

Successful Home Contracting



How to save thousands of dollars and get a better quality home by acting as your own contractor.

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Lesson Thirteen

Superintending: Permits and Temporary Utilities



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Where You Are In The Course

LOT

- PHYSICAL* - Selecting the Lot
FINANCIAL - PURCHASING THE LOT

PLANNING

- PHYSICAL* - PLANS AND SPECIFICATIONS
PROJECT SCHEDULING
FINANCIAL - COST ESTIMATE
CASH FLOW PROJECTIONS

CONSTRUCTION

- FINANCIAL* - FUNDING
COST CONTROL - JOB COST ACCOUNTING
PHYSICAL - SUPERINTENDING
DAILY SCHEDULING
PURCHASING
SUPERVISING AND COORDINATING THE
CONSTRUCTION (QUALITY CONTROL)

SUCCESSFUL HOME CONTRACTING

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Overview

At last, it's time to talk about what you really thought you took this course to learn - *the actual building of the home*. Don't feel alone!

Most people are completely unaware of the *preparation* involved in the building of a home. By the time you reach this point in the process, it will just about build itself! You are thoroughly familiar with the lot, the plans and specs, the people who will supply the money and the materials, and those who will do the work. You have planned the sequence of events and the cash flow. Everything is ready for you to begin.

In this and the next four lessons, we will take our final journey through the home - from clearing the land to landscaping. We'll start out in this lesson by looking at the different functions involved in *Superintending*, including *scheduling subs*, *purchasing materials*, *dealing with inspectors*, and *controlling the quality of construction*.

It is in this last item - *controlling the quality of construction* - that we will examine the construction of each part of the home. This lesson will carry us through the installation of the temporary utilities. In Lesson Fourteen, we'll pick up with clearing and grading the lot and continue through the foundation and slab.

WHAT YOU WILL LEARN IN THIS LESSON

- Some options you will have in getting someone to look after the construction (*Superintending*).
- What is involved in *Scheduling Subs and Materials*.
- How to use a simplified system called the *Scheduling Strip* which was developed by a home builder to help him schedule his work.
- Secrets of successful *Purchasing*.
- How to *Deal with Subcontractors*.
- How to understand *Building Codes*.
- How to deal with *Municipal, Bank, and Federal (FHA, VA, FmHA) Inspectors*.
- Some guidelines in telling how good is "good enough" - *Quality Control*.
- What *Tools* you will need in superintending the job.
- What is involved in getting the *Permits* for the job.
- Getting the *Temporary Electrical, Water, and Sanitary Utilities* to the job site so that construction can begin.

SUPERINTENDING

These last four lessons of your course are really about *superintending*. Superintending is the job of *being the boss* on the job. This means purchasing the materials, hiring and supervising the subcontractors, getting the inspections - generally getting the home physically built. Being organized is important. Here are two forms that will help you.

The [Master Materials Record](#) and the [Master Construction Record](#).

SUPERINTENDING OPTIONS

You have a couple of options here.

1. You can do the superintending yourself - either alone, or with the help of others, like your spouse, children, or a retired family member.



2. Or you could hire someone else to look after the actual construction. Of course, if you hire a superintendent, you'll be giving up some of the money you're saving by building the home yourself. It doesn't take a full time person to build one house. Superintendents for builders typically look after several homes at once. If you do hire someone to keep an eye on the construction, make sure they have experience. Get and check references.

In the following discussion we are assuming that you will be looking after your own construction. You will need some flexibility in your time to do this successfully. You can do most of your checking in the early morning and after work, but occasionally you'll have to meet someone there during the day. If your spouse can help out here, you're in business.

SUPERINTENDING ACTIVITIES

Your superintending activities can be grouped into the following:

1. Daily Scheduling
2. Purchasing
3. Supervising and Coordinating the Construction.

In all of this, you will be primarily concerned with *controlling the quality* of the construction and keeping the project reasonably on schedule. That is, insuring that what is placed on the ground is in accordance with what is called for in the plans and specifications, and that the quality of construction meets generally acceptable industry standards for homes of *similar design and cost in your area*.

SCHEDULING

You have done most of the difficult work in scheduling when you developed the critical path in Lesson Nine. Now it's a matter of implementing your plan. The purpose of developing the Critical Path Plan was to see how the home goes together sequentially, and to see which tasks could overlap. Now we will see how to use that Critical Path Diagram for day-to-day scheduling of activities.

USING THE CRITICAL PATH DIAGRAM IN SCHEDULING

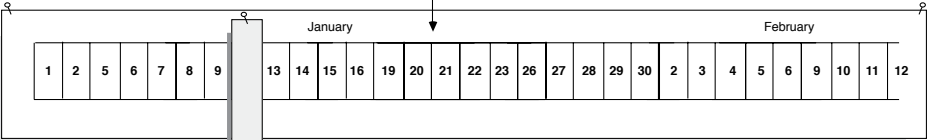
Look at your [*Critical Path Diagram*](#) again (Lesson Nine). Notice the scale at the top of the diagram with each number representing one day. Click [here](#) for a page of *Calendar Strips*. The way you use these is to cut the strips apart and tape them together end-to-end.

Next, write a date in each box, starting at the left end with the date you plan to start construction, and placing each succeeding day in the next column to the right. Omit Saturdays and Sundays. Sixty or seventy days should be sufficient to complete the job.

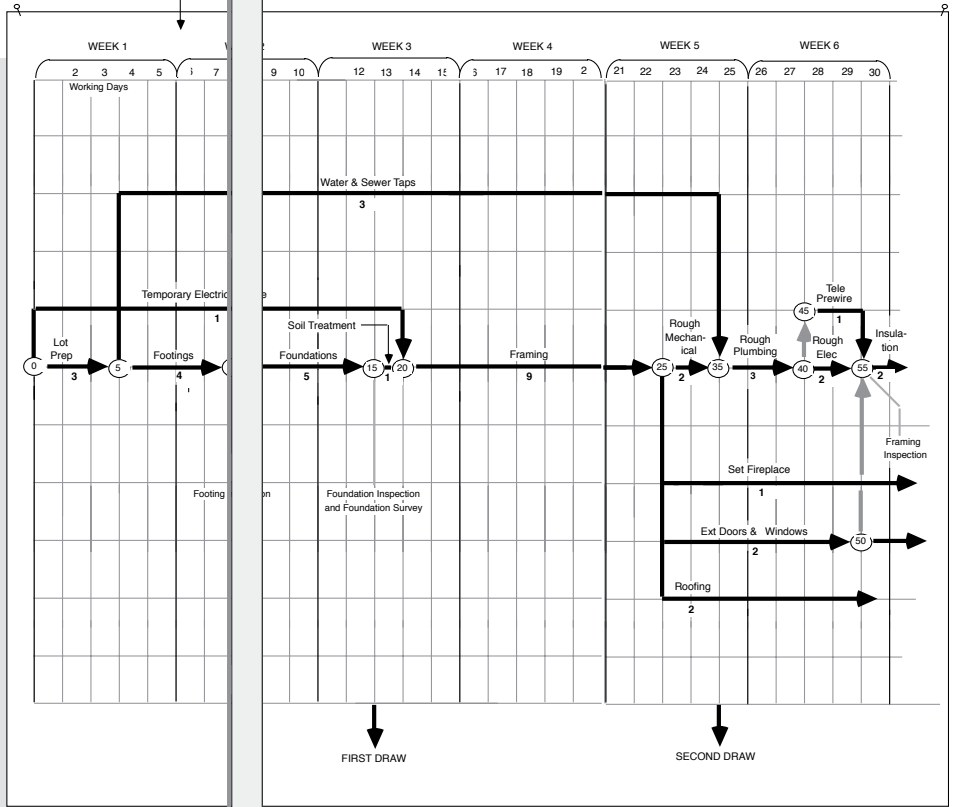
The drawing on the next page shows how to use the *Critical Path Diagram* and the *Calendar Strips* to maintain control of the project. The drawing shows the project starting on January 1, 1987. Notice that days 3, 4, 10, 11, 17, 18, 24, 25, and 31 are omitted in January. These were Saturdays and Sundays.

This doesn't mean that you can't work on weekends! In fact, that may be a good time for you to catch up. We just don't use those days for planning purposes.

Calendar Strip tacked to wall above Critical Path Diagram



Critical Path Diagram



"Date Line"

Weight

How To Use The Calendar Strips With Your CPM Diagram

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If you will tape your calendar strip to the wall and put your *Critical Path Diagram* under it so that the current day's activities coincide with today's date (as shown in the illustration), you can easily tell on what date a future activity should occur.

Hanging a string or a strip of colored paper from the current date will create a *Date Line*. The *Date Line* will let you see immediately where you are in the project. Looking ahead you can schedule deliveries and subs for several weeks in advance. If you lose a day, simply slide the *CPM Diagram* over. Be sure to advise suppliers and subs of the delay so that people and materials don't start showing up early.

SCHEDULING STRIPS

A large builder in the Southeast developed his own scheduling method. It's a *Scheduling Strip*. We have included the *Scheduling Strip* [here](#).

When these are cut out and taped together end-to-end, they form a simplified construction schedule. One of these *Scheduling Strips* is assigned to each home the builder has under construction. The *Scheduling Strips* are lined up under a date strip according to where they are in the construction process. By hanging a *Date Line* from the current date, it is easy for the superintendent to see how to schedule his work on all the houses.

The *Scheduling Strip* doesn't show some of the relationships revealed in the *CPM Diagram*, but the superintendent knows the process, and it's enough to keep him on track.

SCHEDULING SUBCONTRACTORS

When you are ready to actually begin construction, you should contact all of your subs and let them know approximately when you will require their services. As the time draws nearer, you can give them a specific date. If something happens to delay construction, be sure to notify your subs of the delay. One thing you don't want to do is have subs show up before you are ready for them. Once that happens, it tends to be a little harder to get them back when you need them.

SCHEDULING MATERIALS

Scheduling of materials is a bit easier. Usually two or three days is sufficient time to get a delivery to the job site, unless fabrication is required, e.g. trusses. When pricing materials, find out which items are stock, which are special order, and the lead time for special order items. Try to make sure the materials are on the job site before the subs arrive. Don't

schedule both to arrive the same morning. Your subs will arrive at 7:00, and the materials won't show up until 10:30. You'll have some angry subs on your hands. If you're expecting framing subs on Tuesday, have the framing materials delivered on Monday.

The materials suppliers have to load their trucks and deliver their materials so that they make most efficient use of their equipment. They can't always guarantee delivery at a specified time, like "first thing in the morning."

PURCHASING

You have already determined what you will need and probably from whom you will buy. These topics were covered in the lessons dealing with doing a cost estimate and materials takeoff (Ten and Eleven). As you need materials (according to your Critical Path) you will write purchase orders and order them. Make sure you specify the quantity, description, and unit price of all materials you order.

When ordering materials, try to think of everything that affects or will be affected by the item you are ordering. For example, when ordering counter tops, you need to tell the supplier the make and model numbers of the appliances you are going to use so that properly sized spaces can be provided to receive them.

Be sure to order your materials verbally - either by phone or face-to-face with the salesman, so that any questions can be cleared up and a commitment made on the delivery schedule. PO's for *special order* material can be placed in advance on a *will call* basis.

With some materials you will also need to specify certain lengths. For example, floor joists and roof rafters must be long enough to make the entire span required. They cannot be spliced.

If you do not want be involved at this level of complexity (and many builders don't), you can have the suppliers do the takeoff. You can let him worry about proper lengths and so forth.

MEASUREMENTS

Modern suppliers should be selling materials in ordinarily understood increments - like *linear feet, square yard, cubic feet, each*, etc. Some however, may try to slip a *board foot* or worse yet a *thousand board feet* in on you. Don't let this throw you. Just ask the supplier to translate these measurements into linear feet.

Translating Board Feet To Linear Feet

In case you're interested, it isn't very difficult to convert one to the other. A *board foot* is a piece of wood whose *nominal* measurements are 1" x 12" x 12". The rule is to multiply the *nominal* dimensions together and then divide the answer by 12. Example - for a 2x4: multiply two times four. The answer is eight. Divide eight by twelve. The answer is .67. Each *linear foot* of 2x4 has .67 *board feet*. So a 2x4 which is ten feet long has $.67 \times 10 = 6.7$ board feet. Ten 2x4's which are ten feet long have $.67 \times 10 \times 10 = 67$ board feet. To convert board feet to hundred board feet, divide by 100. To convert board feet to thousand board feet, divide by 1,000. In our last example (ten 2x4's, each ten feet long), you would have $67 \div 100 = .67$ *hundred board feet*. Easy, huh? Lumber dealers like to price their lumber this way because that is the way they buy it.

MARKING THE LOT

It is important that your lot be clearly marked with a sign that is visible from the road. Give the lot and block number of the lot and the address if you have it. Also, certain materials need to be placed in certain locations when they are delivered so that they will not have to be moved unnecessarily. For example, the bricks for the foundation walls should not be unloaded right where your footings are to be dug! Being there when the materials arrive, or putting a sign ("Put Bricks Here"), will solve this problem before it is a problem.

RECEIVING AND STORING MATERIALS

Refer to Lesson Twelve in the section on *Controlling Materials Costs* to review what you need to be doing with respect to receiving and storing materials as they arrive on the job site.

THINKING AHEAD

When we did our schedule planning, we were working somewhat in a theoretical world. Now our scheduling will be *real world*, indeed! Your biggest job will be in training yourself to always *think ahead* two or three steps. When your framing starts, you should be lining up the electrical, plumbing, HVAC, and insulation work. When these are in the works, you'll be lining up your trim.

Get your people out in advance, and make sure they remember what it is you want on your job. They may have done several other jobs since quoting yours. And everyone doesn't have a perfect memory or keep completely accurate notes. Your schedule planning will help you stay on top of it. Just remember this cardinal scheduling rule:

Don't wait until one job is finished before you schedule the next.

A good builder is always working not only with today's subs and suppliers, but also those who won't come into play for two or three weeks.

SUPERVISING AND CO-ORDINATING THE CONSTRUCTION

This work involves *managing the work of subcontractors, getting the proper inspections, and quality control.*

SUBCONTRACTORS

We've been talking a lot about subcontractors. We first introduced them seriously in Lesson 10 when you lined up your subs for cost estimating purposes. At that time we discussed finding and interviewing subs. We talked about tying down exactly what each sub would do (scope of the work), when they got paid, and asking for references. We also gave you a couple of forms to use to help keep track of your subcontractor contacts.



In *Cash Flow Projections* (Lesson Eleven) we discussed scheduling payment of subcontractors. In the last lesson, under *Cost Control*, we introduced five more forms which will help you in your dealing with subcontractors.

A Challenge

Working with the subcontractors will be one of the most challenging experiences in building your home. There is a delicate balance between remaining in control and keeping them happily on the job. As we have said, subcontractors are some of the most independent people in the world. If you live in an area where residential construction is booming, watch out! It won't take much for a sub to tell you to "stick it in your ear," and walk off the job. Sure you can back-charge him and find another sub. But it will be a hassle and an almost certain delay. And it will probably end up costing *you* money.

Choose Carefully And Treat Them With Respect

Much of this kind of trouble can be avoided by carefully choosing your subs and then treating them with respect. Some subs always seem to have a chip on their shoulder. You may sense this during your initial interviews. Also, ask about attitude when checking their references. You do not want a sub that is not sensitive to your desires as the builder/owner. Just remember, they are independent businessmen - treat them as such. But also remember, it's your house. You're paying the bills. In the end, your will must prevail.

Using The Subcontractor Forms

When you are ready to build and have decided on the subs you will use, it's time to execute the [Subcontractor Agreements](#). Try to get everything in writing - especially exactly what will be done (Scope of Work), and who will provide what (materials). Also execute the [Independent Subcontractor Statement](#) (SC6) and your version of the [Statement](#) (SC5). Go over the latter in detail so that the sub knows how you intend to operate. Don't hurry these negotiations. The sub will appreciate knowing what's expected and will be put on notice from the first that you are proceeding in an organized fashion. He will be impressed by your businesslike approach.

Review The Plans And Specifications

You will want to go over the *Plans and Specifications* with the sub again. Make sure he understands perfectly what you are expecting him to do. Carelessness at this point will lead to misunderstandings, delay, and extra expense.

The First Day On The Job

When the appointed time arrives, meet each sub on the job site. Have a copy of the Plans and Specifications as well as your *Agreement* with the sub. Again go over what is expected and resolve any questions. Be sure the sub understands that no extra work is authorized or will be paid for unless an [Additional Work/Change Order](#) (SC2) is executed.

Spend as much time as you can with the sub that first day to see that he, in fact, does understand what is to be done and to clear up any unexpected questions. If you have to leave, make sure the sub has a way of reaching you or your representative (husband, wife, etc.). Don't think that you have to be there every minute. You don't. It's just a good policy to be there the first day to help get them started. But it's also a good idea to check back frequently to make sure something has not gone awry.

Dealing With Unacceptable Work

Do not hesitate to point out unacceptable work and request that it be corrected. Subs deal with this every day. Some subs are a lot like children. They will try to get away with as much as you will let them. Others are very proud of their work and will try hard to do it right. Even these latter types will make mistakes. Its OK to sympathize with a sub who must spend extra time and effort correcting a mistake. But remember, if he had done the job properly the first time, he wouldn't be faced with making the correction. Do you want to live with his mistake for the next thirty years? Be firm. Insist on acceptable quality.

On the other hand, be fair. If extra work is required, or something has to be re-worked because you forgot to tell the sub just what you wanted, be prepared to pay for the additional work.

Serious Disagreements

If you have a serious disagreement with a sub, you may have to terminate your agreement with him and find someone else to complete the work. In such a case you should withhold a part of the payment due for work completed-to-date, at least until you have found a replacement, and have a firm commitment on what it will take to complete the job. Under your original agreement, you are not committed to spend more than the original agreed upon amount. As we mentioned before, it is often necessary to spend some money to correct poor work when a sub is terminated, before the job can be finished.

Liens

Do not let a sub intimidate you with threats of a *lien* against the property. A lien is like a suit in which the property is named to secure the amount owed. If your bases are covered, you can get the lien removed. See your real estate attorney.

Cleaning Up

You'll notice in the [Subcontractor Agreement \(Form SC1\)](#), the third paragraph of the "fine print" states that the sub will clean up after himself. Subs will only do this if you make them aware that you are dead serious about this requirement, and that they will be back-charged if they don't. All subs should be required to leave the home "broom clean." When a sub leaves a mess, either you have to clean it up, or pay someone else to do it, or the next sub will have to work in a mess. You can believe that this will not make the second sub very happy. You should specify one particular area to stockpile trash until it can be hauled, burned, or buried.

INSPECTIONS

To understand where the inspectors are coming from you need to understand a little bit about the *Building Codes* they are enforcing.

BUILDING CODES

Building Codes were developed for your protection. They seek to insure that buildings provide light, ventilation, structural integrity, adequate circulation, and reasonable safety from the hazards of fire. The more specialized electrical and plumbing codes spell out standards that provide for the safe and convenient delivery of water and electricity and for the removal of wastes.

The [*National Electric Code*](#) and the [*Uniform Plumbing Code*](#) are pretty much standard nationwide. There used to be several building codes in use. Since the late 1990's most building authorities have adopted the [*International Code*](#). You can check with your local building official to see which, if any, of the codes are enforced in your area. In addition, you should ask for a copy of all local supplements to the standard codes which have been adopted. Local conditions often require special additions to or variations from the general code.

It is not necessary that you are thoroughly familiar with the codes. In fact, most of them are written in such a confusing manner, that it is difficult for even professionals who deal with them every day to interpret them with confidence. But it won't hurt for you to have a copy around for general reference.

INSPECTION DEPARTMENT

Whether or not you will have municipal inspections of your construction will depend on the local statutes. If the local jurisdiction (city or county) has so decided, a building code has been adopted, building permits are issued, and inspections are carried out to enforce the code.

There is a wide spectrum of how well any or all of these jobs are carried out, if in fact they are carried out at all. A jurisdiction may



adopt a code but not do any inspections. It may hire a “building official” who’s only task is to collect fees for issuing building permits.

Even when there are inspections, there is a wide latitude as to the quality of the inspections. Much has to do with the training and work load of the inspector. In some areas there is only one inspector who does everything - building, electrical, HVAC, and plumbing inspections. In other areas, you may find a specialist in each area.

Good inspectors can help insure that your house will be well constructed. They will hold the subcontractors accountable. The subs know what it will take to pass inspection, and they will generally perform to this standard.

It is possible that you will find some inspectors that are not up to par. Some let the power of their position go to their heads, and they can make your life miserable. The best advice in dealing with this type is to grin and bear it. Do whatever you have to to get it approved - even if it seems ridiculous. You’ll soon be past this irritation and can look back and laugh. It’ll probably make a good “war story” for you to tell.

Others may be dishonest - expecting a payment to pass your work. Do not bow to this extortion. Report this person to his superiors at once. If the superiors are involved, go higher. As a citizen, you owe it to yourself and to the community to rid the system of this sort of corruption.

Calling For Inspections

Check with your building official to see what inspections are required, when they are required, and who should call for them. It’s a good idea to call the day before you want an inspection. Generally an inspection is made the following day after you call. However, don’t expect to schedule the inspection for a particular time. Inspectors have to schedule their work so that they can make the best use of their time.

They’ll plan their itinerary depending on where there are inspections to be made that day. You may be the first one or the last one. There’s no way to tell. So don’t be angry if the inspector doesn’t show up when you expect him to. Don’t schedule your drywall hangers to arrive at 10:00 am because you have called for a framing inspection and you think it will be done the next morning.

Be Ready For The Inspection

If you have scheduled an inspection and find that the work is not completed as expected, call and cancel the inspection. Most inspectors are radio dispatched. He will appreciate not having a wasted trip which will only have to be repeated tomorrow.

If you are on the site when an inspector arrives, just be available. He's a professional. Get out of the way and let him do his job. Don't be overly friendly. That won't get your job passed any more easily. It may even backfire. And by all means, don't be belligerent or antagonistic.

Red Tags

If you happened to get red tagged (turned down because of a deficiency), don't panic. It's not the end of the world. It happens every day. You just have something that needs to be corrected. Talk with your sub first. Chances are he'll know just what to do. If not, and you can't figure it out, call the inspector and get an explanation. He'll be glad to explain what he expects to see. Then make the changes and call him back. Make sure it's fixed before you reinspect. This shows the inspector that you are serious about doing things correctly. Attitude counts!

PRIVATE INSPECTORS

If you do not have inspections in your area, or you do not feel like they are adequate, you can hire a private inspector to do the job. Look in the Yellow Pages or call the Home Builders Association, the Association of Realtors, or the local chapter of the American Institute of Architects. This may be money very well spent, especially if you are still feeling very inadequate about catching what needs to be caught.

BANK INSPECTORS

In addition to municipal inspectors, you will probably have a bank inspector check the work before the bank issues a draw. He is not looking for code violations, but primarily for verification that work has been completed on that portion of the home for which you are seeking a construction draw. He will also check to see that the home is being built according to the plans and specs. He doesn't want to set up a loan for a four bedroom 3,000 square foot home, only to find that you are out there building a two bedroom bungalow. Requesting a draw is usually all you'll have to do to trigger this inspection.

FHA, VA, AND FMHA INSPECTIONS

If you are building under any of these programs, you will have inspections by their inspectors in addition to the municipal inspections. Generally they come at the same point in construction as the municipal inspections. These are fee inspections for which you will be billed. When you set up your loan under one of these programs, you will be advised as to the inspection schedule required and who to call. These inspectors will be checking to see that your home is built in accordance with the plans and specifications they have approved and in accordance with the [Minimum Property Standards](#) published by HUD.

QUALITY CONTROL

The rest of this course deals with quality control. This is where you will learn what to look *at* and what to look *for* when you are on the job site. We are going to go all the way through the construction process again, just like we did in the planning and estimating stages - from clearing the lot to finish grading and landscaping. At each stage we'll try to point out some of the important things you should be looking for. Things that might escape your attention. Things that might cause you trouble later in the construction process if they are not correct now. Things that are more easily corrected now than later.

Let's be up front though. There's no way we can cover every situation you may run into. We hope that we will be able to teach you to ask the right questions and maybe where to look for answers. If we can accomplish that, you'll be well on your way to being a successful home builder. If it will make you feel better, please know that we see very large builders, who have been building for many years, making the same kinds of dumb mistakes that amateurs make. And some of them continue to make the same mistakes house after house! It would seem that after a while, everything would go smoothly. It won't.

YOU WON'T GET PERFECTION

First let's get one thing straight. You won't get perfection. The question is, *how far from perfect is acceptable?* Obviously, there is a possibility of some disagreement between you and the subs on this key point. This represents the historical conflict between buyers and builders.

Suppose you hire a builder to build you a home. During the time the home is being built, this project is the most important thing in your life. It consumes you. Every day you can't wait to get off work so you can go by and see what has happened during the day. Just let two or three days go

by without any progress, and you really start to get antsy. You're on the phone to the builder, "I thought the drywall was going to be hung today!" You noticed some studs that weren't perfectly straight. You point that out to the builder. You're excited. *You want everything to be perfect.*

The builder knows it won't be. He knows that your home is not being stamped out in a factory. It is being constructed from thousands of pieces of materials - materials that warp, and shrink, and crack like wood and concrete. And it's being constructed by dozens of skilled and semiskilled craftsmen and tradesmen. There will be some squeaks, and bumps, and warts.

HOW GOOD IS GOOD ENOUGH?

The question is: *How good is good enough?* Builders think in terms of *industry standards*. Industry standards are what has come to be considered acceptable quality in your area. These standards vary from place to place, and there is a wide range of quality in any area. If you don't think so, just go out and look critically at the quality of construction in your area. You'll find homes that are beautifully built. You'll also find homes you can't believe are passing inspections. It's sad to say, but the old saying is true: "The squeakiest wheel gets oiled." People who are willing to accept shoddy quality will probably receive just that. On the other hand, people who demand perfection will destroy any relationship they have with their subs and will get an ulcer to boot.

So how do you determine what's acceptable? The National Association of Home Builders published a booklet in 1974 called *Quality in Construction* (now out-of-print). It attempted to set acceptable quality industry standards for residential construction. The major home warranty companies have established approved quality standards. One word of caution: all of these standards were developed by builders or by people thinking about the possibility of paying claims for construction defects! Need we say more?

LOOKING AT THE INDUSTRY STANDARDS

The best rule to follow is: be reasonable. The fastest way to educate yourself is to look at other construction in your area. See what is possible. See what seems to be standard. If what you are getting is seriously substandard, stand your ground. Do not accept or pay for it until it is up to acceptable standards. This will be an on-going process throughout the project. For example, suppose you are under construction. You go by the construction site and see something that doesn't look quite right, but you aren't quite sure. Just go by some other construction sites and compare.

GENERAL STATEMENTS ABOUT QUALITY CONTROL

Here are some basic ideas about quality control that you will find are true.

EVERYTHING IS CONNECTED

All of the parts of the home work together as a unit. Nothing is isolated. Everything that is added or done to the home during the construction process is affected by the things that have happened before, and will directly affect the things that happen later. For example, the framing may be out of level if the foundation is not correct. If the problem is not caught and corrected at the framing stage, it will continue on to affect the finish walls, trim, cabinets, etc.

THINGS COMMON TO EVERY CHECK LIST

Several things can be said about every step of the process. Although we'll show each in the check list as they apply, we'll say them once here - knowing that they apply all the way through the construction process.

1. Make sure that what is happening in the field on your home is what you had anticipated in the plans and specifications, and is what your subs agreed to in their contracts. Check all materials to see that they are of acceptable quality, and that they are installed in the correct locations.
2. Check all measurements.
3. Check the quality of craftsmanship - straight cuts, tight joints, plumb, level, etc.

SOMETHING NEW EVERY DAY

In the home building business, you'll learn something new every day. Just try to be loose and in control. When others obviously know more than you, use their knowledge (being ever careful of the con artist). What you don't know, you can easily find out. Our goal in this section is to feel comfortable with what will be happening in the field during construction - what you can expect to see, levels of acceptable quality, and so forth. Again, here is where you'll learn *what to look at and what to look for*.

YOUR TOOLS

Your most important tools as the superintendent will be a good tape measure, a large carpenters' square, and a five or six foot level. Keep them in your car and use them often. Do not be ashamed to let the subs

see that you are checking their work carefully. It will put them on notice that you are expecting, and will demand, that the work is up to snuff.

A FINAL TRIP THROUGH THE CON- STRUCTION PROCESS

It's time to take our last trip through the construction process. We did it in the physical planning lessons to see what our choices were in design, materials, and construction systems.



We did it again in the financial planning lessons so that we could accurately estimate the cost of the home. Now it's time look at the actual construction - this time from a standpoint of quality control.

PERMITS

Once your construction loan has been secured, it is time to get your building permits. You've probably already located the proper places to do this when you were investigating the lot and when you were doing your cost estimate. To refresh your memory, here are some of the permits which may be required:

- Building
- Electrical*
- Plumbing*
- Well*
- Mechanical*
- Septic Tank
- Water Tap
- Sewer Tap
- Tree Clearing
- Curb Cut

The permits marked with the asterisk will probably be secured by the sub who does the work. Make sure you know when you will need each permit - generally before any work begins on that part of the home affected by the permit. Leave yourself plenty of time. Some permits may require

exhibits (plans and specifications) or testing (perk test for the septic tank). When getting your permits, ask again what permits are required so that you don't miss any. It's possible a new one has been instituted that you haven't heard about.

When you get your permits, be sure and find out what *inspections* are required. Make a note of the inspections required on your Construction Check Lists, so that you don't forget. Also, be sure to note *how long each permit is good for*. Some permits expire after a certain time period. In other words, you can't get a permit to build a home and sit on it for five years!

SEPTIC TANK PERMIT

One item of interest concerns the *septic tank permit*. On a lot requiring a septic tank (one not served by a municipal sewer line), a building permit cannot normally be secured until the septic tank is approved. The agency responsible for septic tanks will not issue a permit unless it determines that the lot is *suitable* for a septic tank and drain field. We have seen cases where the agency would not agree to permitting the lot for a septic tank, but said they would issue a permit if the builder could get a suitable system installed.

This places the burden on the builder. He has to be willing to take the risk and spend the money to try to get a septic tank and drain field into a marginal lot. Usually the only time this situation arises is when a builder buys several lots together as a group - taking the bad with the good. He may end up with one or more lots that present difficulties, but that were so inexpensive that he can afford to spend a few extra thousand dollars getting a septic tank in, and still have a buildable lot.

We have included this information just so that you will know that if the health department says the lot is not suitable for a septic tank, you may still have other alternatives. If this happens to you with a lot you are really interested in, talk to several septic tank contractors about the feasibility and cost of getting a system installed on the lot.

TEMPORARY UTILITIES

It will be helpful in the construction process, if you don't have to wait until the house is completed before you have ready access to basic utilities. Here are some things to consider along those lines.

ELECTRICITY

You'll need electricity at the site during the construction process. Your electrician can install temporary service in the form of a meter, breaker



box, and outlets on a pole. This is called the “saw service.” He will probably have to permit this facility and coordinate with the local power utility to get it installed. This needs to be done early, especially before the framing gets underway. If worse comes to worse, however, electric power can always be supplied by a portable generator. If you are responsible for supplying power (under the terms of your Subcontractor Agreement), you can rent a generator by the day from any good tool rental store.

WATER

The main thing you’ll need water for is to mix mortar for masonry work, and for cleaning up. Of course you could haul water in or buy it from a neighbor, but it’s really a lot nicer to have it available on site. Whether you are tapping into municipal water lines or putting in a well, you may

as well go ahead and do it. Then you can have a pipe with a spigot to supply your needs. Later the service can be hooked up to your new home.

SANITARY FACILITIES

If there are neighbors nearby or you expect coed working conditions, you may want to rent a port-a-john.

This lesson has begun the last portion (*Physical*) of the last major section (*Construction*) of the course. We began with a general discussion of what *Superintending* is and what some of your *options* are for superintending the construction of your



Filling a cooler from a temporary “stand pipe.”

new home. We learned that superintending involved daily *Scheduling*, *Purchasing*, and the *Supervising and Coordinating of the Construction*. Under *Scheduling* we talked about getting the materials and the subs to the job at the right time.



Summary

We discovered how to put the *CPM Diagram* developed in Lesson Nine to work in scheduling the daily work. Then we looked at a simplified *Scheduling Strip* developed by a builder to keep track of several homes under construction.

When we got to *Supervising and Coordinating the Construction*, we talked about working with *subcontractors* and getting *inspections* done. Then we moved on to the beginning of the topic which will carry us to the end of the course - *Quality Control*.

First we examined some *general principles* that will guide you in watching over the quality of construction of your home. Then we started what will be our last journey through the home - this time focusing on the actual construction, and learning what it is you are supposed to look at and what

you are to look for when you are out at the construction site. In this lesson we covered only the first preliminary steps in the construction process - getting your *Permits* and arranging for *Temporary Utilities*.

Looking Forward

In the next lesson we will get into the construction process in earnest. We will begin with the preparation of the site (*Clearing and*

Grading), and move on through the installation of the *utilities* (water, electricity, gas, etc.), and finish with a look at what you should be looking at with respect to the *Footings*, the *Foundations*, and the *Slab* (if there is one).

CHECK LISTS

Q&A's



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