

## ALABAMA HOME BUILDERS TRAINING



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Alabama Home Builders Licensure Board

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## ALABAMA HOME BUILDERS TRAINING

Course Goal: To assist you in operating your business in a manner that will help you to comply with the applicable regulations, to provide your customers with a valuable service and to enhance your reputation as a professional.

2

MAYBE YOU BUILD TRADITIONAL HOMES  
OR MAYBE YOU BUILD MODERN ONES.



3

IN EITHER CASE, YOU WANT TO DO  
YOUR JOB RIGHT!



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## ALABAMA HOME BUILDERS TRAINING



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## ALABAMA HOME BUILDERS TRAINING

- ✧ A bit about me
- ✧ Born into a construction family
- ✧ Worked on the jobsite from age 12
- ✧ Job assignments included laborer, framing carpenter, trim carpenter, backhoe operator, welder, roofer, crane operator, truck driver, forklift operator, paper hanger, painter, concrete finisher, company pilot, etc

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### ALABAMA HOME BUILDERS TRAINING

- ✦ 4 ½ years as Project Engineer for major chemical manufacturer (worked on projects in US, Canada, Mexico, Puerto Rico, Belgium and India)
- ✦ 8 years as Estimator and Project Manager for general contracting firm
- ✦ 8 years as President & CEO of engineering and construction firm

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### ALABAMA HOME BUILDERS TRAINING

- ✦ 18 years on faculty of Department of Building Science at Auburn University
- ✦ Teach courses through NAHB University of Housing
- ✦ Provide expert witness services for numerous law firms
- ✦ Provide construction mediation services

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### ALABAMA HOME BUILDERS TRAINING

- ✦ As a courtesy to others, please silence your cell phone
- ✦ Please feel free to ask questions or comment during the presentation
- ✦ I will stay after the session to grade the tests and answer the questions that you don't ask during the class

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### SECTION 6. BUSINESS PRACTICES

- ✦ Contracts
- ✦ Lien law provisions
- ✦ Change orders
- ✦ Business accounting
- ✦ Job accounting
- ✦ Insurance and Risk Management

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### SECTION 6. BUSINESS PRACTICES

- ✦ Supervision of subcontractors
- ✦ Scheduling
- ✦ Customer service
- ✦ Building permits
- ✦ Inspections
- ✦ Warranties

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### ELEMENTS OF A CONTRACT

- ✦ Offer
- ✦ Acceptance
- ✦ Consideration
- ✦ Legal purpose
- ✦ Competent parties

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## ELEMENTS OF A CONTRACT

- ✦ Note that a counteroffer extinguishes the original offer

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## CONTRACTS

- ✦ Advantages of a written contract
  - + Required by Home Builders licensure Board.
  - + Provides a record of the terms of the agreement.
  - + Enables you to Limit your risk.
  - + Enables you to transfer risks to other parties.
  - + Allows you to set a standard of quality.
  - + Allows you to provide for alternative dispute resolution methods.

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## CONTRACTS

- ✦ Advantages of a written contract
  - + Permits you to itemize the project inclusions and exclusions,
  - + Can exclude prior negotiations,
  - + Avoids the “selective memory” syndrome,
  - + Increases your level of professionalism,
  - + Can be enforced in a court of law if necessary, and
  - + Eliminates any problem with the Statute of Frauds.

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## CONTRACT INTERPRETATION

- + Contract law is complicated (see the 15 volume set Corbin on Contracts).
- + Primary rule is what the parties intended when they entered into the contract.
- + Specific statements govern general statements.
- + Trade terms take trade meanings.
- + A simple interpretation prevails over a complicated interpretation.

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## CONTRACT INTERPRETATION

- + A contract is interpreted as a whole.
- + The parole evidence rule prevents extrinsic (outside) evidence except to interpret an ambiguity.
- + Actions taken by the parties are evidence of their intentions.
- + The final rule (tie breaker) is to interpret ambiguities against the drafter.

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## IMPLIED CONDITIONS

- ✦ The builder implicitly promises
  - + Reasonable quality in materials and workmanship,
  - + Prompt payment of employees, subcontractors and vendors,
  - + Conformity to the applicable building code, (except when the construction documents are furnished by the owner), and
  - + Reasonable adherence to the construction schedule.

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## IMPLIED CONDITIONS

- ✖ The owner implicitly promises
  - + Cooperation and freedom from interference,
  - + Reasonable access to the site,
  - + Unbiased interpretation of the construction documents (if owner furnished),
  - + Adequacy of the construction documents (if owner furnished), Spearin Doctrine
  - + Accuracy of owner furnished information, and
  - + Timely disclosure of pertinent information.

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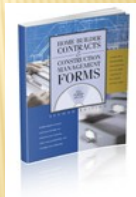
## IMPLIED CONDITIONS

- ✖ The design professional implicitly promises
  - + Unbiased interpretation of the construction documents (if owner furnished),
  - + Adequacy of the construction documents,
  - + Prompt administration of the construction documents, and
  - + Performance comparable with similar professionals in the area.

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## YOU DON'T HAVE TO RE-INVENT THE WHEEL

- ✖ Home Builder Contracts and Construction Management Forms
- ✖ Nearly 100 forms for you to customize for your business
- ✖ \$59.95 to NAHB members, \$75.00 to others
- ✖ Order from Builder Books 1-800-223-2665



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## ALABAMA LIEN LAW PROVISIONS

- ✖ Applicable if you make "improvements" to real property.
- ✖ You MUST file the claim within 6 months of the last labor or material incorporated into the project.
- ✖ You must supply a verified statement (using the statutory form is a good idea),
- ✖ The time limit is STRICTLY enforced.

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It shall be the duty of every person entitled to such lien to file in the office of the judge of probate of the county in which the property upon which the lien is sought to be established is situated, a statement in writing, verified by the oath of the person claiming the lien, or of some other person having knowledge of the facts, containing the amount of the demand secured by the lien, after all just credits have been given, a description of the property on which the lien is claimed in such a manner that same may be located or identified, a description by house number, name of street, and name of city or town being a sufficient description where the property is located in a city or town, and the name of the owner or proprietor thereof; but no error in the amount of the demand or in the name of the owner or proprietor, shall affect the lien. Unless such statement is so filed the lien shall be lost. Said verified statement may be in the following form, which shall be deemed sufficient:

State of Alabama, County of \_\_\_\_\_  
 \_\_\_\_\_ files this statement in writing, verified by the oath of \_\_\_\_\_, who has personal knowledge of the facts herein set forth. That said \_\_\_\_\_ claims a lien upon the following property, situated in \_\_\_\_\_ county, Alabama, to wit:

This lien is claimed, separately and severally, as to both the buildings and improvements thereon, and the said land.

That said lien is claimed to secure an indebtedness of \$\_\_\_\_\_ with interest, from to wit \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ to \_\_\_\_\_ for \_\_\_\_\_

The name of the owner or proprietor of the said property is \_\_\_\_\_

Claimant.

Before me, \_\_\_\_\_, a notary public in and for the county of \_\_\_\_\_, State of \_\_\_\_\_, personally appeared \_\_\_\_\_, who being duly sworn, doth depose and say: That he has personal knowledge of the facts set forth in the foregoing statement of lien, and that the same are true and correct to the best of his knowledge and belief.

Affiant.

Subscribed and sworn to before me on this the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, by said affiant.

Notary Public.

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## FOR ADDITIONAL INFORMATION

**Take the NAHB Construction Contracts and Law class available through the Home Builders Association of Alabama.**

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## CHANGE ORDERS

- ✦ A revision in the contract scope of work.
- ✦ Just as the contract should be written, the change order should be written too.
- ✦ Execute the change order before doing the work covered by the change order.
- ✦ Request payment for additive change orders in advance.
- ✦ If your contract has a GMP, you will likely have to adjust the GMP.

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## CHANGE ORDERS

- ✦ Manage the change order as a “project within the project”.
- ✦ Don’t forget to consider the impact that the change order has on the schedule.
- ✦ When change orders interlock or overlap, the effect that one may have upon another may not be obvious.

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## DELAYS

- ✦ Excusable – defective documents, unusually severe weather, owner interference, unavailable materials, action by governments (you get additional days)
- ✦ Non- Excusable – defective work, code violations, poor planning (you don’t get additional days)

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## DELAYS

- ✦ Compensable – you get additional payment
- ✦ Non-Compensable – you don’t get additional payment
- ✦ In any case, you must make a claim for the delay if you want days, dollars or both

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## CONSTRUCTIVE CHANGE

- ✦ An excusable delay where the additional days are not awarded
- ✦ Rejection of “or equal” materials
- ✦ Rejection of construction meeting project requirements
- ✦ Over inspection

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## FOR ADDITIONAL INFORMATION

Take the NAHB  
Construction Contracts and  
Law class available through  
the Home Builders  
Association of Alabama.

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## BUSINESS ACCOUNTING

- ✖ Accounting is the setting up, maintaining and auditing the books of a firm.
- ✖ Without an adequate accounting system, you may know your checkbook balance but not...
  - + How much you still owe on each project,
  - + How much is still due on each project,
  - + How much profit you will make on each project,
  - + What your balance sheet looks like, or
  - + What your income statement looks like.

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## THE 5 Cs OF FINANCIAL MANAGEMENT

- +CREATE cost accounts and reporting systems.
- +COLLECT cost data.
- +COMPILE data into specific reports.
- +COMPARE actual data to estimated data.
- +CORRECT the challenges and obstacles .

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## THE BALANCE SHEET

- ✖ Assets = what you own
- ✖ Liabilities = what you owe
- ✖ Equity = your net worth
- ✖ Assets - Liabilities = Equity
- ✖ The balance sheet shows the condition of your company as of a particular moment.
- ✖ Comparing balance sheets from different times will show if your company's financial situation is improving.

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## NOTICE!

The balance sheet shows your company's financial condition as of a particular moment in time



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## THE INCOME STATEMENT

- ✖ Income = receipts for a given period
- ✖ Expense = cost of doing business for the same period
- ✖ Profit = Income - Expense
- ✖ The income statement shows the condition of your company for a given period of time.

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## NOTICE!

The income statement shows your company's financial condition for a particular period of time



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## CHART OF ACCOUNTS

- ✦ A system of identifiers (usually numbers) used to organize the accounting system.
- ✦ Your chart of accounts can be customized to suit your business.
- ✦ NAHB has a set that you can use or adapt to best fit your business.

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## NAHB CHART OF ACCOUNTS

- ✦ 1000 – 1999 Assets
- ✦ 2000 – 2999 Liabilities and equity
- ✦ 3000 – 3999 Sales, revenues & sales cost
- ✦ 4000 – 4999 Indirect construction costs
- ✦ 5000 – 5999 Financing costs

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## NAHB CHART OF ACCOUNTS

- ✦ 6000 – 6999 Sales & marketing expense
- ✦ 7000 – 7999 Operating & management expenses, rental expense
- ✦ 8000 – 8999 General & Administrative expenses
- ✦ 9000 – 9999 Other income & expenses

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## UNDERSTANDING OVERHEAD

- ✦ Overhead is the cost of doing business in excess of the direct cost of the work at the job site.
- ✦ Examples of overhead include: home office expenses (salaries, fringe benefits, utilities, insurance, legal expenses, vehicle expense, etc.).
- ✦ Each project must cover a portion of the total overhead (your mark-up must cover the overhead just to break even).

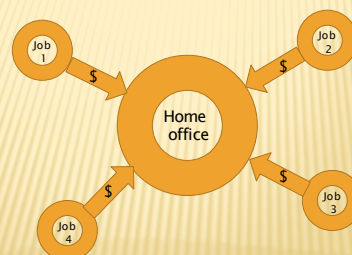
40

## UNDERSTANDING OVERHEAD

- ✦ Generally, the smaller the company, the larger the overhead as a percentage of the gross income.
- ✦ Remodeling work generally has a higher overhead rate than new construction.
- ✦ As your company volume goes down, the overhead as a percentage of the income goes up.

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## OVERHEAD



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## BUSINESS ACCOUNTING ESSENTIALS

- ✦ To compete in today's market you **MUST** be able to properly manage your company finances!
- ✦ To manage your finances, you **MUST** have an adequate accounting system!
- ✦ To manage more than one project at a time, you **MUST** keep the finances separate For each project!

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## FOR ADDITIONAL HELP...

**Take the NAHB Business Accounting and Job Cost, Financial Management and Business Management for Building Professionals** courses available through the Home Builders Association of Alabama.

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## JOB ACCOUNTING (AKA JOB COST)

- ✦ Job accounting generally begins with a project budget (unless it is a cost plus project with no GMP).
- ✦ All job "costs" **MUST** be identified and charged to the individual project.
- ✦ All change orders **MUST** be documented..
- ✦ Actual job costs **MUST** be compared with the individual budget line items (not just the bottom line).
- ✦ All variances **MUST** be reconciled.

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## JOB ACCOUNTING (AKA JOB COST)

- ✦ Labor burden **MUST** be accounted for as a job cost.
- ✦ Job cost **MUST** include labor, labor burden, materials and sales taxes, subcontract expense, builder's risk insurance, operation of rented or owned equipment, building permit cost, job site utilities, toilet and dumpster rental, etc.

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## FOR ADDITIONAL HELP...

**Take the NAHB Business Accounting and Job Cost** course available through the Home Builders Association of Alabama.

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## INSURANCE and RISK MANAGEMENT

- ✦ Operating a construction company is a risky business.
- ✦ Some of those risks we retain.
- ✦ Some of those risks we avoid.
- ✦ Some of those risks we transfer to subcontractors.
- ✦ The rest of the risks we transfer to insurers.

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## INSURANCE and RISK MANAGEMENT

- ✘ Operating a construction business requires that we **MANAGE** the risks.
- ✘ No risk can be managed unless that risk is first identified.
- ✘ Once the risk is identified, we then decide whether to retain it ourselves, avoid it altogether or transfer it to others either by means of contract or insurance.

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## INSURANCE and RISK MANAGEMENT

- ✘ Insurance is an agreement to accept a specified risk in exchange for a fee.
- ✘ Insurance companies evaluate the risk in a process called underwriting.
- ✘ Just like you, insurance companies may decide to avoid a particular risk. (How about New Orleans after Katrina?)

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## INSURANCE and RISK MANAGEMENT

- ✘ Commercial General Liability
  - + Premises and ongoing operations
  - + Completed operations
- ✘ Professional liability (if you furnish design)
- ✘ Builder's risk
  - + Broad Form (covers most risks)
  - + Named Peril (covers ONLY the named perils)

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## FOR ADDITIONAL HELP...

**Take the NAHB Risk Management and Insurance for Building Professionals course available through the Home Builders Association of Alabama.**

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## SUPERVISION of SUBCONTRACTORS



- ✘ Why does an orchestra need a conductor?
- ✘ Wouldn't it be OK just to let everyone just play their part at their own tempo?
- ✘ How would that sound to the audience?
- ✘ What if you run your business that way?

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## SUPERVISION of SUBCONTRACTORS



**At the jobsite, you are the conductor!**

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## SUPERVISION of SUBCONTRACTORS

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...

AIA A201 –2007

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## SUPERVISION of SUBCONTRACTORS

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 or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

AIA A201 –2007

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## FOR ADDITIONAL HELP...

Take the NAHB Project Management course available through the Home Builders Association of Alabama.

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## SCHEDULING

- ✦ A plan for performing work or achieving an objective, specifying the order and allotted time for each part.
- ✦ Plan your work and work your plan.
- ✦ A management and communication tool used to coordinate the work and improve productivity.

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## SCHEDULING EXAMPLE



Assume that you have the 1000 piece puzzle still in the box. List the steps in order that you would use to assemble the puzzle.

Then assign your estimate of the time required to complete each item.

Finally, add up all of the Individual times to get a total time for the project.

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## SCHEDULING EXAMPLE

1. Open the box. (1 minute)
2. Dump out the pieces. (1 minute)
3. Turn all pieces face up. (3 minutes)
4. Find and assemble the edges and corners. (15 minutes)
5. Fill in the interior. (4 hours)
6. Brag about what a good job that you did on your puzzle. (40 minutes)
7. Total project duration. (5 hours)

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### IF YOU DON'T LEARN ANYTHING ELSE...

1. Understand your boundaries and...
2. Don't forget to look at the big picture!

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### FOR OUR SCHEDULING EXAMPLE...

- ✗ Would it help if you had a good sturdy table of adequate size?
- ✗ How about sufficient lighting?
- ✗ Could you reduce the total project duration if you had some good help?
- ✗ Is there a limit on the number of helpers that you could efficiently use?
- ✗ All of these are examples of resources.

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### SCHEDULING TYPES

- ✗ Calendar pages
- ✗ Bar charts
- ✗ Critical path method
- ✗ Nike method

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### SCHEDULE COMPONENTS

- ✗ Tasks
- ✗ Durations
- ✗ Milestones
- ✗ Resources
- ✗ Dependency relationships

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### SCHEDULING SIMPLIFIED

- ✗ Secure three colors of post-it notes.
- ✗ Use one color for tasks that have to be completed to achieve dry in.
- ✗ Use a second color for those tasks that can only be done after dry in.
- ✗ Use the final color for tasks independent of dry in.
- ✗ Write the name of a single task on each post-it note.

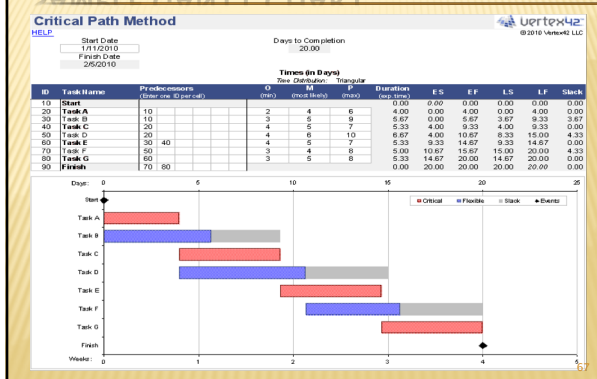
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### SCHEDULING SIMPLIFIED

- ✗ Remember that for a house, it takes about the same length of time to achieve dry in as it does to finish the house once dry in is achieved.
- ✗ Assemble your schedule on a wall.
- ✗ Transfer the schedule to the appropriate medium.
- ✗ Communicate the schedule to all parties.
- ✗ Revise the schedule as necessary.

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## SAMPLE GANTT CHART



## SCHEDULING SOFTWARE

**www.virtualboss.net**  
less than \$ 300 for a  
single station – free trial

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## FOR ADDITIONAL HELP...

**Take the NAHB  
Scheduling course**  
available through the  
Home Builders  
Association of  
Alabama.

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## CUSTOMER SERVICE

- ✘ How many bad examples of customer service can you name?
- ✘ Why do you think that the customer service was so bad?
- ✘ Does poor customer service invite customer loyalty and positive referrals?

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## CUSTOMER SERVICE

- ✘ How many good examples of customer service can you name?
- ✘ Why do you think that the customer service was so good?
- ✘ Does good customer service invite customer loyalty and positive referrals?

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## CUSTOMER SERVICE

- ✘ Your customer doesn't care how much you know until they know how much you care.  
~ *Damon Richards*
- ✘ Customers don't expect you to be perfect. They do expect you to fix things when they go wrong. ~ *Donald Porter*
- ✘ Loyal customers, they don't just come back, they don't simply recommend you, they insist that their friends do business with you. ~ *Chip Bell*

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## CUSTOMER SERVICE

- ✦ Being on par in terms of price and quality only gets you into the game. Service wins the game. ~ *Tony Allesandra*
- ✦ The customer's perception is your reality. ~ *Kate Zabriskie*
- ✦ The longer you wait, the harder it is to produce outstanding customer service. ~ *William H. Davidow*

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## CUSTOMER SERVICE

- ✦ The purpose of a business is to create a customer who creates customers. ~ *Shiv Singh*
- ✦ There are no traffic jams along the extra mile. ~ *Roger Staubach*
- ✦ Customer service is not a department, it's everyone's job. ~ *Anonymous*

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## FOR ADDITIONAL HELP...

Take the NAHB Project Management course available through the Home Builders Association of Alabama.

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## BUILDING PERMITS

- ✦ Required in most areas.
- ✦ Generally, the permit can be "pulled" by the builder or the owner.
- ✦ Obtaining the permit may be difficult in some jurisdictions.
- ✦ Some jurisdictions require seals from architects or engineers as a condition of issuing the permit.
- ✦ Submission of energy data may be required.

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## BUILDING PERMITS

- ✦ Visit the building department in advance to find out their requirements.
- ✦ Don't start construction without the permit in hand.
- ✦ Building permits generally lapse 180 days after the date of filing.
- ✦ The duration of building permits can be extended past the 180 limit upon written application.

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## BUILDING PERMITS

- ✦ The work must be commenced within 180 days of the issuance otherwise, the permit expires.
- ✦ The building permit can be revoked if the filing information is false or if the work does not meet the applicable code.
- ✦ The building permit must be kept on site for the duration of the project.

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## INSPECTIONS



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## INSPECTIONS

- ✗ Find out what inspections are required in the jurisdiction.
- ✗ The Building Official is authorized to accept the inspection of qualified third parties.
- ✗ Don't proceed without the required inspections.

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## WARRANTIES

- +Express (stated in words)
- +Implied (not stated but carrying the same force as if stated)
- +Disclaimed (using a statement to offset implied warranties)
- +Implied warranties generally apply unless disclaimed

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## IMPLIED WARRANTIES

- +Implied warranty of merchantability (fit for ordinary purposes),
- +Implied warranty of fitness for a particular purpose (fit for a special purpose that is different from the ordinary), and
- +Implied warranty of habitability (fit to live in).

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## WARRANTY CLAIMS

- ✗ Provide a written warranty booklet to your potential customer at the first contact. (The warranty then becomes a part of the bargain.)
- ✗ Reference the warranty in the contract.
- ✗ Require written warranty claims and furnish forms to the customer.
- ✗ Respond promptly to warranty claims.

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## WARRANTY CLAIMS

- ✗ Clearly state in your warranty booklet that non-emergency claims will be handled during normal business hours.
- ✗ If the claim is valid, handle it promptly and do it right the first time.
- ✗ If the claim is not valid, handle it anyway as a "good will" gesture or tactfully decline giving your reason.
- ✗ Don't ignore it!

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### FOR ADDITIONAL HELP...

Take the NAHB Project Management course available through the Home Builders Association of Alabama.

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### SECTION 7. ALABAMA ENERGY CODE



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### ALABAMA ENERGY CODE

- ✦ Climate Zone 2 includes Baldwin and Mobile Counties.
- ✦ Climate Zone 3 includes the balance of the state.
- ✦ Note that the south half of Climate Zone 3 has a different requirement for basement wall insulation only.

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### ALABAMA ENERGY CODE

- ✦ Slab edge insulation is not required unless the slab is heated.
- ✦ If the slab is heated, a minimum of R5 perimeter insulation is required the depth of the footing or 2 feet, whichever is less.
- ✦ A minimum of R5 continuous basement wall insulation is required for the northern half of Alabama.

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### ALABAMA ENERGY CODE

- ✦ Except in Baldwin and Mobile Counties, **unvented crawl space walls** must have a minimum of R5 insulation. The insulation must be permanently attached to the foundation walls and extend from the floor to the finished grade plus an additional 24 inches minimum vertically or horizontally.

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### ALABAMA ENERGY CODE

- ✦ In Baldwin and Mobile Counties, **unvented crawl space walls** are not required to be insulated.

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### ALABAMA ENERGY CODE

- ✧ In Baldwin and Mobile Counties, houses with **vented crawl spaces** must have a minimum of R13 floor insulation between the wood floor joists. In the balance of the state, the floor insulation must be a minimum of R19
- ✧ All crawl spaces must have a vapor retarder rated at not more than 0.1 perm with sealed joints and turned up the walls at least 6 inches and sealed.

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### ALABAMA ENERGY CODE

- ✧ Studwall insulation must be a minimum of R13 for the entire state.
- ✧ Insulation and a sealed air barrier must be installed behind tubs and showers in exterior walls.
- ✧ All holes through insulated walls, floors and ceilings must be sealed to be air tight.

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### ALABAMA ENERGY CODE

- ✧ In Baldwin and Mobile Counties, doors and windows must have U-factors not greater than 0.65. (0.75 if impact rated)
- ✧ For the balance of the state, doors and windows must have U-factors not greater than 0.50. (0.65 if impact rated)
- ✧ Up to 15 square feet of windows and skylights and up to 24 square feet of doors do not have to meet this requirement.

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### ALABAMA ENERGY CODE

- ✧ The Solar Heat Gain Coefficient (SHGC) for glazed windows, doors and skylights must not be greater than 0.30.
- ✧ Up to 15 square feet of glazed openings do not have to meet this requirement.
- ✧ Factory built windows, skylights and sliding glass doors must not have air leakage greater than 0.3 cfm/sf when subjected to the standard test.

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### ALABAMA ENERGY CODE

- ✧ Site built windows, skylights and sliding glass doors do not have to meet the air leakage standard.
- ✧ Factory built swinging door units must not have air leakage greater than 0.5 cfm/sf when subjected to the standard test.
- ✧ Site built door units do not have to meet the air leakage standard.

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### ALABAMA ENERGY CODE

- ✧ Gaps between door and windows and their rough openings must be sealed with low expansion foam or backer rod.
- ✧ Walls and ceilings separating garages from the conditioned space must be air sealed.
- ✧ Bottom plates of walls between conditioned and unconditioned spaces must be sealed to the subfloor.

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### ALABAMA ENERGY CODE

- ✧ Top plates of walls between conditioned and unconditioned spaces must be sealed to the ceiling.
- ✧ Upper and lower edges of the band joists must be sealed to the plates.
- ✧ All joints, seams and penetrations in the exterior sheathing must be sealed.
- ✧ All utility penetrations from conditioned to unconditioned areas must be sealed.

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### ALABAMA ENERGY CODE

- ✧ Attics above conditioned spaces must have a minimum of R30 insulation.
- ✧ For blown-in attic insulation, a ruler is required every 300 square feet of attic space.
- ✧ Attic pull-down stair openings must be insulated with a minimum of R30.
- ✧ Attic knee walls and doors in knee wall openings must be insulated with a minimum of R13.

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### ALABAMA ENERGY CODE

- ✧ Ducts and air handling units that are not within the conditioned space must be tested for leakage.
- ✧ When tested in the rough-in stage without the air handler, the leakage must be not more than 4%.
- ✧ When tested in the rough-in stage with the air handler, the leakage must be not more than 6%.

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### ALABAMA ENERGY CODE

- ✧ When tested in the completed stage, the leakage to the exterior must be not more than 8%.
- ✧ When tested in the completed stage, the total leakage must be not more than 12%.
- ✧ The total building must be either tested with a blower door or the entire system must be rigorously tested per Table N1102.4.2 of the 2009 IRC.

100

### ALABAMA ENERGY CODE

- ✧ When tested in the completed stage, the leakage to the exterior must be not more than 8%.
- ✧ When tested in the completed stage, the total leakage must be not more than 12%.
- ✧ The total building must be either tested with a blower door or the entire system must be rigorously tested per Table N1102.4.2 of the 2009 IRC.

101

### BLOWER DOOR TEST



102



## ALABAMA ENERGY CODE

- ✘ Attic supply ducts must have a minimum of R8 insulation.
- ✘ Attic return ducts and supply and return ductwork in unconditioned basements and crawl spaces must have a minimum of R6 insulation.
- ✘ All joints and seams in ductwork, air handlers, and building cavities used as ductwork must be sealed with UL-181 tape, mastic, or mastic tape.

103

## FLEX DUCT



104

## HOW NOT TO DO FLEX DUCT



105

## HOW NOT TO DO FLEX DUCT



106

## ALABAMA ENERGY CODE

- ✘ Building cavities may not be used as supply ducts.
- ✘ All supply ducts must be lined with metal, flex duct, ductboard or other material approved in section M1601 of the IRC.
- ✘ Recessed lighting fixtures must be air-tight and IC-rated in areas with insulation and have a gasket or caulk applied between the fixture housing and the interior finish of the space.

107

## ALABAMA ENERGY CODE

- ✘ HVAC system piping capable of carrying fluids above 105°F or below 55°F must be insulated.
- ✘ Circulating hot water piping must be insulated. All pumps must also have either automatic controls or a manual control that is readily accessible to turn off the system when not in use.

108



### ALABAMA ENERGY CODE

- ✧ All outdoor intake and exhaust openings must have either gravity (self-closing) or automatic dampers that will close when the system associated with the air intake or exhaust is not functioning. To ensure that dampers close correctly, direction of airflow must be taken into account when installed.

109

### ALABAMA ENERGY CODE

- ✧ Framed spaces that connect conditioned areas to unconditioned areas above and below the chase (including attics, unconditioned basements, or vented crawl spaces) must be air-sealed (e.g., using sheet material and appropriate sealant). These areas include chases for plumbing, duct work, chimneys, and flues. Dropped ceilings/soffits between conditioned areas and the attic must also be air-sealed.

110

### ALABAMA ENERGY CODE

- ✧ At least ½ of all bulbs must be of high efficiency type (LED, compact fluorescent or type T5 or T8 linear fluorescent).



111

### ALABAMA ENERGY CODE

- ✧ Heat pumps must have thermostats that prevent strip heat operation when the demand can be satisfied by the heat pump alone.
- ✧ Site built masonry fireplaces must have an outside combustion air supplies and gasketed doors.

112

### ALABAMA ENERGY CODE

- ✧ Heated swimming pools with water temperatures greater than 90° F must have vapor retardant covers, a R12 blanket and timers to control the pool heaters and recirculation pumps.



113

### ALABAMA ENERGY CODE

- ✧ If a plan review is required, a complete set of drawings, specifications and energy code compliance documentation must be submitted.



114

## ALABAMA ENERGY CODE

- ✘ A permanent certificate is permitted (but not required in Alabama) on or in the electrical supply panel.
- ✘ The certificate must not interfere with the operation of the panel or its components.

115

## SAMPLE ENERGY CERTIFICATE

ENERGY EFFICIENCY CERTIFICATE OF COMPLIANCE

Address: \_\_\_\_\_

Parcel #: \_\_\_\_\_

REASONABLE COMPLIANCE PATH

Prescriptive R-Value ☐ Prescriptive U-Value ☐ Prescriptive Performance ☐

Component Values

Building Envelope Air Leakage: \_\_\_\_\_ Air Changes Per Hour (Max. 3) \_\_\_\_\_

Ceiling R or U-value: \_\_\_\_\_

Window Frame Wall R or U-value: \_\_\_\_\_

Mass Wall R or U-value: \_\_\_\_\_

Floor R or U-value: \_\_\_\_\_

Slab R-value: \_\_\_\_\_ Depth: \_\_\_\_\_

Crawl Space R-value: \_\_\_\_\_

Foundation U-value: \_\_\_\_\_ SHGC: \_\_\_\_\_

Skylight U-factor: \_\_\_\_\_

Duct Outside of Thermal Envelope R-value: Supply R-6 ☐ Other R-6 ☐

Duct System Air Leakage: \_\_\_\_\_ cfm per 100ft

Post Construction Testing: ☐ Rough-in Testing: ☐

Heating System Efficiency: \_\_\_\_\_

Cooling System Efficiency: \_\_\_\_\_

Water Heating Efficiency: \_\_\_\_\_

Basement Wall R-value: \_\_\_\_\_

Crawl Space R-value: \_\_\_\_\_

Gas Fired Unvented Room Heater: ☐

Electric Furnace: ☐

Backward Electric Heat: ☐

I certify the information contained on this certificate is true and complete.

Builder/Designer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

116

## SECTION 8. BUILDING CODES

- ✘ How do you determine which building code applies in the area in which you build?
  - + Contact the local building department (city or county).
  - + If no city or county building department, the 2009 International Residential Code applies in Alabama (adopted by the State Fire Marshal effective November 22, 2010).

117

## COMMON BUILDING CODE VIOLATIONS

- ✘ Improper sill to foundation anchoring,
- ✘ Improper notching or drilling of joists,
- ✘ Tampering with trusses,
- ✘ Foundations on uncompacted soil,
- ✘ Framing or siding too close to grade,
- ✘ Inadequate height in crawl space,
- ✘ Handrail balusters too far apart (4" max),

118

## COMMON BUILDING CODE VIOLATIONS

- ✘ Inadequate window egress in bedrooms,
- ✘ Joists and rafters too small for the span,
- ✘ Untreated lumber in contact with concrete,
- ✘ Wood framing too close to chimneys,
- ✘ Insufficient insulation,
- ✘ Backfill too high against foundation walls,

119

## COMMON BUILDING CODE VIOLATIONS

- ✘ Insufficient headroom at stairs (6'-8" min),
- ✘ Missing access panels at tubs,
- ✘ Inadequate chimney height above roof,
- ✘ Missing access to attic areas,
- ✘ Inadequate crawl space ventilation,
- ✘ Inadequate attic ventilation,
- ✘ Missing bridging and/or firestopping,

120



### COMMON BUILDING CODE VIOLATIONS

- ✘ Stair riser heights in excess of 7  $\frac{3}{4}$  ",
- ✘ Irregular riser heights,
- ✘ Stair treads less than 10" deep,
- ✘ Irregular tread depths,
- ✘ Handrails with improper grasping surfaces, and
- ✘ Handrails less than 34" or greater than 38" above the leading edge of the tread.

121

### FOR ADDITIONAL HELP...

Take the NAHB Building Codes, Standards and Guidelines course available through the Home Builders Association of Alabama.

122

### SECTION 9. HBLB LAW AND RULES

- ✘ All residential home builders are required to be licensed by the Home builders licensure Board.
- ✘ Licenses are issued or renewed annually upon payment of the license fee.

123

### SECTION 9. HBLB LAW AND RULES

- ✘ The term "Residential Home Builder" includes:
- ✘ New construction, remodeling or repair in excess of \$10,000
- ✘ Roofing in excess of \$2,500

124

### HBLB LAW AND RULES

- ✘ A license is valid for the calendar year and expires on December 31<sup>st</sup>.
- ✘ Licenses can be renewed beginning October 1<sup>st</sup>.

125

### HBLB LAW AND RULES

- ✘ License renewals not postmarked by November 30<sup>th</sup> require the payment of the licensing fee plus a late fee of \$50.

126



### HBLB LAW AND RULES

- ✘ License renewals not renewed by December 31<sup>st</sup> are expired and require the filing of an expired license application and the payment of the licensing fee plus an expired application fee of \$350.
- ✘ *Must be post marked by NOV 30.*

127

### HBLB LAW AND RULES

- ✘ You must operate your construction business in the same manner that you are licensed.
- ✘ For example, if you are licensed as an individual, you must operate your business as an individual.

128

### HBLB LAW AND RULES

- ✘ Licenses are issued to individuals, partnerships, corporations, LLCs and to not for profit organizations.
- ✘ The individual or organization applying for the license must meet all of the requirements.

129

### HBLB LAW AND RULES

- ✘ An organization applying for a license must designate a qualifying representative that is a general partner, officer, member or manager and is an individual license holder or is qualified by experience and ability.

130

### HBLB LAW AND RULES

- ✘ The name of the qualifying representative and the name of the organization must appear on the license.

131

### HBLB LAW AND RULES

- ✘ If the qualifying representative ceases to be a partner, officer, member or manager for any reason, including but not limited to death, the entity must notify the Board immediately.

132

### HBLB LAW AND RULES

- ✘ Unless that person is replaced with another qualifying representative within 45 days, the license will be revoked.

133

### HBLB LAW AND RULES

- ✘ If the name or address of the license holder changes, the Board must be notified within 60 days.
- ✘ If the notice is not given, the license expires 60 days after the name or address change.

134

### HBLB LAW AND RULES

- ✘ After the Board receives the application, the Board may examine the applicant with respect to experience, ability, character, business-related financial condition, ability and willingness to serve the public and any other pertinent information the Board may require.

135

### HBLB LAW AND RULES

- ✘ A home builder license may be issued with limitation or without limitation.
- ✘ A with limitation license is limited to the “repair, improvement or reimprovement” of a residence or structure.

136

### HBLB LAW AND RULES

- ✘ “Repair, improvement or reimprovement” of a residence or structure means residential work in excess of \$10,000 that does not involve structural integrity or the work of more than one trade.

137

### HBLB LAW AND RULES

- ✘ A without limitation license allows for residential construction not more than 3 stories in height and having not more than 4 units.
- ✘ A Residential Roofer license is needed for roofing work in excess of \$2,500.

138

### HBLB LAW AND RULES

- ✘ An individual or firm with an Alabama General Contractor License number 18,907 or lower may perform residential construction without holding a Home Builder license.

139

### HBLB LAW AND RULES

- ✘ The term “RESIDENTIAL HOME BUILDER” includes the category of “RESIDENTIAL ROOFER” when the cost of the roof covering work exceeds \$2,500.
- ✘ Anyone advertising or otherwise promoting their firm as a home builder, is deemed to be engaged in residential home building.

140

### HBLB LAW AND RULES

- ✘ A licensee may, while properly licensed, file with the Board an application for Inactive status.
- ✘ The Inactive status serves as a “place holder” during the time that the licensee is inactive as a home builder.

141

### HBLB LAW AND RULES

- ✘ The application must be accompanied by the payment of the required fees.
- ✘ The licensee must reactivate the license before entering into a contract where the license is required.

142

### HBLB LAW AND RULES

- ✘ Each licensee must notify the Board in writing within 10 days of the notice of the rendering of a felony criminal charge against him or her or that a criminal charge has been dismissed.

143

### HBLB LAW AND RULES

- ✘ The notifications must be sent by certified mail and include a copy of the complaint or criminal charge.

144



### HBLB LAW AND RULES

- ✘ Licensees must immediately notify the Board of any change in their address or phone number.

145

### HBLB LAW AND RULES

- ✘ Licensees must use valid written construction contracts when engaging in home building.
- ✘ The contract must include both “offer” and “acceptance” and be signed by both parties.

146

### HBLB LAW AND RULES

- ✘ The contract should be written to express the “meeting of the minds”.
- ✘ Licensees should use written change orders (written ones are better).

147

### HBLB LAW AND RULES

- ✘ Home builders are required to provide written notice to the owner as to the status of their liability insurance.

148

### HBLB LAW AND RULES

- ✘ Home builders are also required to provide written notice to the owner as to the enhanced resiliency of the structure (beyond that required by the Code) prior to commencement of construction work.

149

### HBLB LAW AND RULES

- ✘ Incompetence is defined as when a licensee fails to perform in a reasonable manner and below the community’s home building standards including the lack of proper supervision of subcontractors.

150

## HBLB LAW AND RULES

- ✘ Misconduct is defined as intentionally making assertions that are fraudulent, deceitful or misleading to a homeowner.

151

NEW SLIDE

## HBLB LAW AND RULES

- ✘ Misconduct also includes using your license to assist unlicensed home builders, including but not limited to obtaining building permits on their behalf.

152

## HBLB LAW AND RULES

- ✘ Before construction begins a licensee should obtain and use a set of construction plans.
- ✘ A licensee must purchase the necessary city/county permits for the work.

153

## HBLB LAW AND RULES

- ✘ A licensee should identify the building code to which construction must comply.
- ✘ A licensee must call for all necessary inspections in a timely manner.

154

## HBLB LAW AND RULES

- ✘ If you are in the business of constructing or assisting on-site in the construction of new single-family, detached residential dwellings, the Alabama Workers' Compensation Law requires you to have workers' compensation insurance coverage for all of the employees on the job site.

155

## HBLB LAW AND RULES

- ✘ The Board may revoke or suspend the license in case of fraud or deceit in obtaining the license.
- ✘ The Board may revoke or suspend the license in case of gross negligence, incompetence or misconduct.

156



### HBLB LAW AND RULES

- ✘ In the event of any such actions by the licensee, the Board may impose and collect the actual costs of the hearing.
- ✘ The Board may also require the licensee to complete educational requirements in addition to fines of up to \$5,000 for each violation.

157

### HBLB LAW AND RULES

- ✘ Homeowners may recover economic damages (not interest or court costs) due to violation of the rules and regulations by a licensee.
- ✘ Total payments for all claims against any licensee may not exceed \$60,000.

158

### HBLB LAW AND RULES

- ✘ No individual claim may exceed \$20,000.
- ✘ If any amount is paid from the homeowner's recovery fund, the Board may terminate the license.

159

### HBLB LAW AND RULES

- ✘ The Board may refuse to issue a new license to the licensee until the amount is repaid plus 12% interest.
- ✘ Bankruptcy of the licensee will not relieve the licensee from this repayment.

160

### CELEBRATE! WE'RE THROUGH!



161