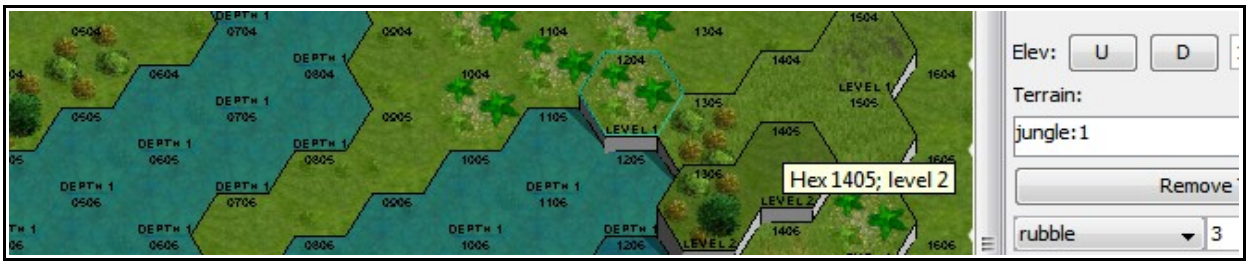
MEGAMEK BOARD EDITOR V1.0



CREDITS: AZIDRACIN

SPECIAL THANKS TO:
BEN MAZUR
LADOB
& THE MEGAMEK COMMUNITY

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1. INTRODUCTION

A warning to those who have not attempted to create their own boards in MegaMek: The Board Editor is not the most intuitive map design program, but what it lacks in ingenuity, it makes up for in simplicity. Creating boards for MegaMek is easy, creating boards that are aesthetically pleasing is very hard.

I am still learning all there is to know about the Map Editor, so this is not a complete tutorial and it will be expanded upon in the future. If anyone would like to add to this tutorial I will release a .doc along with a pdf, or send me an email at azdraon@gmail.com.

Future Updates I hope to have some of the following:

Explanation of .tileset files
How to create hex tiles
How to replace default hex tiles
How to integrate custom hex tiles

This Tutorial was created using version 0.35.27 of MegaMek.

**I will consistently switch between using the term “board” and “map”. These terms are consistently interchanging in MegaMek, but they are both referring to the area of play.

Color Usage:

Red – Attention grabbing
Green Highlight – Unknown use
Blue Highlight – Needs verification from community and/or developers
Blue Text – For those wanting to learn more advanced techniques. Day 1 beginners are suggested to skip these to avoid confusion.

2. LOAD MEGAMEK BOARD EDITOR

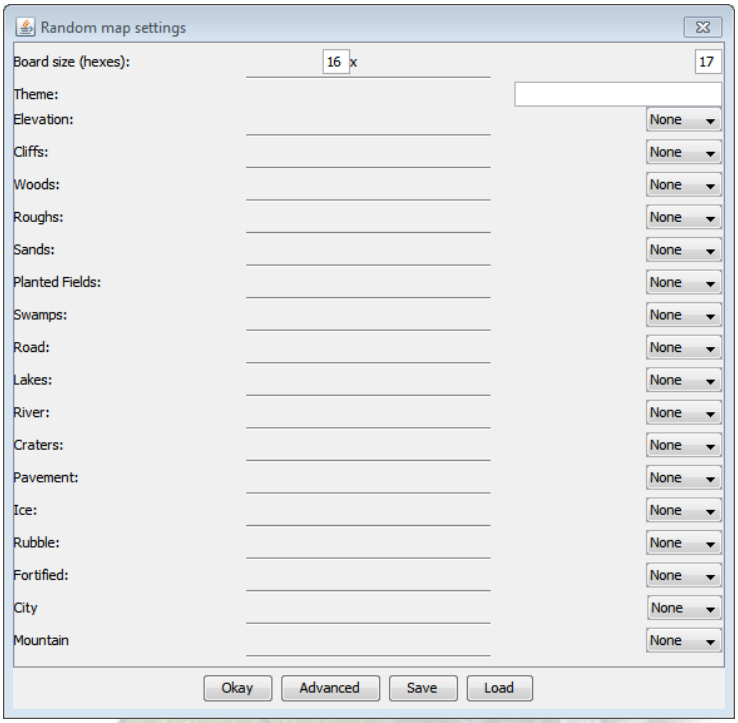
Load MegaMek just as you would if starting a game [open the MegaMek Executable Jar File] and select “Map Editor”.

The MegaMek Board Editor (MMBE) will load in a 800x600 window and you will need to either Maximize or widen the window (not everything can be seen easily at the default resolution).

3. RANDOM MAP SETTINGS

The first window to open will be the Random Map Settings screen. This is for when you just want something different to play on, and do not feel like taking the time to create something yourself. Or you can use it as inspiration, and give you some idea of what you would like to create.

When the Random Map Settings first opens, you will be in the “Normal” view. This view gives simpler instructions on what kind of map you would like to generate with relative terms instead of exact numbers.



4. NORMAL - RANDOM MAP SETTINGS

[Note] The percentage used by the specified setting will take up the following space on the map (unless otherwise stated with its own Low, Medium and High setting).

Low – 0 to 3%

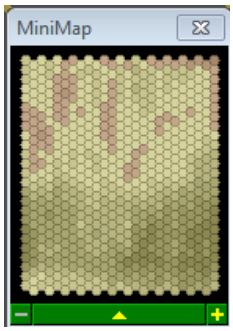
Medium – 3 to 10%
High – 5 to 25%

Board size – This is the width and height of the board in hexes.

Theme – This determines which hex files will be used when randomly generating a board. (Currently this setting only works with randomly generated maps) Type in the name of the theme you would like to use. Leave blank for the default.

The current version (0.35.27) has only 4 themes: Default (beige), Grass, Lunar, and Mars.

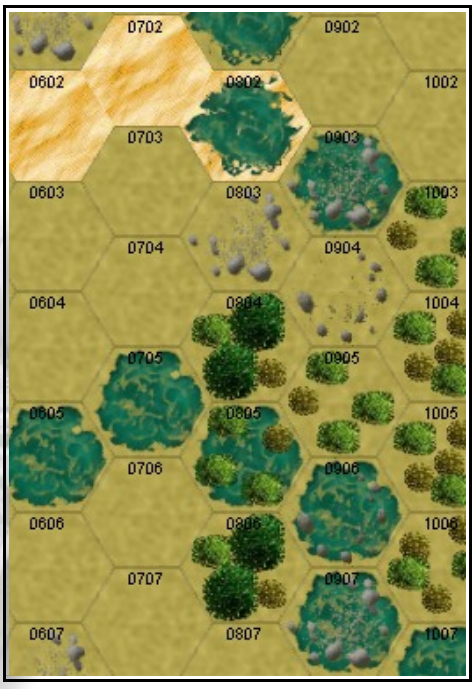
Elevation – The elevation for each hex is shown as "LEVEL #". Hexes with an elevation of "0" do not show a "LEVEL #". (See picture on right)



Low – 4 levels of elevation (including 0)
Medium – 6 levels of elevation (including 0)
High – 9 levels of elevation (including 0)

Cliffs – Percentage chance of a an elevation change of 2 or greater with 2 adjacent hexes. This will help create hiding spots for mechs, blocking LOS. The effect is subtle unless the elevation range is high.

Low – Almost no chance of a river being created.
Medium – A low chance of a river being created.
High – A good chance a river will be created.



Woods – Will produce a scattering of light to heavy woods. No Ultra Heavy Woods will be produced.

Rough – Will produce "rough (200)".
(200 is an in-game factor)

Sands – Will produce "sand (100)".

Planted Fields – Will produce "planted fields (30)".

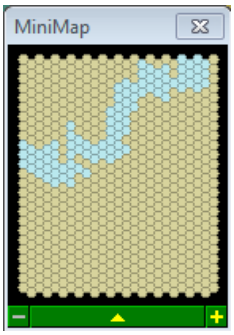
Swamps – Will produce "swamp" terrain.

Road – Will produce A "road". This setting will create one continuous road across the board regardless of how large the board is. The road may have a bend at one point, but only once.

Low – Almost no chance of a road being created.
Medium – A low chance of a road being created.
High – A good chance a road will be created.

Lakes – Will produce bodies of water with varying degrees of depth.

Low – 0 to 3% with a max depth of 2
Medium – 3 to 10% with a max depth of 2
High – 5 to 25% with a max depth of 2

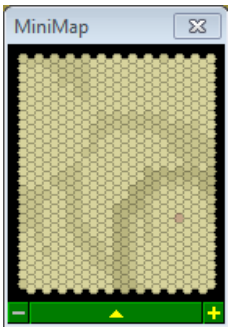


River – Will produce A "river". This setting will only create one continuous river across the board with a depth of -1.

Low – Almost no chance of a river being created.
Medium – A low chance of a river being created.
High – A good chance a river will be created.

Craters – Will create a LEVEL -1 hex, surrounded by hexes of LEVEL 0 (blank), which are then surrounded by a LEVEL 1 (or LEVEL 2) ring of hexes, and possibly a secondary LEVEL 2 adjacent to the LEVEL 1 hexes. (See picture on right)

i.e. Think of an actual crater. It will have an "impact point" in the middle. Surrounded by a slow, but steady increase in elevation around the impact. It will then increase in elevation around the edges of the crater where the dirt has been pushed up.



Pavement – Will produce "pavement (200)".

Ice – Will produce "ice (40)".

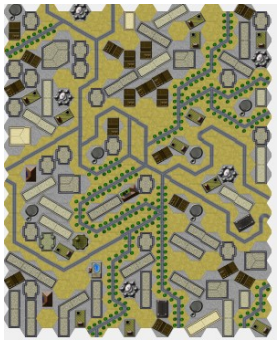
Rubble – Will produce "rubble".

Fortified – Will produce "improved position".

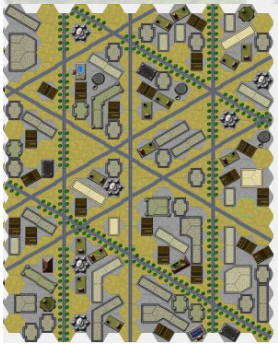
City – Will produce a an entire board with specific hexes linked to each option. These are all very well done and great for starting out or reaching for inspiration.

HUB – This will create a city complete with buildings and roads. More reminiscent of European cities (winding roads).
GRID – This will create a city in a grid formation. More reminiscent of modern cities in Asia and the United States (straight roads).
METRO – This will create a city where 6 roads will meet at one point in the middle. Similar to the road structure around the Arc de Triomphe in Paris, France.
TOWN – This will create a small town with roads and buildings close to the center of the map with 2 or 3 roads leading out of the town.

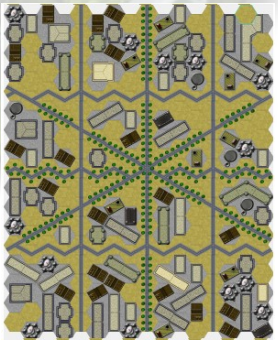
HUB



GRID



METRO



TOWN

Mountain – Will create a mountain. The size of the mountain(s) does not scale to the board size.

Low – 1 mountain with a peak elevation of LEVEL 5.
Range in size from 10x10 to 20x20 hexes.
Medium – 2 mountains with a peak elevation of LEVEL 8.
Range in size from 10x10 to 20x20 hexes.
High – 2 or 3 mountains with a peak elevation of LEVEL 10.
Range in size from 10x10 to 30x30 hexes.

5. ADVANCED - RANDOM MAP SETTINGS

The advanced options for a random board allow for much greater customization of the board. I am going to keep this section brief and only touch on some of the options in the advanced settings.

Amount of elevation(0-99) – Changes how rough the terrain is. A higher value will create more drastic changes from the elevation of each adjacent hex.

Elevation range – The range between the lowest point of elevation to the highest. Recommend using values 1-10.

Algorithm – A value of "0" will generate rolling hills. "0" is also the least likely to cause terrain to block Line-Of-Sight (LOS). A value of "1" will create spiky terrain. "2" will combine both generators

Peaks – How many mountain peaks there will be.

Mountain Style – Unknown.

[Note] The probability of the following 4 settings is tied **ONLY** to the creation of the map and will not save the probability in the settings of the map when opening to play in MegaMek. All values for Probability range from 0-100.

Probability for drought – Likelihood the water will turn into "rough (200)".

Probability for fires – Likelihood the trees will be on fire.

Probability for frozen water – Likelihood the water will become "ice (40)".

Probability for flooded map – Likelihood the map will flood, thus all areas that had a negative elevation will become underwater and hexes on LEVEL 0 will become swamps.

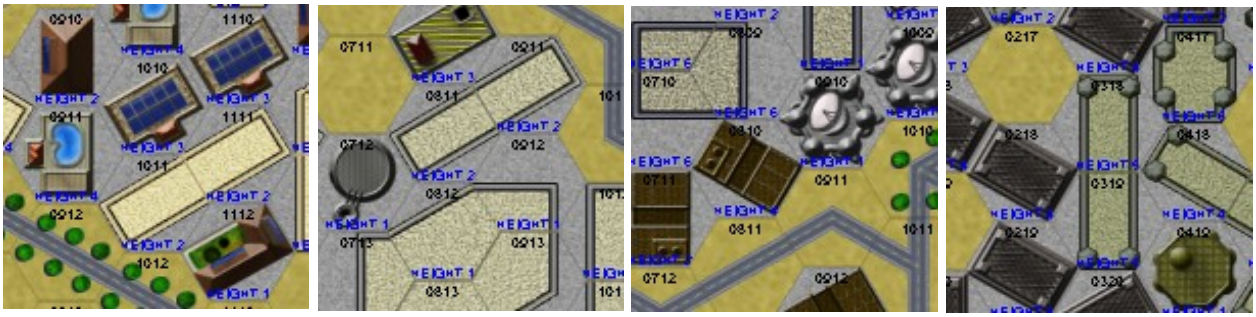
Special FX Modifier – Changes the degree of effectiveness for each of the 4 probabilities above. The value should change in small increments.

I.e. Change the values by 1-3.

City blocks – Determines how many roads and cross streets will be on the map. Will scale with map size.

CF – Determines the buildings that will be put in the map. Below are the values to have specific buildings.

1 – 15 **16 – 40** **41 – 90** **91 – 150**



[Note] The values do not fluctuate for more or less of a specific building within its own value.

i.e. Having a minimum and maximum value of 1 will have the same effect as if having a minimum and maximum value of 15 or a minimum value of 1 and a maximum value of 15.

[Note] The program allows for a combination of buildings to be auto-generated, but you cannot have buildings with a CF of 1-15 with buildings of a CF of 41-90 and leave out buildings with a CF of 15-40.

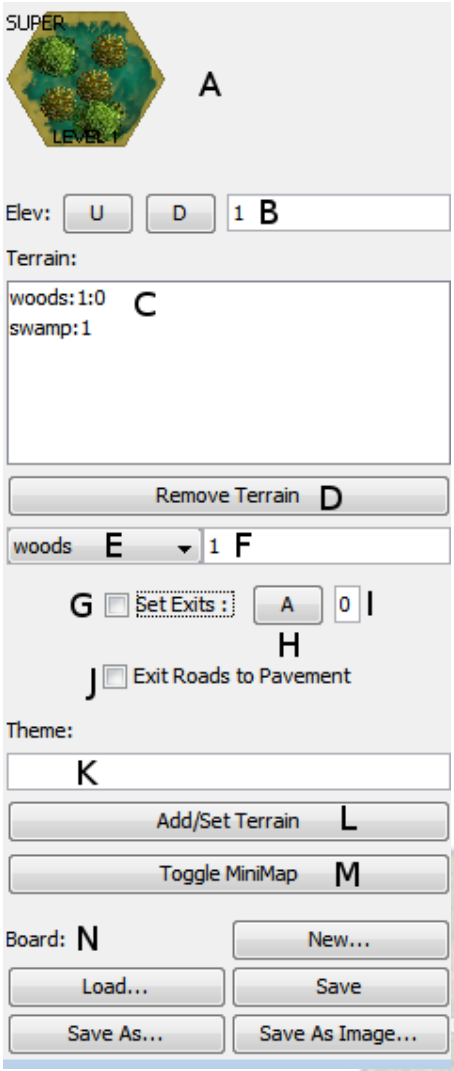
Floors – 1 through 6 is default, but may range from 1-50.

Density – Effects the "congestion" of the buildings. The values are 1-100. A value of 100 will put a building in every hex that a building is possible.

Town Size (%) - Only affects "TOWN" size. A value of 0 will increase how far from the "town" builds will go (effectively going all the way to the edge of the map no mater the size), where as a value of 1000 will increase how far roads stretch out as well as the buildings.

6. BOARD EDITOR INTERFACE

The board editor's interface is challenging to get a grasp on and takes lots of trial and error to figure out when attempting to understand it on your own. It looks simple enough, but turns into a monster when you have an idea but cannot figure out how to bring it to life. I hope this will bring to light what certain buttons and text are telling you. This is where it starts to get tricky, so if you become confused, step away for a second and come back. It took be hours before I finally understood everything I was looking at.



Please refer to the image on the left for A – N.

A. Working Hex – This is the hex that will be produced on the board when left clicking. If you just started the Board Editor most likely you will see a plain beige hex tile I am sure you have seen in several of your maps when playing MegaMek. I have selected a few terrain features to help explain the interface.

[Note] The Working Hex will sometimes lie. It will show an image of 1 hex tile, but when you click on the board, a different tile will appear. If the Working Hex was showing you a hex tile in error, often it will correct itself as soon as you "paste" (left click) the Working Hex onto the board. There are exceptions e.g. roads.

Notice the "SUPER" text on the top-left hand side of the Working Hex. I will explain more in detail of this significance later.

B. Elevation – This is the elevation for the Working Hex. Press the "U" to increase the elevation or "D" to decrease, or you can manually set the elevation by typing in the text box to the right of the "U" and "D".

C. Terrain Feature – This is where all the Terrain Features for your Working Hex will appear.

e.g. My Working Hex shows the the swamp hex tile (the blue/green water), then the woods hex tile (it is specifically the lf4 hex tile which is tied to its file name: lf4.gif). The beige_plains_1.gif is the "base" hex and does not appear in the Terrain Feature textbox. More on "base" hexes later.

[Note] The "1:0" for the woods is the "level:exits". These help the editor identify which hex from the tile-set to use.

D. Remove Terrain – This button will remove the selected terrain hex in the Terrain

Feature text-box.

e.g. If I click on “woods” and click “Remove Terrain” it will leave me with just the swamp hex tile. If I then click on “swamp” and click “Remove Terrain” it will leave me with the base hex tile. To be more specific, it would leave me with a beige_plains_1.gif hex tile because my elevation is still set at 1.

E. Terrain Selection – This drop-down box allows us to pick out specific terrain features we would like to have. Click the drop-down box and look at the selection. Nothing yet will happen when selecting any of the terrain features.

F. Level – This text-box will tell the editor specifically which of the various terrain hex files you would like to use under the specified Terrain Selected.

G. Set Exits – Exits are an additional factor the Board Editor uses to assist in identifying which hex-tile to use and when. This is something you will largely ignore in the beginning stages.

e.g. When using roads, you can lay out a road anywhere on the map very simply and only need to select the Terrain “roads” with the level “1”. The image in the Working Hex will show a road with 6 paths. Don't let this scare you. Start clicking and dragging on the board, it will produce a normal road.

H. Exit Paths Diagram – Continuation of the “G. Set Exits”. Clicking the “A” will bring up a dialogue box that has check boxes numbered 0-5. This is where you can specify exits for a hex tile.

e.g. Say you want to have a road go North without the road “turning” (i.e. exiting), but you have pavement hex tiles adjacent to your path (See image “Road Step 1” below).

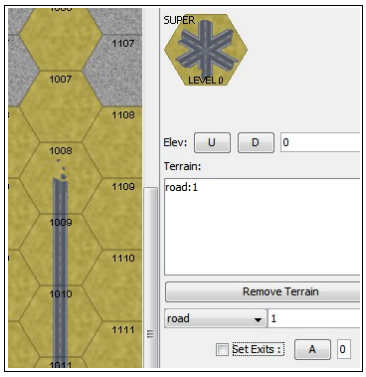
The Working Hex image is the standard image seen when working with “road:1” and no set exits. [Pavement will force a road tile to turn (i.e. exit) into the adjacent pavement hex-tile]

If you simply try to “paste” a road onto the board alongside the pavement, it wont look right (See image “Road Step 2”).

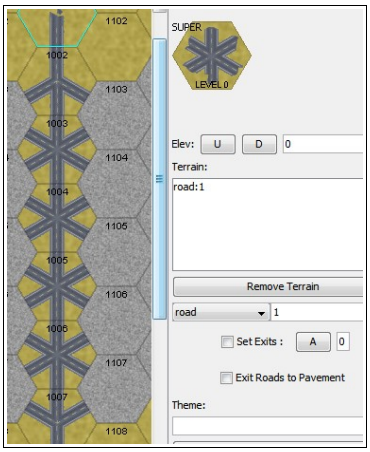
You can click “A”, set the exits to be “0” and “3” (see image “Road Step 3”), click done then click “Add/Set Terrain”, and this will force the road to go from the North and South (see image “Road Step 4”,

[notice the Working Hex now looks different]) sides of the hex without veering when we “paste” the road hex tile adjacent to the pavement (See image “Road Step 5 and 6”).

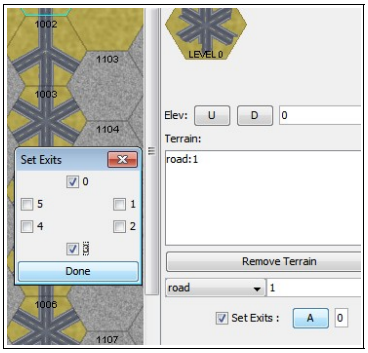
Road Step 1



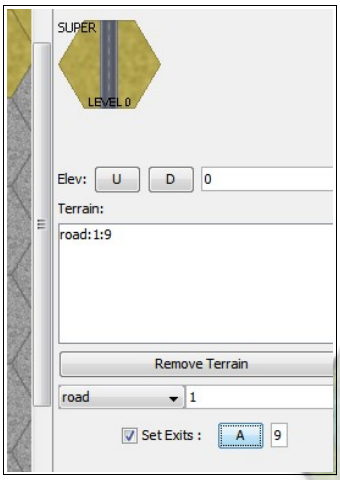
Road Step 2



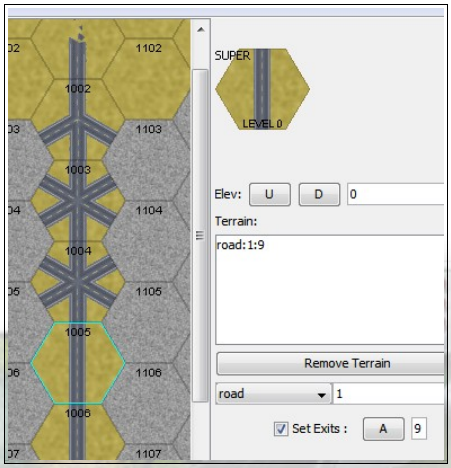
Road Step 3



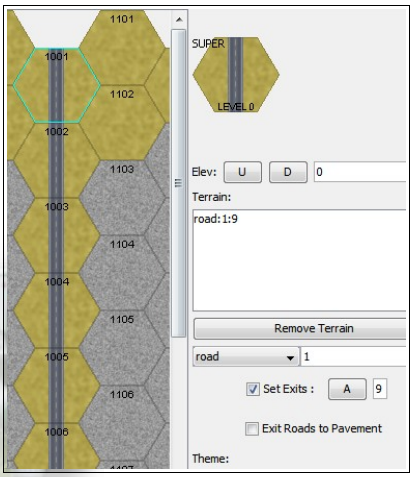
Road Step 4



Road Step 5



Road Step 6



J. Exit Roads to Pavement – Unknown (have tested, but cannot determine its use).

K. Theme – Type in a theme you would like to use for the base hex tiles.

e.g. Grass, Lunar, or Mars.

L. Add/Set Terrain – This will add the terrain selected in the Terrain Selection to the Terrain Feature with the specified “level” and “exits”. The Working Hex should change to an image of the combined terrain in the Terrain Selection.

M. Toggle MiniMap – Open/Close the MiniMap.

N. Board – Click New to start a new board. “Save As Image...” will save a .png file of an overview of the board. Great for posting screenshots for the MegaMek community to see your map!

Short Cuts:

Change Elevation: Ctrl + Left Click - This will change the elevation of the selected to the Working Hex tiles elevation level.

Copy Board Hex: Alt + Left Click – This will copy the hex tile on the board and make the copy your Working Hex tile.

7. HEX TILES

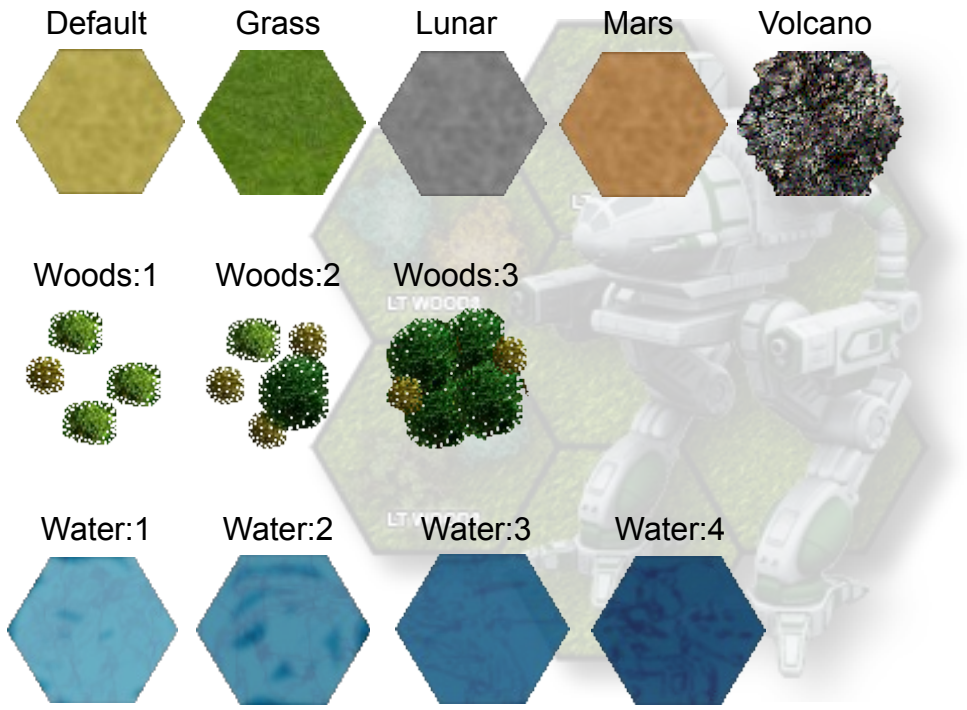
If someone knows the special properties for each hex (to-hit effect, pilot checks, additional movement cost, etc.) and would be willing to let me know for each one in a comprehensive list I would greatly appreciate it, and of course I will give credit to those who help in the next update to this tutorial.

The following hex tiles are in order of appearance in the Terrain Selection.

Key: * = Any Number

Theme:

(Type the name of the theme to place the respective hex tiles)



Rough:1

Rough:2

Rubble:1

Rubble:2

Rubble:3

Rubble:4

Rubble:5

Rubble:6

Jungle:1

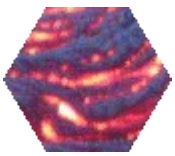
Jungle:2

Jungle:3

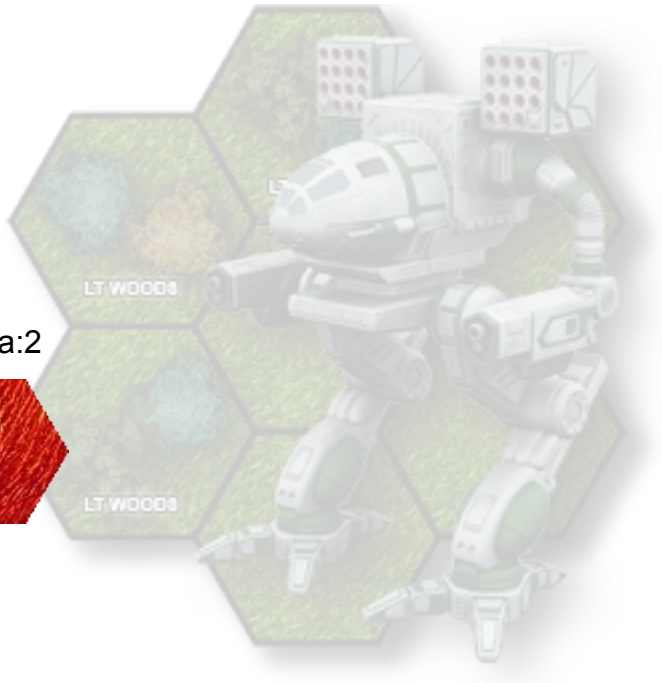
Sand:1

Tundra:1

Magma:1



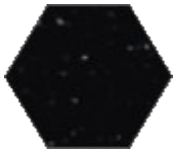
Magma:2



Planted_fields:1

Heavy_industrial:*

Space:1



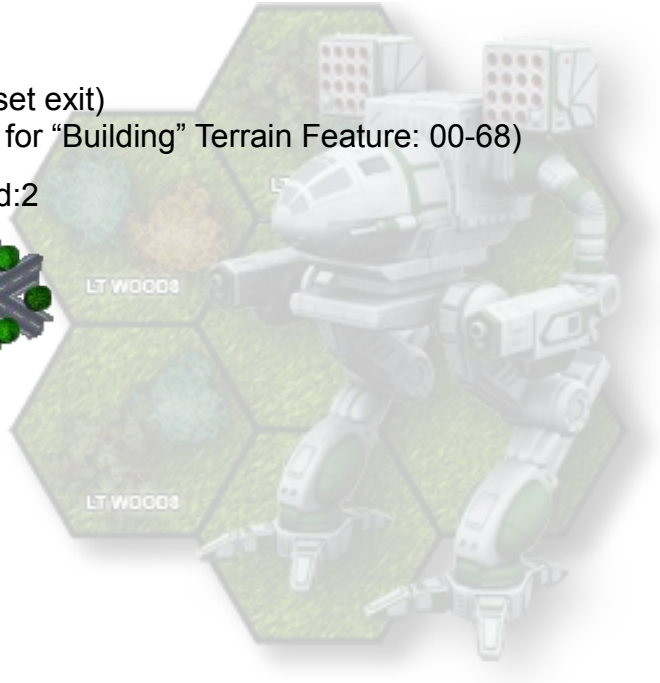
Pavement:1

Roads:

(Default is no set exit)
(Specific Exits for “Building” Terrain Feature: 00-68)

Road:1

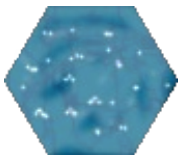
Road:2



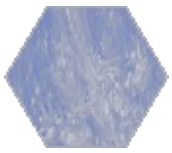
Swamp:1

Mud:1 Mud:2


Rapids:(1 or 2)
(Water:2 is added as a backdrop. Rapids is the white spots)



Ice:



Snow:1

Fire:1 Fire:2


Smoke:1 Smoke:2


Geyser:1 & Geyser:3 Geyser:2

Buildings & Bridges:

Buildings & bridges are a bit more complicated than all other hex tiles because they take multiple Terrain Features to work. Unless you meet all the criteria, an image will not appear in the working hex, however, the Terrain Features selected for the Working Hex will be placed onto the map regardless of a building image or not.

Like Roads, Buildings & Bridges will auto-connect to one another if certain Terrain Feature criteria is met and the hex tiles are placed adjacent to one another. If confused, put the selected Terrain Features into a Working Hex and test out designing Buildings & Bridges for yourself.

_cf – This is how much tonnage a building/bridge can support when a unit is/lands on top. Unsure on the specifics of _cf.

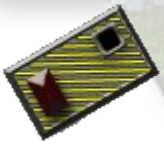
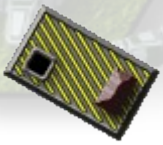
_elev – The elevation height of the building/bridge (Base Hex elevation + Building/Bridge Elevation = Total Elevation for the specific hex).

_class – Unknown. Not Required.

_armor – Armor of the building when being fired upon. Not Required.

Stand Alone Buildings:

(All "Building" Terrain Feature Exits set to "0")

Building:1:0 Bldg_elev:1 Bldg_cf:*	Building:1:0 Bldg_elev:2 ""	Building:1:0 Bldg_elev:3 ""	Building:1:0 Bldg_elev:4 ""
			
Building:2:0 Bldg_elev:1 Bldg_cf:*	Building:2:0 Bldg_elev:2 ""	Building:2:0 Bldg_elev:3 ""	Building:2:0 Bldg_elev:4 ""
			

Building:3:0 Bldg_elev:1 Bldg_cf:*	Building:3:0 Bldg_elev:2 “”	Building:3:0 Bldg_elev:3 “”	Building:3:0 Bldg_elev:4 “”
			

Building:4:0 Bldg_elev:1 Bldg_cf:*	Building:4:0 Bldg_elev:2 “”	Building:4:0 Bldg_elev:3 “”	Building:4:0 Bldg_elev:4 “”
			

Connected Buildings:

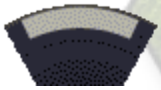
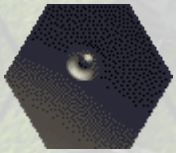
(Default is no set exit)

(Specific Exits for “Building” Terrain Feature: 00-68)

Building:1	Building:2	Building:3	Building:4
Bldg_elev:*	“”	“”	“”
Bldg_cf:*	“”	“”	“”
*Bldg_class:**	“”	“”	“”
*Bldg_armor:**	“”	“”	“”
			

Dropship:

Building:4:## (Insert respective number from below in ##)

:69	:70	:71	:72	:73	:74	:75
						

Bridge:

(Specific Exits for “Bridge” Terrain Feature: 00-63)

Bridge:*
Bridge_cf:*
Bridge_elev:*

Fuel Tank:

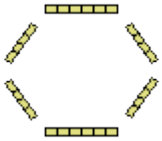
(Specific Exits for “Fuel_tank” Terrain Feature: 00-68)
(Any “Connected Building” can become a Fuel Tank. If the structure is destroyed an explosion will occur)

Fuel_tank:1	Fuel_tank:2	Fuel_tank:3	Fuel_tank:4
Fuel_tank_elev:*	“”	“”	“”
Fuel_tank_cf:*	“”	“”	“”
Fuel_tank_magn:*	“”	“”	“”

Impassable:1

Elevator:(-10 thru 10)
Unknown use.

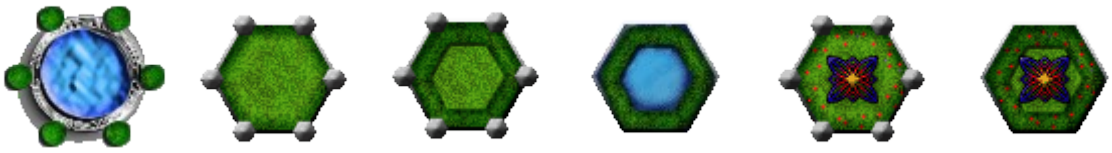
Fortified:1



Screen:1

Fluff:2:0 Fluff:2:1 Fluff:2:2 Fluff:2:3 Fluff:2:4

Fluff:4:0 Fluff:4:1 Fluff:4:2 Fluff:4:3 Fluff:4:4 Fluff:4:5



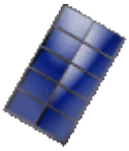
Fluff:4:6 Fluff:4:7 Fluff:4:8 Fluff:4:9 Fluff:4:10 Fluff:4:11

Fluff:5:0 Fluff:5:1 Fluff:5:2 Fluff:5:3 Fluff:5:4 Fluff:5:5

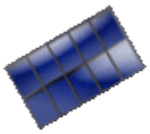
Fluff:5:6 Fluff:5:7

Fluff:6:0

Fluff:6:1



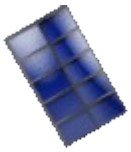
Fluff:6:2



Fluff:6:3

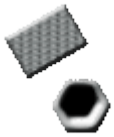
Fluff:6:4

Fluff:6:5

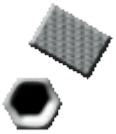


Fluff:6:6

Fluff:6:7



Fluff:6:8

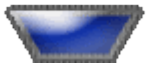


Fluff:6:9

Fluff:6:10

Fluff:6:11

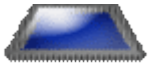
Fluff:6:12



Fluff:6:13

Fluff:6:14

Fluff:6:15



Fluff:6:16

Fluff:6:17

Fluff:6:18

Fluff:7:0

Fluff:7:1

Fluff:7:2

Fluff:7:3

Fluff:7:4

Fluff:7:5

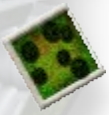
Fluff:8:6

Fluff:8:7

Fluff:8:8

Fluff:8:9

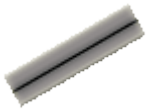
Fluff:8:10



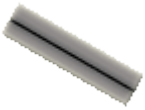
Fluff:8:11

Fluff:9:0

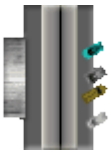
Fluff:9:1



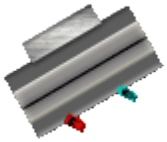
Fluff:9:2



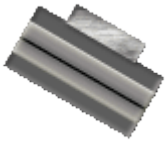
Fluff:9:3



Fluff:9:4



Fluff:9:5

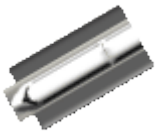


Fluff:9:6

Fluff:9:7

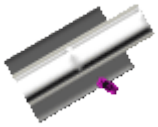
Fluff:9:8

Fluff:9:9



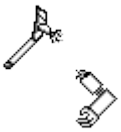
Fluff:9:10

Fluff:9:11



Arms:1

Arms:2



Legs:1

Legs:2