Minimizing Construction Time
National Self-Help Housing Conference, February 4, 2020

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Welcome!

- Introductions
- Presentations
- Round table discussion
- Report back
- Sign-in sheet
Self-Help Housing Program
Methods of Construction

New Construction- Mutual Concept
- *Method by which participating families are organized into groups and utilize their own labor to lower the cost of the newly constructed homes.*
- Participants have to meet 65% of labor contribution (tasks listed in Exhibit B-2)

Acquisition Rehab and Owner-Occupied Rehab
- *A method by which a family utilizes their own labor to create a “cost savings” in a home that they are in the process of acquiring or in a home that they currently own and reside in.*
- Participants’ labor contribution is recommended to be 10 hours for every $1,000 in self-help repairs
Contractor-Built vs Self-Help Housing

**Contractor-Built**
- Shorter timeframe
- Skilled labor
- Ninety days to build a home

**Self-Help Housing**
- Homeowner working on their homes
- Unskilled labor
- One year to build home

**Other**

*Construct*: to form by assembling parts
What Causes Construction Delays?

Housing Industry

There are many factors that cause construction delays and some of the most common are:

- Inadequate planning
- Labor and materials handoffs
- Owner changes/change orders
- Injuries
- Weather
Waste percentages of time in manufacturing and construction

Non-productive time in construction
Willian Tualau Fale
Can you speed up your construction projects?

There are many factors that can improve construction efficiency and some of the most common are:

- Planning
- Scheduling
- Construction Safety
- Training
- Construction Project Management Skills
Planning
...Planning and Scheduling
...Scheduling

The need to complete the project within a certain time frame or by a specific date

Cost Estimating and Budgeting

An approximate computation of probable costs. A detailed analysis of every item
Working Safely on the Construction Site

The key factors in creating a safe environment and reducing accident rates are

- Promoting a positive attitude towards safety
- **TRAINING**
  - Toolbox Meetings
  - Weekly safety meetings

Weather

- Prepare your construction sites for severe weather
- Practical tips for working in warm or hot conditions
Construction Project Management

What is Construction Management?

*Is a professional service that applies effective management techniques to the planning, design, and construction of a project from inception to completion for the purpose of controlling time, cost and quality*  
- Construction Management Association of America (CMAA)

*The art of directing and coordinating all resources throughout the life of a project*  
- Project Management Institute (PMI)
Construction Project Management

What are your responsibilities as a Construction Project Manager?

- Project Chronology/Pre-During-Post- Construction
- Project Planning and Scheduling
- Estimating Project Costs/Budgeting/Financing
- Bidding and Procurement
- Construction Contracts: Contract Administration
- Drawings and Specifications/Information Technology
- Controlling Project Cost, Time, and Quality
- Job Site Administration/ Reports
- Close- out
- Construction Law
- Regulatory Authorities
- Liability/Insurance/Bonds
- Ethics/ Professional Responsibility
- Construction Safety and Health

According to the CMAA, Construction Project Managers average about 120 responsibilities
The Profession, Project Participants, Company Organization, Managing a Construction Business, Project Delivery Methods
Construction Project Management
Self-Help Housing

The Construction Supervisor

Must be skilled in:
• The concepts and practices of construction management
• Managing groups of unskilled labor and providing instruction in construction methods and safety procedures

Must be well versed in:
• Local and National Building Codes/ Regulations/ RD requirements

Must be a good:
• Supervisor, Coordinator, Instructor, Inspector, Troubleshooter, Counselor, Mediator, Motivator

It is not the Construction Supervisor’s job to build the homes – but to train and supervise the participating families in building their own homes!
Easy Ways to Improve Construction Efficiency

- Careful planning
- House Plans
  - Simple floor plan, simple process, simple roof lines, simple maintenance...
- Change Orders
  - Build homes according to plans: DO NOT ALLOW ANY CHANGES!
- Give sub-contractors plenty of notice when they will be needed
- Optimize use of materials
  - Value engineering vs conventional framing
  - Green building
- Make sure materials are on build site when needed
- Prepare for inspections
- Process timely payments
  - Verify delivery of materials and completed work
- Maximize the building season
- Identify alternatives…Plan B and C
Easy Ways to Improve Construction Efficiency

- **Self-Help Participants**
  - Establish a work schedule and start on time (weekends, evenings)
  - Be productive on site/ their time has value
  - Set reasonable goals
  - Keep group sizes adequate to make them efficient
  - Create a safe work environment, safety practices
    - Use of safety personal protection equipment (safety glasses, harnesses, hardhats etc.)
    - Proper use, maintenance and storage of tools/materials
  - Build a friendly and productive working relationship
  - Establish ground rules for meetings and job site
    - Behavior, mutual respect, dress code, limited use of cell phones, no children and no one under the influence allowed on job site
  - **Be firm and fair**
Training the Self-Help Participants

- Team Work
  - Grantee’s Self-Help Team
  - Self-Help Participants
    - Mutual Concept
    - Rehab

- TRAINING
Software, Tools, Equipment

Construction Project Management
- Microsoft Project
- Buildertrend
- CoConstruct
- Procore
- Buildtools
- Excel
- Excel
Self-Help Homes
Self-Help Homes
Self-Help Homes
### Pre-Construction Tasks/Non-Construction Self-Help Housing

<table>
<thead>
<tr>
<th>1.</th>
<th>Feasibility</th>
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<tbody>
<tr>
<td>2.</td>
<td>Planning</td>
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<td>3.</td>
<td>Design</td>
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<td>4.</td>
<td>Scheduling</td>
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<td>5.</td>
<td>Cost Estimating</td>
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<td>6.</td>
<td>Procurement</td>
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<td>7.</td>
<td>Selection Sub-contractors</td>
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<td>8.</td>
<td>Selection/Ordering Materials</td>
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<td>9.</td>
<td>Grantee Team</td>
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<td>10.</td>
<td>Participants</td>
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<td>11.</td>
<td>Training</td>
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<td>12.</td>
<td>Meetings</td>
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<td>13.</td>
<td>Reports</td>
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<td>14.</td>
<td>Safety</td>
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<td>15.</td>
<td>Weather</td>
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### Construction Tasks Self-Help Housing

<table>
<thead>
<tr>
<th>1.</th>
<th>Excavation</th>
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<tbody>
<tr>
<td>2.</td>
<td>Footing, Foundations, columns</td>
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<tr>
<td>3.</td>
<td>Floor slab or framing</td>
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<td>4.</td>
<td>Subflooring</td>
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<td>5.</td>
<td>Wall framing sheathing</td>
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<td>6.</td>
<td>Roof and ceiling framing, sheathing</td>
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<td>7.</td>
<td>Roofing</td>
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<td>8.</td>
<td>Siding, exterior trim, porches</td>
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<td>9.</td>
<td>Windows and exterior doors</td>
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<td>10.</td>
<td>Plumbing - roughed in</td>
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<td>11.</td>
<td>Sewage disposal</td>
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<tr>
<td>12.</td>
<td>Heating - roughed in</td>
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<tr>
<td>13.</td>
<td>Electrical - roughed in</td>
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<tr>
<td>14.</td>
<td>Insulation</td>
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<td>15.</td>
<td>Dry wall</td>
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<td>16.</td>
<td>Basement or porch floor, steps</td>
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<td>17.</td>
<td>Heating - finished</td>
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<td>18.</td>
<td>Flooring covering</td>
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<td>19.</td>
<td>Interior carpentry, trim, doors</td>
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<td>20.</td>
<td>Cabinets and countertops</td>
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<td>21.</td>
<td>Interior painting</td>
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<td>22.</td>
<td>Exterior painting</td>
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<tr>
<td>23.</td>
<td>Plumbing - complete fixtures</td>
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<tr>
<td>24.</td>
<td>Electrical - complete fixtures</td>
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<td>25.</td>
<td>Finish hardware</td>
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<td>26.</td>
<td>Gutters and downspouts</td>
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<tr>
<td>27.</td>
<td>Grading, paving, landscaping</td>
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Best Practices

• What tools and strategies have you implemented to streamline your work?

• What best practices for minimizing construction time do you wish to share with your colleagues?
The End!

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