

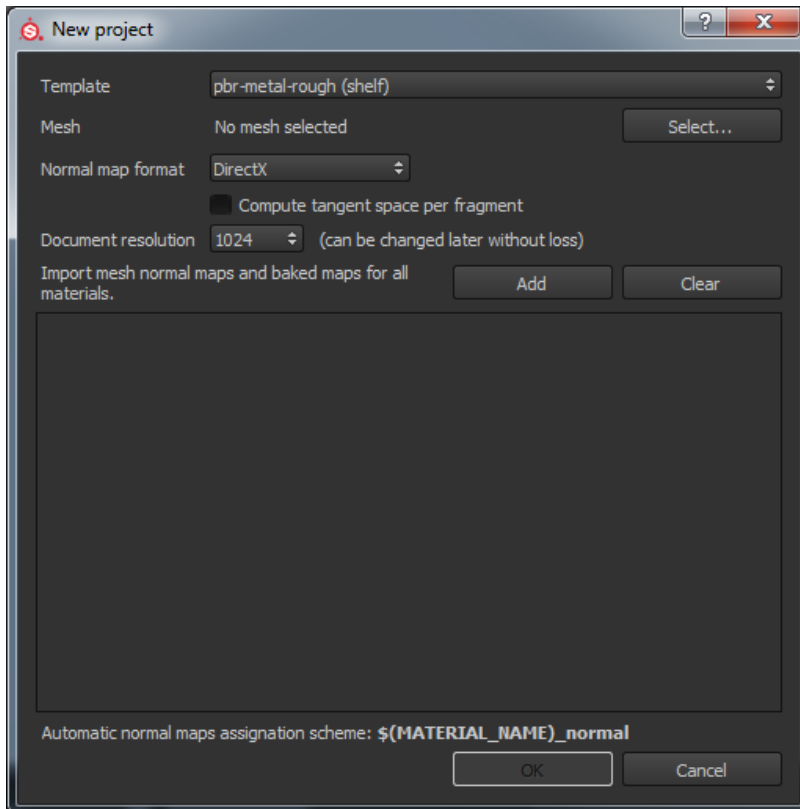
Flow Map Painting in Substance Painter (by Satoshi Arakawa)

I used the main method explained here on Allegorithmic's site:

<https://support.allegorithmic.com/documentation/display/SPDOC/Flow+map+painting>

I'll go over this as well.

-Open Substance Painter, and click on >File>New Project which will open the following menu



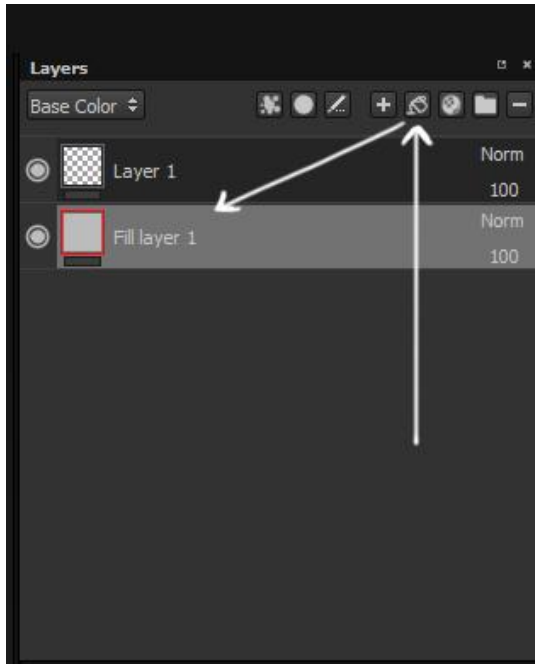
-Click on "Select" for mesh and select an obj of a standard flat plane that you will end up applying your hair texture to

-Next, click on "add" and add the normal map for your hair texture, then select your resolution

-Click "OK" at the bottom

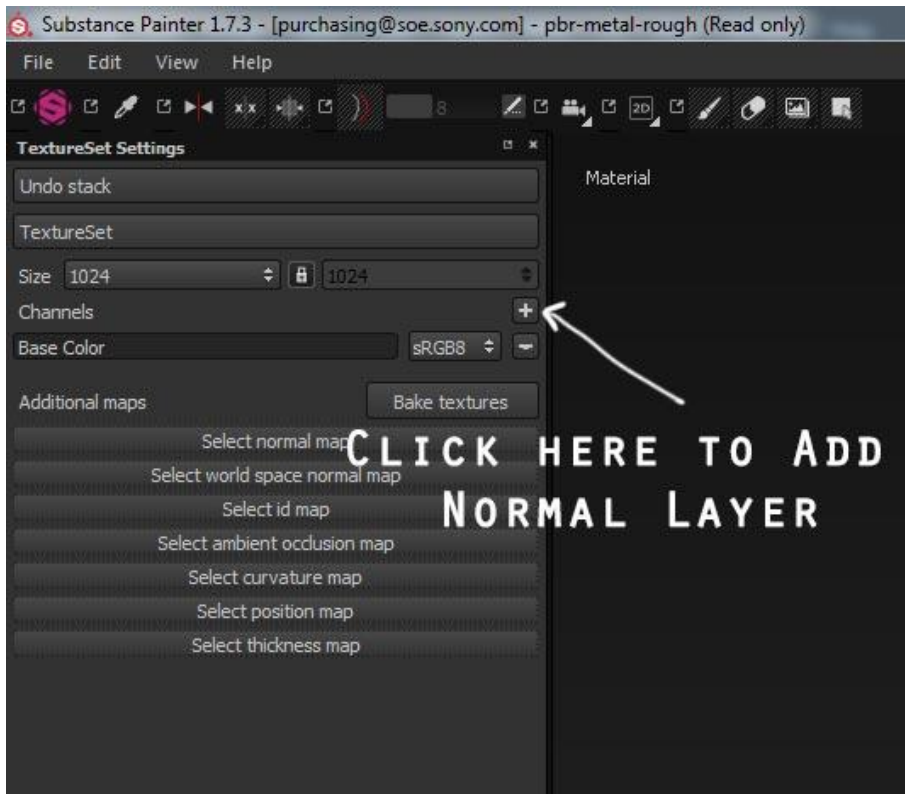
-Next we want to apply the normal map to the plane mesh

-On the upper right, click the "fill layer" icon to add a fill layer to your stack

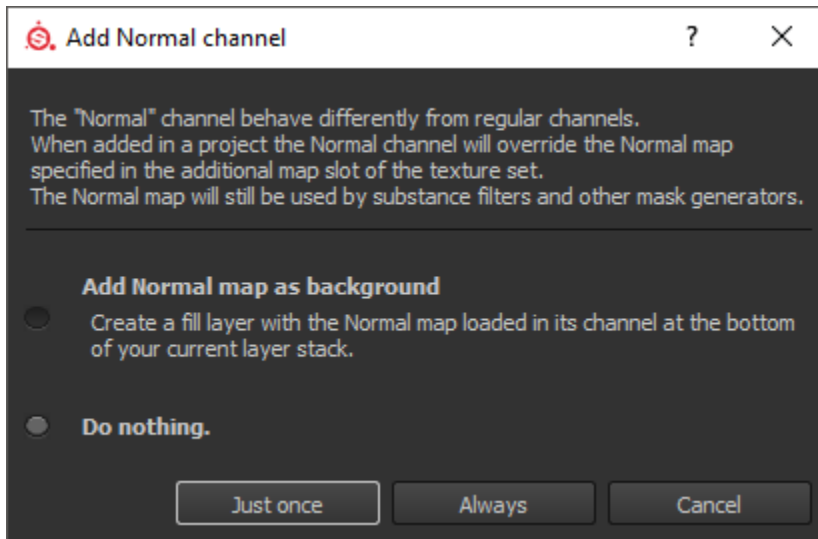


-Once you have the fill layer, we need to apply the normal map to this fill layer which will apply the texture to the geo we imported.

-Next to "Channels" on the left, click the "+" icon to add a Normal channel to your layers

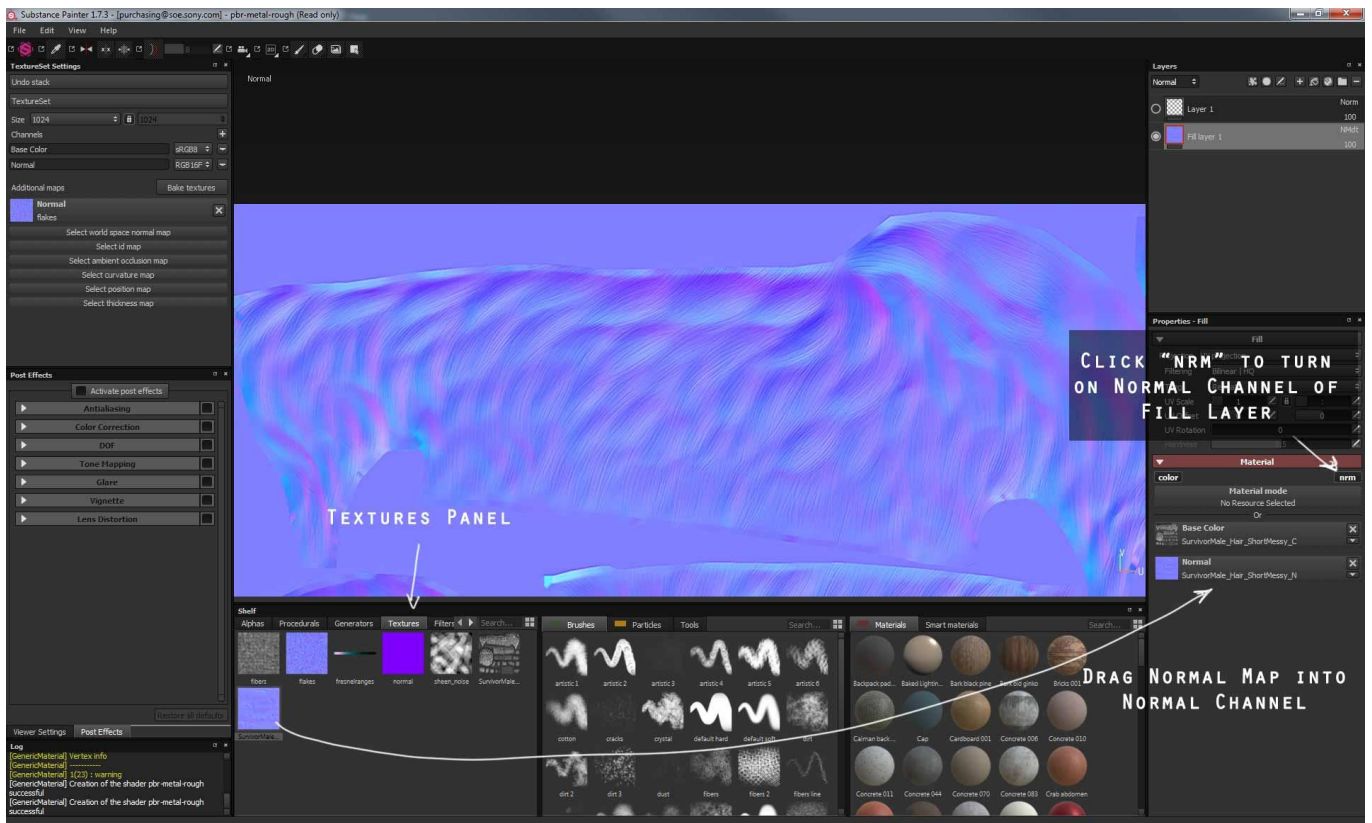


-This should open the following menu

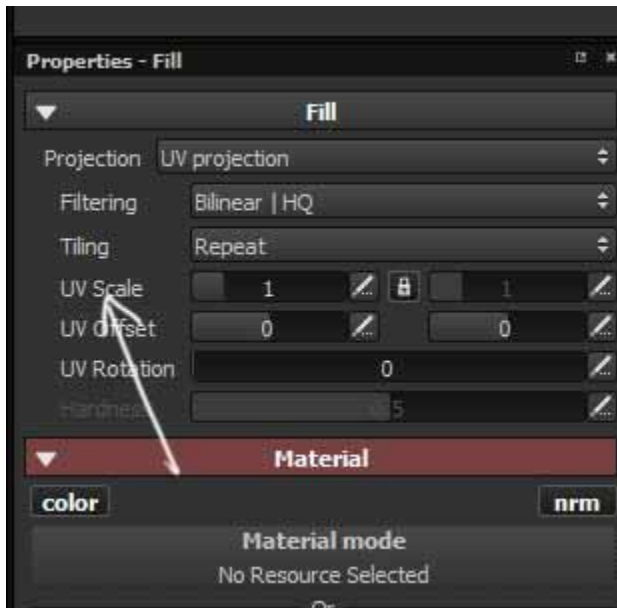


-Click “Do nothing” and “Just once” Now your added layers will have a normal channel

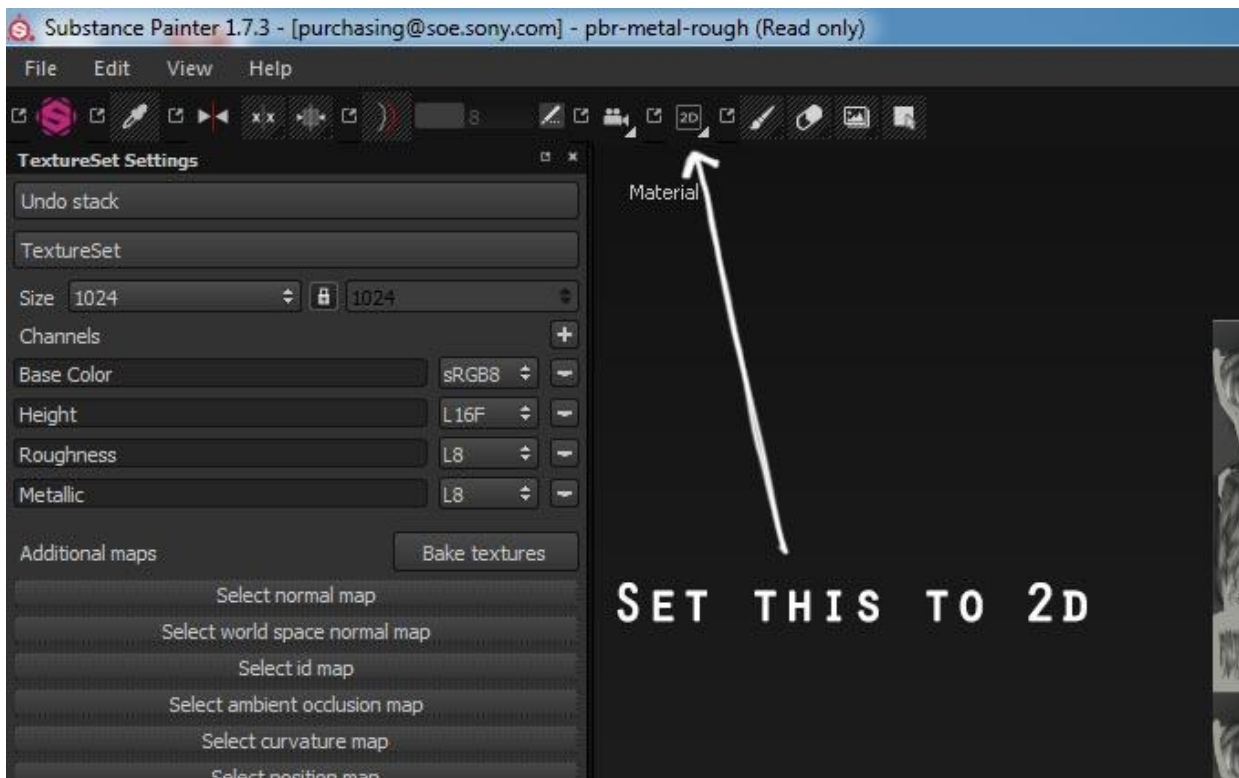
-Now, you can apply the normal map you imported to the geo you imported. Click “nrm” under material settings for you fill layer to activate the normal channel. Drag your normal map from the “Texture” panel onto the “Normal uniform color” bar.



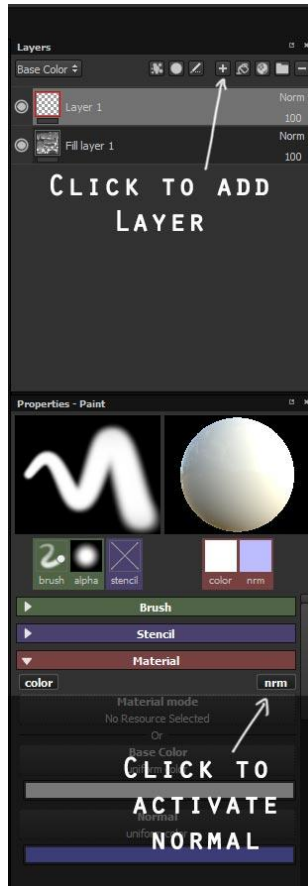
-If the UV scale is off, change it in the “UV scale” section to a value of 1




-Once the normal map is on your plane geo, set your view to just be in 2d view which can be found in the menu at the top



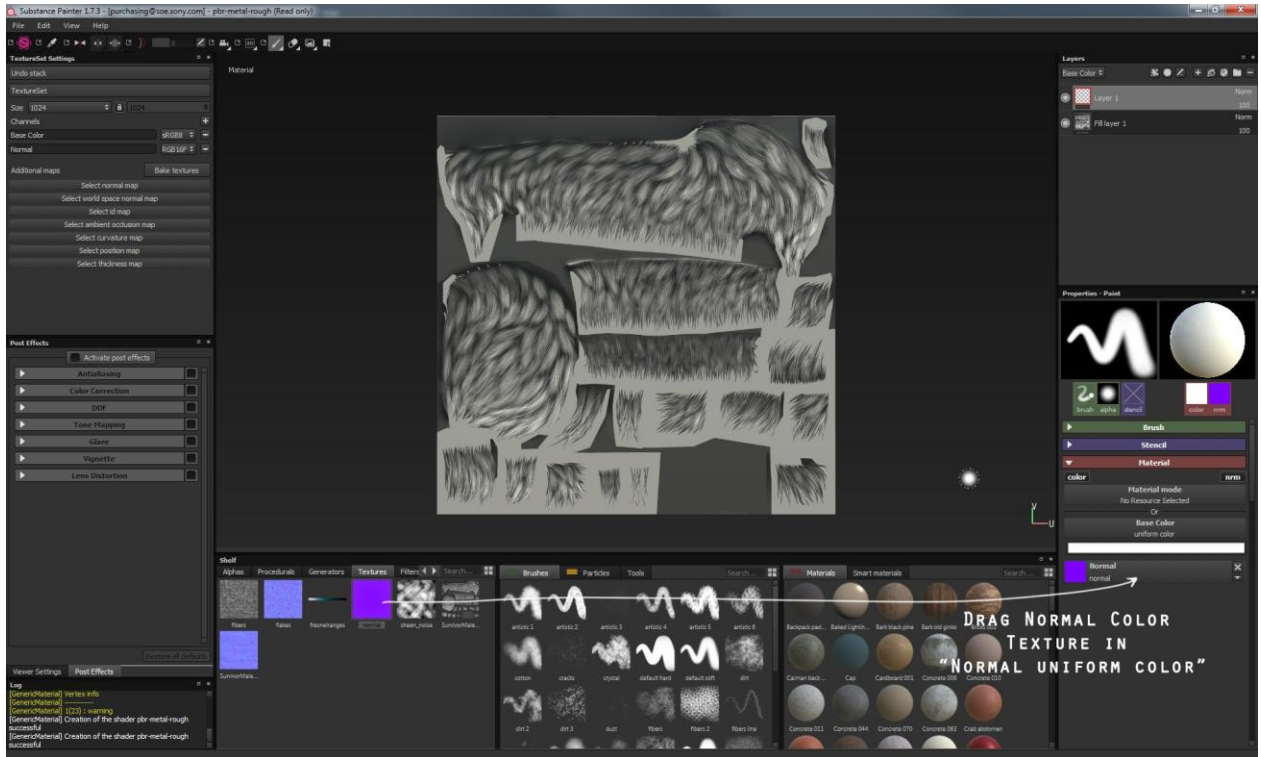
-Add a new layer if you haven't already by clicking the "+" icon in your layer stack menu. Click "nrm" for this layer as well to activate its normal channel as well.



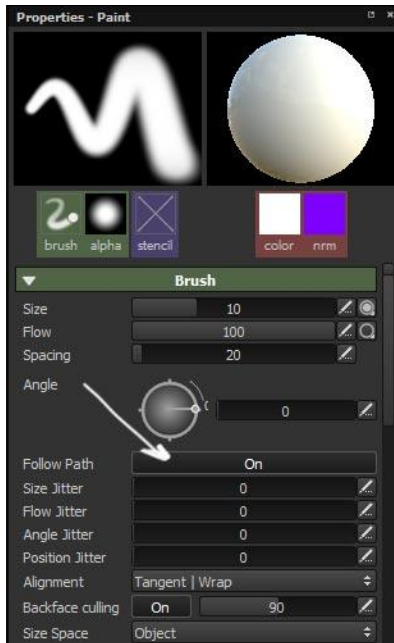
-Next, we have to create a normal map texture that will be used to paint the flow map. It can be 16x16 pixels and the color has to be (127, 0, 255) which should look like this 

-Once you have saved that off somewhere, click ">File>Import Image in Project" and select the normal map texture you just created

-This will add it to the "Textures" menu. You want to drag it to the "Normal uniform color" for the layer you're going to paint in



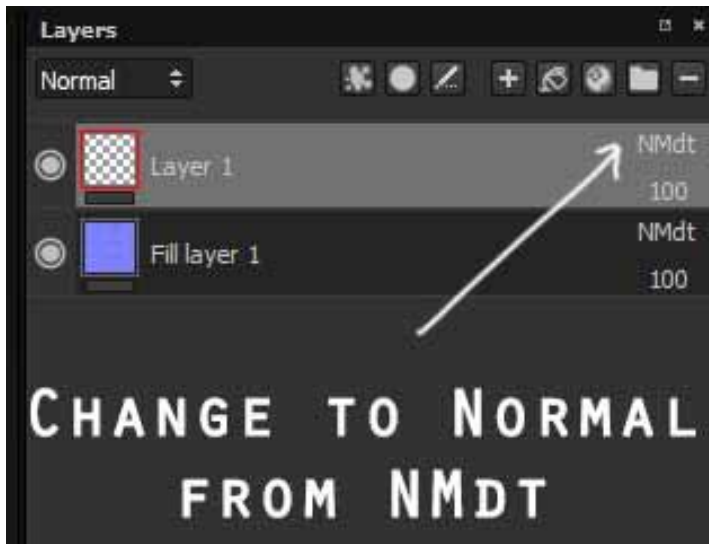
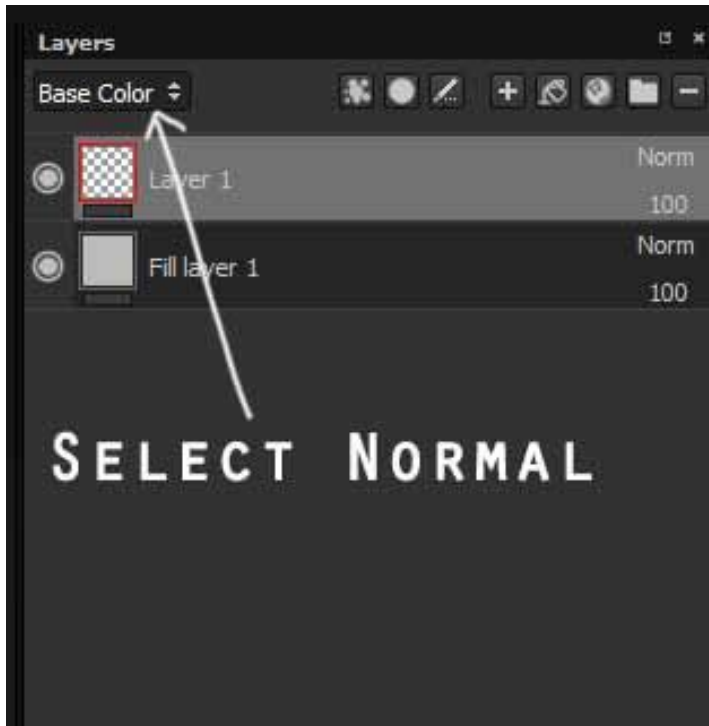
-Once that is slotted, click “Follow Path” to “on” under the brush settings



-Now we can start painting the flow map!

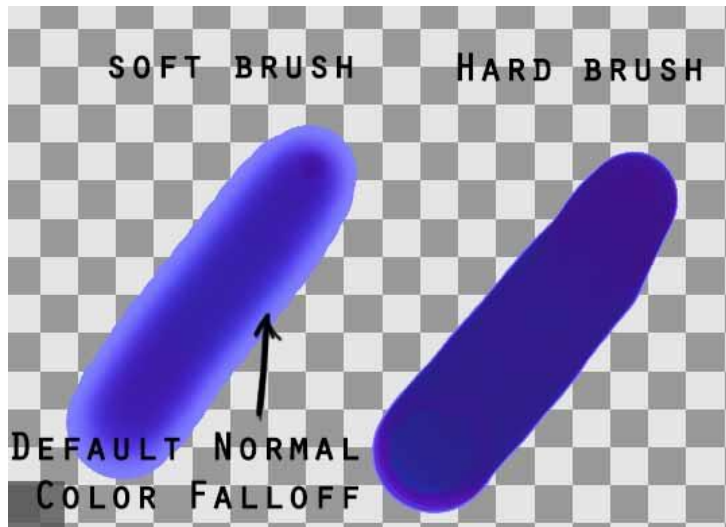
-Two hotkeys to remember are “1” for brush and “2” for eraser

-When painting in the normal channel, make sure to put your layer stack in “Normal” mode which you can select dropdown in the layers palette. This will show you the blending modes of the layers in the normal channel which you want to change to “Norm” instead of “Nmdt”



-You don't want to stay in “NMdt” as when you paint your flow map strokes, it will blend into the layers below in your view which will make it hard to see your strokes properly.

-You also want to paint with a hard edge brush as each stroke will falloff to the default normal color and the more falloff your brush has, the more this effect is amplified. You will want to get rid of that color later so minimizing it in SP will make it easier later on.



-To get a hard edge brush, change the hardness to 1 and your spacing to 1. This may differ from time to time so try out a few settings that gives you a smooth enough stroke but minimal default color. If the brush is somewhat hard, you can always select all the normal color at once and delete it after. The default hard brush works pretty well as a starting point.

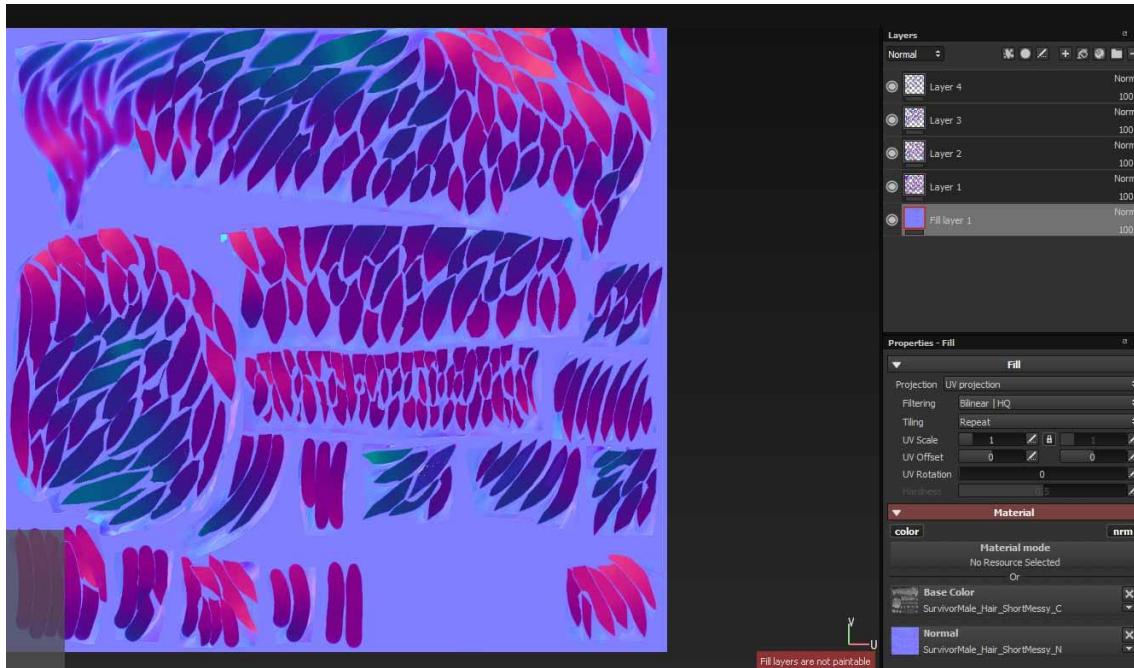


-Now you can start painting. Paint your strokes in the direction your hair is flowing. I tend to paint sets of strokes that are spaced apart so that I can erase away some of the head and tails of my strokes for better falloff as the brushes in Substance Painter don't have great falloff.



-I'll paint several layers using this method so that I can erase away without affecting neighboring strokes

-This is kind of what I end up with



-I export the layers to photoshop, delete the falloff normal color and then blur the strokes so they blend together to get something like this. The background color is the default value for flow if all your cards are vertically UVed.

