**Texas Ramp Project Newsletter Article**
June 2021

# Building Basics
## Introduction and Modules

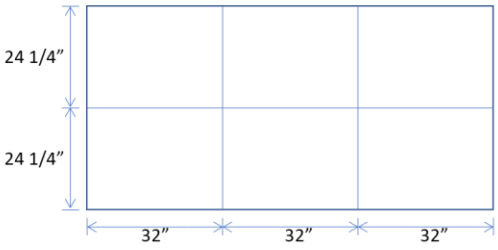
Last month we covered the survey process and I received a couple questions about the use of 5x5 modules which will be specifically covered in a future newsletter. Please send any comments or questions about last month's column or this one to royh85@verizon.net.
This month, we'll start with a ramp build planning overview and one version of module designs with diagrams and a list of the needed lumber. There are lots of steps needed to get prepared for a ramp build day which may all be done by the team leader or distributed to a couple team members. The steps below are not comprehensive but do highlight the things to be considered.

- From the survey, determine the materials needed paying special attention to modules that will be more than 30" above the ground which will need concrete piers/Dek blocks and balusters
- Plan and schedule pickup and/or delivery of the needed materials
- Most ramps require 1 volunteer hour per constructed foot, i.e. a 40' ramp will require approximately 4 hours for a team of 10 to build. Removal of existing ramp, balusters, skirting and other complications will require additional time.
- Determine build date and notify recipient and volunteers. Communication should include:
    - Start and estimated end times
    - Volunteer meeting location
    - List what will be provided, i.e. which tools, water, first aid kit, etc.
    - What should volunteers bring i.e. tools, water, gloves, weather appropriate clothing, etc.
- A sample worksite checklist is available later in the complete TRP Ramp Build and Design Guidelines document.

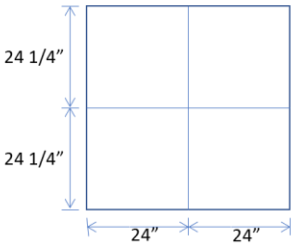
The modules can be built either ahead of time, such as in a TRP warehouse, or at the build site. The module layouts and lumber needs shown below are intentionally designed to be 48 ½ inches wide to simplify installation of the plywood. I know many warehouses and teams build modules that are 48" wide which is also just fine. Again, feedback is welcomed as we would like to learn about any improvements to the traditional TRP design and build process.

# MODULE LAYOUTS FOR RAMP CONSTRUCTION

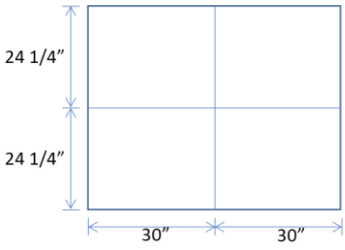
48 ½" x 8' module structure



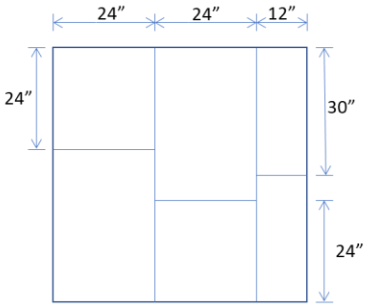

48 ½" x 4' module structure



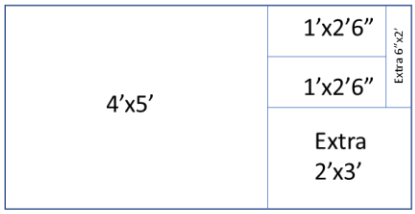

48 ½" X 5' module structure



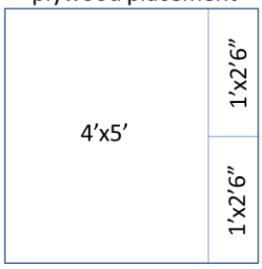

5'x5' module structure



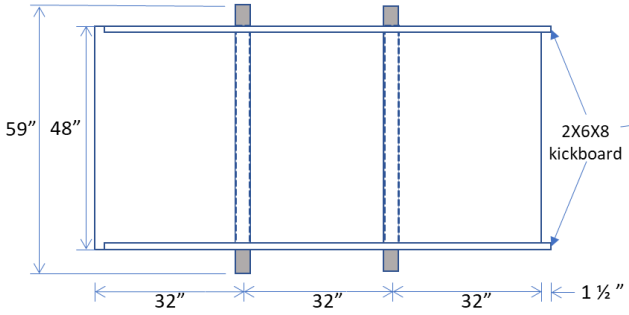

5'x5' module plywood cutting



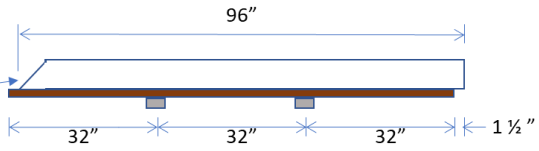

5'x5' module plywood placement




4' x 8' tail module structure top view




4' x 8' tail module structure side view




- Build this module upside down
- Start with a 4' long 2x6 header bolted to the end of the last standard module just like all other module connections
- Cut two 96" 2x6's with 45-degree angle across the flat surface on one end for final module kick boards
- Lay 4'x8' plywood sheet (good side down) on top of the long, pointed edge of the 2x6 kick boards with the square ends extending 1-1/2" past the end of the plywood
- Align the kick boards along each edge of the plywood and screw through the plywood into the kick board about every 18"
- Cut two 2x4's 59" long and center them flat on the bottom of the starter module at 32" from each end
- Attach these support 2x4's with screws through plywood into kickboards from the underside
- Cover the end of the module where the kick boards are angled with a ¾"x48" shelf standard to prevent delamination

- Flip this module over and put a couple screws through plywood into each of the two support boards

**Lumber needed for the modules assuming 8' length:**

4x8 module consists of: 2 pcs 45 ½", 2 pcs 96", 1 pc 93", 4 pcs 22" 5 2x6 total
4x4 module consists of 2 pcs 48", 3 pc 45 ½", 2 pc 22" 3 2x6 total
5x5 module consists of: one 4x8 plywood, 2 pcs 60", 4 pcs 57", 2 pcs 22 1/8", 1 pc 9 ¾" 6 2x6 total
4x5 module consists of 2 pcs 60", 1 pc 57", 2 pcs 45 ½", 2 pcs 22" 4 2x6 total
4x8 tail module consists of one 4x8 plywood, 2 pcs 2x4x59", 2 pcs 2x6x8'
Additionally, every foot of length requires 0.75 2x4x8 and 0.375 2x4x10 for uprights and handrails