can occur in several ways:

- Through a complex design
- The complex conditions of the project site
- Complexity created by short deadlines to complete the project (everything going on at once)

Many contractors find it difficult to work with architects. Always insist on complete detail in plans and specifications before you price an item.

Complex Design

A complex design commonly involves unusual building processes or building materials.

Unusual Building Processes

One example of an unusual building process occurs when you may have to erect a building on a hillside or build one with two or more floors. Complex engineering problems may have to be solved in such instances. These issues can include:

- Long unsupported spans
- High retaining walls

Unusual Building Materials

Unusual building materials, or unusual applications of building materials, can substantially increase the cost of a project. Your plans or specifications will normally detail these situations. You have to know how to recognize them.

An expert knows all the right answers, if you ask the right questions.



Tip

Review approved plans to be sure the building department plan checker finds these unusual situations and makes adjustments in the approved plan. Examine any notes the plan checker makes to uncover information you do not have.

Incomplete Plans

You may be asked to estimate a project that has incomplete plans, usually to determine the feasibility of the project. As you estimate costs, remember that the plans contain incomplete items.

When you are guessing the cost of an item, specifically note that in the estimate. Make sure you note clearly that these costs can change depending on how the plans change.

Incomplete items can also include materials for which the owner has not received a complete specification. The owner may not have chosen floor coverings, roofing material, or interior wall textures. There are always many variables for you to consider.

"It's what you
learn after you
know it all that
counts."

John Wooden

Materials Specifications

Plans and specifications often do not detail the specific materials to use in a project. There is a danger that you could assume something about the specifications that may not be correct.

Unusual Materials

Unusual and unfamiliar materials often cause estimating problems. If the plan calls for an unusual material, take the time to learn the process involved for you to use that material on this project. Often the cost of the material, or the difficulty in installing or placing the material, can be higher than you thought.

Incomplete Specifications

In many cases, the materials will be detailed, but the specification for the use of that material, or the installation process for that material, will not be apparent. You may find out later that there is a specific procedure you have to follow that is more expensive than you had originally thought.



Warning

A name brand material may require a specific installation procedure to validate a warranty. You need to find out if the required installation process will be new and, therefore, possibly more expensive.

Site Inspection Checklist

The conditions around the project site can have a negative effect on the progress of the project. Assuming the conditions of the site, or relying on the description of the site given by others, is dangerous to your estimating.

Get the facts or the facts might get you.

Condition Analysis of Sites

Examine the site for difficult areas. In addition to current conditions, consider how the site will stand up to the rigors of construction. What could happen during:

- Wet conditions
- Dry conditions
- Times when the site is congested with workers

Is access to the site a problem, and will it change under any of the previous conditions?

When you look at a project site, you may not be able to write down an entire description of a problem area. Carry a cassette tape recorder for this purpose. You can describe a problem in detail for later consideration.

What about noise, dust, and other inconveniences that may give difficulty to others in the area?

What condition is the site in now? What problems are obvious?
What problems could come up?



Tip

Develop a project site checklist that lists the conditions that especially affect your type of contracting.

Project Analysis of Special Items

The project site could include obstacles that equipment and workers will have to avoid. This could include situations like:

- Setting trusses where there are a lot of trees around the site
- Shrubbery that is difficult to work around without damage
- Problems delivering or moving construction materials around permanent barriers

Customer Analysis - Special Cases

When you do remodeling or custom work, you especially may become involved with the customers and their neighbors. You will probably have to adjust your work schedule and routines to accommodate people close to the site.

What special conditions may the customer require in order to do the project in the least disruptive way? You will have to add expenses to your estimate where appropriate.

"I have a new philosophy. I'm only going to dread one day at a time."
Charles Shultz



Note

It may be advantageous if you can show the customer that you took into account their special needs when you compiled your estimate.

Find out if the construction noise, or dust and fumes will cause problems. Find out how early workers can arrive at the site. Be sure to discuss any special conditions with the owner that relate to the site and the project.

If you are coming to contracting from a background in estimating, you may have an advantage. Your attention to detail and an experience with markup should help you do your estimates with detail and accuracy.

Company Ability to do the Project

Some contractors overlook the fact that a project may actually be too much for their company to take on. Compiling an estimate can be very helpful in allowing you to determine if this project might better be suited to another contractor at this time.



Tip

In this case you may want to take the project on as a joint effort with another contractor.

Taking on jobs you cannot handle can damage your reputation. Determine whether this project is within your current capabilities. A good decision not to take a project can be more positive for your business than if you took the project and were unable to complete it to your customer's satisfaction.

Hidden Costs in Remodeling and Renovation

Remodeling, renovation, and repair are always difficult for an estimator. They always include parts you cannot be certain of. It is important to examine the site closely in such cases.

Demolition

Demolition can often be more expensive than you thought because it may be difficult to demolish certain areas without damaging adjacent property. The cost of removal can grow if unanticipated hazardous waste is exposed.

Protecting Property

Protecting existing property during demolition and other messy work should be a key consideration. When you estimate the costs of protecting property, it is important to know everything that needs protection and the best ways to provide protection.

Security

Security is as much an issue for the property owner as it is for you. Determining the best ways to protect both the owner's and your property is always an issue. The project should be secured every evening along with any materials that belong to the contractor.

All childish errors
are not made by
children.

Salvage and Recycling

Many construction products and by-products can be salvaged and recycled. There are businesses that focus on cleaning up and recycling building site materials. Such a service could be a key sales point for your customers. Check your local recycling center for more information.

The estimate is a major part of the sales process. During the early stages of gathering information, you may find that the project does not fit the company's goals. You have the option of withdrawing early and not wasting time working on a project you do not want to do. The estimator can save the sales person a lot of time and effort by not pursuing a project the estimator cannot help the sales person win.

Learn to enjoy the little things, there are so many of them.

Project Debris

It is important to keep the project clean. If your customer is especially concerned about this, you may spend more money and have a bigger problem with project debris than you anticipated. It is important that you clearly determine what the owner expects in terms of debris removal on a project.

Storage

How can you best store construction materials? Will they be in the way? Are there other storage problems? Is it a good idea to store materials on the property or would it be better to store them off-site and require extra deliveries, which could cost more.

Project Site Shop and Work Area

Some structures may need to be built on the site to support certain construction activities. You may need to designate a small section of the project as a shop where you build such items as cabinets, or where you do millwork for a stair system.

If you need a workshop on site, make sure it is out of the way.

Scheduling Problems that Raise Costs

Remember to estimate time delays that may result from difficult parts of the project. Certain products may not arrive on time. Depending on the time of year, certain suppliers may not have the amount of materials that you need.

You will normally incur extra expenses any time you have to change the schedule. When you compile your estimate, try to anticipate these situations as best you can.

Overall Checklists

Exhibit 1, "Estimate Checklist," provides a general checklist that covers most construction projects. Take time to decide how you can best use such a checklist. Adapt this checklist to your own estimating process.

Estimating Workbook

We encourage you to develop an estimating workbook. Your workbook should be an inclusive working manual for most of the projects you will typically estimate.

Your workbook should consist of checklists and other forms that can help you gather and record correct and accurate information for any project you estimate.

Base Your Workbook on Typical Projects

The workbook should cover all normal projects you estimate and any forms and checklists you use to compile an average estimate. In addition to the forms, you can include written procedures describing how you estimate a project.

You could include a checklist and estimating sheet, plan review checklist, site checklist, and any other forms you develop.

We suggest you develop a workbook for each estimate. It can be a simple file or a complicated, loose-leaf binder.

"I think knowing what you *cannot* do is more important than knowing what you *can* do."
Lucille Ball

Summary

Base every estimate on reliable information. Some of this information comes from plans and specifications; some comes from the site itself.

This information will help you deliver accurate estimates. Use every tool you have to gather the information you need to provide an accurate estimate.

Exhibit 1: Estimate Checklist For Residential Building Construction and Alteration**Excavation**

- Backfilling
- Clearing the site
- Compacting
- Dump fee
- Equipment rental
- Equipment transport
- Establishing new grades
- General excavation
- Hauling to dump
- Pit excavation
- Pumping
- Relocating utilities
- Removing obstructions
- Shoring
- Stripping soil
- Trenching
- Other _____
- Other _____

Demolition

- Cabinet removal
- Ceiling finish removal
- Concrete cutting
- Debris box
- Door removal
- Dump fee
- Dust partition
- Electrical removal
- Equipment rental
- Fixtures removal
- Flooring removal
- Framing removal
- Hauling to dump
- Masonry removal
- Plumbing removal
- Roofing removal
- Salvage value allowance
- Siding removal
- Slab breaking
- Temporary weather protection
- Wall finish removal
- Window removal
- Other _____
- Other _____

Reinforcing

- Bars
- Handling
- Mesh
- Placing
- Tying
- Other _____
- Other _____

Concrete

- Admixtures
- Anchors
- Apron
- Caps
- Cement
- Columns
- Crushed stone

- Curbs
- Curing
- Drainage
- Equipment rental
- Expansion joints
- Fill
- Finishing
- Floating
- Footings
- Foundations
- Grading
- Gutters
- Handling
- Mixing
- Piers
- Ready mix
- Sand
- Screeds
- Slabs
- Stairs
- Standby time
- Tamping
- Topping
- Vapor barrier
- Waterproofing
- Other _____
- Other _____

Forms

- Braces
- Caps
- Cleaning for reuse
- Columns
- Equipment rental
- Footings
- Foundations
- Key joints
- Layout
- Nails
- Piers
- Salvage value
- Slab
- Stair
- Stakes
- Ties
- Walers
- Wall
- Other _____
- Other _____

Masonry

- Arches
- Backing
- Barbecues
- Cement
- Ceramic tile
- Chimney
- Chimney cap
- Cleaning
- Clean-out doors
- Dampers
- Equipment rental
- Fireplace
- Fireplace form
- Flashing

- Flue
- Foundation
- Glass block
- Handling
- Hearths
- Laying
- Lime
- Lintels
- Mantels
- Marble
- Mixing
- Mortar
- Paving
- Piers
- Reinforcing
- Repair
- Repainting
- Sand
- Slabs
- Sandblasting
- Sills
- Steps
- Stonework
- Tile
- Veneer
- Vents
- Wall ties
- Walls
- Waterproofing
- Other _____
- Other _____

Flooring

- Adhesive
- Asphalt tile
- Carpet
- Cork tile
- Flagstone
- Hardwood
- Linoleum
- Marble
- Nails
- Pad
- Rubber tile
- Seamless vinyl
- Slate
- Tack strip
- Terrazzo
- Tile
- Vinyl tile
- Wood flooring
- Other _____
- Other _____

Plumbing

- Bathtubs
- Bar sink
- Couplings
- Dishwasher
- Drain lines
- Dryers
- Faucets
- Fittings
- Furnace hookup
- Garbage disposers
- Gas service lines

- Hanging brackets
- Hardware
- Laundry trays
- Lavatories
- Medicine cabinets
- Pipe
- Pumps
- Septic tank
- Service sinks
- Sewer lines
- Sinks
- Showers
- Stack extension
- Supply lines
- Tanks
- Valves
- Vanity cabinets
- Vent stacks
- Washers
- Waste lines
- Water closets
- Water heaters
- Water meter
- Water softeners
- Water tank
- Water tap
- Other _____
- Other _____

Rough Carpentry

- Area Walls
- Backing
- Beams
- Blocking
- Bracing
- Bridging
- Building paper
- Columns
- Cornice
- Cripples
- Door frames
- Dormers
- Entrance hoods
- Fascia
- Fences
- Flashing
- Framing clips
- Furring
- Girders
- Gravel stop
- Grounds
- Half timber work
- Hangers
- Headers
- Hip jacks
- Insulation
- Jack rafters
- Joists, ceiling
- Joists, floor
- Ledgers
- Nails
- Outriggers
- Pier pads
- Plates
- Porches

- Posts
- Rafters
- Ribbons
- Ridges
- Roof edging
- Roof trusses
- Rough frames
- Rough layout
- Scaffolding
- Sheathing, roof
- Sheathing, wall
- Sills
- Sleepers
- Soffit
- Stairs
- Straps
- Strong backs
- Studs
- Subfloor
- Timber connectors
- Trimmers
- Valley flashing
- Valley jacks
- Vents
- Window frames
- Other _____
- Other _____

Finish Carpentry

- Baseboard
- Bath accessories
- Belt course
- Built-ins
- Cabinets
- Casings
- Caulking
- Ceiling tile
- Closet doors
- Closets
- Corner board
- Cornice
- Counter tops
- Cupolas
- Door chimes
- Door hardware
- Door jambs
- Door stop
- Door trim
- Doors
- Drywall
- Entrances
- Fans
- Flooring
- Frames
- Garage doors
- Hardware
- Jambs

Estimate Checklist

Finish Carpentry Cont.

- Locksets
- Louver vents
- Mail slot
- Mantels
- Medicine cabinets
- Mirrors
- Molding
- Nails
- Paneling
- Rake
- Range hood
- Risers
- Roofing
- Room dividers
- Sash
- Screen doors
- Screens
- Shelving
- Shutters
- Siding
- Sills
- Sliding doors
- Stairs
- Stops
- Storm doors
- Threshold
- Treads
- Trellis
- Trim
- Vents
- Wallboard
- Watertable
- Window trim
- Wardrobe closets
- Weather-stripping
- Windows
- Other _____
- Other _____

Heating

- Air conditioning
- Air return
- Baseboard
- Bathroom
- Blowers
- Collars
- Dampers
- Ducts
- Electric service
- Furnaces
- Gas lines
- Grilles
- Hot water
- Infrared
- Radiant cable
- Radiators
- Registers
- Relocation of system
- Thermostat
- Vents
- Wall units
- Other _____

- Other _____

Roofing

- Adhesive
- Asbestos
- Asphalt shingles
- Built-up
- Canvas
- Caulking
- Concrete
- Copper
- Corrugated
- Downspouts
- Felt
- Fiberglass shingles
- Flashing
- Gravel
- Gutters
- Gypsum
- Hip units
- Insulation
- Nails
- Ridge units
- Roll roofing
- Scaffolding
- Shakes
- Sheet metal
- Slate
- Tile
- Tin
- Vents
- Wood shingles
- Other _____
- Other _____

Sheet Metal

- Access doors
- Caulking
- Downspouts
- Ducts
- Flashing
- Gutters
- Laundry chutes
- Roof flashing
- Valley flashing
- Vents
- Other _____
- Other _____

Electrical Work

- Air conditioning
- Appliance hookup
- Bell wiring
- Cable
- Ceiling fixtures
- Circuit breakers
- Circuit load adequate
- Clock outlet
- Conduit
- Cover plates
- Dimmers
- Dishwashers
- Dryers

- Fans
- Fixtures
- Furnaces
- Garbage disposers
- High voltage line
- Hood hookup
- Hookup
- Lighting
- Meter boxes
- Ovens
- Panel boards
- Plug outlets
- Ranges
- Receptacles
- Relocation of existing lines
- Other _____
- Other _____
- Service entrance
- Switches
- Switching
- Telephone outlets
- Television wiring
- Thermostat wiring
- Transformers
- Vent fans
- Wall fixtures
- Washers
- Water heaters
- Wire
- Other _____
- Other _____

Plastering

- Bases
- Beads
- Cement
- Coloring
- Cornerite
- Coves
- Gypsum
- Keene's cement
- Lath
- Lime
- Partitions
- Sand
- Soffits
- Other _____
- Other _____

Painting and Decorating

- Aluminum paint
- Cabinets
- Caulking
- Ceramic tile
- Concrete
- Doors
- Draperies
- Filler
- Finishing
- Floors
- Masonry
- Paperhanging

- Paste
- Roof
- Sandblasting
- Shingle stain
- Stucco
- Wallpaper removal
- Windows
- Wood
- Other _____
- Other _____

Glass & Glazing

- Breakage allowances
- Crystal
- Hackout
- Insulating glass
- Mirrors
- Obscure
- Ornamental
- Plate
- Putty
- Reglaze
- Window glass
- Other _____
- Other _____

Indirect Costs

- Barricades
- Bid bond
- Builder's risk insurance
- Building permit fee
- Business license
- Cleaning floor
- Cleaning glass
- Clean-up
- Completion bond
- Debris removal
- Design fee
- Equipment floater insurance
- Equipment rental
- Estimating fee
- Expendable tools
- Field supplies
- Job phone
- Job shanty
- Job signs
- Liability insurance
- Local business license
- Maintenance bond
- Patching after sub-contractors
- Payment bond
- Plan checking fee
- Plan cost
- Protecting adjoining property
- Protection during construction
- Removing utilities
- Repairing damage
- Sales commission
- Sales tax
- Sewer connection fee
- State contractor's license

- Street closing fee
- Street repair bond
- Supervision
- Survey
- Temporary electrical
- Temporary fencing
- Temporary heating
- Temporary lighting
- Temporary toilets
- Temporary water
- Transportation of equipment
- Travel expense
- Watchman
- Water meter fee
- Waxing floors
- Other _____
- Other _____

Administrative Overhead

- Accounting
- Advertising
- Automobiles
- Depreciation
- Donations
- Dues and subscriptions
- Entertaining
- Interest
- Legal
- Licenses and fees
- Office insurance
- Office phone
- Office rent
- Office salaries
- Office utilities
- Pensions
- Postage
- Profit sharing
- Repairs
- Small tools
- Taxes
- Uncollectible accounts
- Other _____
- Other _____

