

Modular Integrated Landscaping System (III)

In this third article we will see new elements within the category of Compatible Terrain Modules (CTM). These new elements are hills and mountains.

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All modules seen so far were related to landscape with borders at surface level. But now, we are going to see a new type of construction with hills and mountains, as their respective modules need to be compatible in different height configurations.

CTM modules (Compatible terrain module).

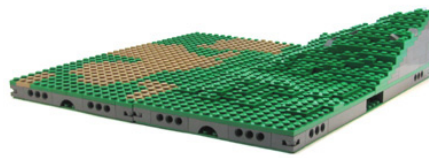
First of all, we are going to remember some of the things seen in past articles. The CTM modules have a measure of 32x32 studs, and they are intended to fulfil some conditions: they must have at least one side compatible with MILS rules but not all. And it is not compulsory that they can be oriented freely inside the diorama.

These modules are intended to be used to build rivers, roads, shores, hills or mountains. The first ones were reviewed in the last issue, so it is time to see the hill and mountain modules.

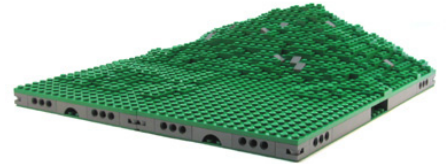
CTM: Hills

These modules are intended to be part of hills or undulating landscape with soft slopes. When these types of terrain take up in a surface larger than 32x32 studs, it is time to use the hills modules. A hill can be constructed with an undetermined number of modules. These modules will contain in its 32x32 surface part of the hill, and they can have one, two three or the four sides as part of the hill. The number of different possibilities to build a hill is very large, because hills can have many different heights, different slopes and different shapes.

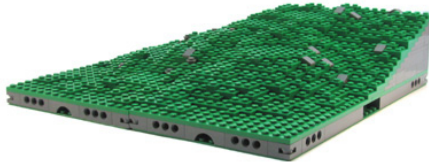
Examples of hill modules



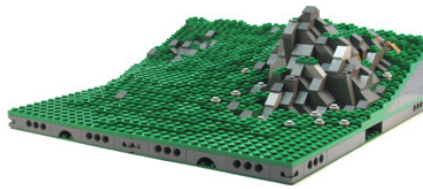
Hill null-null-short-short step



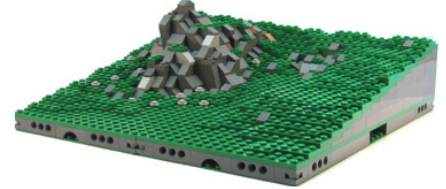
Hill null-null-double short-null step



Hill null-null-short & full-short step



Hill null-short-full-short step



Hill null-long-full-long step

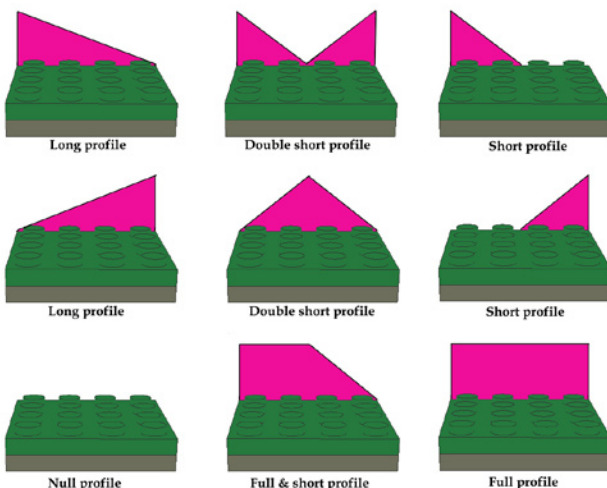
In order to have an easy compendium of rules, in the MILS system all the variants have been simplified to a few options. It is very important to remark that MILS rules are applied in the joining sides of the modules, so the rest of the module can have different sloping or height. This means that whenever a builder wants to build his own hill, with measures, height or slopes that are not compatible with MILS rules, he can do it. And if he wants to join that hill to constructions of other builders he only needs to change the sides intended to be the common joining part. The changes will consist on making those common sides compatible with MILS rules, but there is no need to change the rest of the hill. The same can be said for the rest of the elements shown in the articles of MILS system. As an explanation, the reason why all the modules of the HispaBrick Magazine® team shown in the pictures are MILS compatible, is because we are trying to develop the system of landscaping as a reference to show the efficiency of the MILS system, one of the main objectives of the MILS system is to be used with other landscaping elements which are not related with MILS rules.

We want to make the MILS rules as simple as possible. So we have defined a new concept: the profile. A profile is the shape that the side of a module must have. The MILS rules

reduce the available profiles to a few options, so it is very easy to know all the possibilities to make a hill module that is compatible with MILS system. These profiles will be the templates to mold all the sides of hill modules. When two different hill modules are going to be joined they must have the same profile in the common sides. This is a key factor to get a continuous landscape without gaps or inconsistent jumps.

These are the four profiles that have been defined:

- Null profile, this means that the module side has the same height as the surface of the module.
- Long profile, this means that there is a line climbing up 1 plate for every 2 studs. It starts at the level of the module surface in one corner and reaches a height of 5 bricks at the other corner of the side. This theoretical line will be the limit of the height the hill must have on that side. Under that line it is possible to build a solid construction or a gap, depending on the criteria of the builder.
- Short profile, this means that there is a line climbing up 1 plate for every stud. It starts at the level of the module surface in one corner and reaches a height of 5 bricks on the other corner of the side. This line covers only half of the side of the module, and will always have one extreme in one end of the side and the other extreme in the center of the side. It is possible to have two short profiles with one sloping line ascending and another sloping line descending.
- Full profile, this means that the whole side has a height of 5 bricks over the surface of the module.



As seen, the maximum height of the hill in the sides is 5 bricks over the standard height of a MILS module. This does not mean that all the hills have to be 5 bricks high, they may be higher or lower than this measure in the rest of the module, but in the sides that will be in contact with other modules they will have to fulfil the height of his type of profile. This height may have a variation of 1 plate above or below in the sides of the module.

Each hill module can have any combination of these profiles. The easiest modules will be constructed with some sides at surface level, and another two sides with a sloping profile, such as the corner of a hill. The most complex modules will have four sides with sloping profiles and full profiles. In order to get a common way to identify the different types of modules used to form a hill we have defined a nomenclature based on the type

of profiles of the module. To start the definition of the module we begin with the nearest side, usually the lowest side, and we choose the most appropriate term: short, long, null,... and then we continue with the rest of the sides clockwise, labelling the four sides. This is the way to ease the identification of the type of hill module we are talking about.

For example, if we want to build a hill null-short-long-null, this means we want to build a corner of a hill.

The process of building a hill consists of make some modules with sides that are compatible between them. The simplest hill is made up of only one module, a corner part of the hill. With many modules it is possible to construct complex hills, of a great variety of shapes.

For the hill we have chosen to use green parts in order to be very compatible with the modules we have explained in past issues. It is also recommended to add some parts in gray and tan to create a more varied landscape.

CTM: Mountains

These modules will be used to build mountains that need more than one 32x32 studs module. The mountains are similar to the hills, but with more inclination and with a more rough and rocky look.

These modules will contain a part of the mountain in their 32x32 surface, with one, two, three or the four sides as part of that mountain. The number of possibilities to build a mountain is very high, so that MILS rules are simplified to a few options in order to be easier to apply. This does not imply that all the mountains have to be the shapes defined by the MILS rules. Any mountain with a geometrical design not related to MILS rules can be compatible with those ones that fulfil the rules just by making some of its sides compatible with the rules we are going to define.

In order to simplify the MILS rules, the system chosen to depict the way of building the mountain modules is very similar to that used in hill modules. This means everything stated in the hills section can be applied to the description of the rules for mountain modules. In the case of mountains these are the types of profiles we have:

- Null profile, this means that the module side has the same height of the surface of the module.
- Long profile, this means that there is a line climbing up 1

brick for every 2 studs. It starts with one brick above the level of the module surface in one corner and reaches a height of 16 bricks in the other corner of the side. This theoretical line will be the limit of the height that the mountain must be on that side. Under the line it is possible to build a solid construction or a gap, depending on the criteria of the builder.

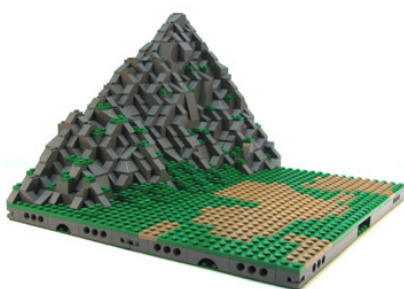
- Short profile, this means that there is a line climbing up 1 brick for every stud. It starts at one brick over the level the module surface in one corner and reaches a height of 16 bricks in the other corner of the side. This line covers only half of the side of the module, and will always have one extreme in one end of the side and the other extreme in the center of the side. It is possible to have two short profiles with one sloping line ascending and another sloping line descending.
- Full profile, this means that the whole side has a height of 16 bricks over the surface of the module.

As can be seen these are the same criteria applied to the hills modules. The main differences are the inclination, which is more sloped in the mountains, and the starting height, which is placed at 1 brick above the surface of the module in the case of mountains. All these things mean that the maximum height in the joining area will be 16 bricks. This by no means should be taken as a maximum height for the mountains. This is the height in the sides compatible with MILS rules, in the rest of the module the mountains could be higher. In the case of mountains, the deviation for this rule is 1 brick below or over the theoretical height line of the corresponding profile.

The same nomenclature system for the hills modules is valid for the mountains modules. The hill word is changed for mountain, and beginning with the lower side, which is oriented nearest, the profile of the sides is described clockwise. This is the same system explained with the hills. For example: Mountain null-short-long-null could be a module with a corner of a mountain.

We only need to construct the appropriate modules to create a mountain. Each mountain can be built in many different ways, some very simple and some others very complex. The simplest mountain can be made with a single module of null-short-short-null steps type to be located in a corner of a diorama, and the most intricate mountain full of ravines and canyons will need dozens of modules to be done. That's the builder choice to decide what he wants to do.

Example of mountain modules



Mountain
null-long-short-null step



Mountain
null-short-long-null step



Mountain
null-null-double short-null step

The main parts used to build and represent the rocky aspect the mountains are the dark bluish gray slopes and dark bluish gray bricks. In order to avoid a symmetric or artificial look the use of green and dark tan pieces is highly recommended. The green part could be used in the less sloped parts of the mountain. There is no need to make all the mountains in the same color, but to prevent strange color effects in the layouts in the mountains is highly recommended to use mainly dark bluish gray in the common sides. The addition of mottled elements in green and dark tan will result in more realistic mountains.

Multilevel Hills and mountains

Although the rules described seem to limit the height of the MILS compatible hills and mountains, this is all but true. There is the possibility to build hills and mountains in several height levels. Enough modules with a "Full" profile on at least one of their sides are needed to delimit an area of the diorama. This area can be elevated to the level of its surrounded modules and be used to put new hill modules or mountain modules above it. This is the way to increase the height of the hills and mountains.

There are no rules for this type of constructions, for the moment, because these constructions involve many different possibilities, and it is something against the simplicity of the MILS rules. This could be a future development for an advanced set of MILS rules.

Mixing different types of terrain

Until now all types of modules have been described to reflect a unique type of terrain. We have modules for rivers, modules for hills, modules for roads and so on. But MILS rules also allow

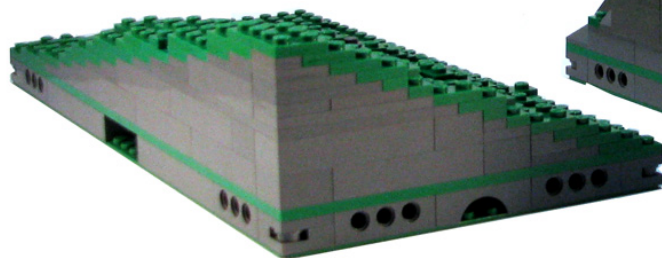
the combination of different types of terrain in one module. There is no problem to mix them, you just have to apply the sum of the rules for every type of terrain in that module. For example, a module with a hill can contain a path, and the path must have its ends in the middle of the module side, with the width designated for that kind of way, but the height is determined by the hill shape at the edges of the module. Of course, the union of different types of land will have to be done in a consistent manner, in order to avoid crazy land layouts.

The builder does not need to make a strict interpretation of the rules, he can use them when he needs. As an example, if one person wants to build two adjacent modules to create a hill, in order to use them in cooperative dioramas, he is only required to respect the MILS rules in the perimeter of his hill, but he is free to do whatever he wants inside those two modules. That is the reason why we are always emphasising the fact that the MILS rules are mainly intended to be used in the joining areas between modules of different builders.

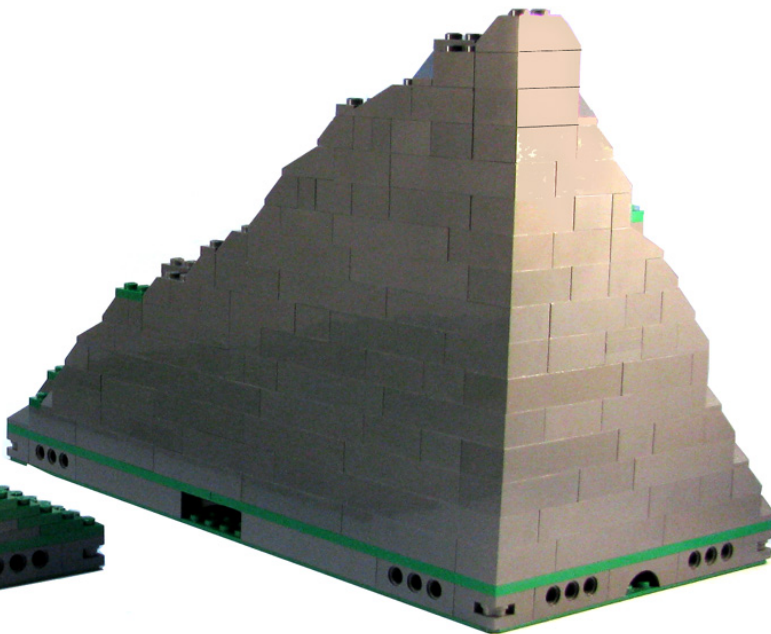
We have prepared a web site in order to show a compendium of these rules, some examples of our modules and displays built to test the MILS system, and resolve any questions. You can it at: <http://www.abellon.net/MILS/index.html>.

In the next issue we will talk about the transition modules (TTM) and a little about mixed modules. Furthermore, we will show detailed pictures of our MILS dioramas that will be shown at the HispaBrick Magazine® Event 2012.

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Colina / Hill



Montaña / Mountain