Below the surface Tiled guide.

Setup

Ensure that when loading a project that you open the file labelled “level_editor.tiled-project” (located in: BelowTheSurface/levels/tiled) as this file contains all of the information for tile sets, extensions and preexisting tiled levels. When you open the file, it will prompt you to allow the use of external JavaScript extensions you should enable this as loading and exporting below the surface levels is handled by these extensions.

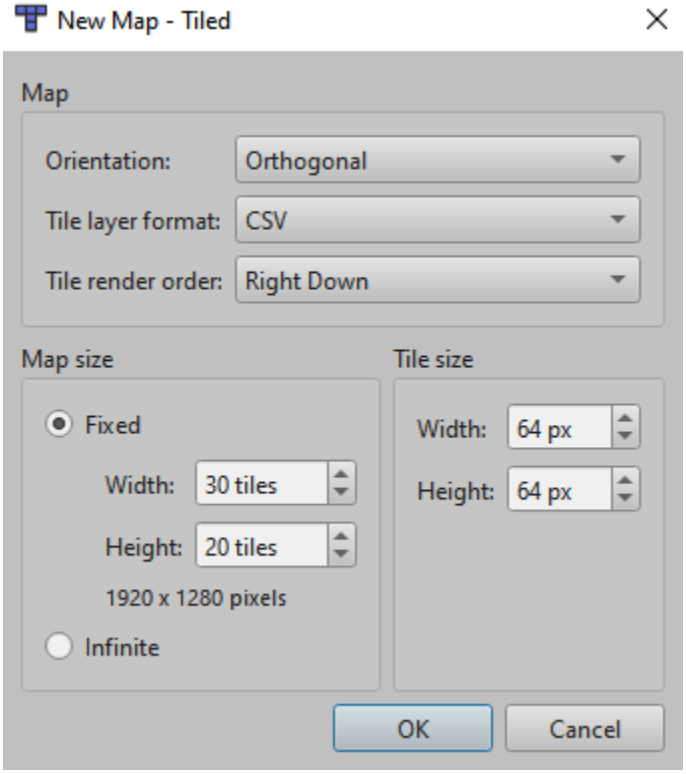
https://www.mapeditor.org/

Supported features

Below the surface’s level format is incredibly simple and many of the features in tiled either do not work or create issues with saving the format. The tools that work for level design are:

- Existing tilesets (do not add any new tilesets unless you know what you are doing and adjust the code in below the surface and the load/export extensions to support it)
- Map editing tools:
    - Stamp (transforms and terrain fill do not work)
    - Eraser
    - Paint bucket (transforms and terrain fill do not work)
    - Shape fill (transforms and terrain fill do not work)
    - Rectangle select
    - Magic wand select
    - Select same tile
    - Undo/redo
- Map tab tools
    - Resize map
    - Offset map
    - Select next/previous tile set
    - BTS level load
- Layer tab tools
    - New layer (only tile layer)
    - Group
    - Duplicate
    - Merge layer down
    - Select next/previous/all layers
    - Raise/lower layers
    - Show/hide, lock/unlock, current layer/other layers
- All options in file, edit, world, help and view tabs

Creating a new map.



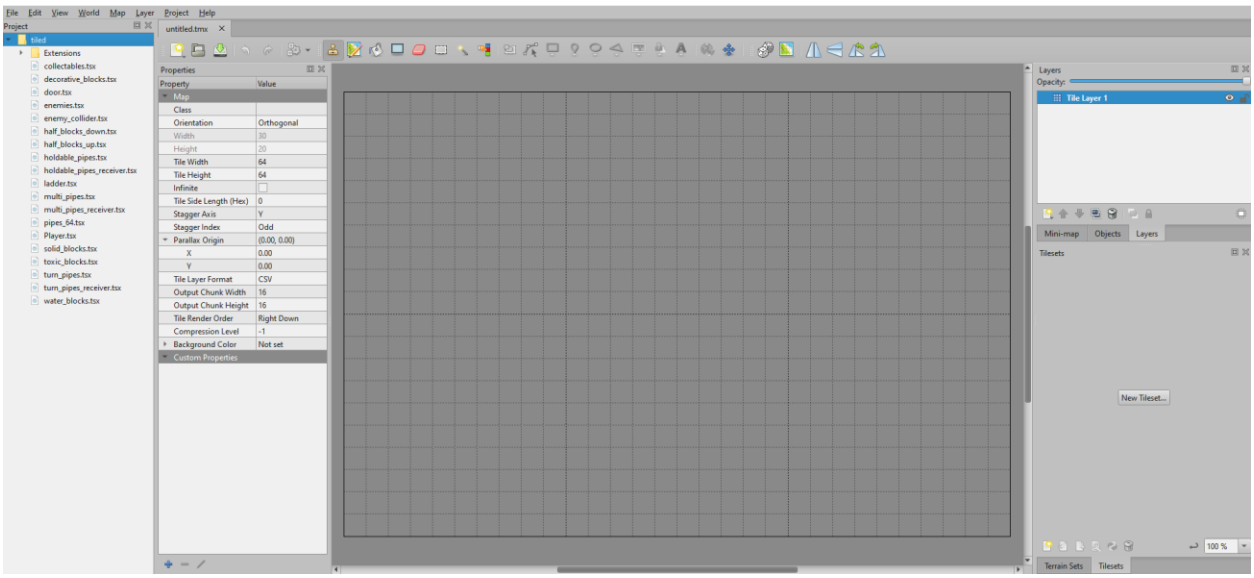
Here is an example of how to set up a new Below the Surface map in tiled.

Orientation should be set to orthogonal Tile layer format should be set to CSV.

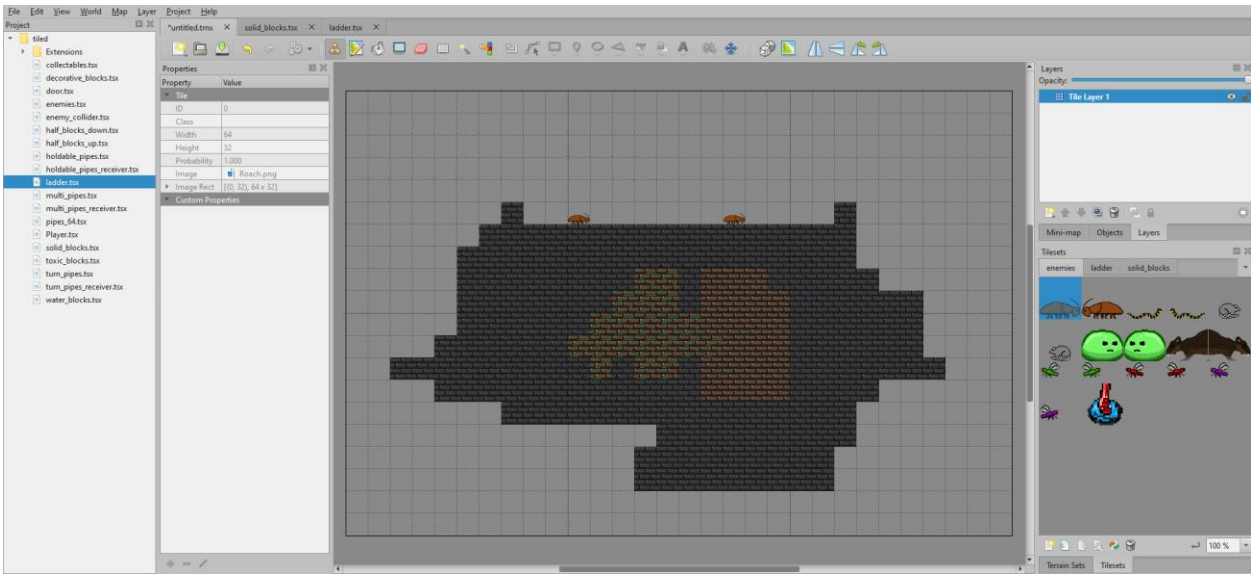
Tile render order must be set to Right Down as that is How Below the Surface handles tile position.

The map size should be fixed if you are creating a new map from scratch set this to the size you expect to use (don't worry this can be changed at any time).

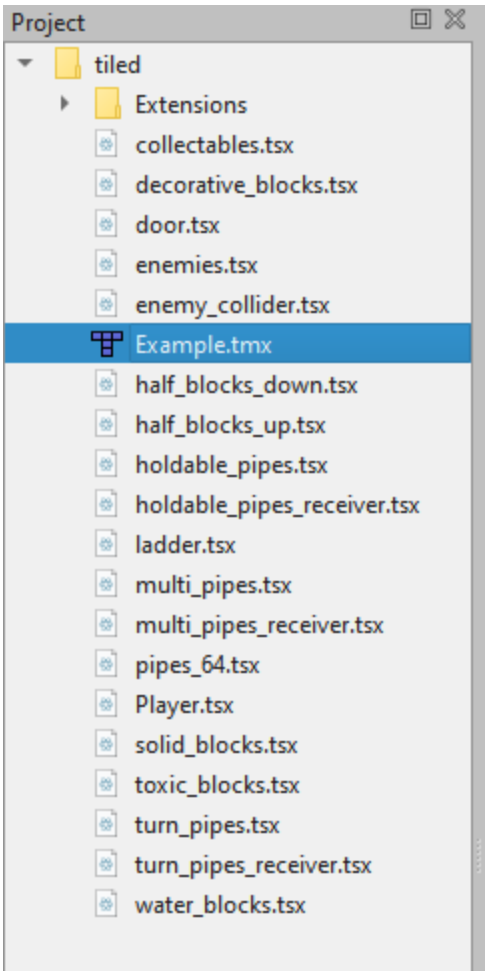
The Tile size must be set to Width 64 and Height 64 anything different will make tiles look different from expected and will be less accurate to the final product.



You should have a screen that looks similar to this when you are done. To add a tile set to the map double click on any of the .tsx files in the right corner.



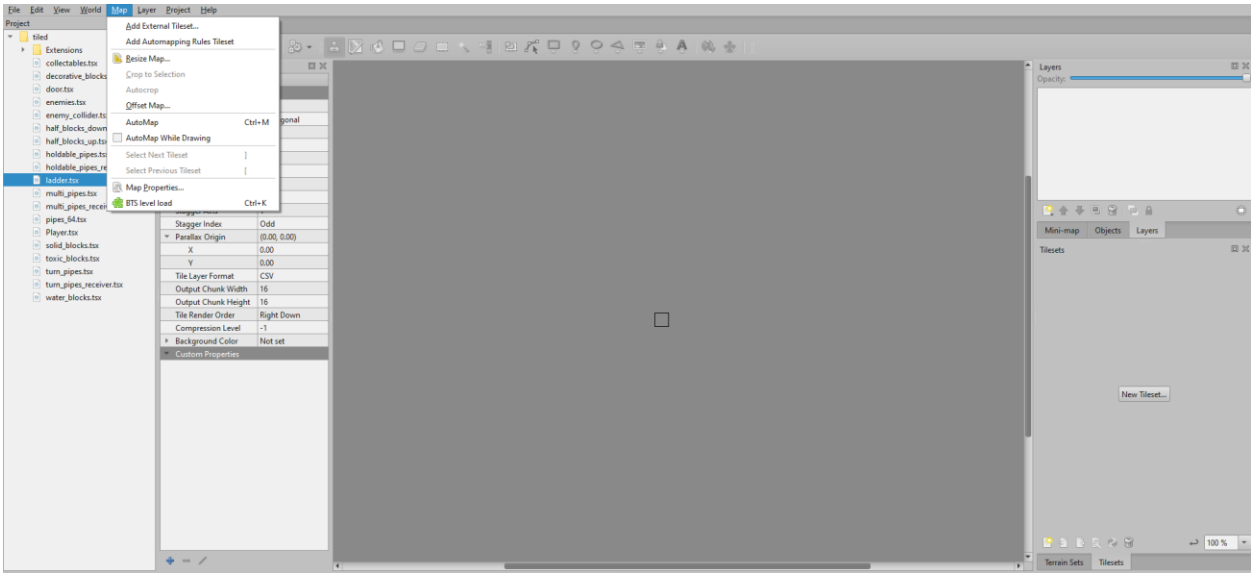
That will open a new tab next to the map you have created you can access and place tiles from any tile set you have open or have already placed on your map.



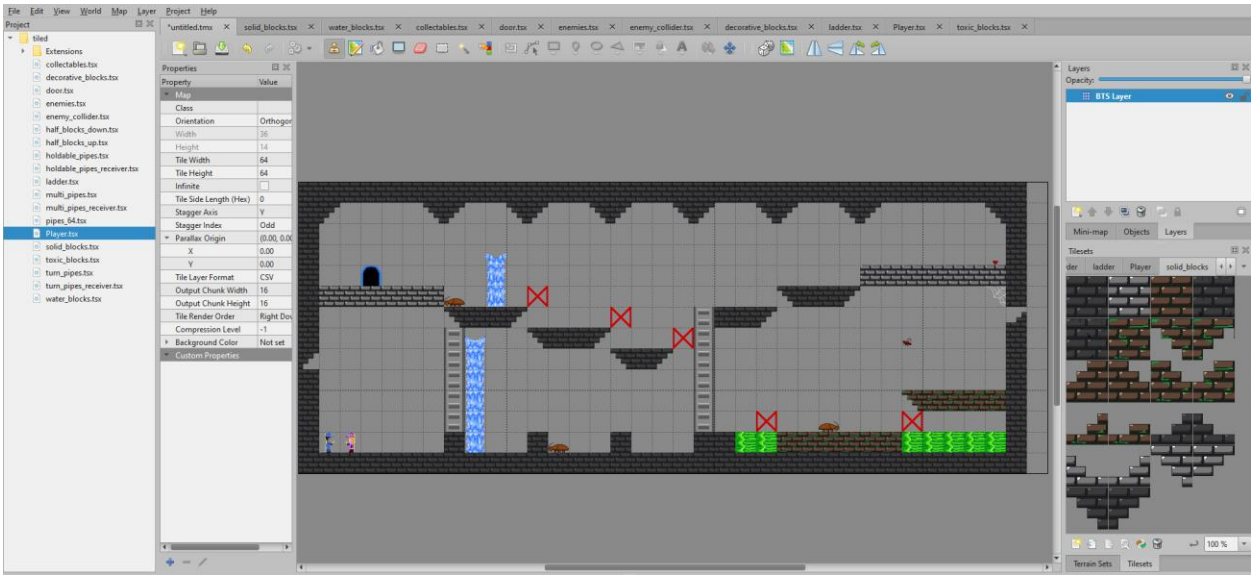
To name your map you just need to save it.

Loading a preexisting map layer.

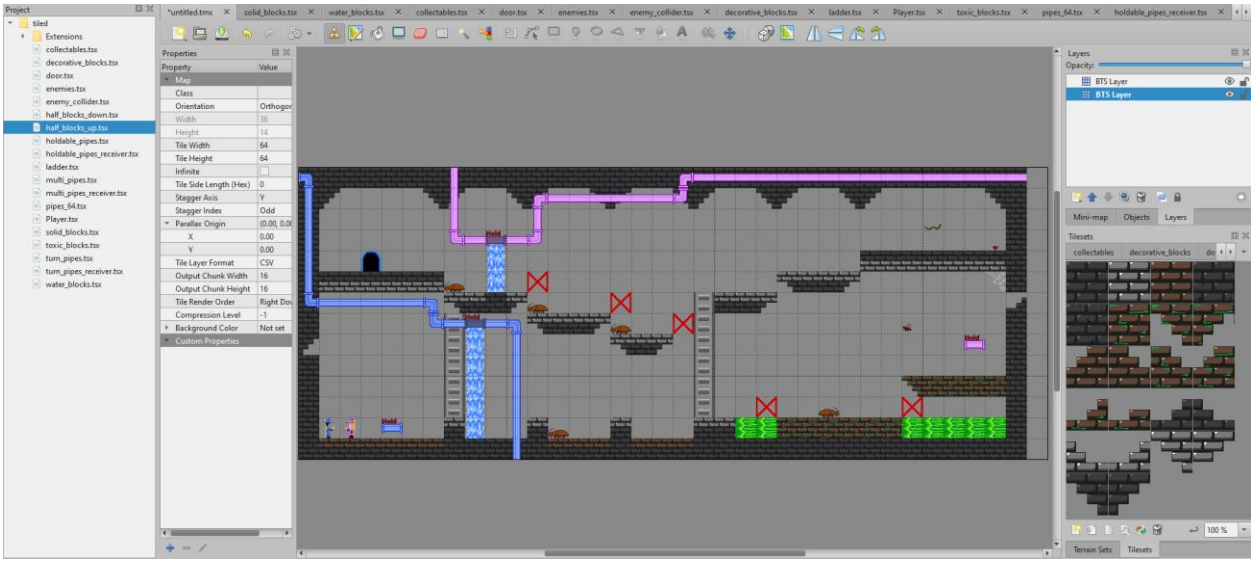
To load a preexisting map from Below the Surface, create a new map as per the previous instructions do not worry about the size of the map as the import function will handle that automatically (it is easier to just make the map 1x1 and let the program resize it for you).



Delete any layers that are not meant to be a part of the level you are loading. In the map tab of your toolbar there should be a function at the bottom of the list called “BTS level load” (shortcut: Ctrl+K).

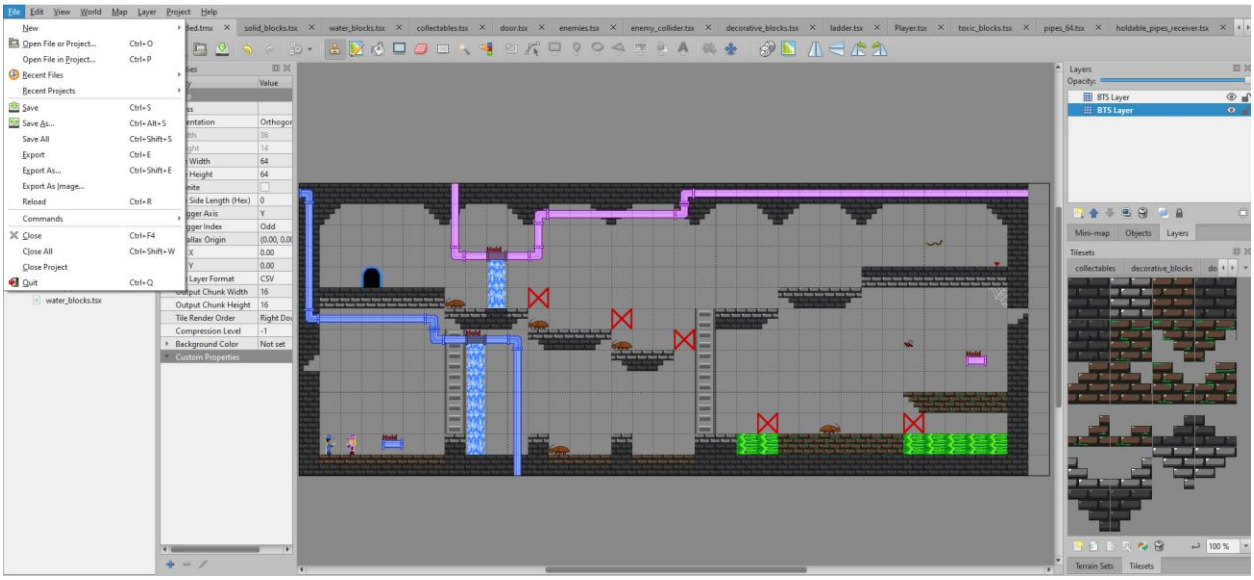


After locating your desired file, it should load onto the map for example this is layer 1 of level0 repeat the previous steps for each layer.

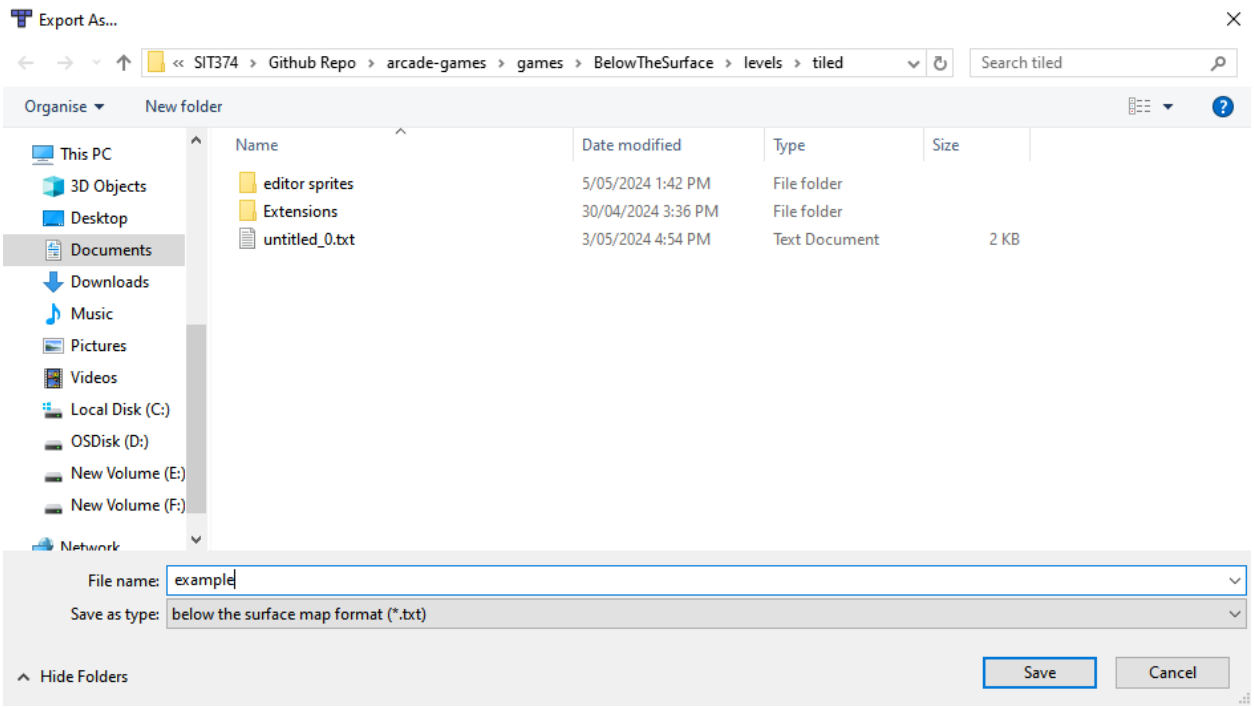


After you have loaded all of the required layers your map view should look something like this if it does not look right ensure that the layers are ordered correctly (rename each layer in order to prevent confusion).

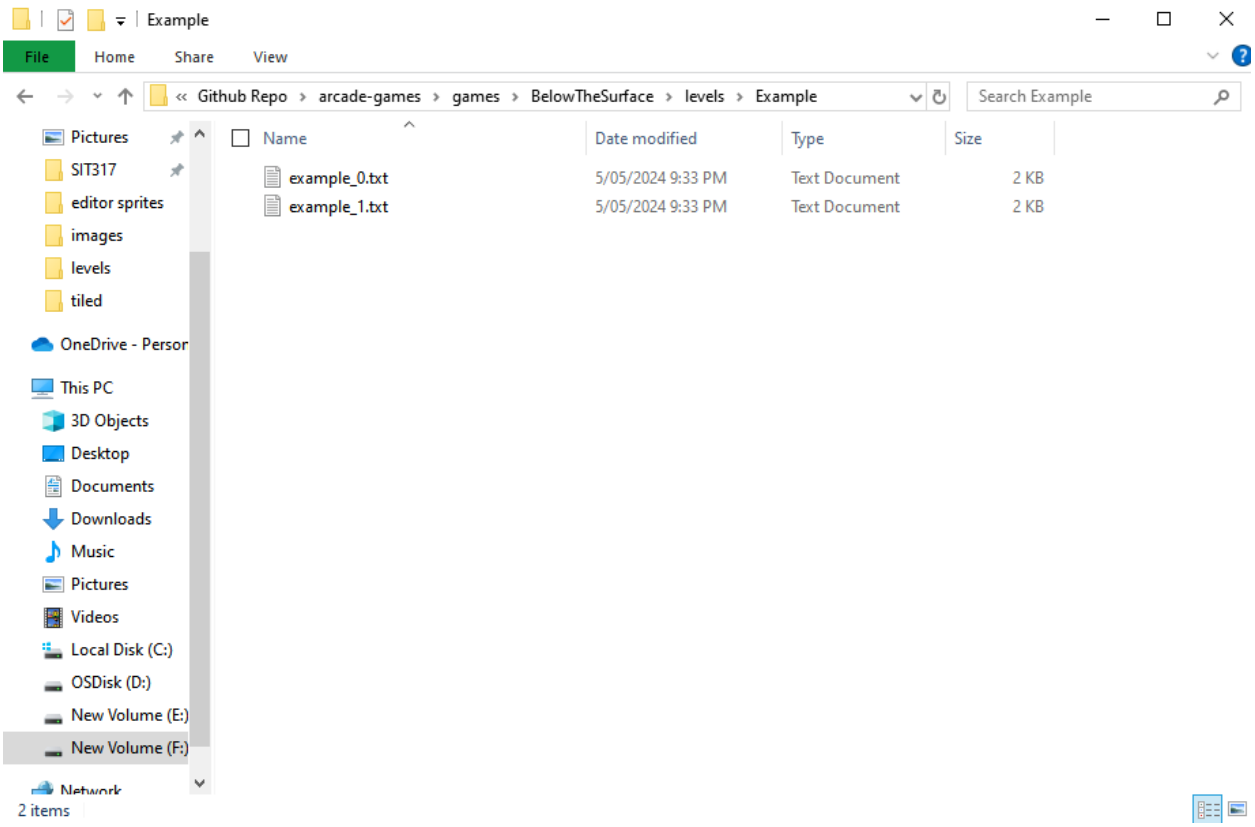
Export your new map.



To export your map, open the file tab and click on export as (shortcut: Ctrl+Shift+E).



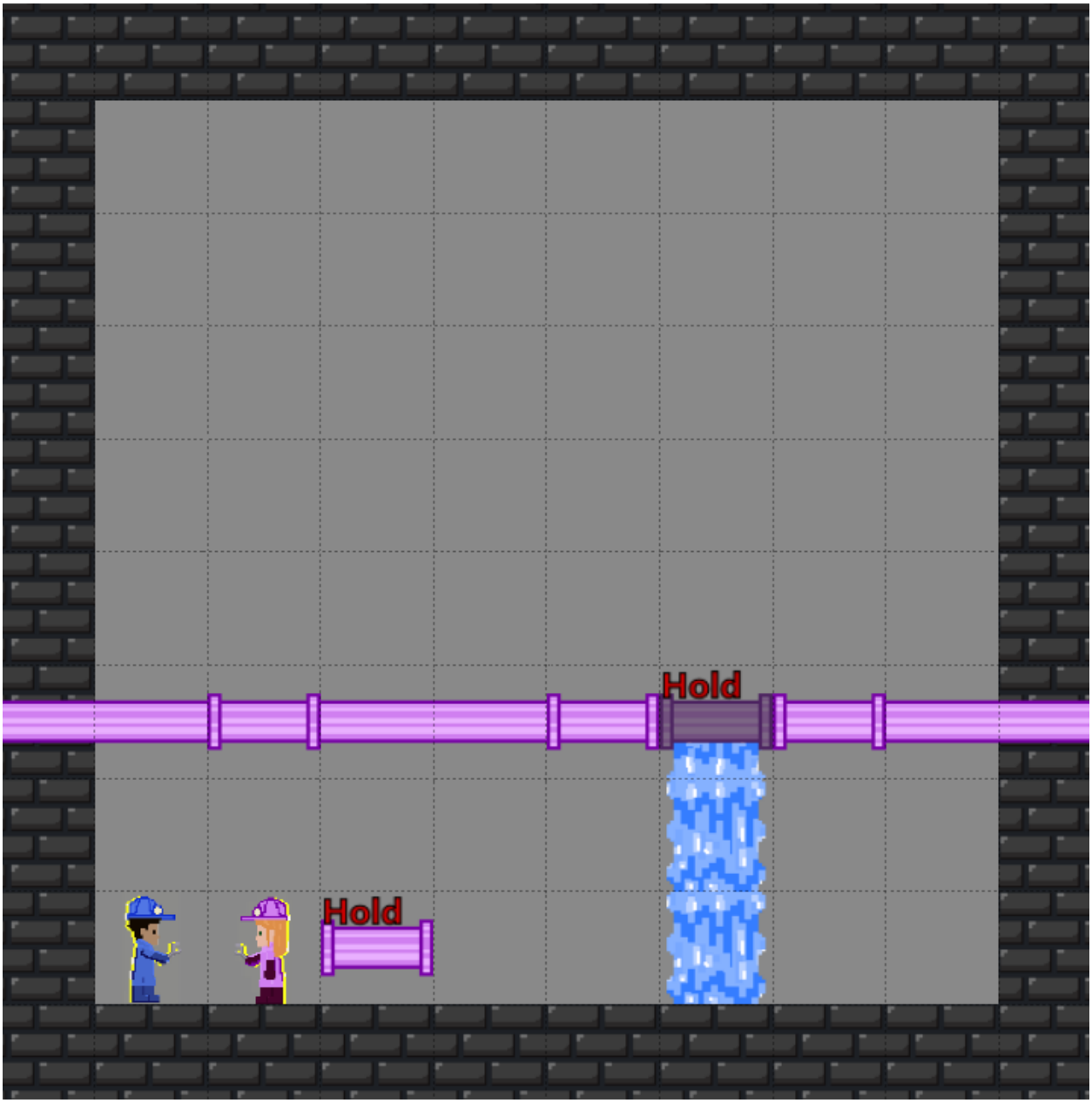
ensure that you export using the “below the surface map format (*.txt)”



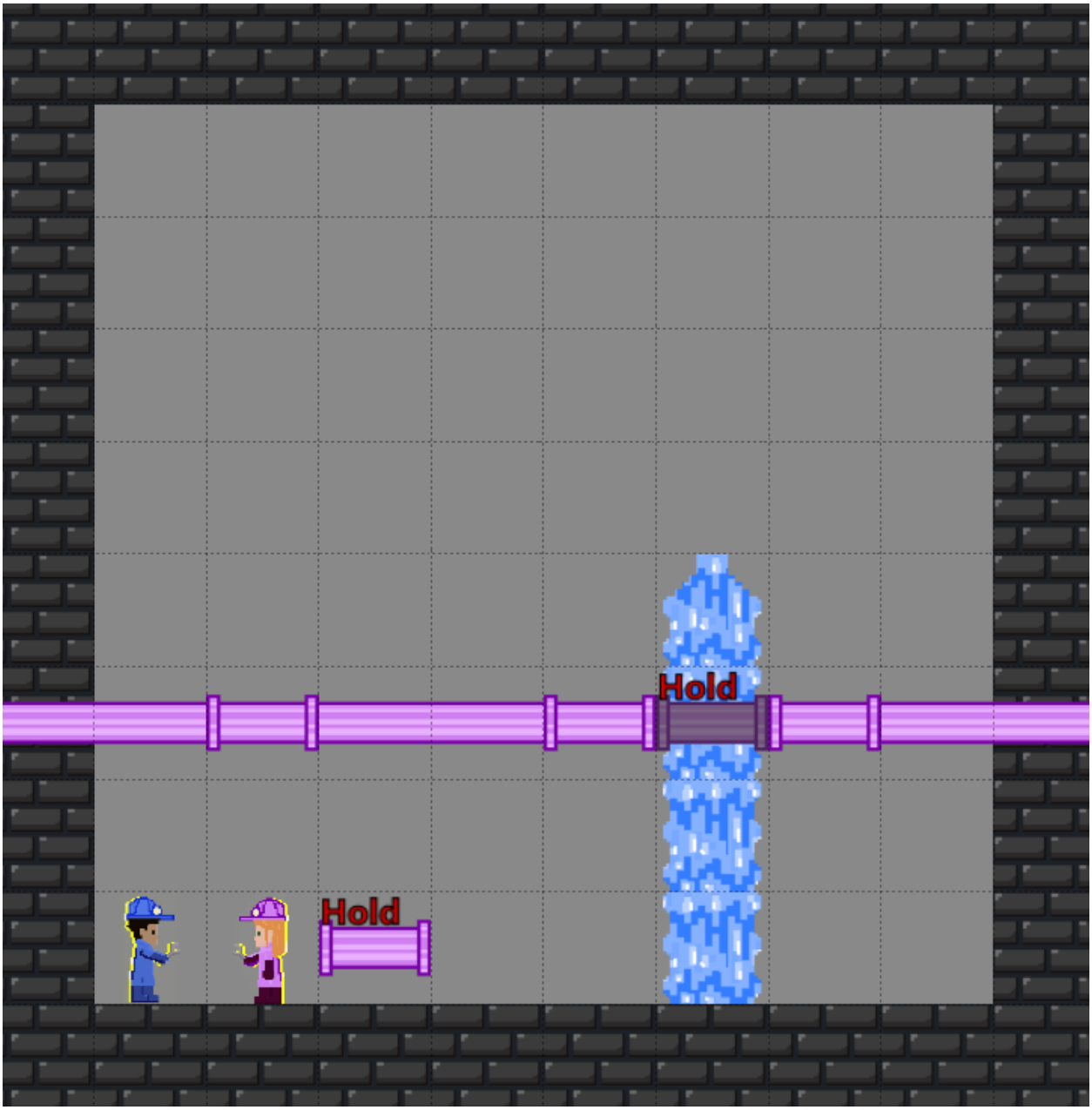
When exported it should have each individual layer in a separate file distinguished by the number next to it. These files can be directly loaded using the existing code in below the surface.

Level design mechanics.

Water.

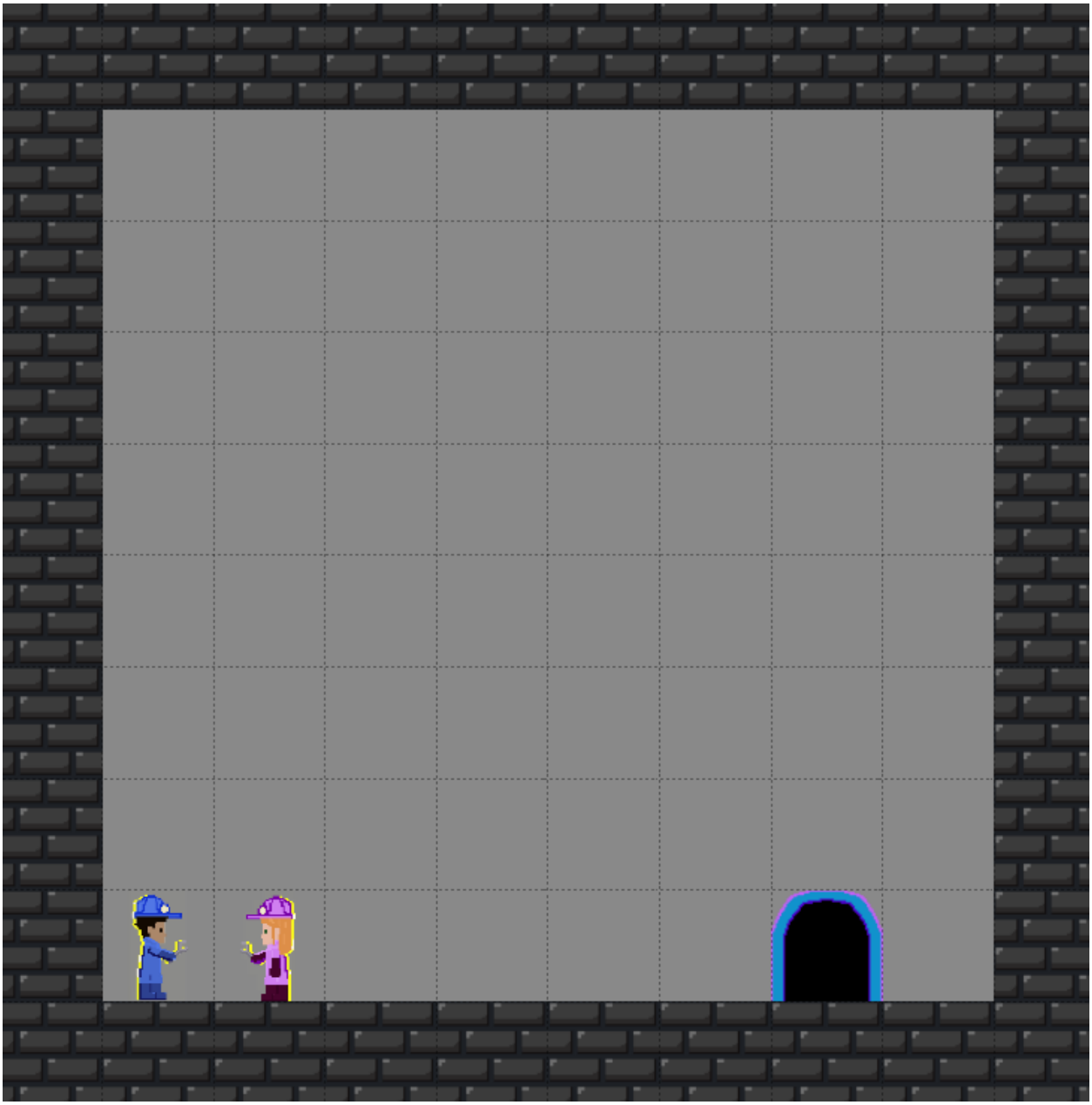


Water flows downwards (shocking I know) in order to change the flow state of a pillar of water you must set up an interactable pipe receiver on the exact same location as the topmost water tile but on a different layer. In the above example if the player takes the hold pipe to the receiver it will block the top water tile which will cascade down to turn of each following water tile below it.



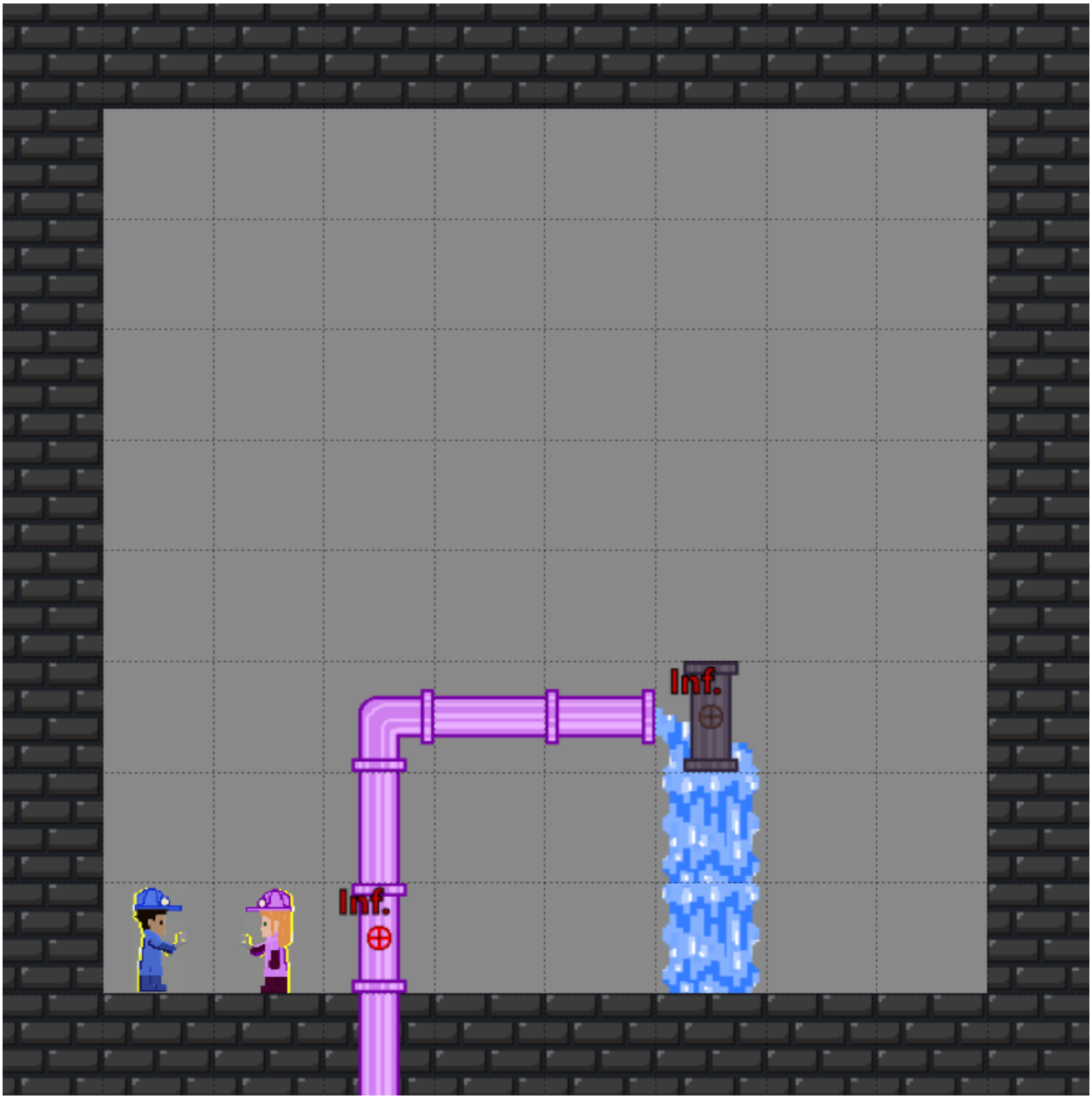
In the above example filling in the hold pipe receiver will not halt the water flow beneath it as the water block above interferes with the system and will create visual artifacts as the water under the receiver toggles on and off each frame avoid this in your levels if possible.

Required parts.



In order for the level to load correctly it requires at least one pink player, one blue player and one door all other components are optional. If any of these components are not featured the level will crash the program when attempting to load it.

Pipes



Interactable pipes require the same type of interactable pipe receiver (i.e. multi pipes require multi pipe receiver, hold pipe requires hold pipe receiver etc.) in order to work these need to be the same rotation and colour. The receiver pipe will be invisible in the final level (if it is a hold pipe receiver it will become visible when touched with the right holdable pipe). Non interactable pipes have no functional purpose and are just for decoration and to make level design readable to the player.