

Rocky Hills Mega Pack - SRP

Version 5.0.0

Documentation

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Product Overview

Introducing Rocky Hills Environment - Mega Pack version 5, a high-quality, semi-stylized environment art package for games and 3D applications. This package contains minimal photo source material, as most textures are created using Substance Designer or digitally painted by hand.



This pack is divided into two categories since it contains two types of foliage shader that are different from each other; "The Toby Foliage Engine" and "Custom Tree Importer".

- **(CTI - Custom Tree Importer shader)** The vegetation contains and works with the third-party tool [Custom Tree Importer \(CTI\)](#) which is compatible with [Advanced Foliage Shader](#). The custom tree importer shaders provide realistic-looking wind and foliage with a minimum performance impact.

For CTI installation instructions please read the manual provided in the pack!

- **(TTFE - The Toby Foliage Engine)** is a new lightweight, fast, and innovative single-pivot vegetation system made with "Amplify Shader Editor" that attempts to simulate multiple pivots per mesh, similar to "Pivot Painter". These shaders provide a comprehensive solution for achieving realistic wind and plant shading. Its seamless integration and user-friendly interface make applying it to any mesh easy. There is no need to worry about conversion or any cumbersome steps as the shaders streamline this process. You also have the ability to adjust settings such as wind and seasons using the global controller gizmo.

This pack only includes the free version which has limitations! Unleash the potential of the fully featured version here: [The Toby Foliage Engine](#)

Compatibility

The main pipeline used is the "Universal Render Pipeline (URP)".

**** Manually install the SRP version for your specific use case by double-clicking and importing one of the SRP packages: URP or HDRP.**

1 - Make a new URP or HDRP project template using Unity Hub

2 - Install one of the packages that fits your newly created pipeline located in "Toby Fredson -> Rocky Hills Environment - Pipelines".

By purchasing this pack, you will get a free upgrade to the (Built-in) version: [**Rocky Hills Environment - Mega Pack**](#)

Limitations

- TFFE is designed to work with instancing, static batching is not supported.
- In some cases, shader Model 4.5+ capable devices are required (Desktop / High-End Mobile).
- While Mobile is supported, the scenes are intended for performance testing and will not be suitable for mobile devices (performance-intensive scenes).
- Only the latest LTS Unity versions are officially supported.

GPU Instancing

Is supported in Built-in but. In URP and HDRP you will have to turn off the SRP batcher.

TFFE runs very well without instancing, so manually turn on instancing on your materials if it is disabled.

* There seems to be a bug that breaks instancing when "cross-fading" is enabled. If you experience issues make sure your prefab contains a low triangle count and "LOD crossfading" is turned off otherwise it might break instancing.

Texture Packing

Most textures make use of alpha channels. To save disk space, the textures have been converted to PNG format without alpha channels, meaning all transparency data is stored within the image. To convert them back, you will need to use a third-party image viewer or Substance Designer.

Albedo Map *RGB(A)

- (A) - Smoothness.

Mask Map *RGB(A)

- R - Metallic.

- G - Ambient occlusion.
- B - Translucency.
- (A) - Smoothness.

Texture Packing CTI

Base (RGB) Alpha (A)

Just like you would expect: Diffuse or albedo is stored in RGB, transparency in Alpha.

Normal Map *RGB(A)

Normalmap (GA) Spec (R) Shadow Offset (B) This texture is the first combined one. Its channels should be set up like this:

- R = Specular: A simple gray value.
- G = Green channel of the regular normal map.
- B = not used.
- A = Red channel of the regular normal map.

Terrain Painting

Now Rocky Hills supports terrain painting for plants, and terrain detail painting is also supported. To use terrain details, make sure you add the prefabs in the "Prefabs Terrain Detail Paint" folder that are marked as (TD). Alternatively, you can use terrain trees to paint grass.

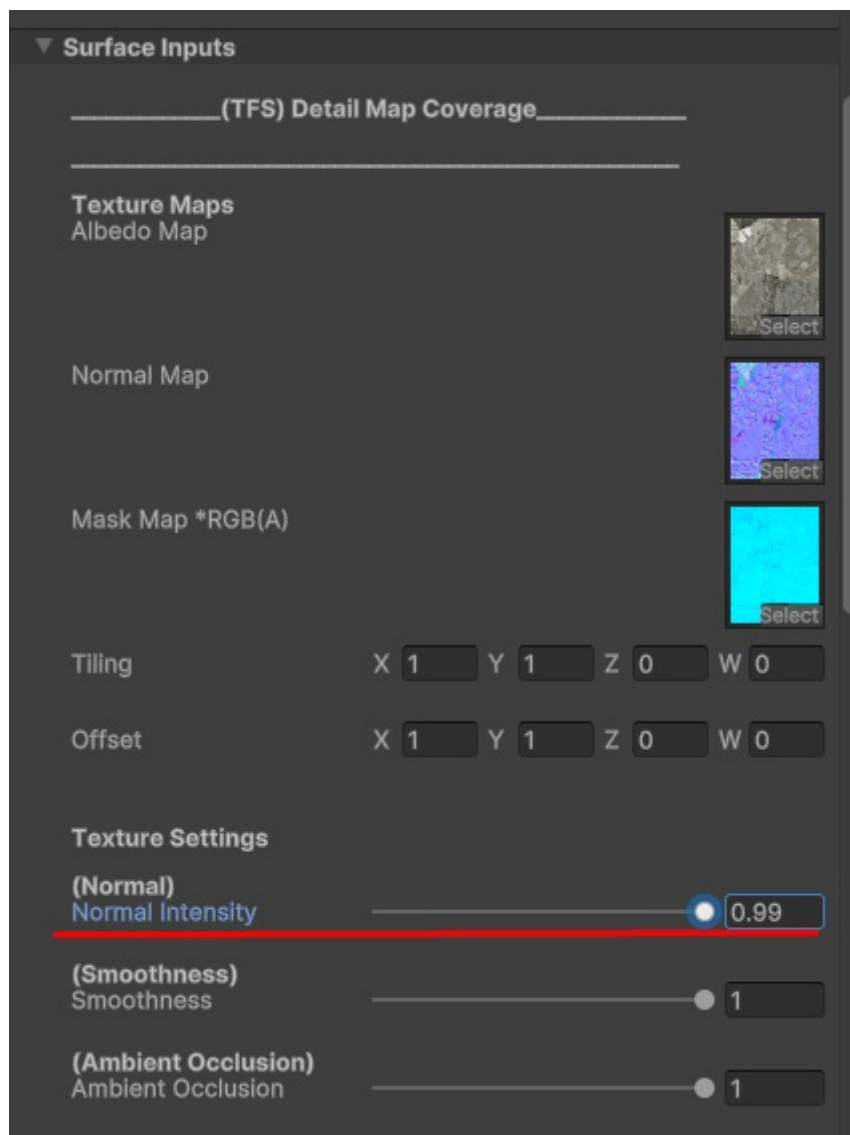
Known Bugs

TTFE Global Controller

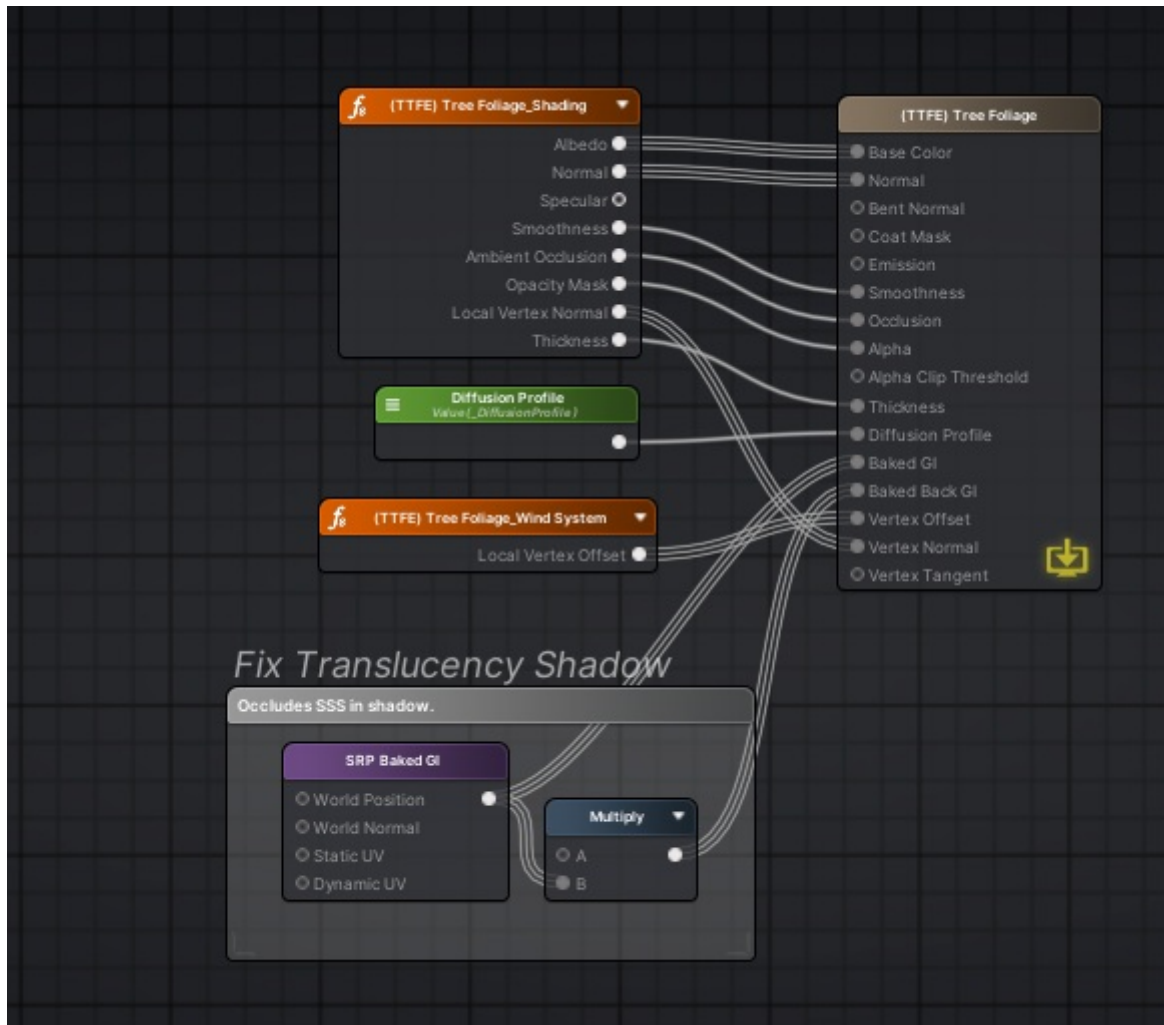
For the global controller to work with Unity terrain when using prefabs as terrain trees and terrain details, there must be at least one prefab mesh of each material in the scene so the terrain can instance it. If there is no object, the controller will not function.

HDRP Bugs

Some TFS shaders may create black squares, causing a glitchy glow in the scene. This occurs when the intensity of the normal map exceeds the value of 1. To fix this issue, you can set the normal map intensity to a value less than 1, for example, 0.99.

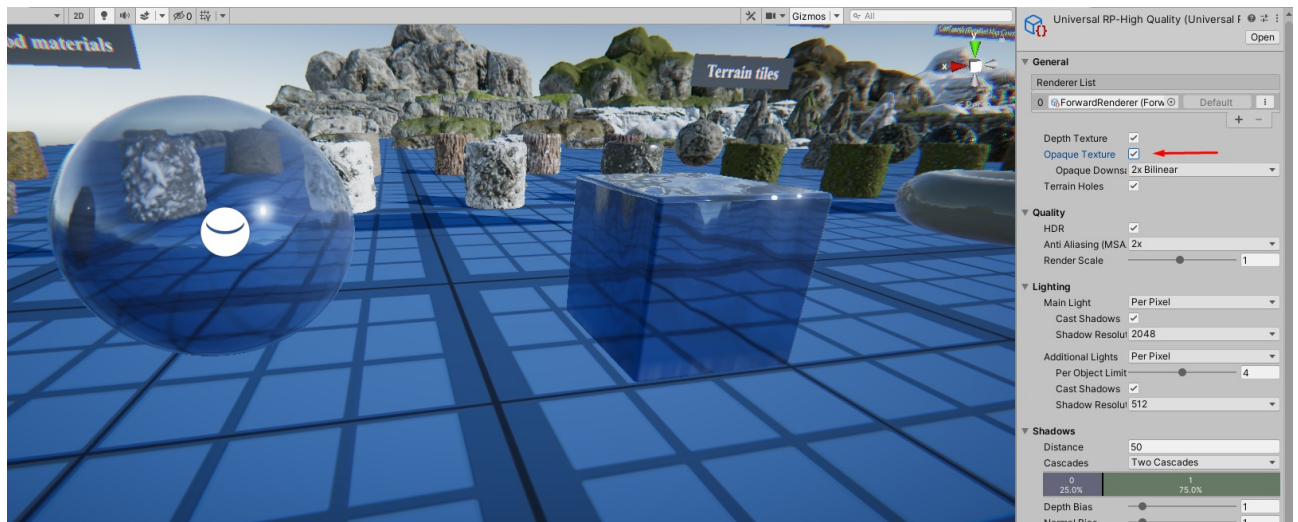
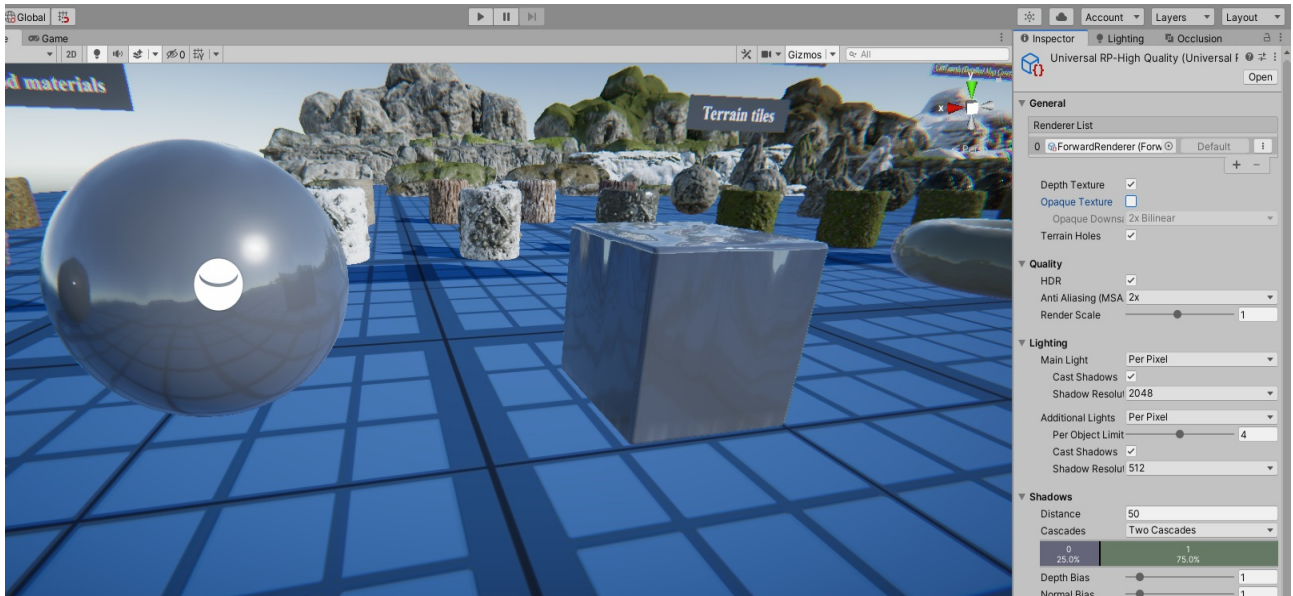


There are specific HDRP versions where "Baked GI" does not work, and it's necessary for occluding translucency in ambient light for TTFE shaders. Unfortunately, this is an internal Unity issue or Amplify Shader-related.



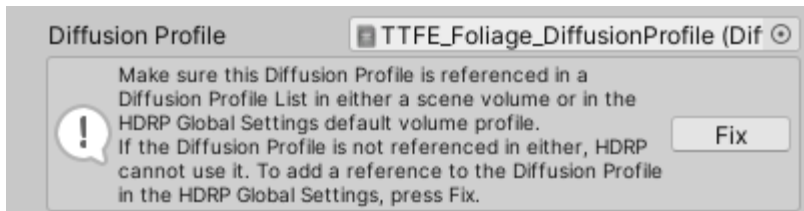
Transparent Materials URP

In (URP), the water and transparent materials may appear opaque because the setting is turned off by default. To enable transparency, navigate to the **"Profile Settings_URP"** folder, open **"UniversalRP-HighQuality.asset"**, then enable the **Opaque Texture**.

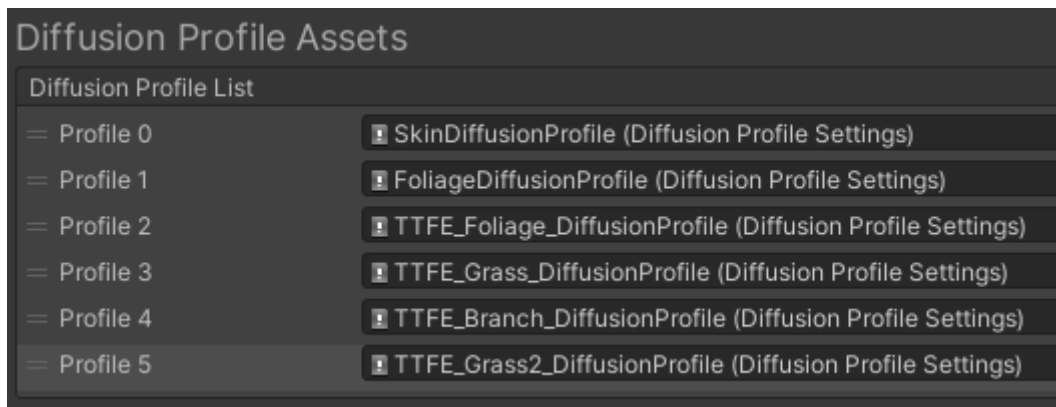


High Definition Render Pipeline (HDRP)

The models in the scene appear unnaturally green or pink. This issue is caused by a diffuse profile yet to be added to the HDRP asset. You can quickly fix it by selecting the material in question. When selected, you will see a warning window under the diffusion profile field in the inspector, simply click the "fix button" to add the supplied profiles to your project.



You can manually assign all the diffusion profiles in the "HDRP Global Settings" by going in to:
"Edit -> Project Settings -> Graphics -> HDRP Global Settings -> Diffusion Profile Assets"



Optimization Tips and Tricks

If you require further optimization for mobile devices, here are some helpful tips.

- Remove reflection probes from the scene, they can be expensive.
- When setting LOD levels, it's best to use a lower LOD level as LOD0. For trees and plants, the most optimal LOD is usually LOD 3, as the higher levels are designed to be viewed from a greater distance. The appropriate LOD for rocks and cliffs may vary.
- If you require higher fps, turn off the "LOD crossfade" for plants and trees as it significantly reduces performance.
- In URP, turn off Ambient Occlusion in the URP-Renderer, it's an expensive effect.
- In HDRP, ensure your "physically based sky" isn't set to real-time, it will drain performance.