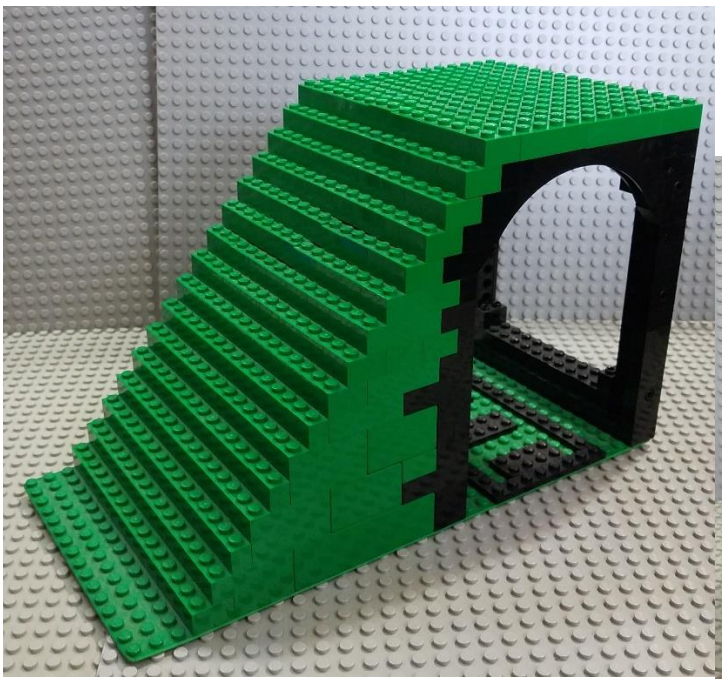
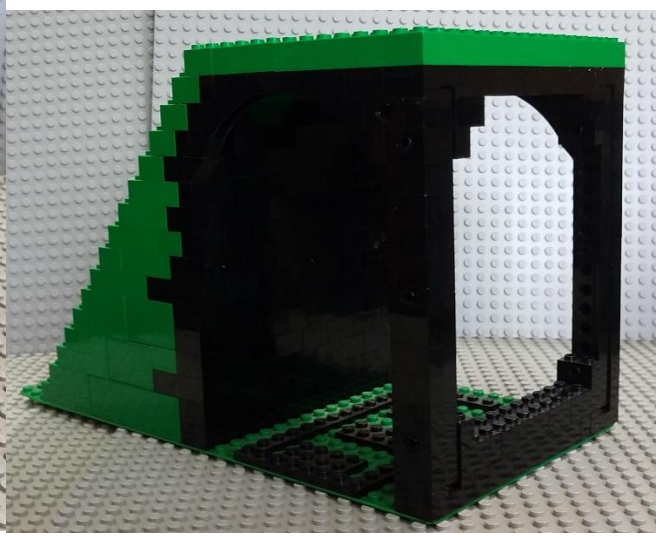
# PSLTC Hill Modules

Thomas Garrison
First Published: June 8, 2022
Last Updated: July 31, 2022

## Purpose

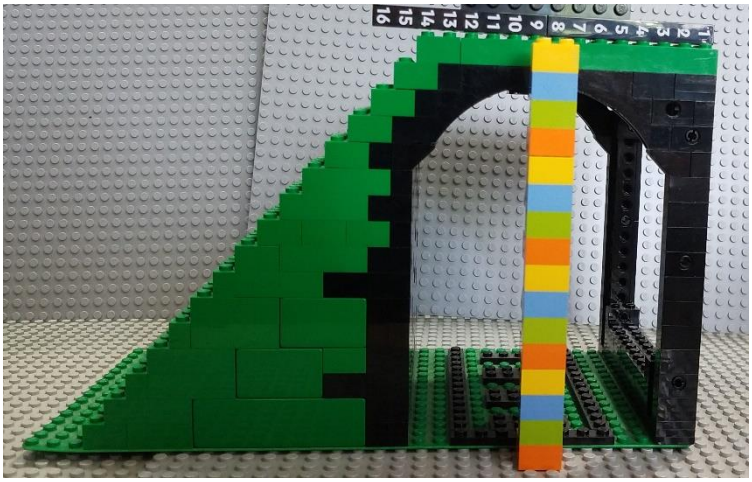
The Puget Sound Lego Train Club uses standardized hill modules for three purposes: to provide simple terrain variation, to increase visual interest by allowing trains to run at different elevations (and vanish inside tunnels), and to cover the transition between tables set at different heights. This is done in a modular fashion so the hills can be easily and flexibly reused for different layouts and so any member can contribute easily-made modules that will fit together with other members' modules. The consequence of this modularity is that landscape made from hill modules tends to be less natural and aesthetically pleasing than landscape built by a single builder as landscape. Note that modules are designed to be nominally 10 inches deep and 6 inches tall.



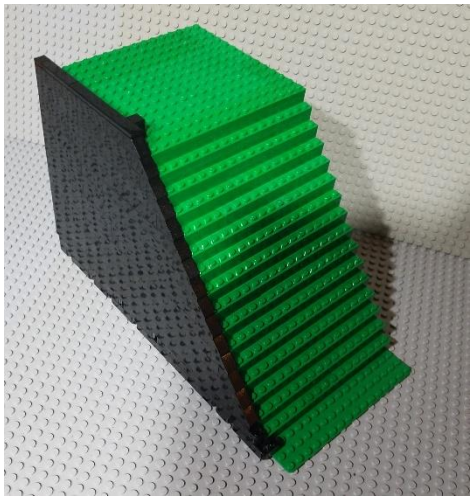


## Standards

Hill modules are built on green 32-stud-deep baseplates and are multiples of 16 studs wide (usually 32, 48, or 64 studs wide). At the rear of each module at the 16-brick height the module should have 13 or 14 studs of flat, unadorned green to accommodate possible track in the standard track position. A good option is the ability to add terrain or scenicked material to this area when track will not be present. The dominant color scheme from the front of the module is green, while the primary color scheme from the back is black with some visible green. (Hill modules are frequently placed on the back edge of tables whence the back can be seen from the other side of the layout.) On both



edges, the part visible from the front is green, with three bare studs and then a profile of one brick rise for every stud over until the height reaches 16 bricks. Note that this profile should not be maintained between the edges, as that is very boring. Unless the module's design precludes it, modules should accommodate trains running under them by being open from 3 to 14 studs from the back to a height of at least 11 bricks (and 14 bricks at the 8.5 studs from the back point, which is the center of the tunnel). The sides of the module can always be assumed to be hidden, either by another module or by an endcap of some kind. Modules can have a Technic pinhole at the 14-brick height 2.5 studs from the back to help alignment (using a Technic pin or axle pin); connecting modules with 1x4 green plates also helps greatly with alignment.



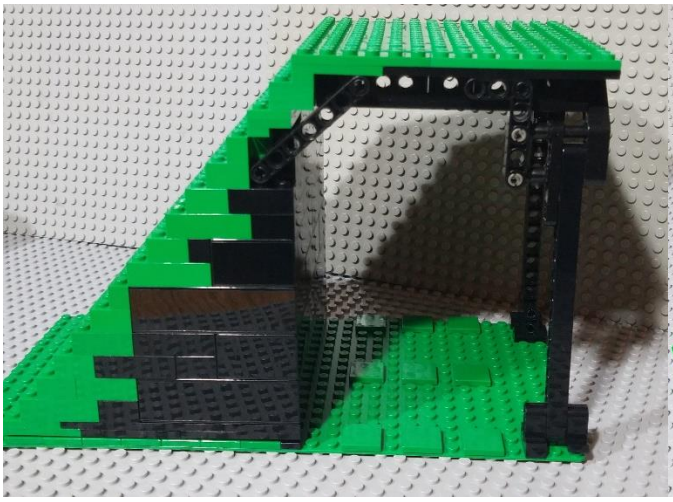
Here is a module with endcap applied for an exposed-edge-of-table situation. Note that the endcap extends one stud beyond the module, so a different solution would be needed for a table with Plexiglas on its edges.

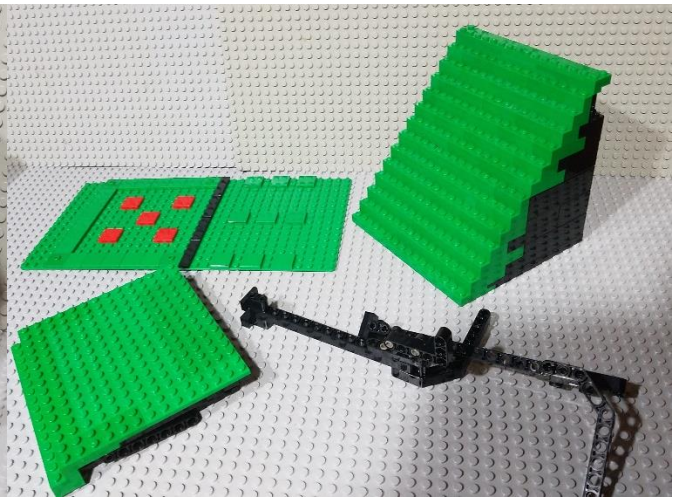
## History

The PSLTC hill module standard was inspired by the Central Ohio Lego Train Club (COLTC) hill module standard (https://news.lugnet.com/trains/?n=26748). PSLTC initially used black plates on the hilltop surface (where COLTC used gray), but now uses no plates at all as they did not match up with PSLTC track ballast when there was track on the top of the hill and looked odd when there was no track.

## Construction

Although the hill module standard was designed to make it easy to make a module with a baseplate and a pile of 2x4 green bricks, what is crucial is that the width be a multiple of 16 studs, the hill profile at the edges, the level top, and the space inside to run trains. Builders of modules can and should design around available parts and future storage and transportation (since modules exist to be taken to train shows). For example, since modules include a lot of air, they can be designed to pack flat for transport. This means increased complexity and cost but allows more to fit in each container or vehicle.

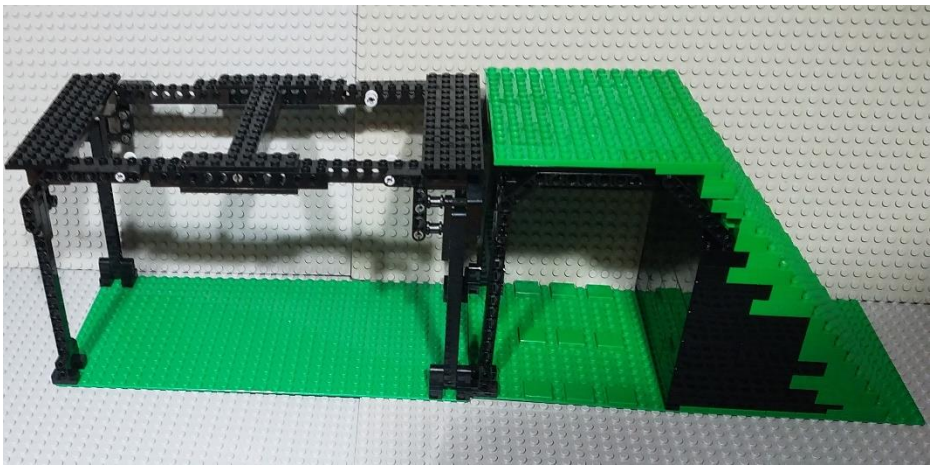




This is fifty inches of hill modules (including a pair that transitions from the green hill profile to a dark gray cliff profile) packed into one Really Useful Box® 32 Litre US box (essentially a plastic letter/legal file box with roughly 11”x14”x11” interior dimensions).

## Behind the Hill

Modules are great on the edge of a table, either at the back of a layout or backed against a 16-brick-higher adjacent table, but there are many situations where they are not against the edge of the table. This is common when the size of the lower “valley” area and the size of the table do not differ by exactly the 32-stud depth of a hill module or hill module curves are used to make a U-shaped or oblong hill. The most encountered situation is when a train runs into a tunnel with the track perpendicular to the run of the hills; visually, having a train vanish (and eventually reappear) is exciting. Tables rarely come in the odd sizes called for in the former situations; in the latter, it becomes evident that the 14-brick height allowance for trains from hill modules is required and no flat tabletop is only two bricks thick; trains cannot run on a table that is under another table with a 16-brick height difference top-to-top. For these situations, ¼-inch plywood with supports may provide a surface, but the most reliably in-System and flexible solution is to brick-build an elevation system. This can be done with supports that throw a lot of Duplo and brick at the problem. A more delicate approach may be needed when planning to run trains under the elevation (particularly to account for the clearances around curves).



# Examples of Hill Modules

Modules can come in more-or-less straight configurations, include 90-degree corners (inside or outside), incorporate railroad tunnel portals to allow trains to run straight into or under the hills, include road tunnel portals, transition to rail bridges or elevated rail (at the 16-brick height), or do many things as yet unimagined.

]