

Intro + TC

Final Build: [NavyGate by AlexMalakovv](#)

Source Code: [source repo](#)

TLDR: [short solution doc](#)

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Items

- Whip:

- The whip is used to cross gaps, canals or an abyss. When equipped, the player will be prompted to press space near a grapple point, and will be moved across their obstacle to their destination. The whip can be found in the chest **Vault**. A grapple point is the following sprite:



- Floaties

- Floaties are used to swim across anything that is flooded. Floaties are found in the chest in **Inside-Joke**.

- Torch

- The torch is used to see in the dark and clear cobwebs. The torch can be found in the chest in **Kinematic**.

- Magnet

- The magnet is used to reverse the rotation of any gear or spinner, and to reverse the direction rooms are rotated by **Factory** or shifted by **Motor**. The magnet is found in the chest in **Pools**.

- Amulet

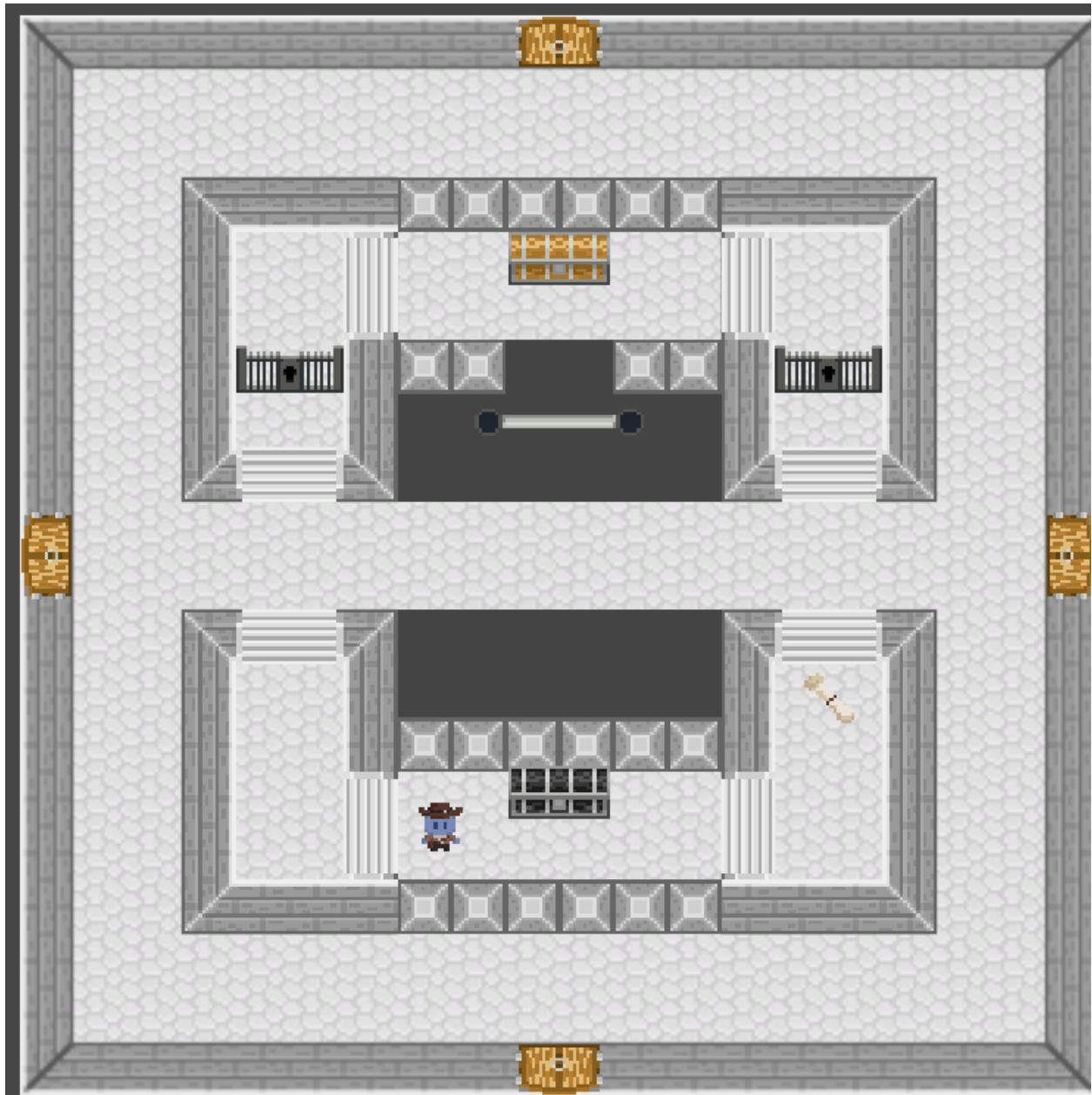
- The amulet is used to repel any mummy. It can also be used to swap the properties of wire puzzle buttons, making purple framed buttons gain gray frames and vice versa. The amulet is found in the chest in **Tunnel**.

NOTE: when describing directions for anything in the game, I am referring to the directions before the room is rotated. Once a room is rotated all directions are updated to the room's new rotation.

Default Rooms

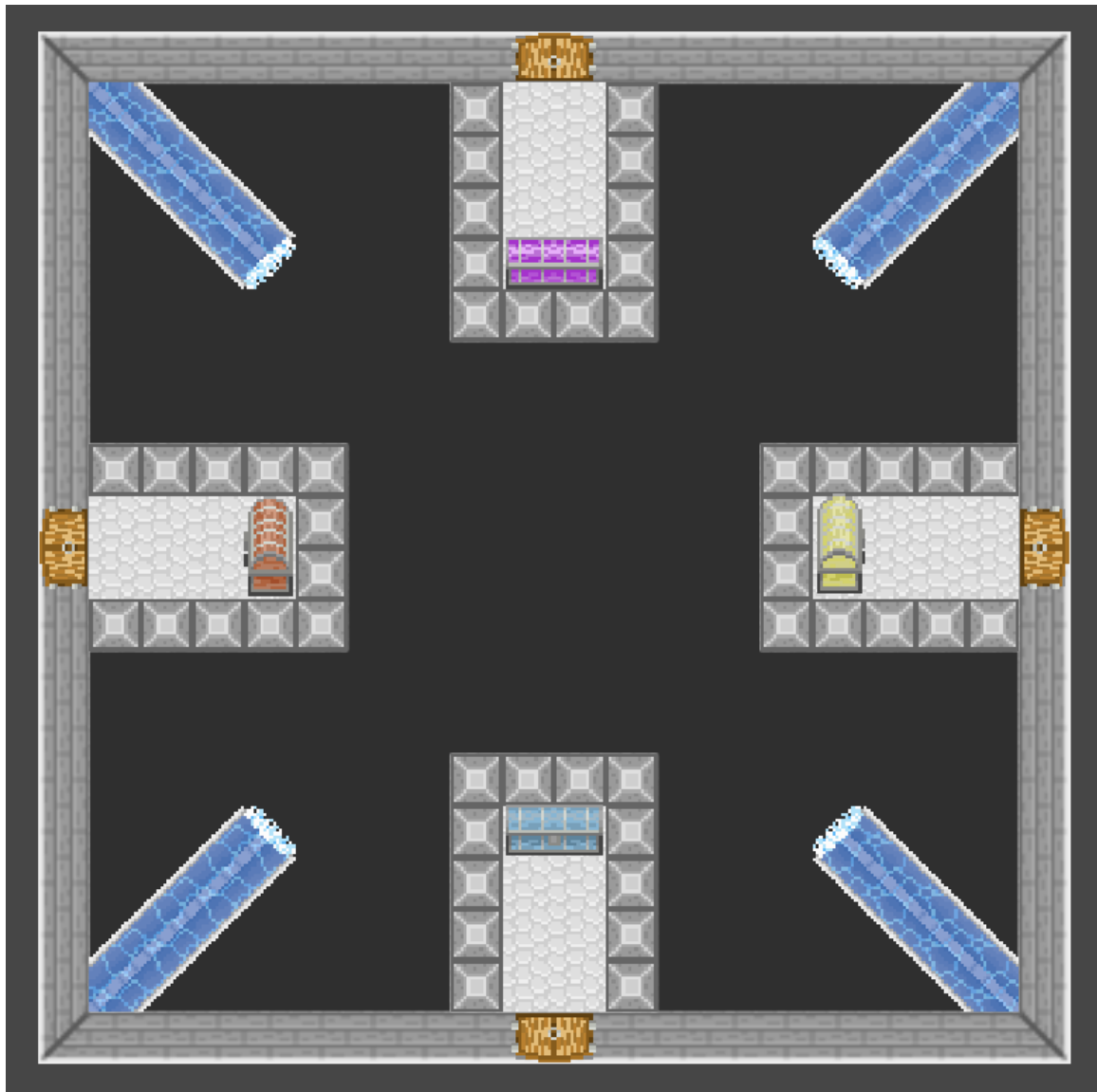
There are 2 default rooms within the puzzle. The starting room (vault) is the room the player always starts in when the game starts or restarts. This room contains a black colored chest which always contains the second room (abyss). These rooms have no unique mechanics.

Vault



Vault has all 4 doors, 0 canals and 0 mirrors. By the player's spawn location there is a chest containing **Abyss**. This room also contains a chest containing the Whip item. This chest requires a key to access. Vault also has a note from N.T.E. telling the player about a treasure somewhere in the game.

Abyss



Abyss has 4 doors, 4 canals entering from every corner of the room, and no mirrors. The canals cannot be accessed or fallen into. They also do not flow into each other. The canals appear to fall into the abyss of the room. Abyss also contains 4 separate colored chests. Each chest contains a set of rooms corresponding to its color.

Water (blue) Rooms

There are 6 rooms in the room set. All of these rooms contain canals, although canals are present in rooms in all other sets. **Spring** contains the only water source that allows water to flood canals across rooms.

Canal mechanics:

- Bridges
 - When the canal a bridge is over is flooded, players can use the bridge to cross the water.
- Canals
 - Canals are flooded when they are connected to a water source. Canals that do not go across rooms do not drain when they do not have a path to a water source. Canals that do go across rooms do drain when they are not connected to a water source. All canals drain if they are connected to a drain and are not connected to a water source. The only water source for canals that go across rooms is in **Spring**. Canals that are wide allow for a player to fall inside, requiring a ladder to escape the canal.
- Dams
 - Dams have two states: open and closed. When a dam is powered, its state changes between the two. When dams are open, water can flow or drain between the two canals.
- Gates
 - Gates are only present in **Whirlpool**. Players cannot pass through this.
- Grates
 - Players can walk on grates to cross canals. When canals are not flooded, players can walk under grates. When a canal is flooded, players can walk onto grates if have the floaties.
- Ladders
 - Players can use ladders to climb out of canals they have fallen into
- Water Wheels
 - When the canal it's in is flooded, the wheel can power something.

Pools



Pools has 4 doors, 1 canal entering from the north, and no mirrors. Pools also contains several canals dammed off from each other, and a water source in the top left canal. Pools contain a chest with the magnet item. This chest requires a key to access. Pools also contain a key in the top right. To get the key, players need to open all the dams using the buttons, and then first close the dam to the bottom right canal and then the dam by the top left canal. This allows the player to to the top right key using the bridges and the drained canal. The chest can be accessed by flooding the top canal from another room.

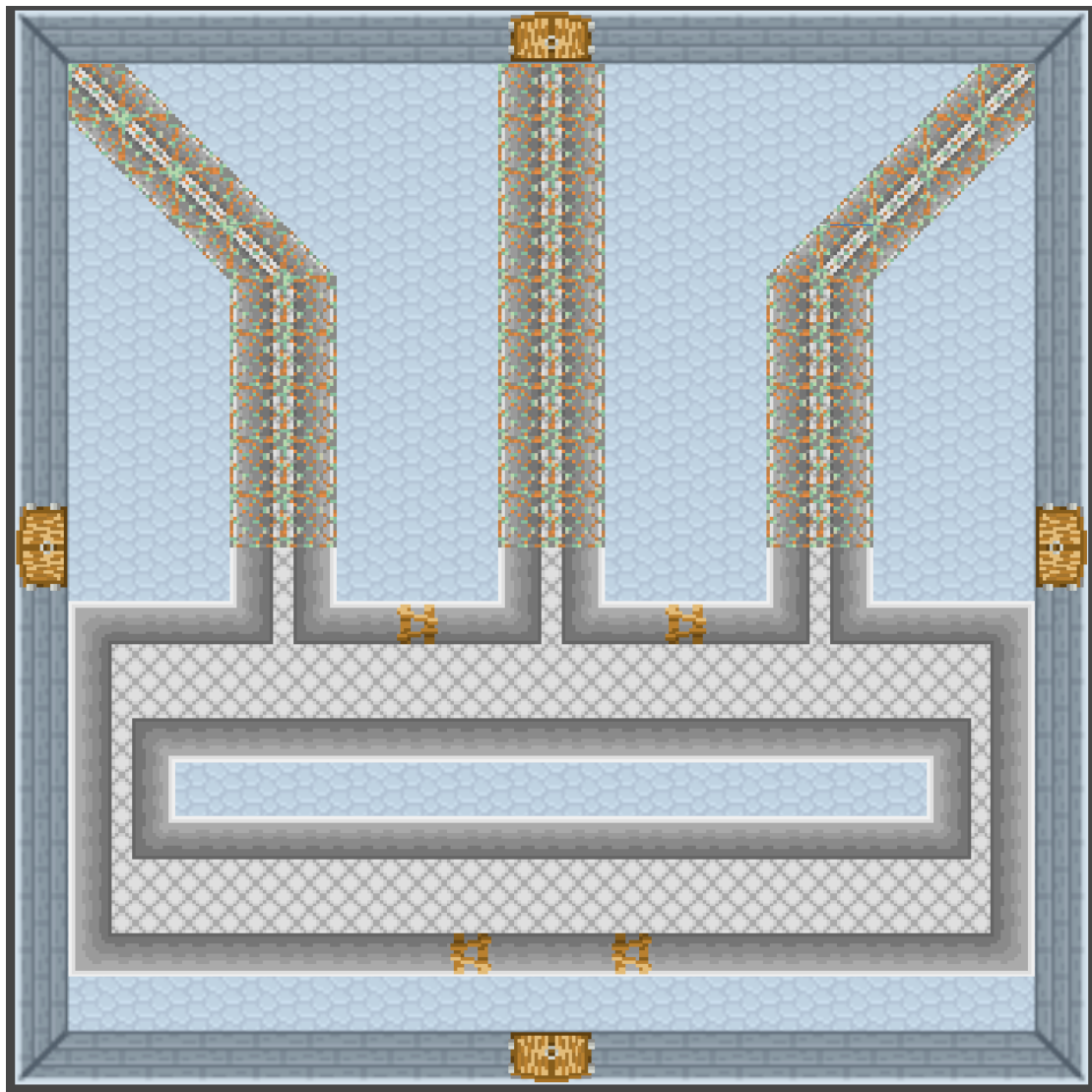


Runoff



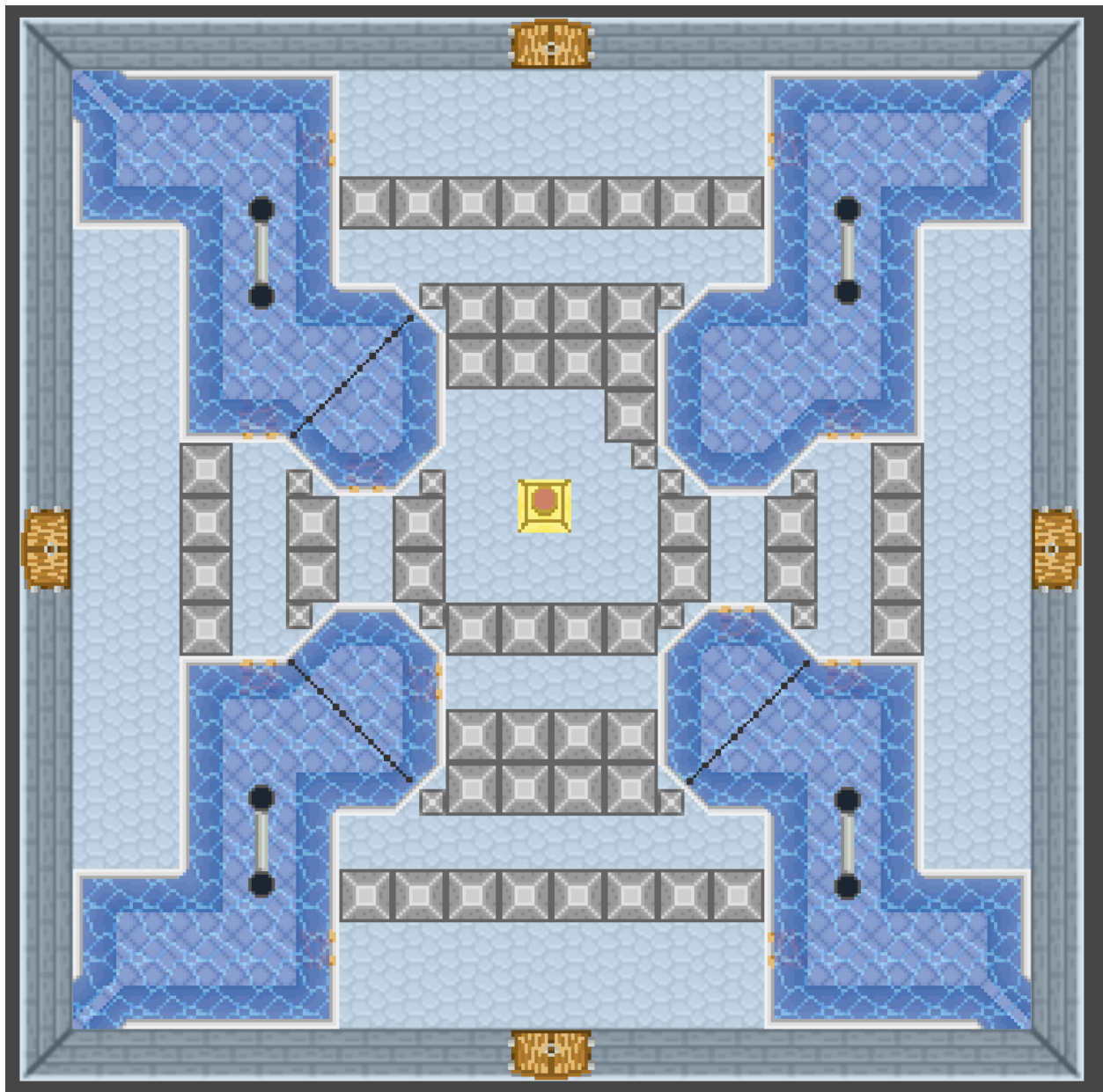
Runoff has 4 doors, 1 canal entering from the northwest and southeast, and no mirrors. Mirrors also contains 12 canals in pairs of two, one containing water and the other containing a drain. The dams between each pair are controlled by the nearby button. These buttons can either be accessed via the whip or with floaties. The puzzle for this room will be covered in a later section.

Yacht



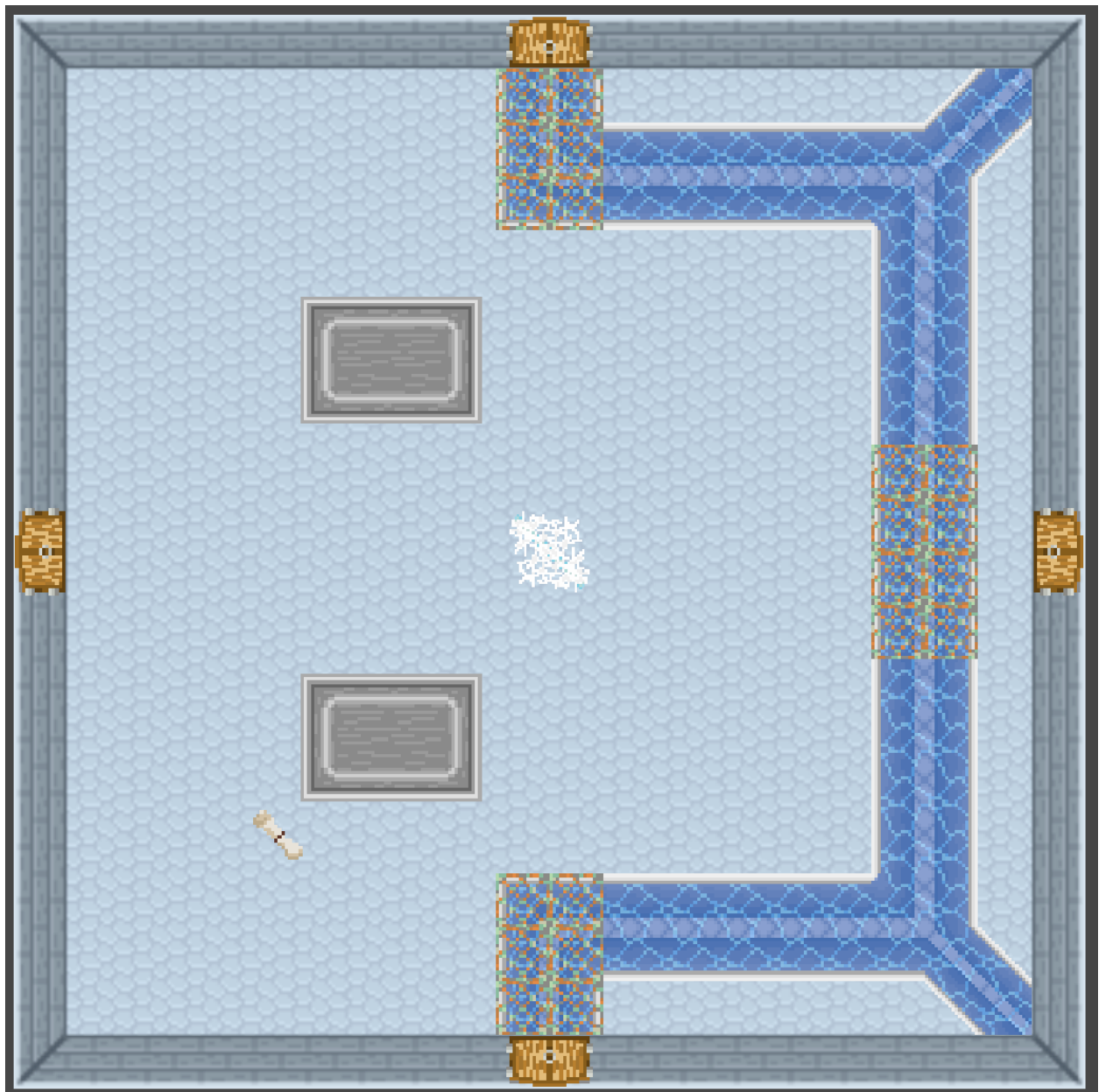
Yacht has 4 doors, 1 canal entering from the northwest, north, and northwest. This canal has grates on the top half allowing a player to access the top, left, and right doors within the room. The canal prevents a player entering from the bottom door from getting to any other door unless the canal is flooded and the player has floaties.

Whirlpool



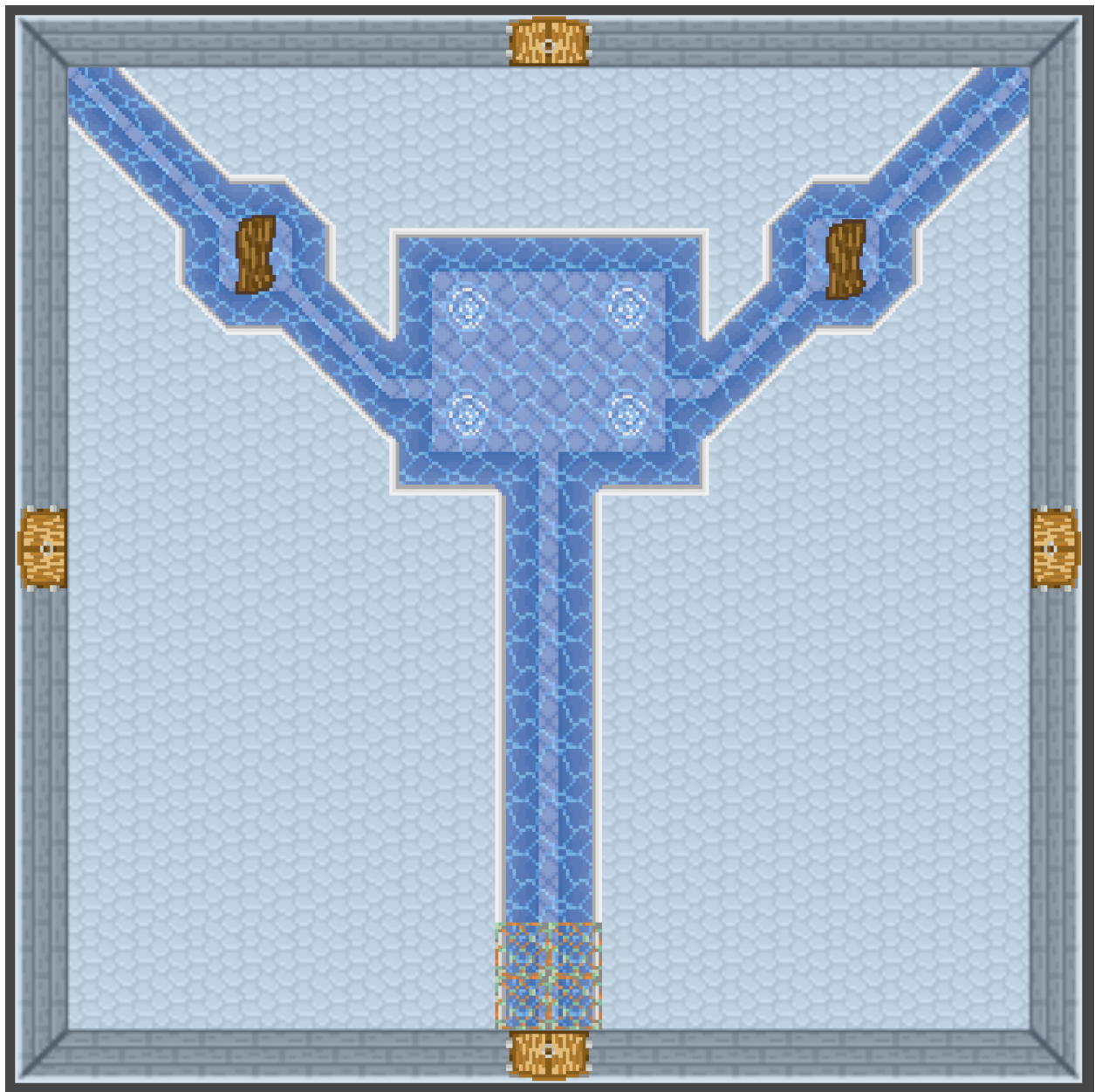
Whirlpool has 4 doors, 4 canals entering from every corner of the room, and no mirrors. The canals in whirlpool do not connect. Whirlpool also has a golden button in the center of the room. Players entering from the room can access the door they came from, and the top and bottom door. If they have the whip and enter from the left or right, they can access any door. Whirlpool also has a golden button. This button can be accessed if all four canals are flooded and the player has floaties.

Xylem



Xylem has 4 doors, 1 canal entering from the north, northwest, south and southwest, and has a mirror reflecting from left down. Xylem also has 2 coffins, one of which is opened by the golden button in Whirlpool. Coffins will be covered in a later section. Xylem also has a note from N.T.E. hinting a link between the golden button in **Whirlpool** and these coffins.

Spring



Spring has 4 doors, 1 canal entering from the northeast, northwest, and south, and no mirrors. Spring contains the water source, allowing canals to flood in this and other rooms.

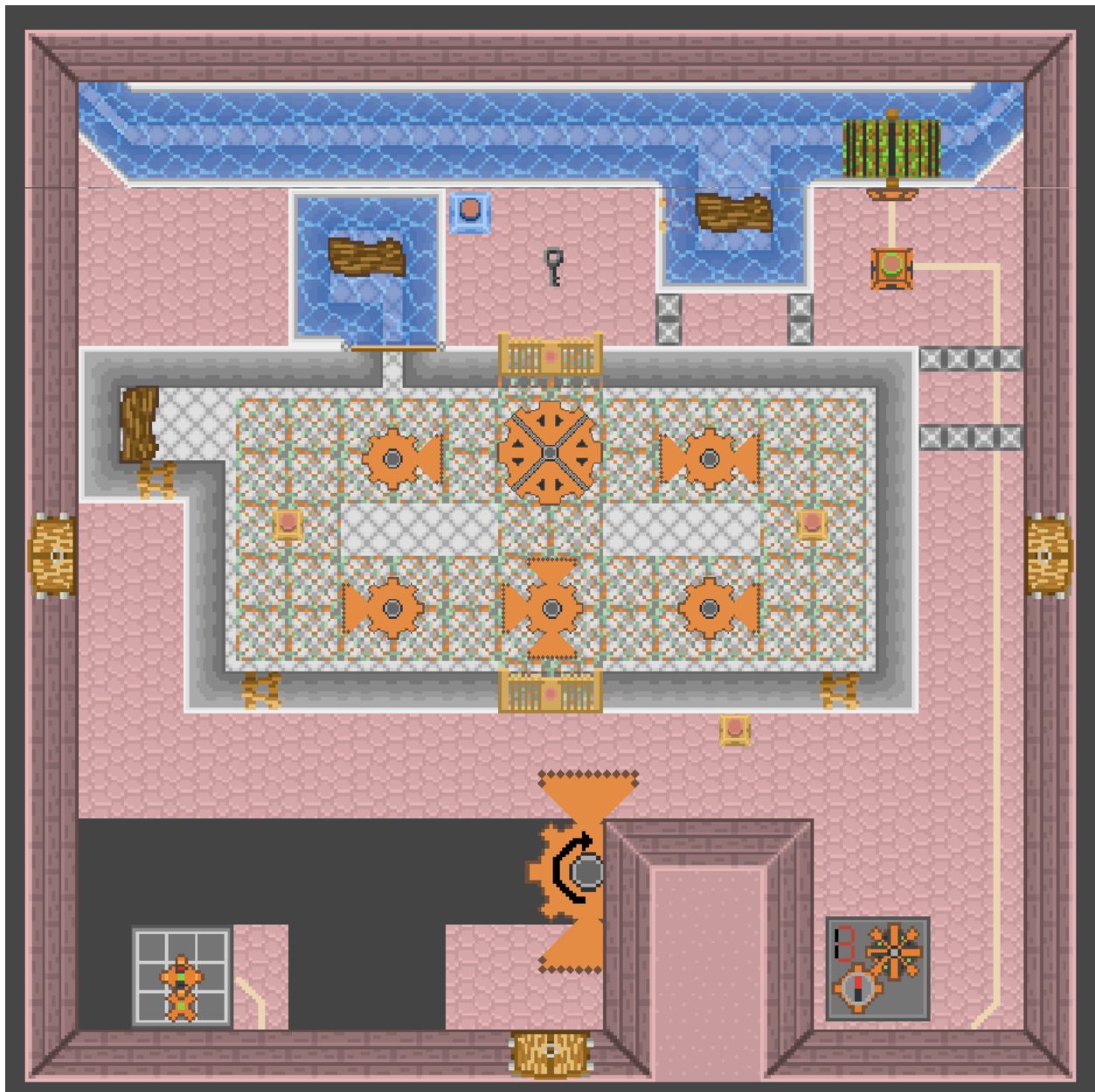
Rotation (red) Rooms

There are 6 rooms in the room set. All of these rooms contain at least one gear or spitter. **Factory** and **Kinematic** both contain compasses, and **Factory** contains a room rotator while **Motor** contains a room shifter.

Rotation mechanics:

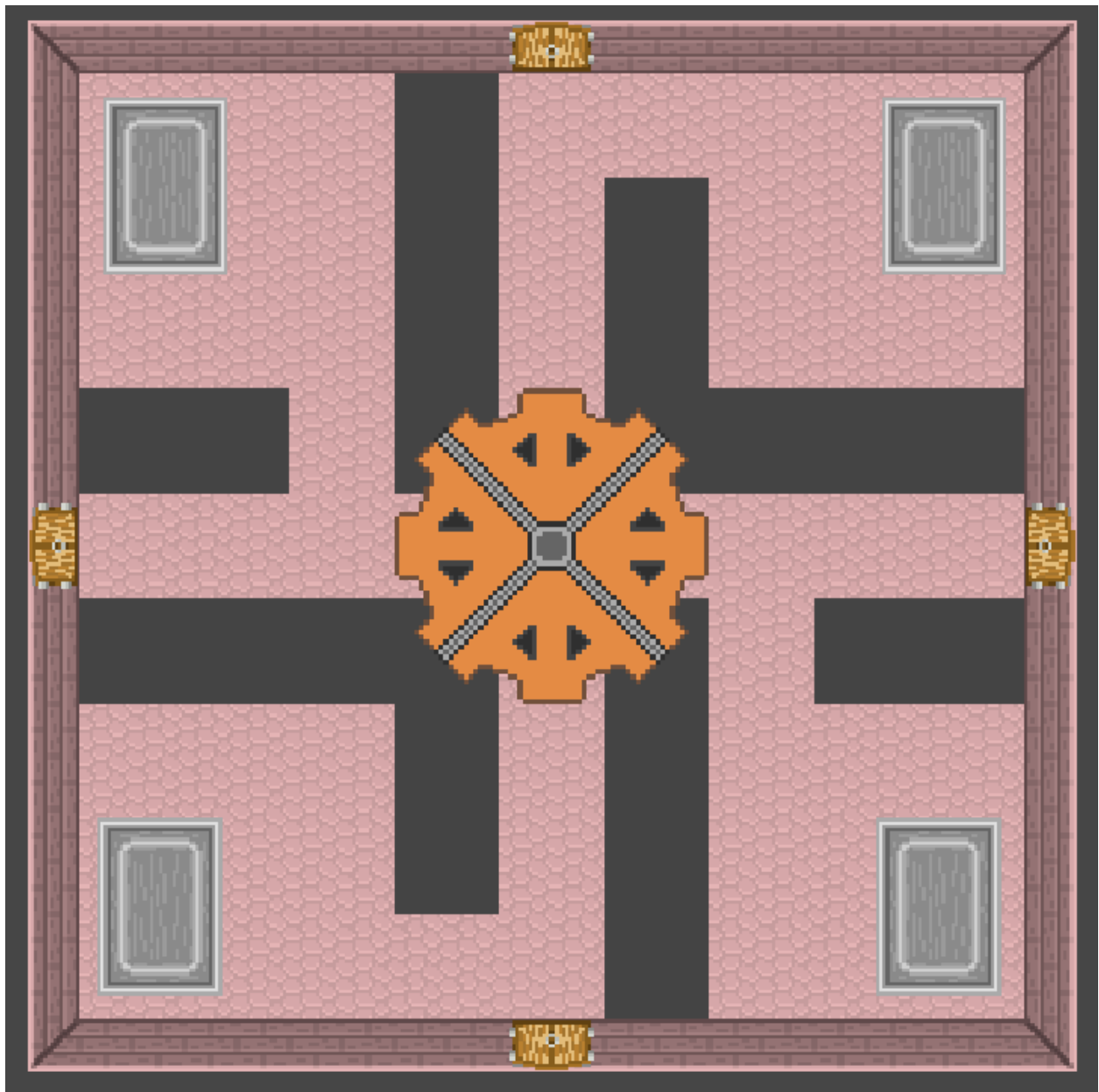
- Gear
 - When a player stands on a gear and uses the space input, the gear rotates with the player. Some gears, such as the one in **Diametral** rotate in exactly 180 degrees instead of 90, cutting off certain paths. Other gears, such as in **Factory** are only one way, however can be reversed by the magnet.
- Spinner
 - When a player stands on a spinner and uses the space input, the spinner rotates 90 degrees and swaps the direction of its next rotation. This rotation direction can also be swapped by the magnet, giving the player the ability to rotate it to any destination.
- Compass
 - The Compass tracks the number of rotations completed by a room. If the rotation direction is swapped due to the magnet and the room is rotated, the compass will reset to one rotation. The shown number on the compass displays how many rotations are needed for it's effect.
- Room rotator
 - When powered, it rotates its room (**Factory**) and the neighboring room on the wall it is attached to, if it exists. That room is rotated in the opposite direction **Factory** is rotated in.
- Room Shifter
 - When powered, shifts all rooms around the shifter's room (**Motor**) one spot clockwise (unless the player has the magnet activated). When **Motor** is on the edge of the map, it does not shift rooms out of bounds, and moves them to the next slot that is on the map instead.
- Rotation Puzzles:
 - When a activates the button outside the puzzle, the gate opens and the puzzle resets. Once on the puzzle, the player must stay on the grates and activate every button in the correct sequence.

Factory



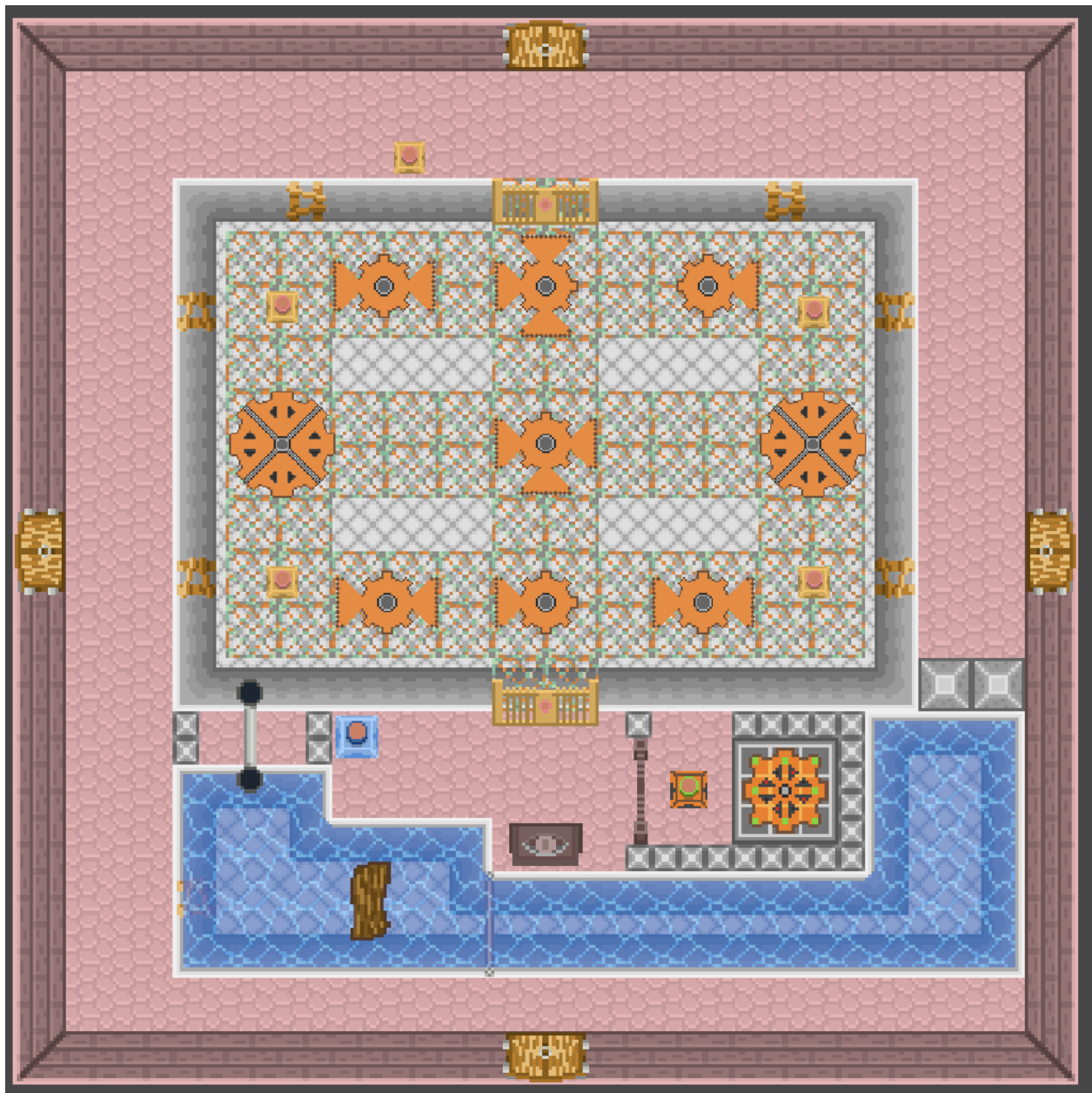
Factory has 3 doors missing one at the top of the room, 1 canal entering from the northeast and northwest, and no mirrors. Factory's bottom door is connected to a 1-way gear, meaning you cannot exit from the bottom door if you are in the room. Factory has a compass which needs to be rotated 3 times, and a room rotator which is activated when the canal in the room is flooded and a button in the top right is pressed. Factory also has a key and a rotation puzzle to get to the key. Completing the puzzle is also necessary

Hub

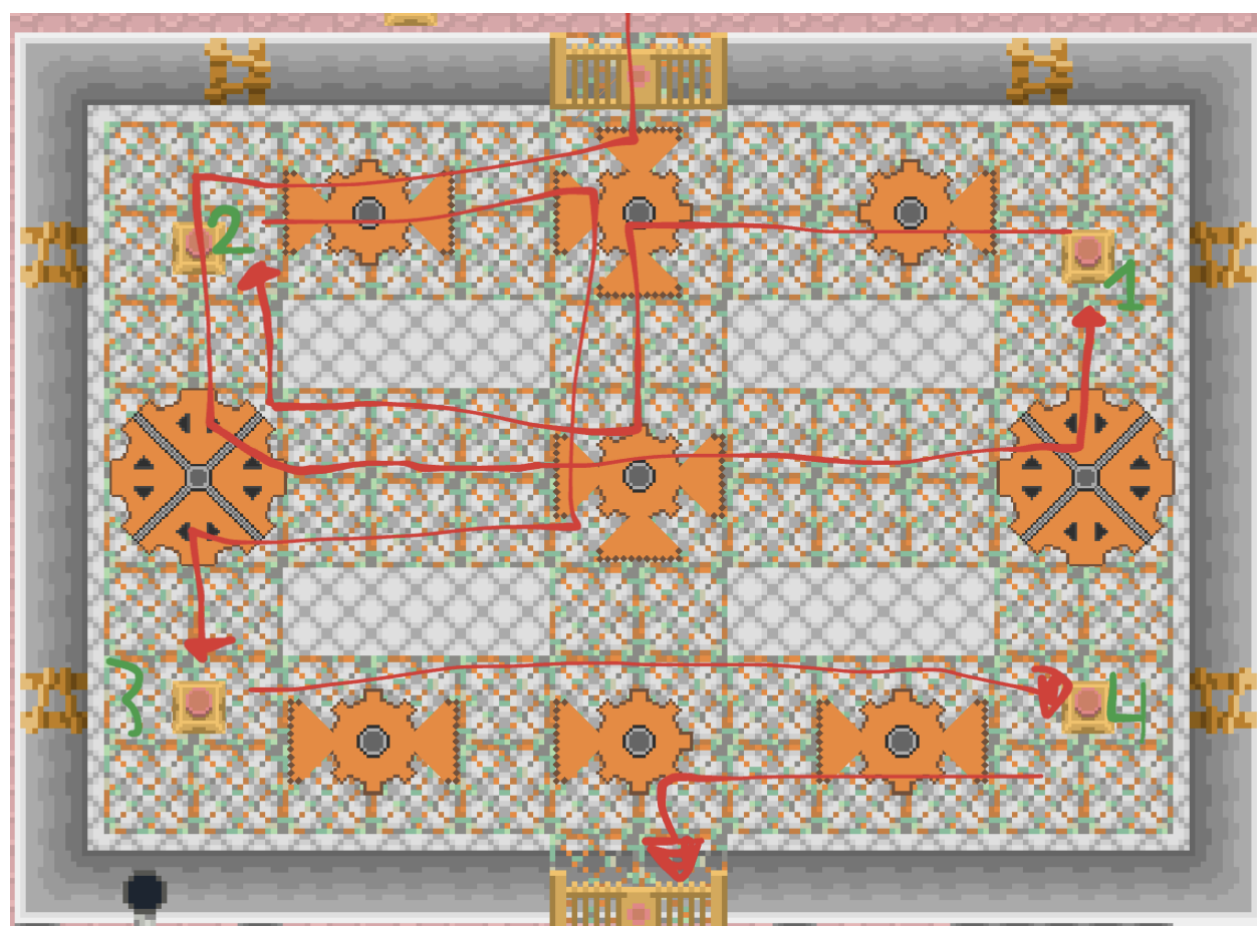


Hub has 4 doors, no canals, and no mirrors. In the center of the room, there is a spinner which provides the only path from one door to another. In each section of the room, there is a coffin.

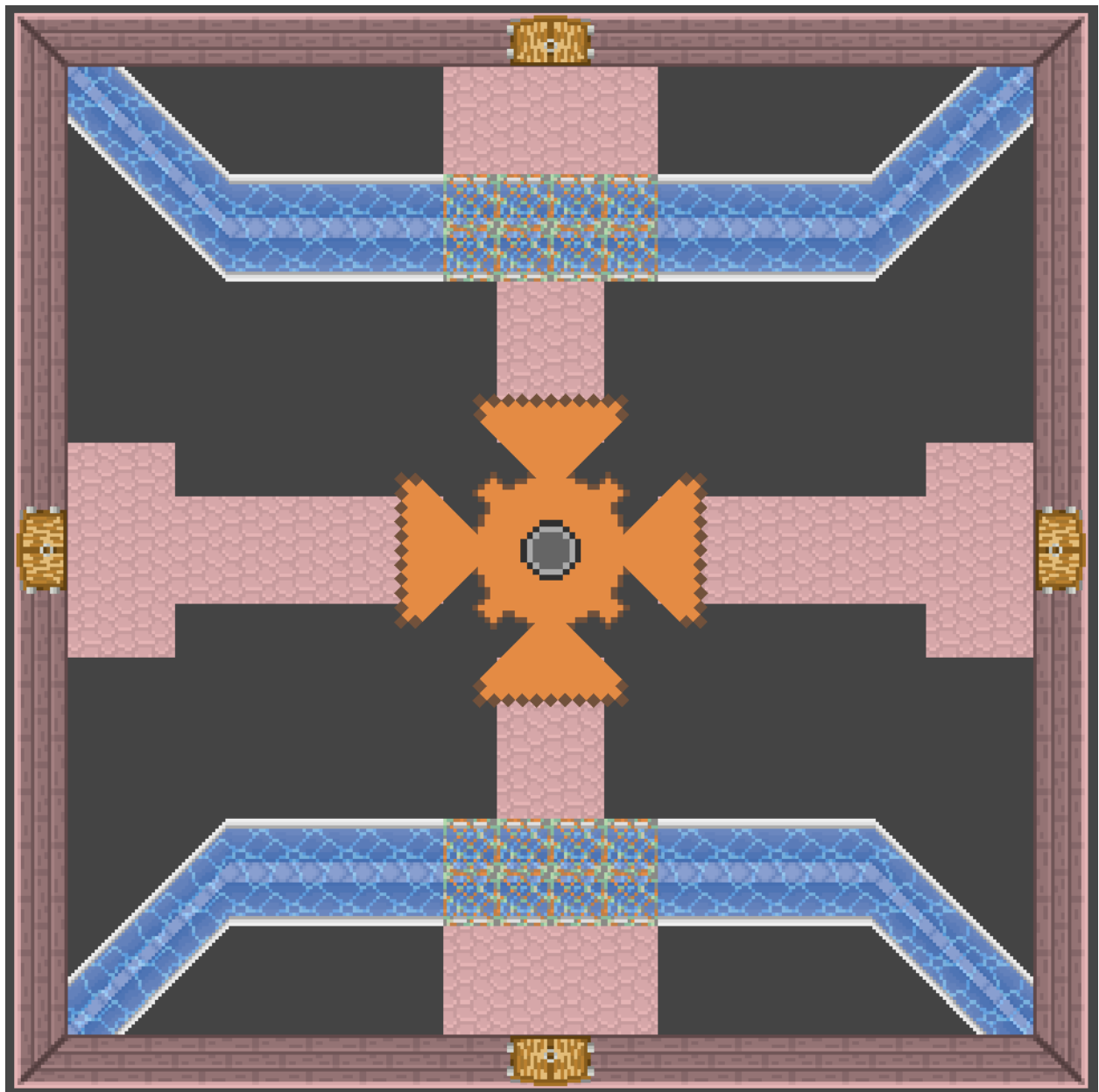
Motor



Motor has 4 doors, no canal entering from other rooms, and no mirrors. Motor contains the room slider, which requires powering the light receiver in the room from the top door and either completing the rotation puzzle, having the whip or having floaties to activate. A solution to the rotation puzzle is the following sequence:

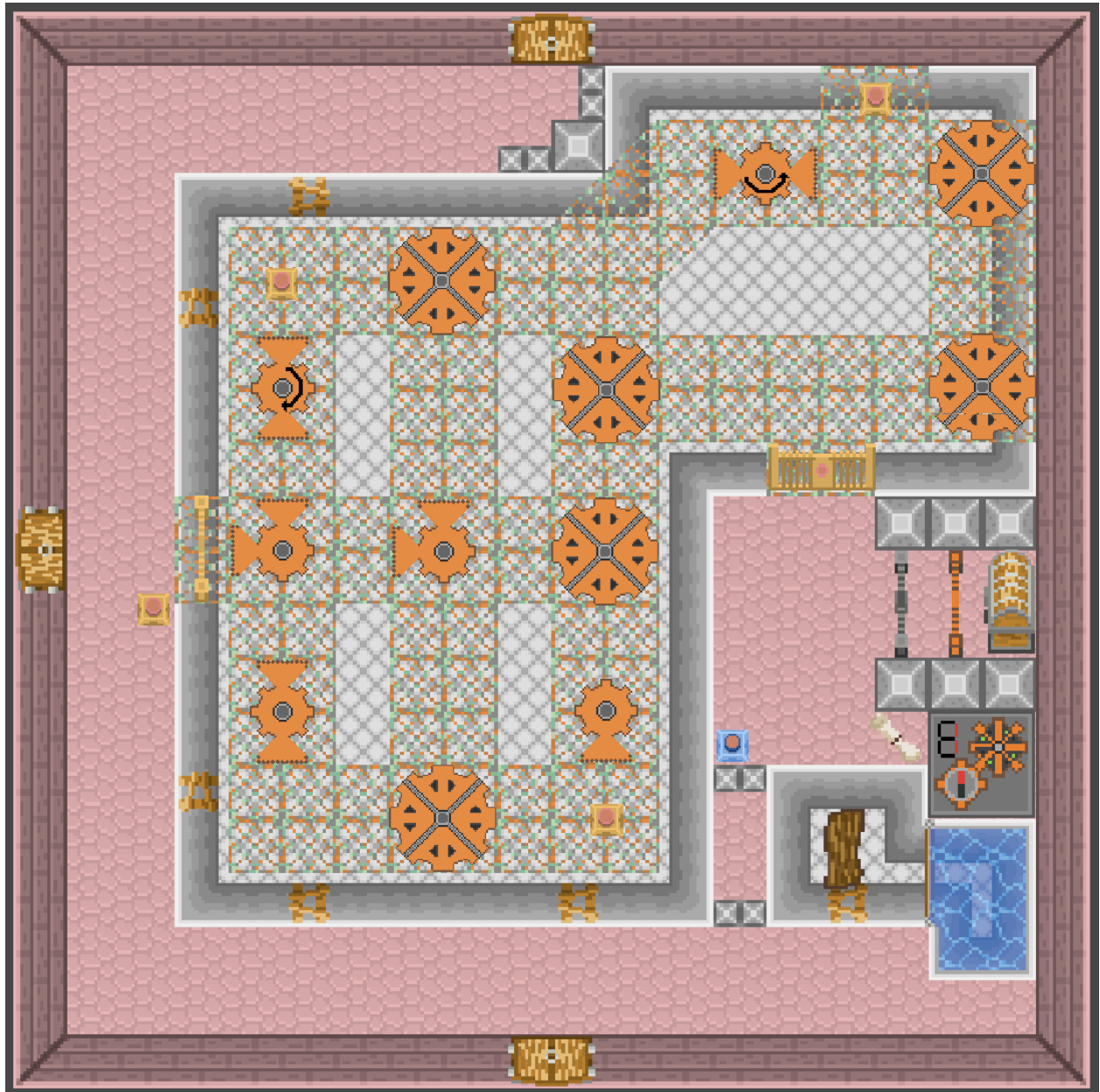


Diametral



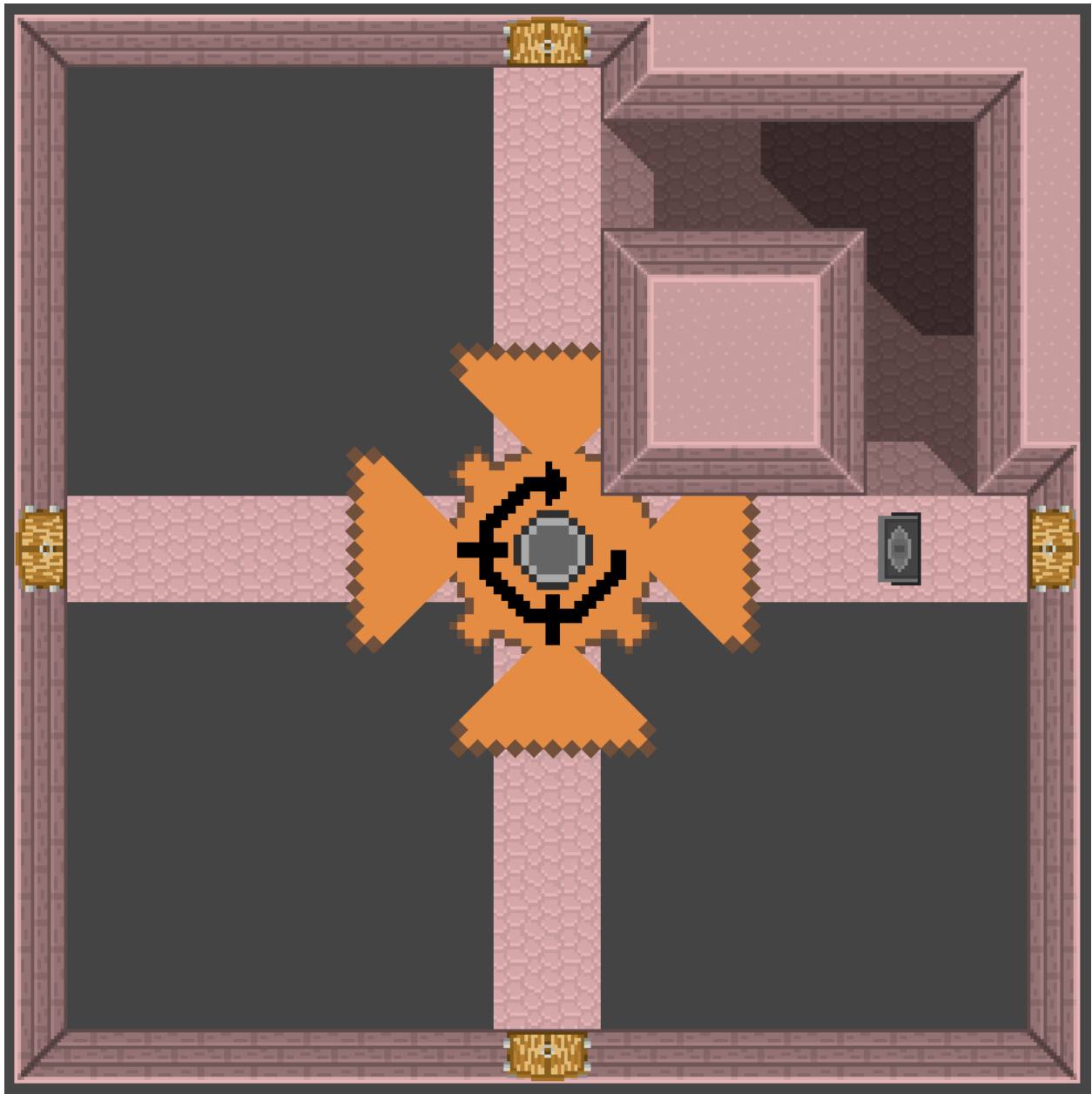
Diametral has 4 doors, two canals, one entering the northeast and northwest, and the other entering from the southeast and southwest, and no mirrors. Diametral has a gear in the center, which you are required to rotate in order to reach a different door than the one you entered in. This gear always rotates exactly 180 degrees, so if you enter from the left/right you can only leave from the left/right, and if you enter from the top/bottom you can only leave from the top/bottom.

Kinematic



Kinematic has 3 doors, missing one on the right, no canals, and no mirrors. Kinematic contains a compass which requires one rotation, and also has a chest with the torch which requires a key and the compass to open. Kinematic also has a note from **N.T.E.** hinting to the player that rooms in this set can sometimes rotate, and that compasses are important. This note

Unidirectional



Unidirectional has 4 doors, no canals, and no mirrors. Unidirectional contains a one way rotating gear which rotates clockwise. This means that if a player rides the gear they can only access the remaining doors clockwise and at their destination, unless they have the magnet or the secret passage is open. Unidirectional has a light receiver accepting light

from the right door. When powered, the secret passage opens up, and players are able to bypass the clockwise constraint of the room.

Light-Dark (light) Rooms

There are 6 rooms in the room set. When any room in the set is placed on a “light checkered” tile in the map, the room is in light. When any room in the set is placed on a “dark checkered” tile in the map, that room is in dark. This roomset is the only set with this mechanic. This set also is the origin of the light beams, sources, and receivers.

Light mechanics:

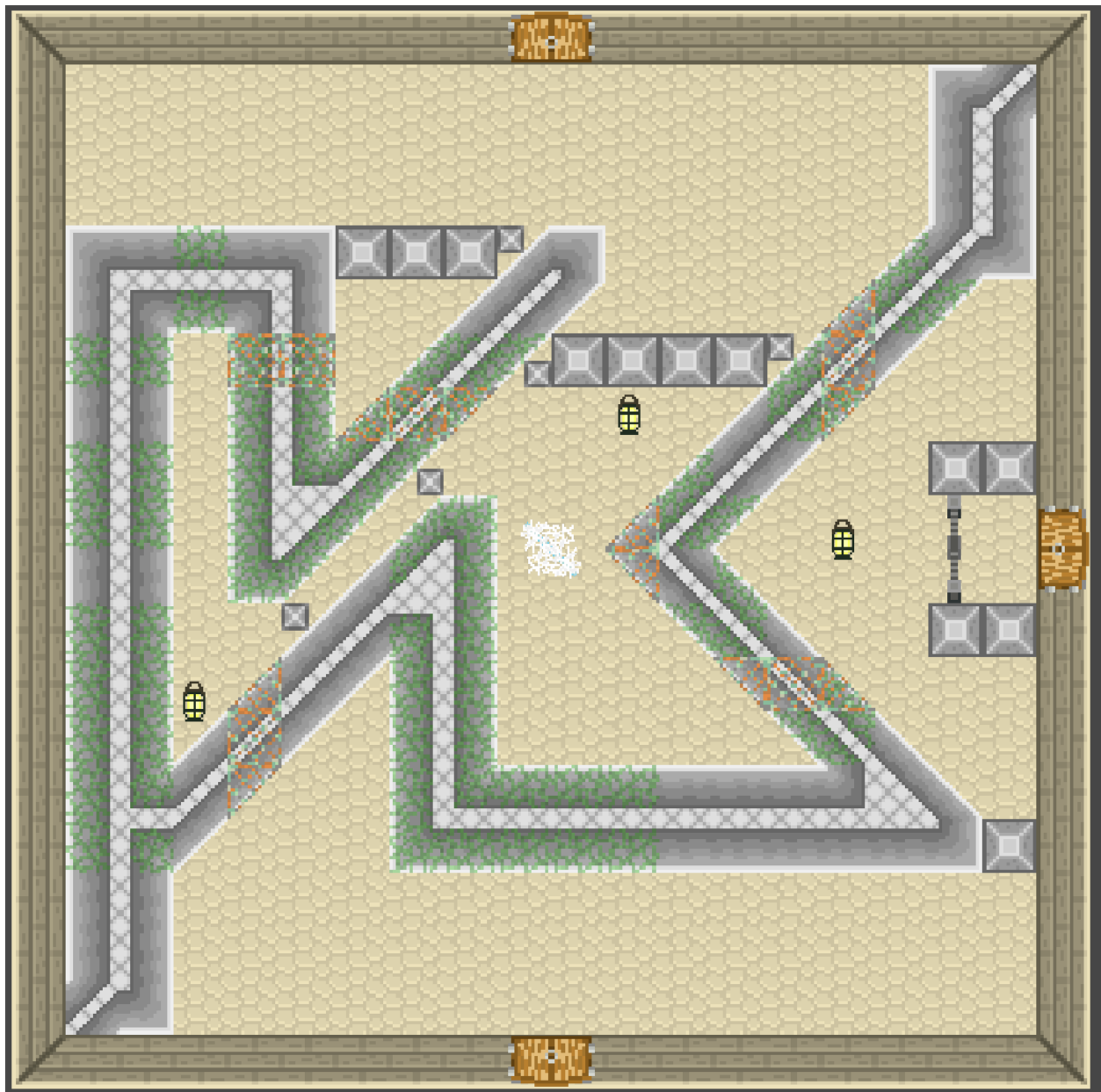
- Light Beams
 - Beams travel straight from room to room unless they hit a receiver, a wall, cannot enter into the neighboring room, or hit a webbed mirror. Beams can travel through dark rooms. If a beam hits a non webbed mirror it reflects in the direction of that mirror.
- Light Sources
 - When activated (except for 2), light sources cast a beam in the direction they are facing, unless that source is in dark. All non Light-Dark rooms are considered in light.
- Light Receivers
 - When a beam enters a receiver from its required direction, that receiver is powered, and it activates whatever it controls. If the beam disappears, the light receiver is de-activated.
- Statues
 - Statues are a passcode puzzle for the player to complete. Each set of statues contains one jaguar statue and many monkey statues. Each set has a correct sequence that must be inputted in the right order of monkey statues without failure to activate the jaguar statue. The jaguar statue can be activated to retry the sequence. The correct order of statue activations allows either direction for activation: first to last or last to first. The correct sequence for statues is hinted by foliage inside the room or in other rooms.
- Cobwebs
 - Cobwebs prevent an object from being used (mirror, door). Cobwebs can be cleared using the torch.
- Mirrors
 - Mirrors reflect light beams when they do not have any cobwebs on them. Both sides of the mirror are able to reflect beams

Enclosure has 4 doors, two canals: one entering from the northwest and northeast and the other entering from the south east and southwest, and no important mirrors. Enclosure contains a demo light source and receiver, activated by a button within the room to open the center “enclosure” and demonstrate how the beams work. In the center, there is a statue puzzle which unlocks another light source which casts light out of the right door. The solution to this puzzle is found on the foliage on the ground, and

requires activating the statues in the order displayed below. The statues at the top are not meant to be activated and exist to inform the player that not all statues contribute to the correct sequence.



Zigzag



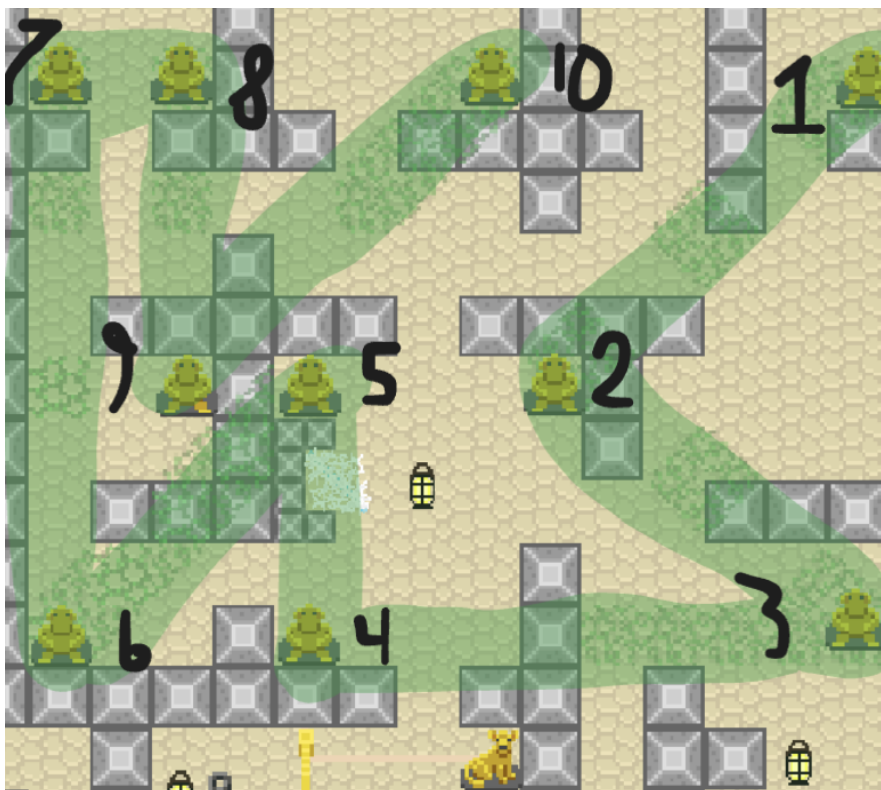
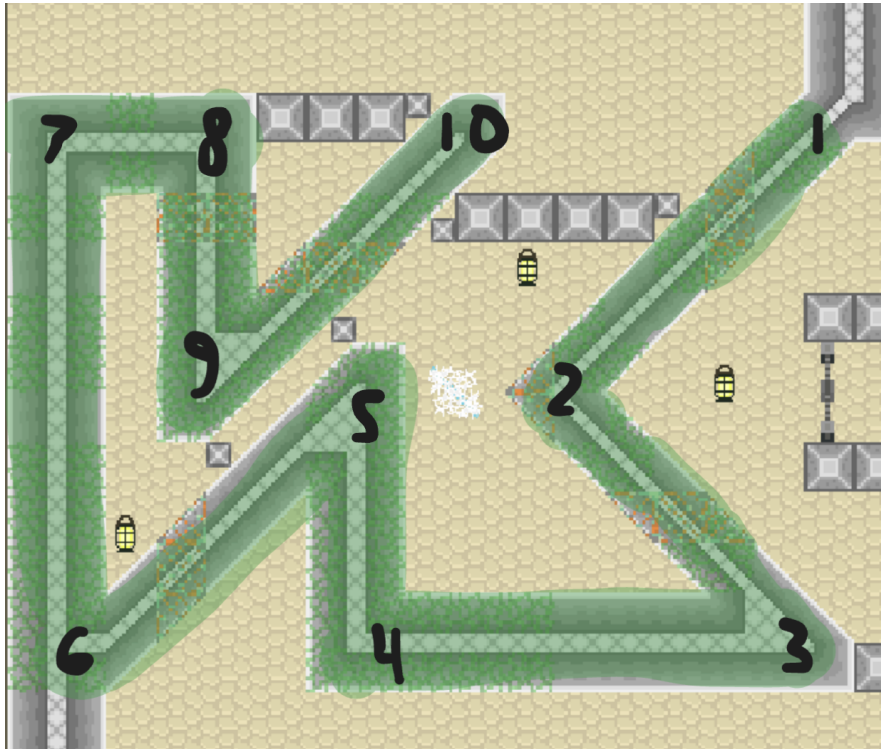
Zigzag has 3 doors, missing one on the left, one canals entering from the southwest and northeast, and a mirror reflecting from top to right. Zigzag's right door is blocked with a key gate meaning it cannot be used to traverse through the room without spending a key. Zigzag's canal also has foliage, creating part of the sequence needed for **Quarters'** statue puzzle.

Quarters

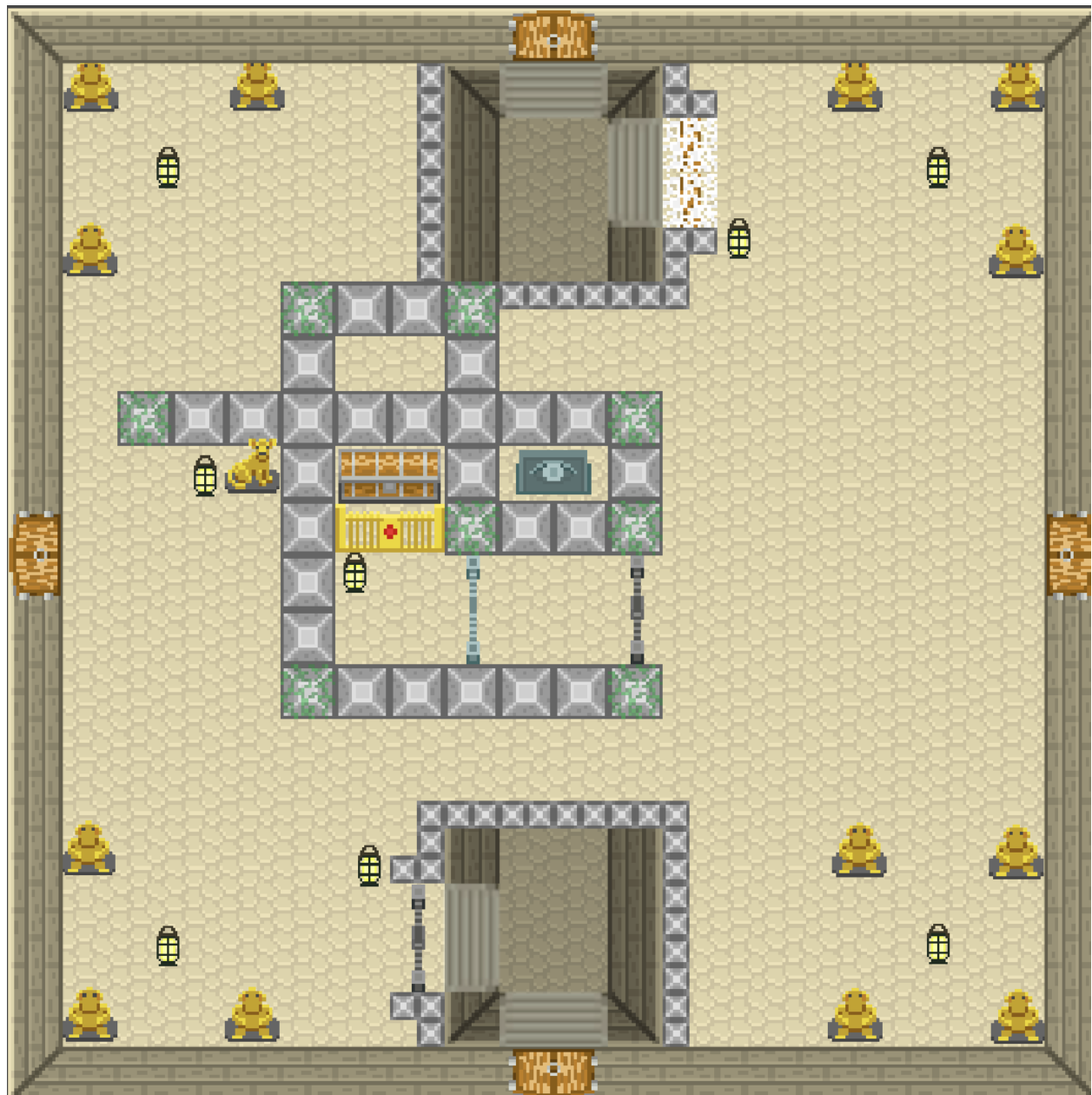


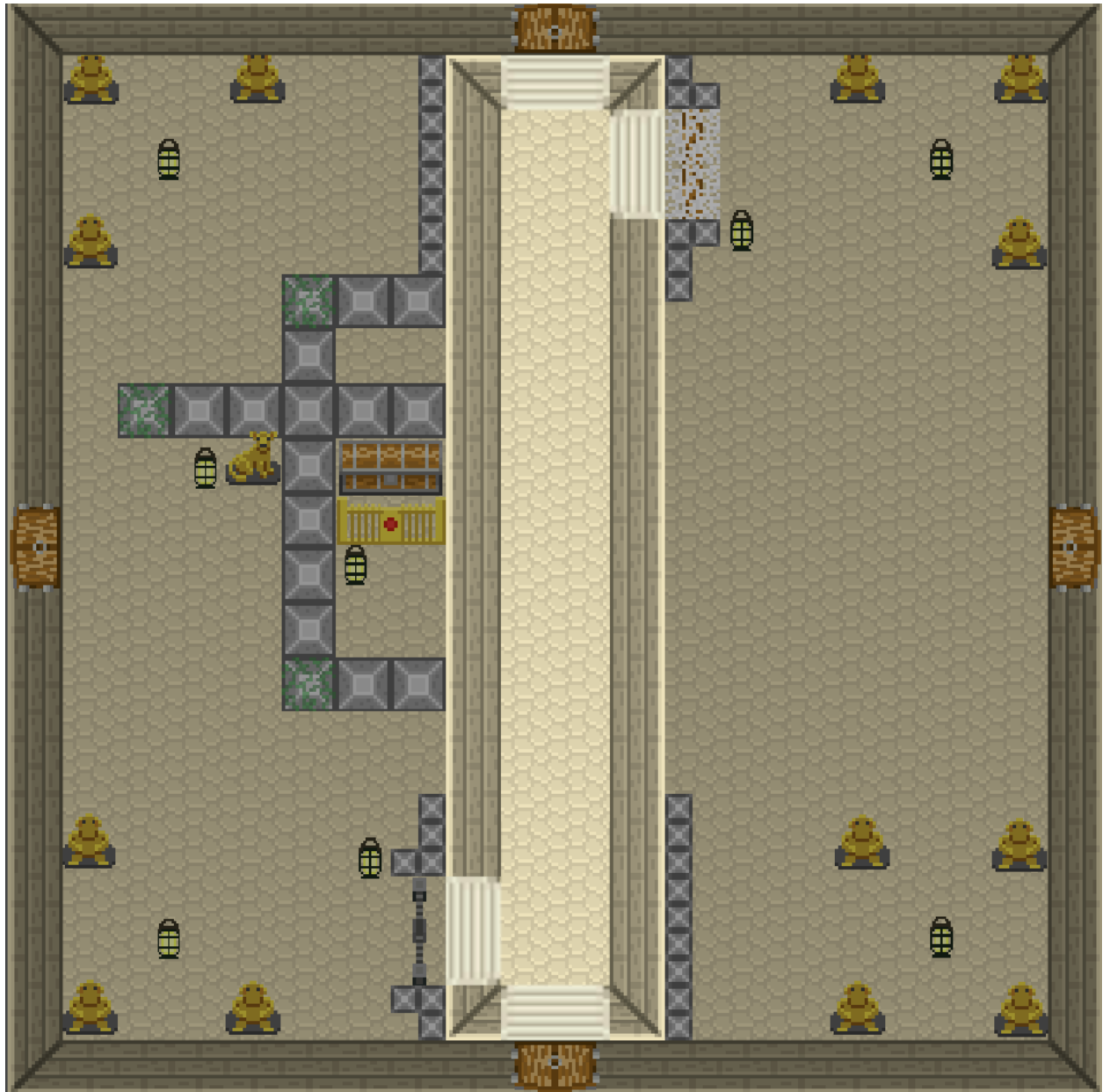
Quarters has 3 doors, missing one on the right, no canals, and one mirror reflecting from left to down. On the left there are two abysses that require the whip to cross. Quarters contains a key which can be acquired by completing the statue puzzle in the room. On the left of Quarters there are a bunch of light receivers on a wall. These will be explained in a later section. Quarters also contains 2 coffins. The foliage in the room creates

part of the correct sequence, with the other part located in **Zigzag**. Combining both pieces of foliage creates a pattern in the shape of the canal in **Zigzag**. The solution to the puzzle is the following sequence:



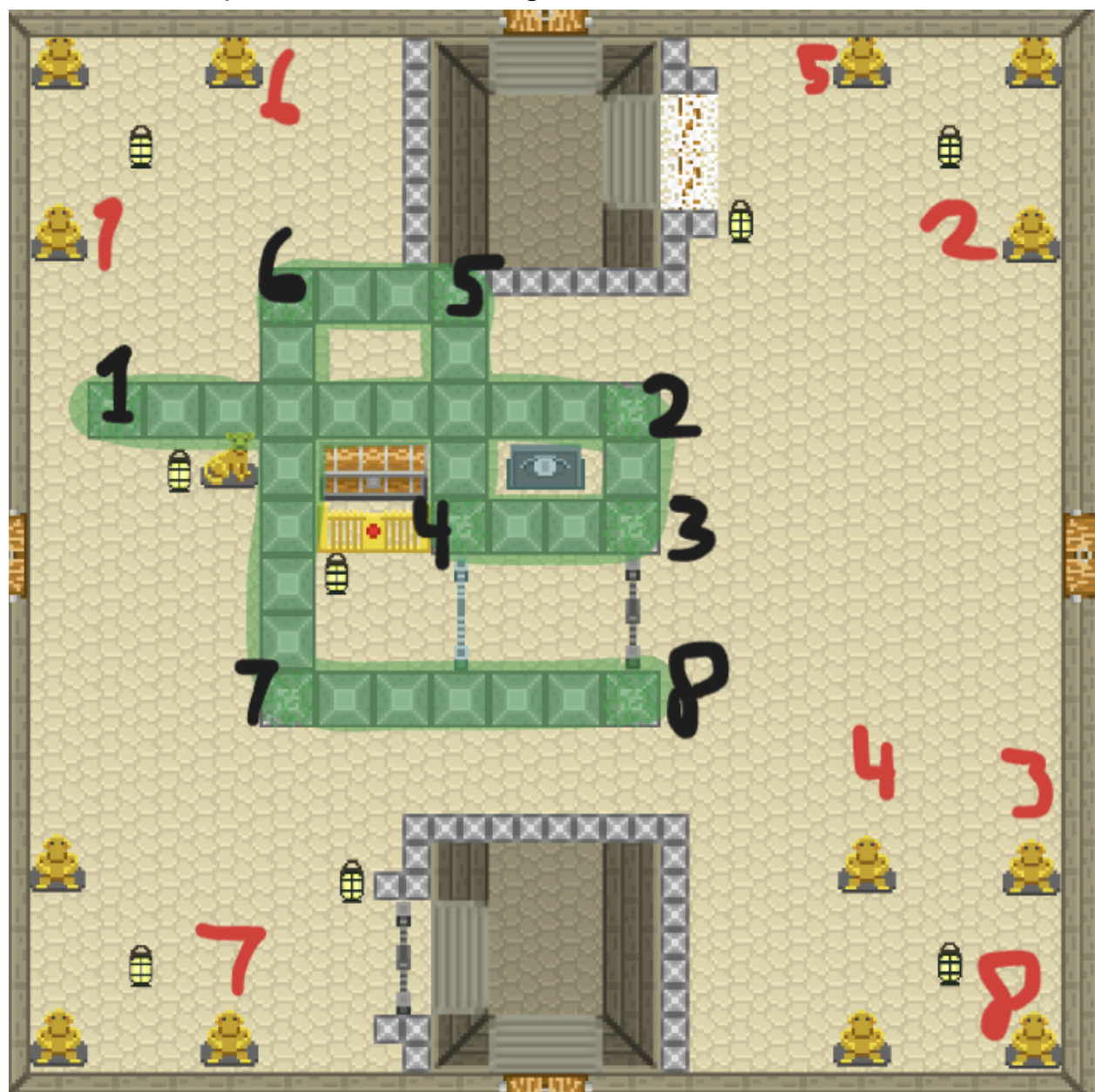
Tunnel





Tunnel has 4 doors, no canals, and no mirrors. Tunnel contains a chest with the amulet. Unlocking this chest requires a key, successful completion of the statues puzzle and powering a light receiver with a beam from bottom. The namesake of this room is a tunnel that travels from the top to bottom door and prevents access of any part of the room unless a player spends a key or has the torch. Without either of those two conditions the player can only travel from top to bottom or left to right. The statue puzzle in Tunnel is solved using the foliage on the structure enclosing the chest.

The correct sequence is the following:



Network



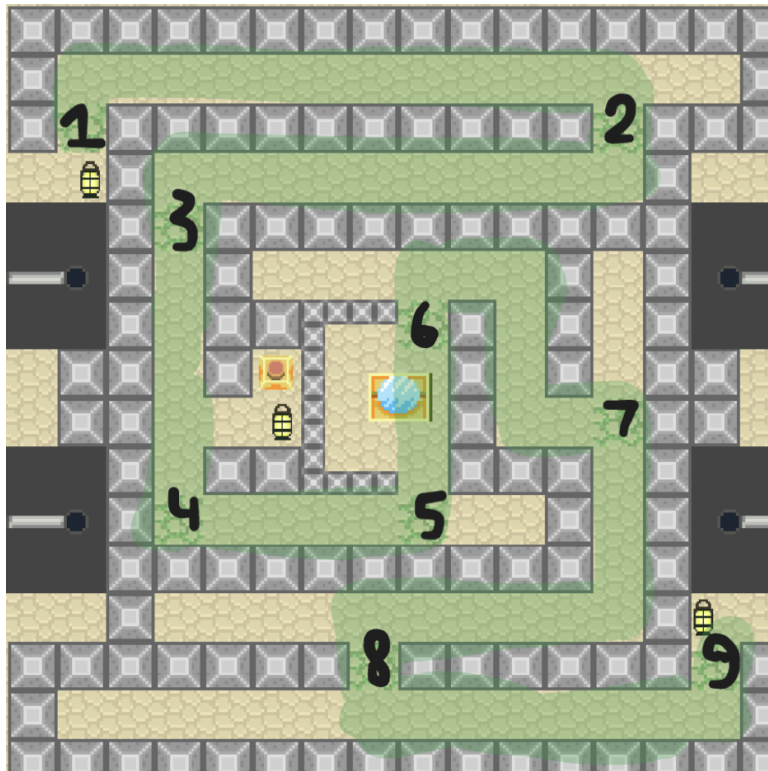
Network has 4 doors, no canals, and no mirrors. Network contains a light source that casts down and which is powered by a button inside the maze. The left and right doors both have an abyss that requires the whip to cross and access the rest of the room. Network also contains foliage inside the maze that is used for the sequence in **Oxbow**.

Oxbow



Oxbow has 3 doors, missing one on the right, one canals entering from the northwest and southwest, and a mirror reflecting from left to down. Oxbow has a note from **N.T.E.** hinting to the player that the solution for statue puzzles come from foliage. Oxbow also has a light source casting up that is activated by completing the statue puzzle. The statue puzzle is solved using only the foliage in **Network**. The foliage in the path through the maze

in the order the player passes through it is the solution. The sequence for the statues is the following:



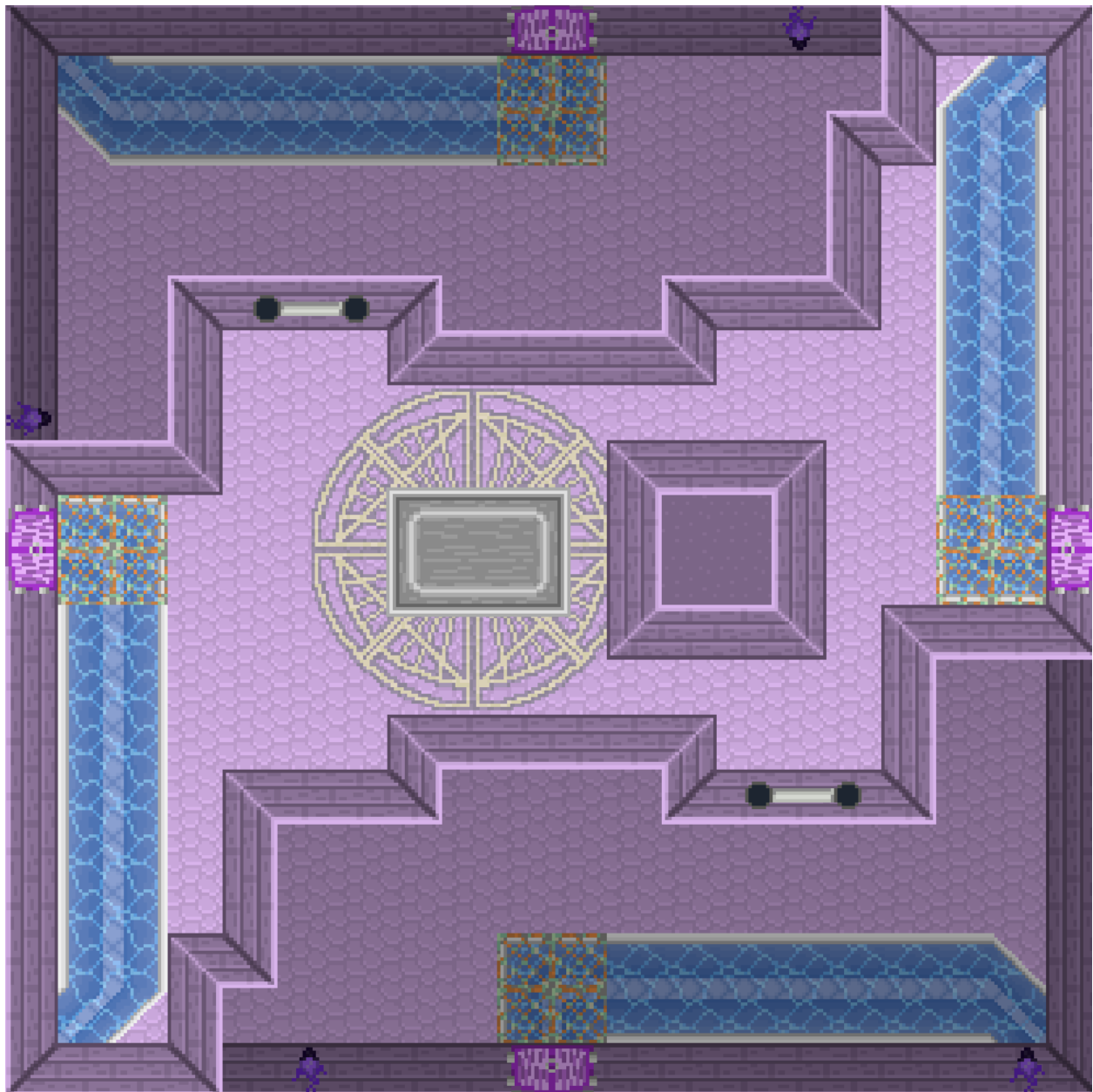
Pacman (purple) Rooms

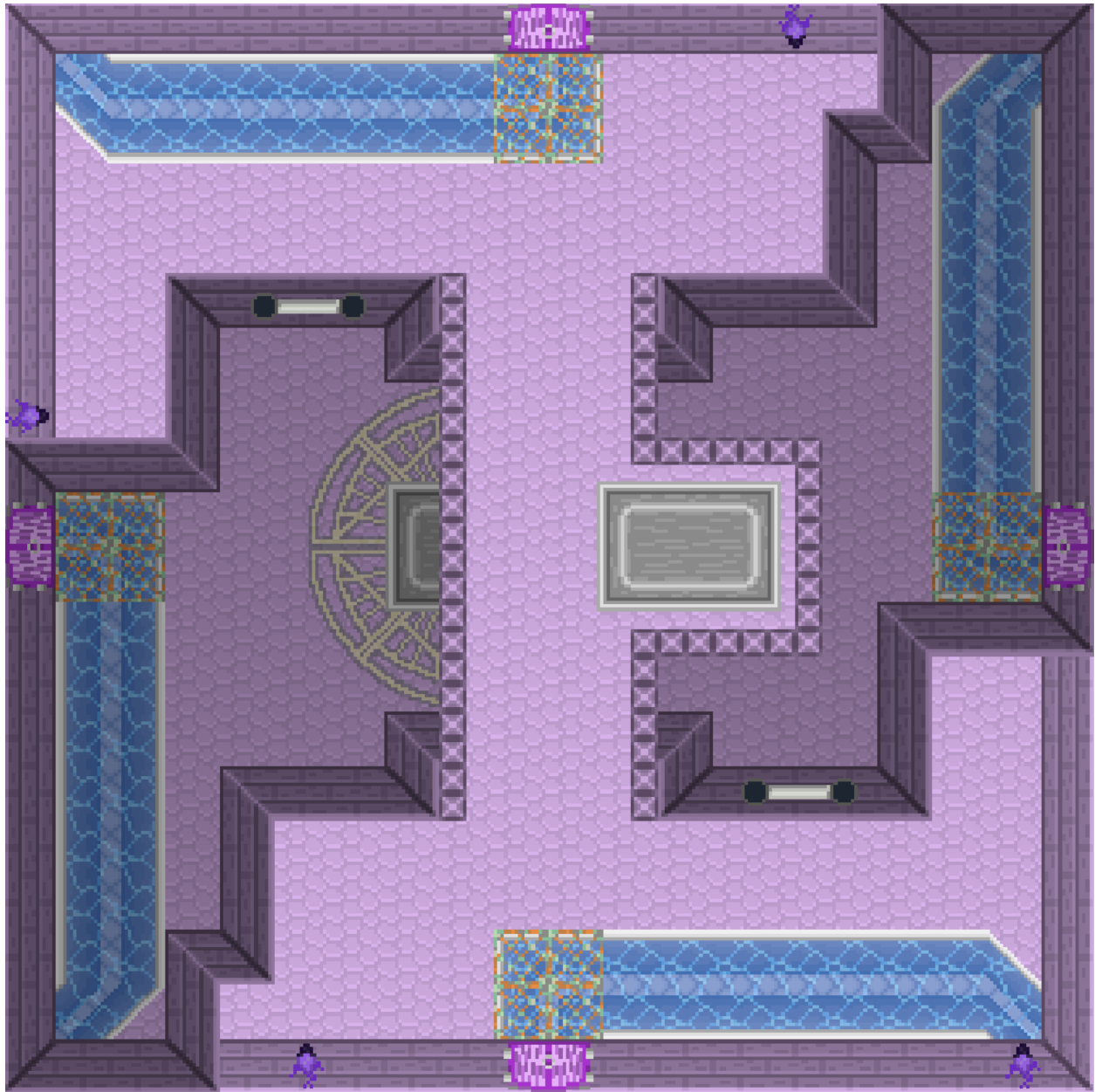
There are 5 rooms in the room set. When a pacman room is placed on the edge of the map, any doors or canals going “out of bounds” will instead loop around to the other side of the map. Additionally, Pacman rooms may contain a mummy and wire puzzles.

Pacman mechanics:

- Grass
 - In certain rooms there are bits of grass. When a player is inside grass the mummy cannot hurt them. Mummies cannot pass through grass.
- Mummy
 - Mummies chase the player unless the player has their amulet active, in which case they will run from the player. Mummies can activate certain buttons in wire puzzles. When a player and mummy collide both the player and mummy will be reset to their starting position, as will any in-progress wire puzzles.
- Wire Puzzle
 - Wire puzzles require a correct sequence of button presses to complete. The starting button will either be yellow or green depending on if that sequence has been completed. Once a button is correctly pressed, a spark will travel along a wire to the next button in the sequence. If an incorrect button is pressed by either the player or a mummy the buttons will flash red and the sequence will restart. Players are able to press gray framed buttons, while mummies are able to press purple framed buttons. When a player has the amulet active the purple framed buttons will become gray framed, and the gray framed buttons will become purple framed.
- Corner Pattern
 - When rooms are placed correctly such that two corner patterns correctly share an edge, they will partially light up on the edge they share. When rooms are placed such that all parts of the corner pattern light up, an effect will happen.

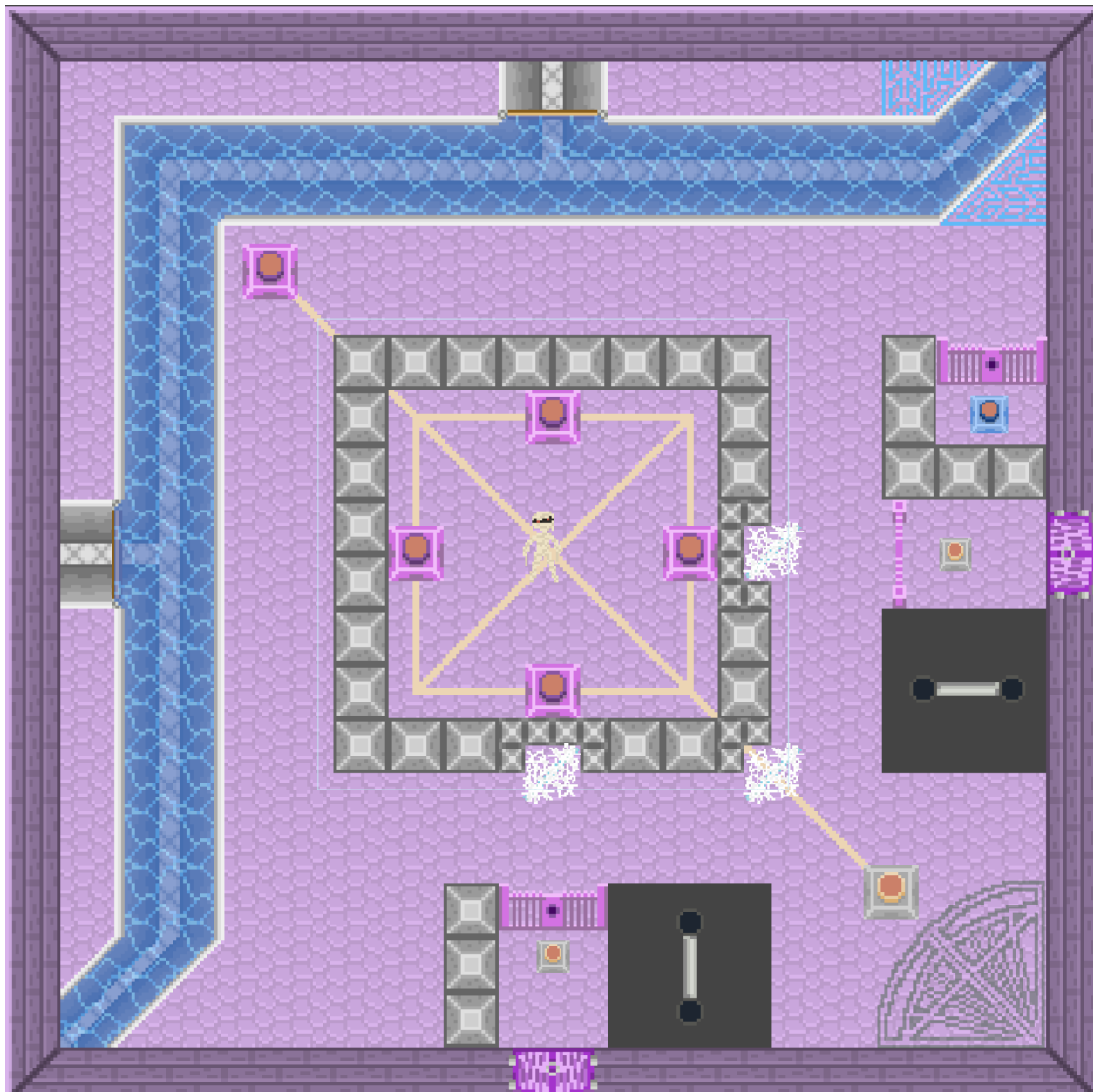
Bridge





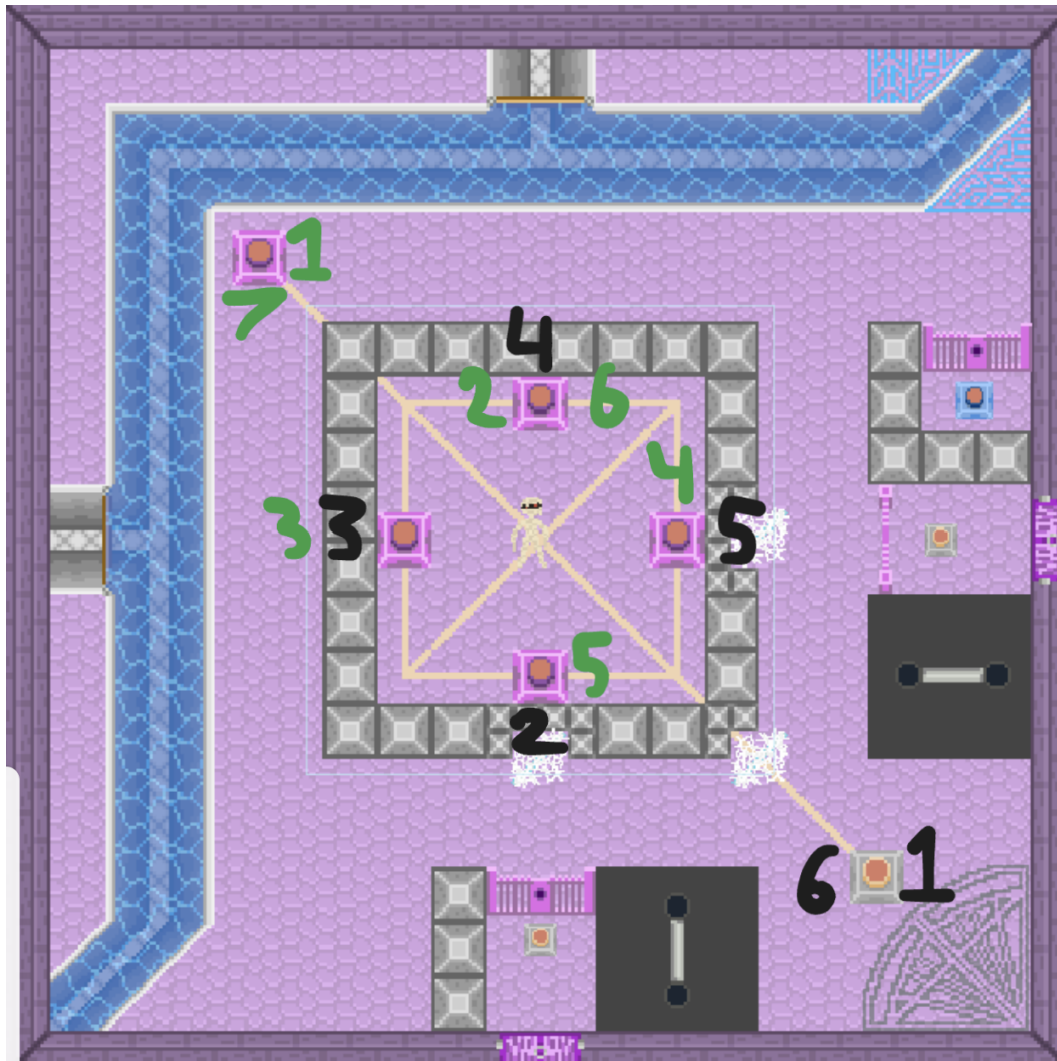
Bridge has 4 doors, four canals: north to northwest, west to southwest, south to southeast, and east to northeast, and no mirrors. Bridge's namesake is a bridge that connects the top and bottom door. This means that a player entering the room can either travel between only the top and bottom door or left and right door unless the player has the whip. Bridge also has two coffins, one on each level. Under the bottom coffin there is the same pattern of one of the sets of corner patterns. This will be discussed in a later section. On the top level there are purple torches on parts of the wall. This will also be discussed in a later section.

Crypt

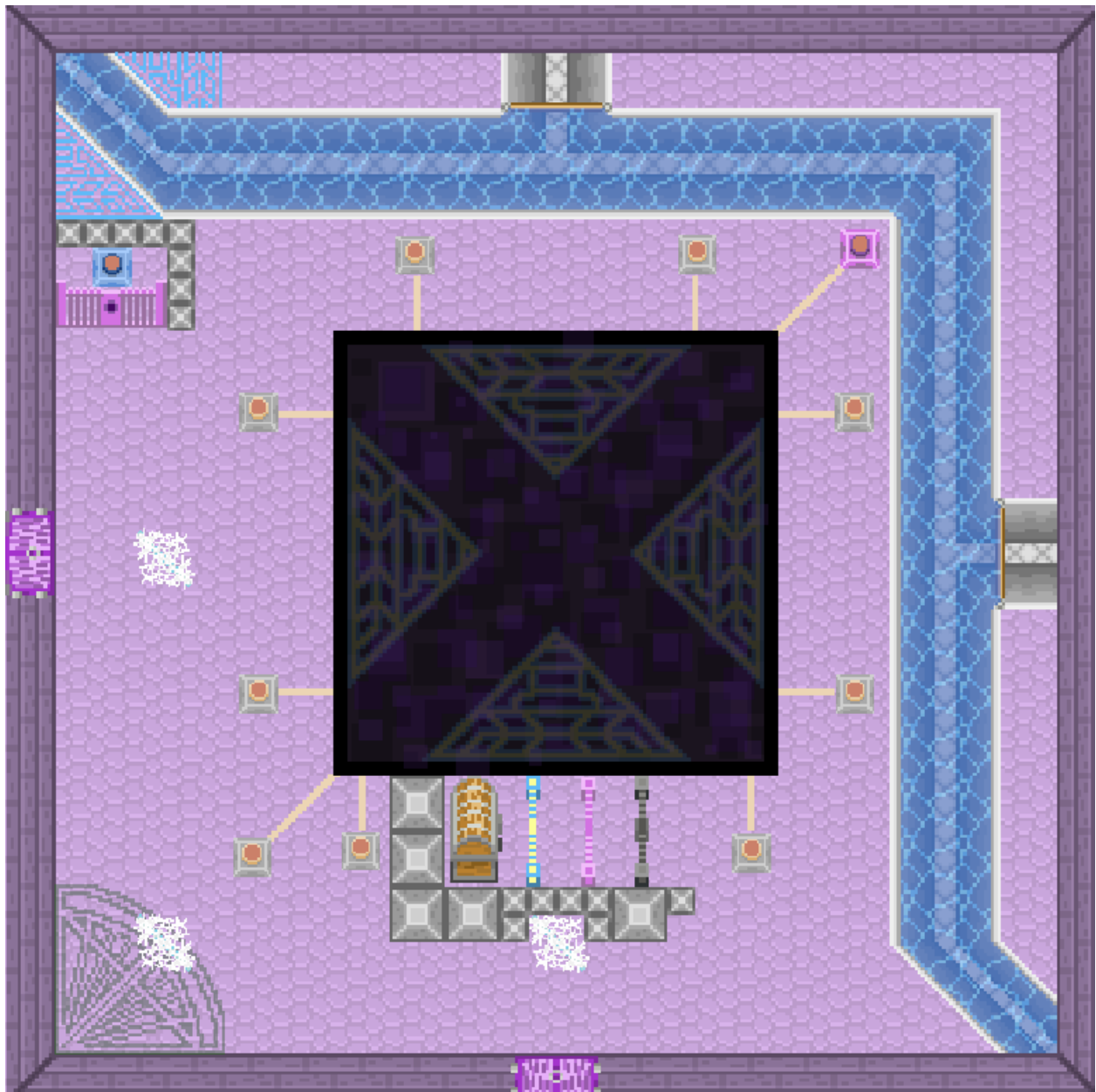


Crypt has 2 doors, missing one on the top and one on the left, three canals, one entering from the northeast and southwest, and two smaller canals, one entering from the north and one from the west, and several mirrors that reflect between the 2 entrances. Crypt also has two corner patterns, a green one in the bottom right and a blue pattern in the top right. For both doors, the player can open a gate into the rest of the room by either

pressing a button or skipping the gate using the whip. In the center of the room is a mummy trapped inside a bunch of walls with buttons and wires inside. This mummy and the buttons and wires are part of two wire puzzles, one to open both gates for the room's doors and the other to open the dams that connect the large canal to the two smaller ones. The wire puzzle for the dams requires the amulet to attempt. The two wire puzzle sequences are the following:

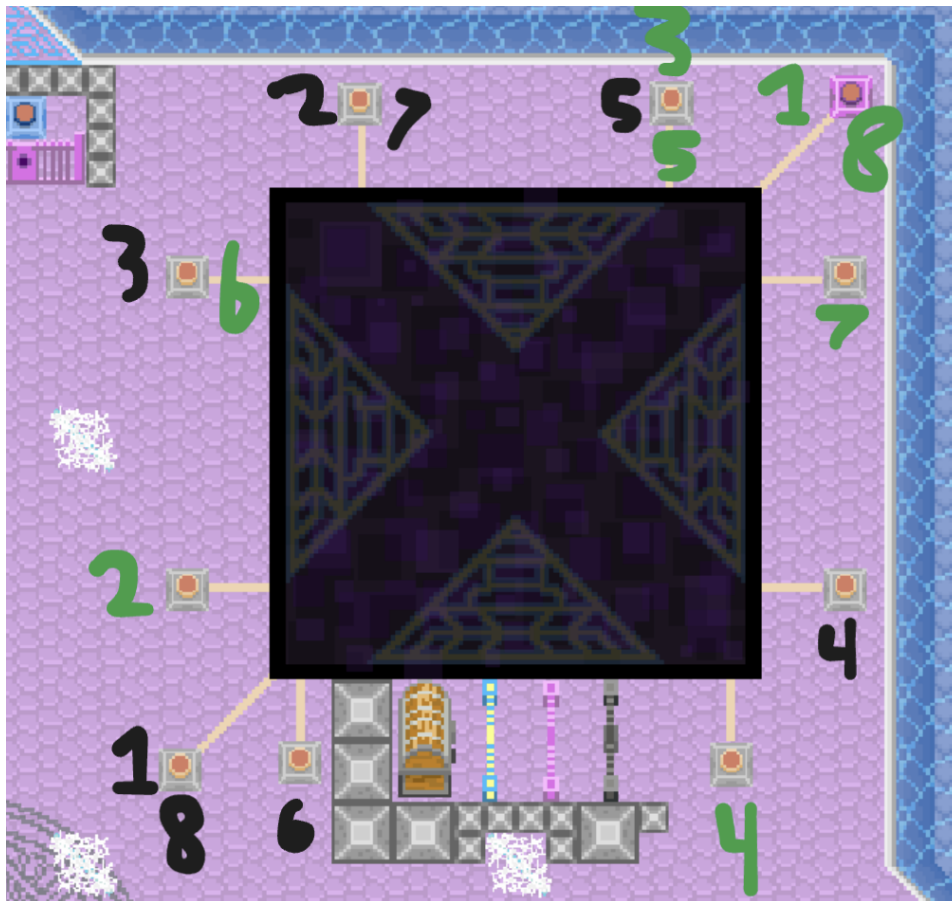


Inside-Joke

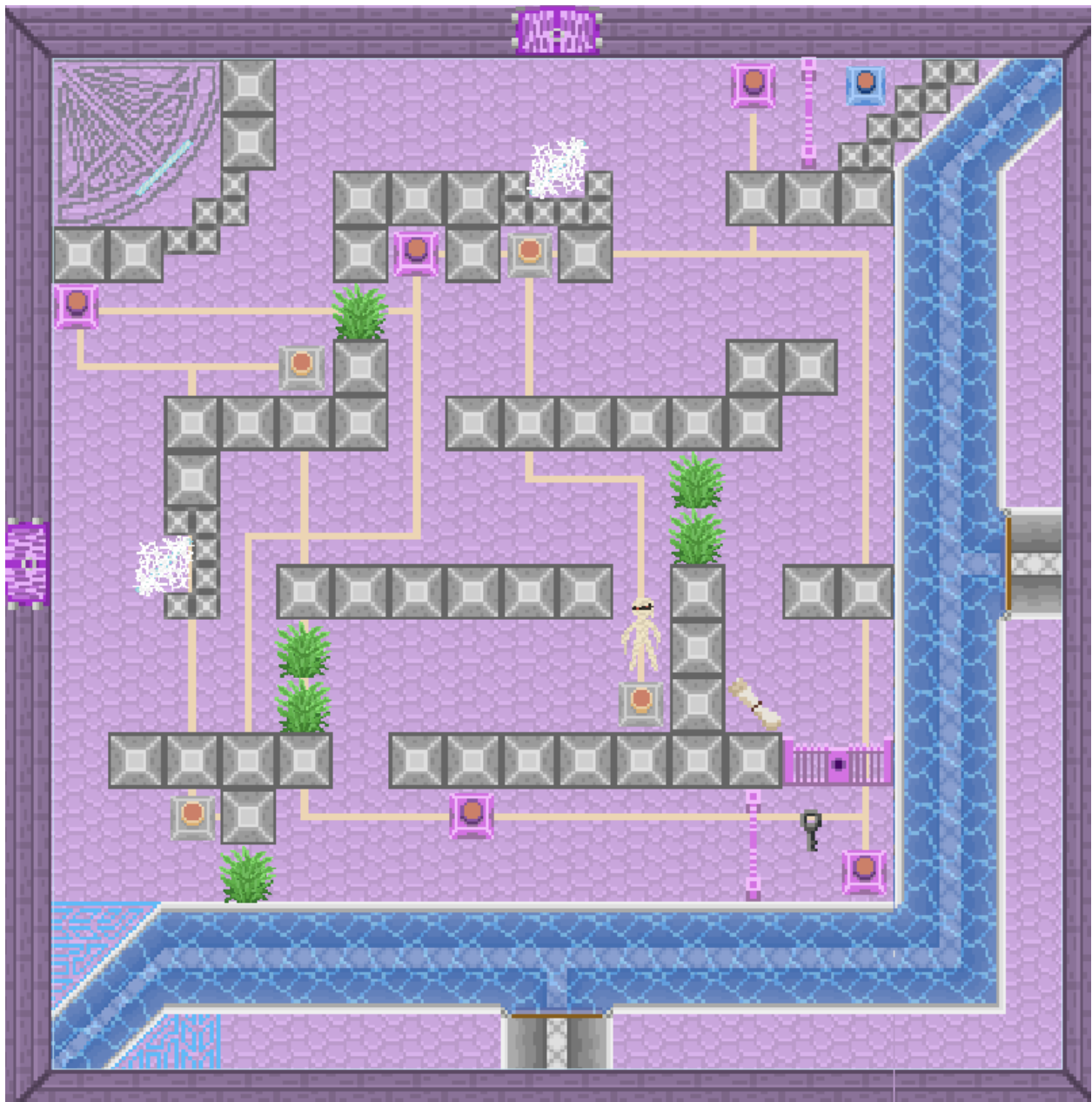


Inside-Joke has 2 doors, missing one on the top and one on the right, three canals, one entering from the northwest and southeast, and two smaller canals, one entering from the north and one from the east, and several mirrors that reflect between the 2 entrances. Inside-Joke also has two corner patterns, a green one in the bottom left and a blue pattern in the top left, and does not have a mummy. In the center of the room there is a chest containing the floaties. This chest requires a key, one of the wire puzzles

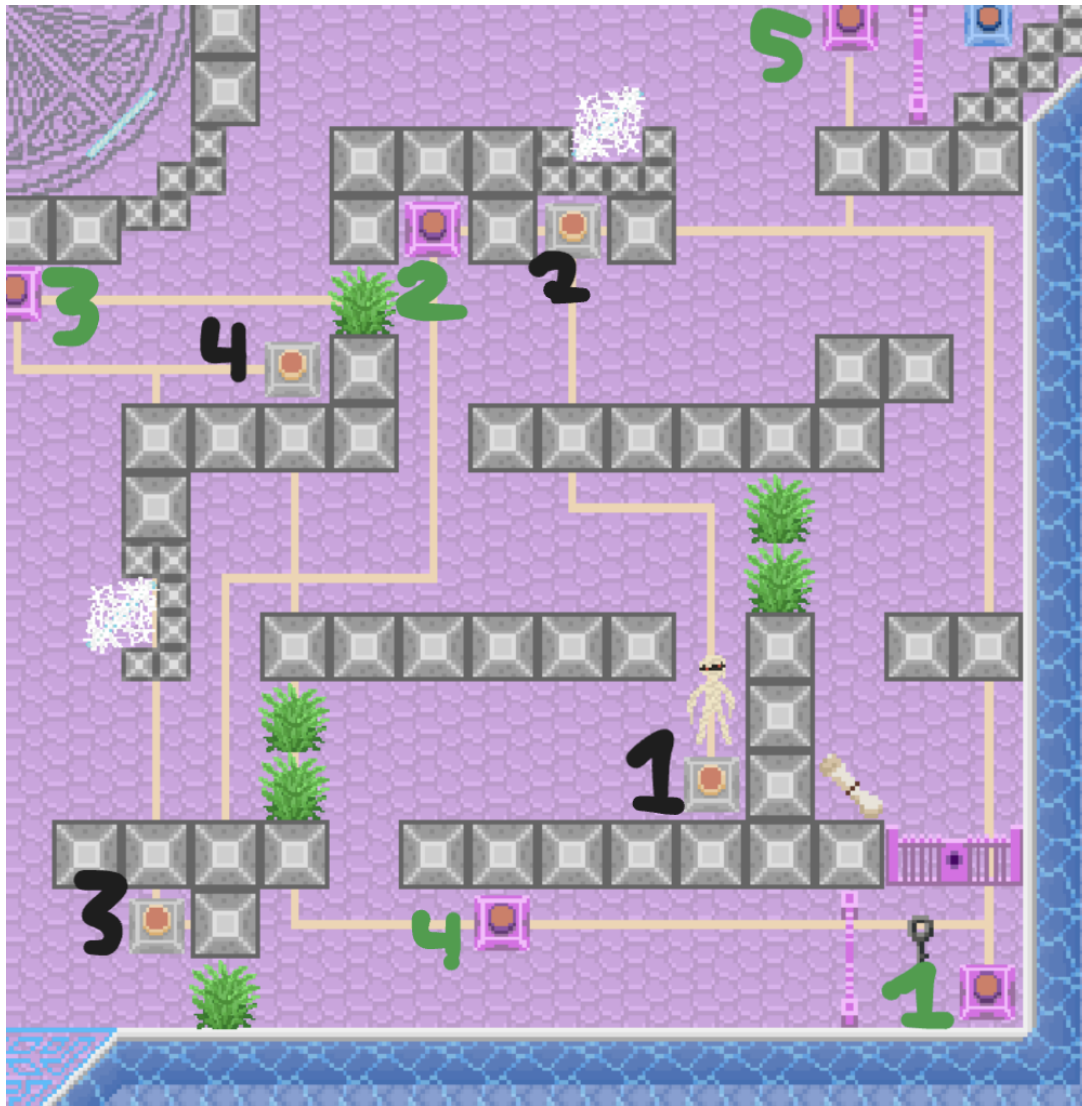
and the blue corner puzzle to be completed in order to access. The large cube in the center of the room has the completed blue corner pattern to imply this fact. The large cube is also part of two wire puzzles: one that unlocks a gate to the chest and one that opens the dams connecting the large and small canals. In this light puzzle, wire sparks traveling under the cube are hidden, and the player needs to find where the spark exits. The dam puzzle cannot be attempted without the amulet. The solution to the two puzzles are the following sequences:



Labyrinth



Labyrinth has 2 doors, missing one on the bottom and one on the right, three canals, one entering from the northeast and southwest, and two smaller canals, one entering from the south and one from the east, and several mirrors that reflect between the 2 entrances. Labyrinth also has two corner patterns, a green one in the top left and a blue pattern in the bottom left. Labyrinth contains a note from **N.T.E.** hinting to the unique mechanic of



Greenhouse



Greenhouse has 2 doors, missing one on the top and one on the left, three canals, one entering from the northwest and southeast, and two smaller canals, one entering from the south and one from the west, and a mirror that reflects between the 2 entrances. Greenhouse also has two corner patterns, a green one in the top right and a blue pattern in the bottom right. Greenhouse has a coffin in the bottom right of the room, and a mummy trapped behind two gates. The mummy can only escape if the button in the

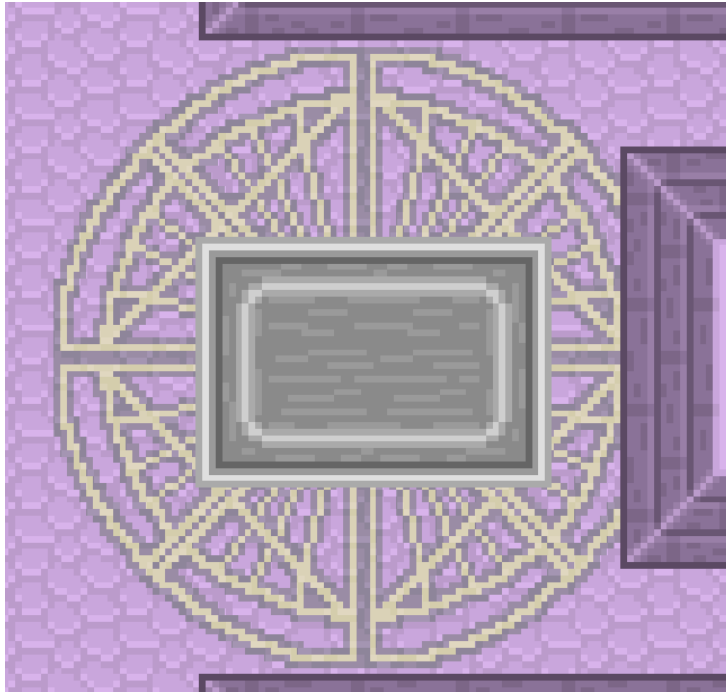
bottom left is pressed. Greenhouse has only one wire puzzle to open the dams between the large and small canals. This puzzle cannot be attempted unless the player has an amulet. The sequence is the following:



Coffins

There are 11 coffins across the dungeon: two in **Bridge**, one in **Greenhouse**, two in **Quarters**, four in **Hub**, and two in **Xylem**. All coffins can be opened with varying requirements. Some of these requirements involve specific room configurations and/or ownership of specific items.

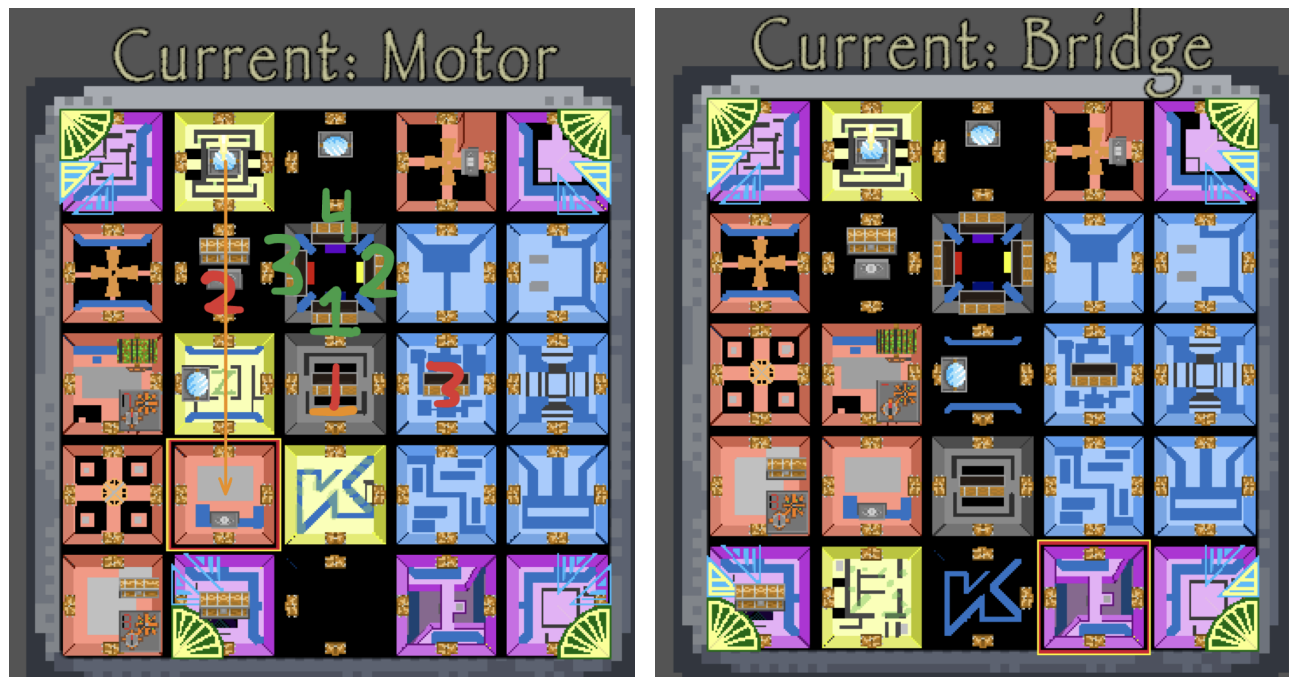
Bridge Coffin



Bridge's coffin has the following pattern placed under it. This pattern is made up of four quarter-circles, which can be found on the corners of **Crypt**, **Inside-Joke**, **Labyrinth**, and **Greenhouse**. In order to open this coffin, you must place all four of those rooms in a way such that the pattern connects. You are able to use the Pacman edge mechanic to connect the pattern across the boundaries of the map.

On the next page is a dungeon arrangement that is able to open this coffin, and a guide for any parts more challenging than simply placing the rooms in the correct positions. Other solutions likely exist however only one is necessary.

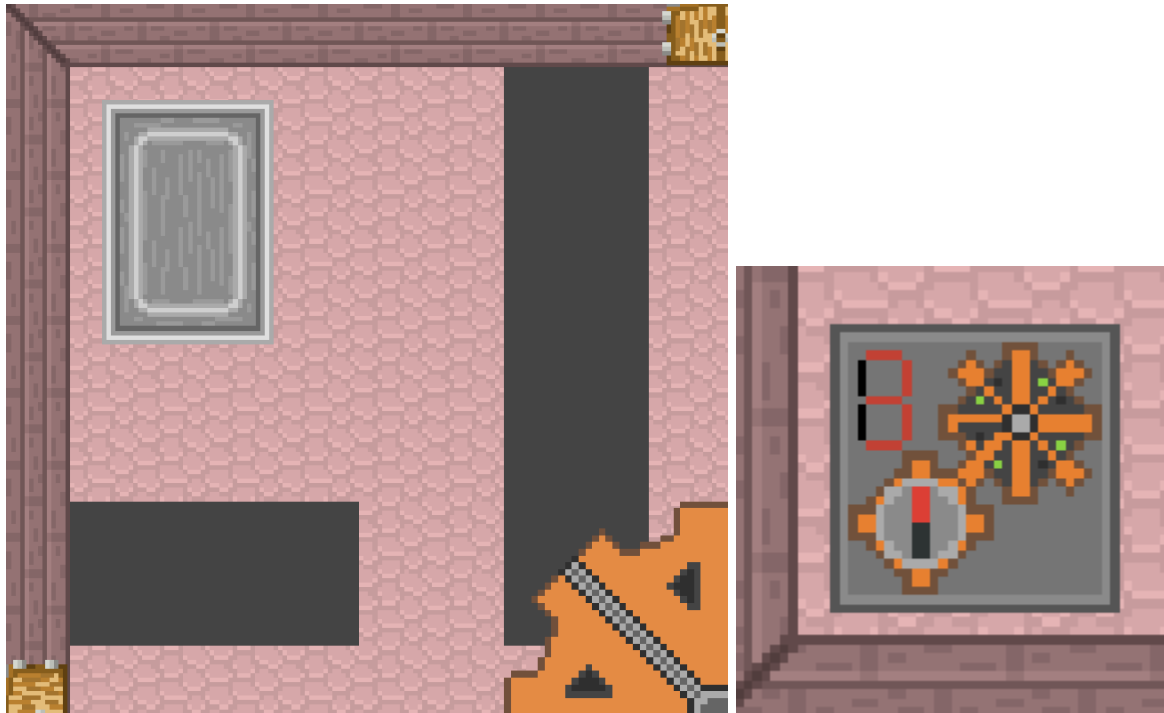
Bridge Coffin Solution



Notable parts:

- Room order: Blue set, then yellow set, then red set, then purple set.
- Key/Item Order: Grab keys when available. Use the first key for the whip, the second key on the locked door in **Tunnel**, and the third key for the magnet.
- Once all rooms are placed, then use **Motor** to rotate rooms clockwise once so that **Inside-Joke** is correctly in the bottom left corner. This should open the coffin in **Bridge**.

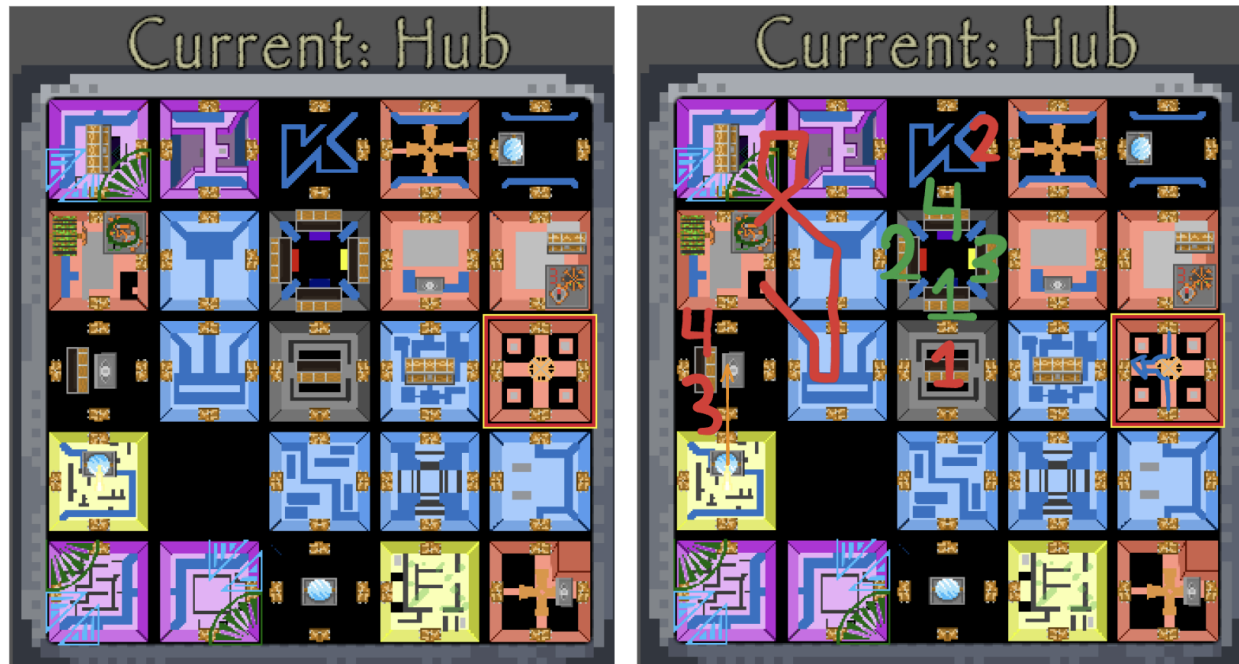
Hub Coffins



Hub has four coffins, with pairs on diagonals being opened together. One pair of these diagonals open from the compass in **Factory**. This compass requires **Factory** to rotate three times. Since **Factory** rotates when it has water entering from either the northwest or northeast, this requirement can be treated as getting water into the correct entrance of the room after it has been rotated.

On the next page is a dungeon arrangement that is able to open this coffin, and a guide for any parts more challenging than simply placing the rooms in the correct positions. Other solutions likely exist however only one is necessary.

Hub Coffins Solution



Notable parts:

- Room order: Blue set, then red set, then yellow set, then purple set.
- Key/Item Order: Grab keys when available. Use the first key for the whip, the second key for the locked door in **ZigZag**, the third key for the locked door in **Tunnel**, and the last key for the amulet.
- Use the amulet to open the dam in **Inside-Joke**.
- Anytime you wish to use the top door in **Pools** you need to first make sure **Hub** is rotating counterclockwise. Otherwise you will be trapped in the top right and will need to restart the run.
- You do not need to place the last room in your deck (and also cannot in this solution)

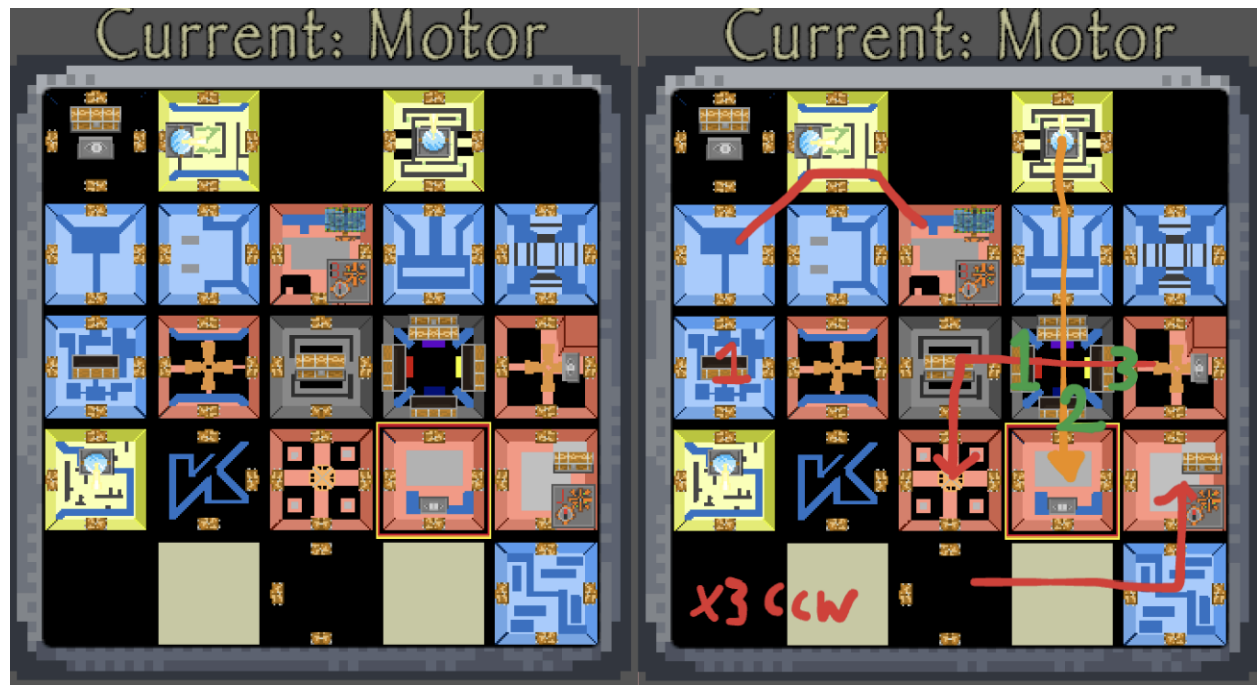
Quarters Coffin



For the top left coffin of **Quarters**, you need to have the whip item to access it. This coffin can be opened when all three of the colored light receivers throughout the dungeon are activated by a beam. The colors of those receivers correspond to the three light receivers on the wall adjacent to the coffin. The green receiver requires light from the bottom door, and can be found in **Tunnel**. The red receiver requires light from the top door, and can be found in **Motor**. The black receiver requires light from the right door, and can be found in **Unidirectional**.

On the next page is a dungeon arrangement that is able to open this coffin, and a guide for any parts more challenging than simply placing the rooms in the correct positions. Other solutions likely exist however only one is necessary.

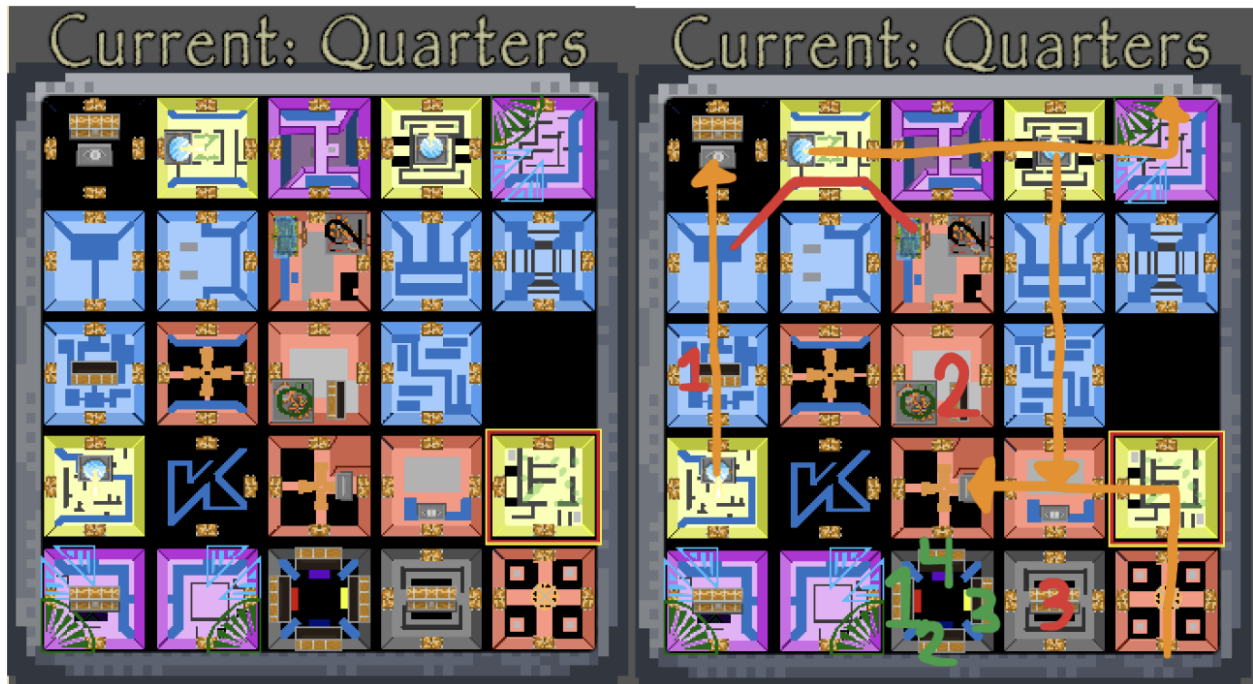
Quarters Coffin solution



This one is more complex and requires using **Motor** to shift its surrounding rooms three times counter clockwise. I will split the solution into the before and after room shifting.

Notable parts pre shift:

- Room order: Red set, then blue set, then yellow set. Purple will be taken after the rooms have been shifted
- Key/Item Order: You only need three keys total for the solution, with two being right at the end. Item order is Magnet before the room shift, and Torch and Whip at some point after.
- Make sure **Pools'** key puzzle is solved so that you can enter it from the right door.
- Make sure **Motor** is used only when it rotates counter clockwise. If **Quarters** ends up above **Motor** then the solution fails.



Notable parts post shift:

- Room order: Grab the purple set.
- Key/Item Order: Grab two keys for the torch and whip. You only need the whip right at the end to reach the coffin.
- Use the torch to remove cobwebs from the mirrors in **Labyrinth** and **Quarters**

Xylem Coffins



This coffin does not need to be opened in order for the puzzle to be solved, and so will be skipped.

The Underbelly



Surprise! There are actually 50 rooms in Navy Gate and not 25!!!!!!!!!!!!!!

The dungeon in Navy Gate actually consists of two “floors” of 25 rooms, the upper level and the underbelly. Every room in the upper level is paired with a room in the underbelly. These rooms have the same names, belong to the same deck set, and have the same spatial properties. When a room is placed, the pair will both be placed in the same position with the same rotation. When a room is moved through **Motor**, both the upper level and underbelly rooms will move. When a room is rotated via **Factory**, both the upper level and lower level will rotate in the same direction.

Rooms in the underbelly may have different characteristics than their pair in the upper level. This includes the number of doors or door positions, number

of canals or canal positions, and presence of mirrors, receivers, and light sources.

Additionally, certain room sets may have some interesting properties that are worth mentioning.

- Default (Gray): Nothing.
- Pacman (Purple): Every pair of rooms has a mummy. This means that any upper level that does not have a mummy will have one in its underbelly pair.
- Rotation (Red): Nothing.
- Light-Dark (Yellow): Light and Dark are flipped. Underbelly rooms placed on “yellow” squares on the map will be in darkness, while those placed on “black” squares on the map will be lit, unlike their upper level pair.
- Water (Blue): Nothing.

Most rooms in the underbelly are mostly empty of any puzzle. All will be shown and described in the next section.

Force-Fields

Throughout the underbelly, certain rooms will have active force fields that will prevent you from placing them in the underbelly or entering them. To remove force fields, the player must find and activate a dark blue button in the set of rooms they are removing force fields for. This button will be located in the room that has coffins in the set. Specifically, they are in the underbellies for: **Bridge, Hub, Quarters, Xylem**. Force Fields are protecting the underbellies of the following rooms: **Bridge, Hub, Xylem, Quarters, Tunnel, Network**.

The Goal

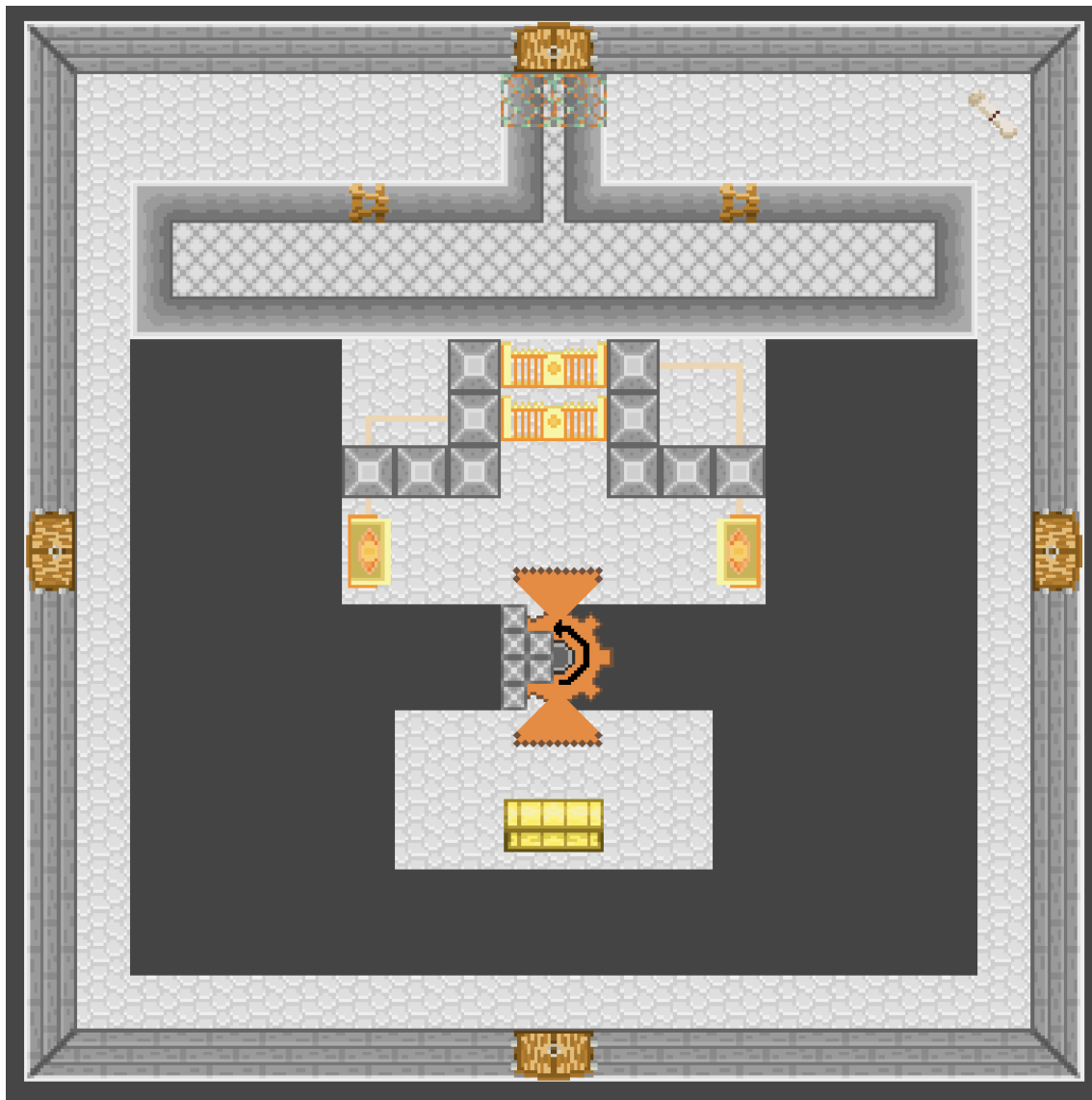
Once you're able to access the underbelly, the objective of the game can finally be seen inside the underbelly of **Vault**.



The steps as well as requirements to access the golden chest will be covered in a later section.

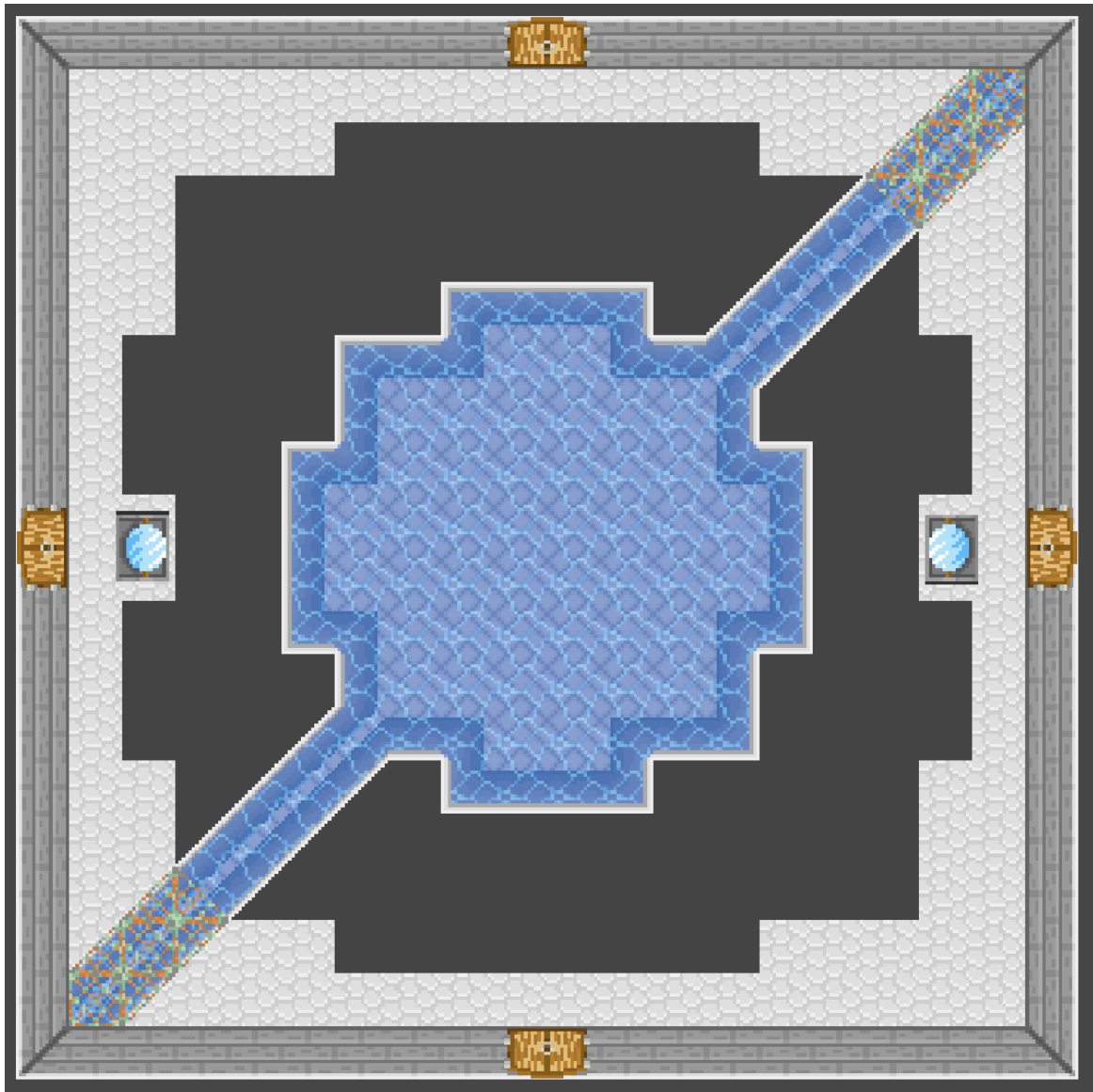
Default Underbelly Rooms

Vault Underbelly



Vault's underbelly has one canal entering in from the north and no mirrors. In the center of vault's underbelly, there is a chest which when opened finishes the game. This chest is blocked by a one-way gear, several gates and the canal. Vault's underbelly also contains a note from **N.T.E.** hinting to the player to find new ways to enter the underbelly. The note also tells the player the golden chest is indeed the objective of the game.

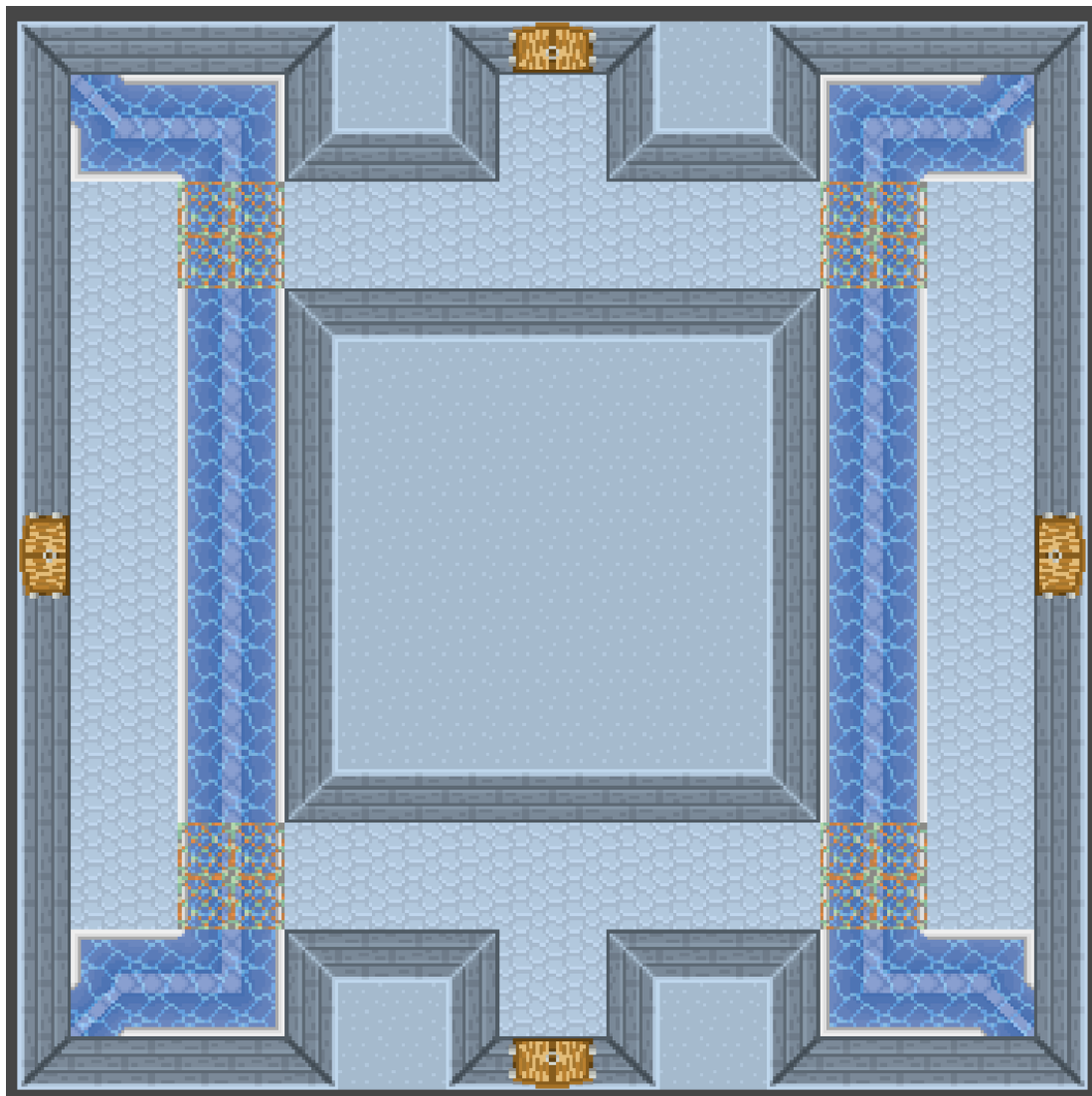
Abyss Underbelly



Abyss's underbelly has one canal entering in from the northeast and southwest, and no mirrors. Abyss's underbelly also has the only two cross room light sources, casting beams out of the right and left doors. This room's sources will always be activated. The canal in Abyss's underbelly can only be flooded from the four canals in **Abyss**. When one of those canals floods, water falls into the underbelly and allows cross room water movements in the underbelly.

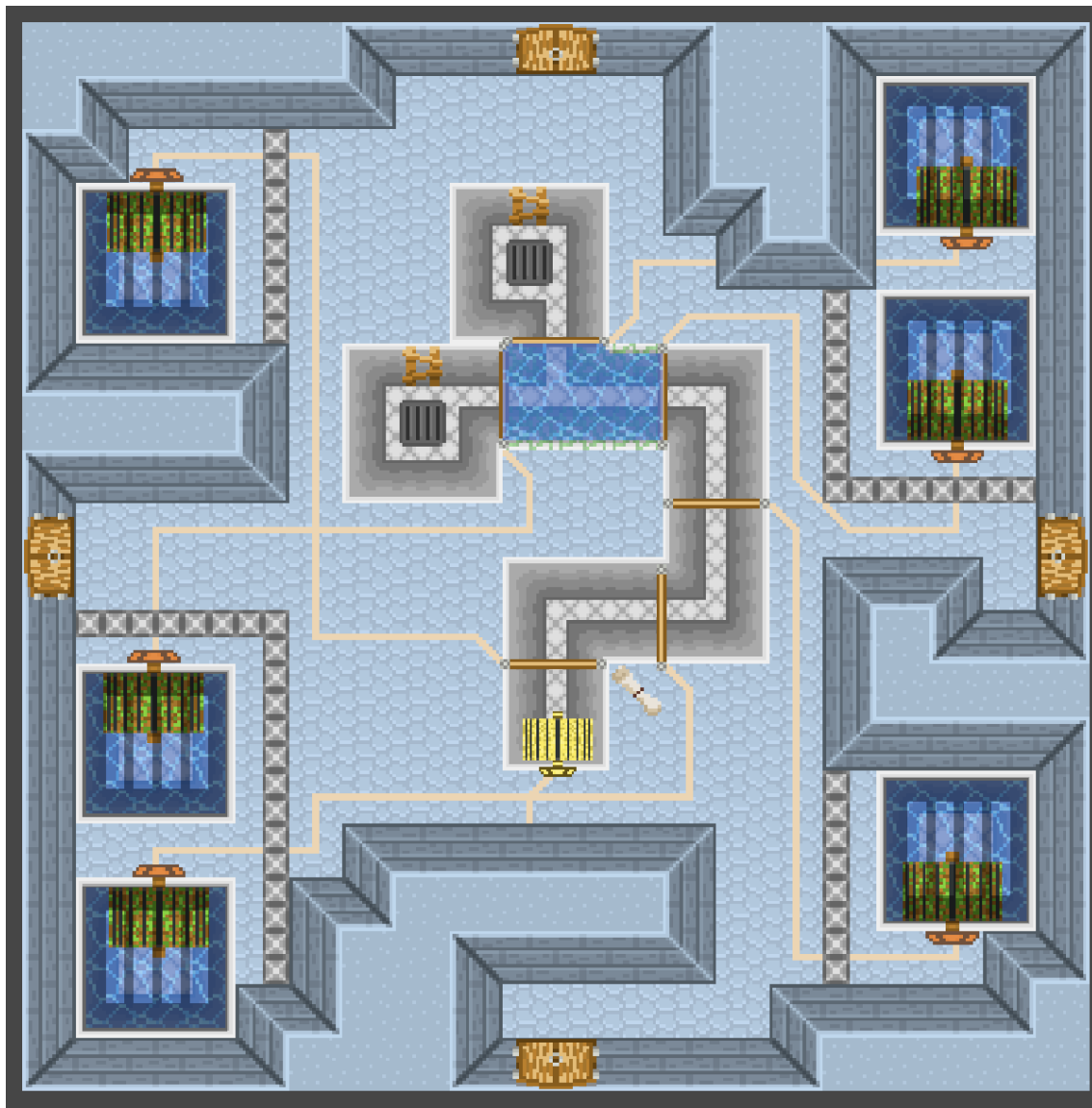
Water (blue) Underbelly Rooms

Pools Underbelly



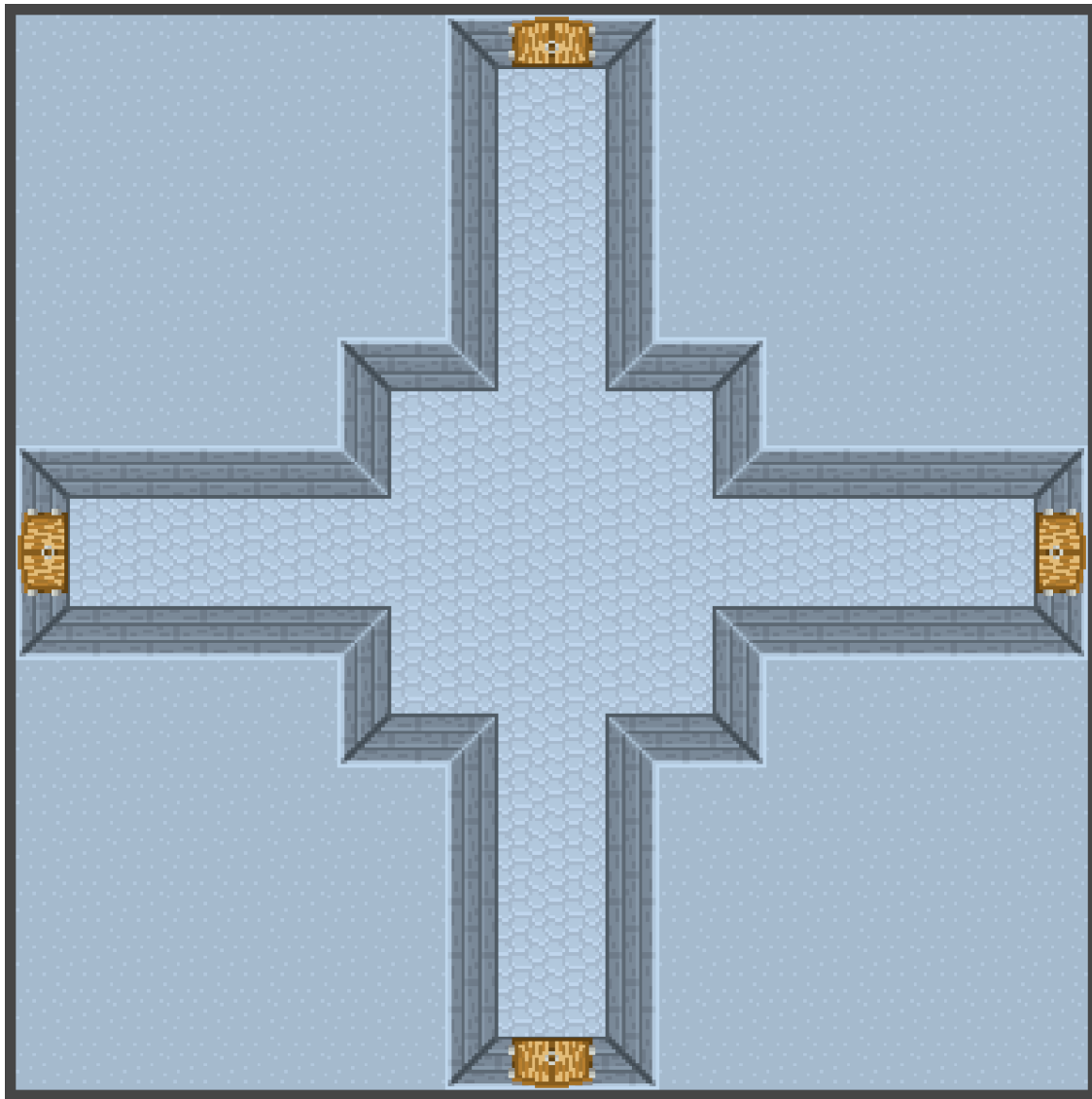
Pools' underbelly has two canals, one entering from the northwest and southwest, and the other entering from the northeast and southeast, and no mirrors.

Runoff Underbelly



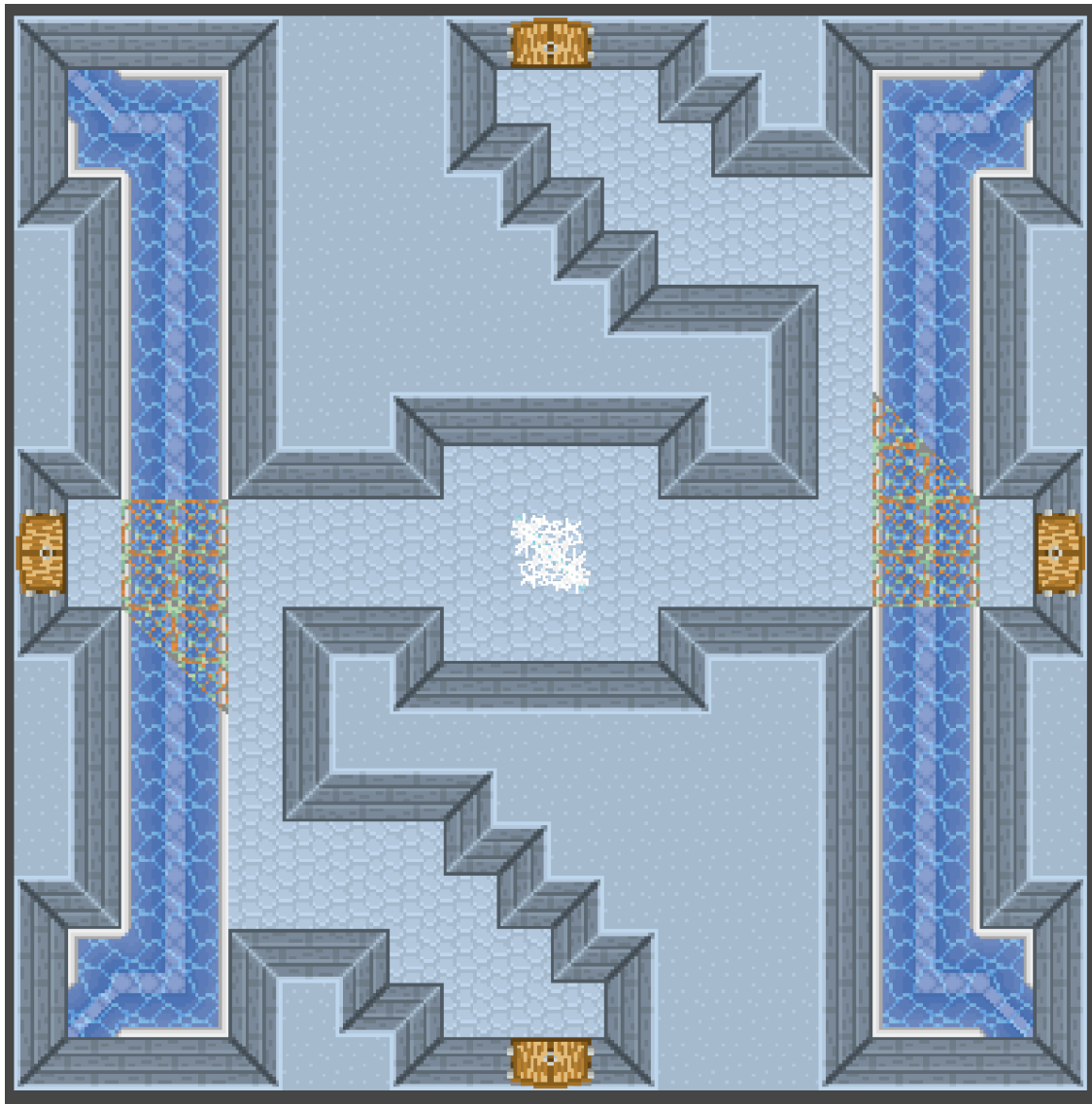
Runoff's underbelly has no canals entering the room. Instead Runoff's underbelly contains six canals in the center, and six canals around the edge of the room with grate patterns and water wheels in each. Runoff's underbelly also contains a note from N.T.E. hinting that water from grates can end up in this room. This room's puzzle will be explained in more depth later into the solution document.

Yacht Underbelly



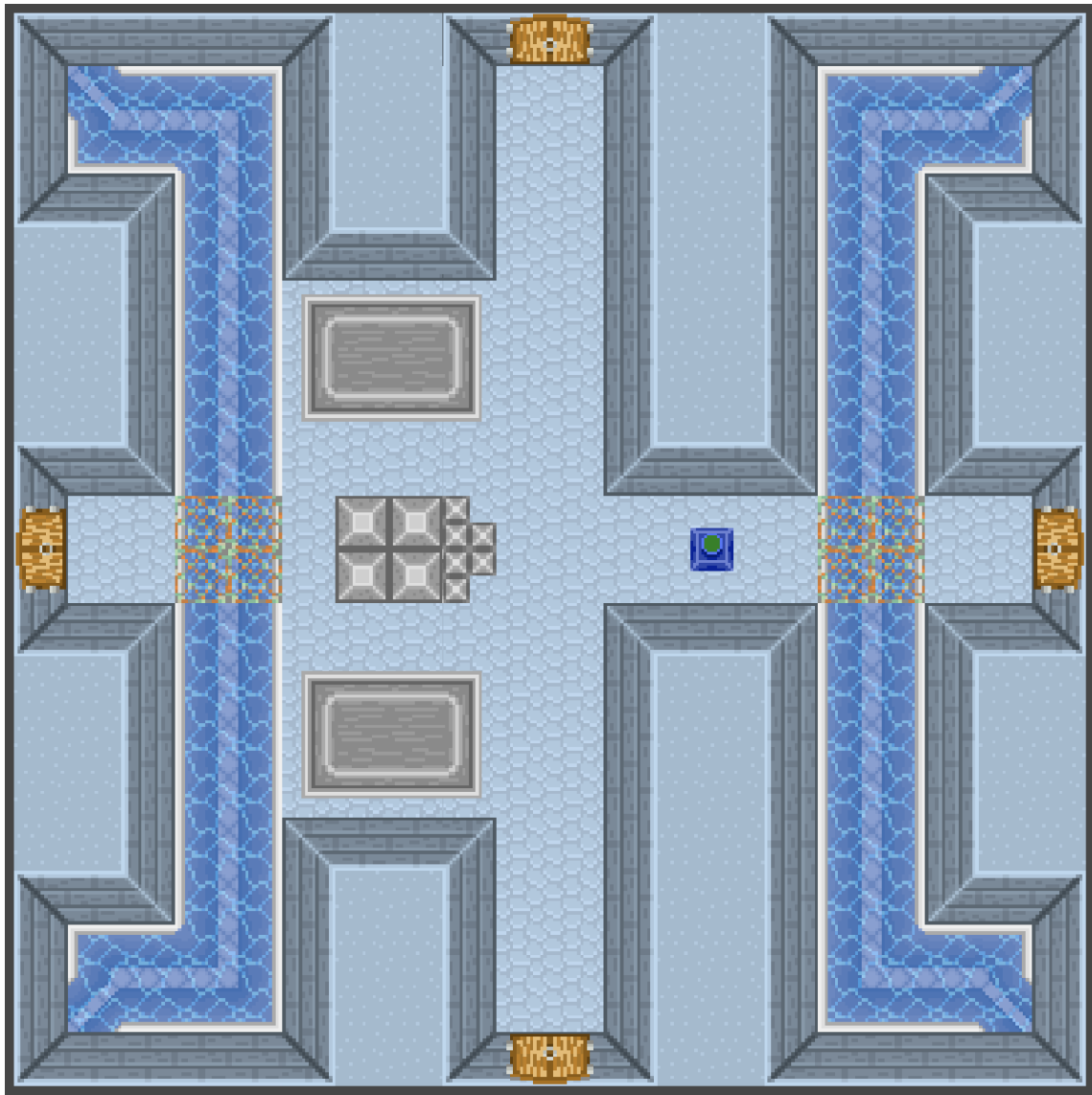
Yacht's underbelly has no canals and no mirrors.

Whirlpool Underbelly



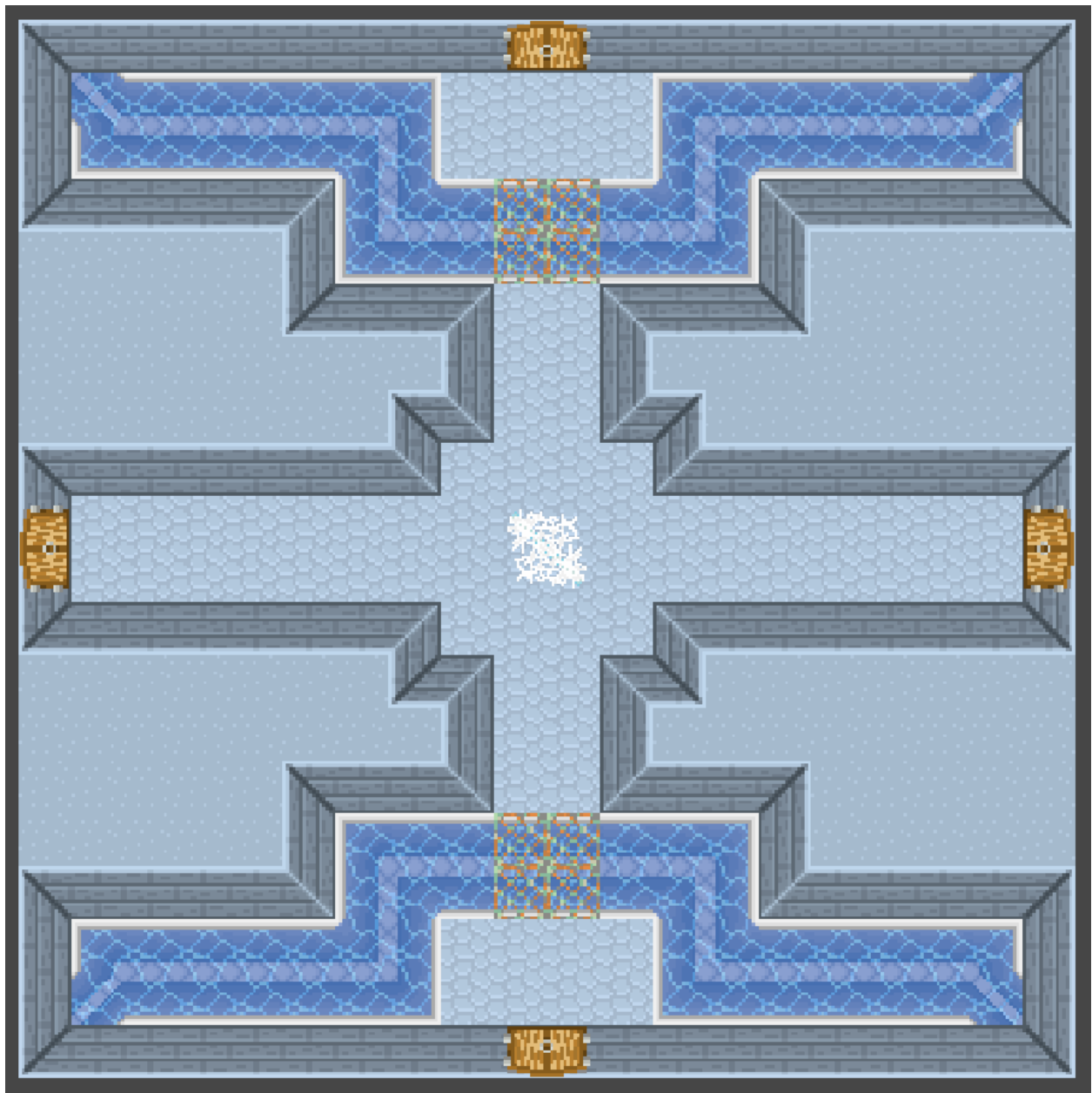
Whirlpool's underbelly has two canals, one entering from the northwest and southwest, and one entering from the northeast and southeast, and one mirror reflecting from top to right.

Xylem Underbelly



Xylem's underbelly has two canals with one entering from the northwest and southwest, and the other entering from the northeast and southeast, and no mirrors. Xylem also contains a button that deactivates a forcefield, and the two coffins that connect to the upper level of the dungeon.

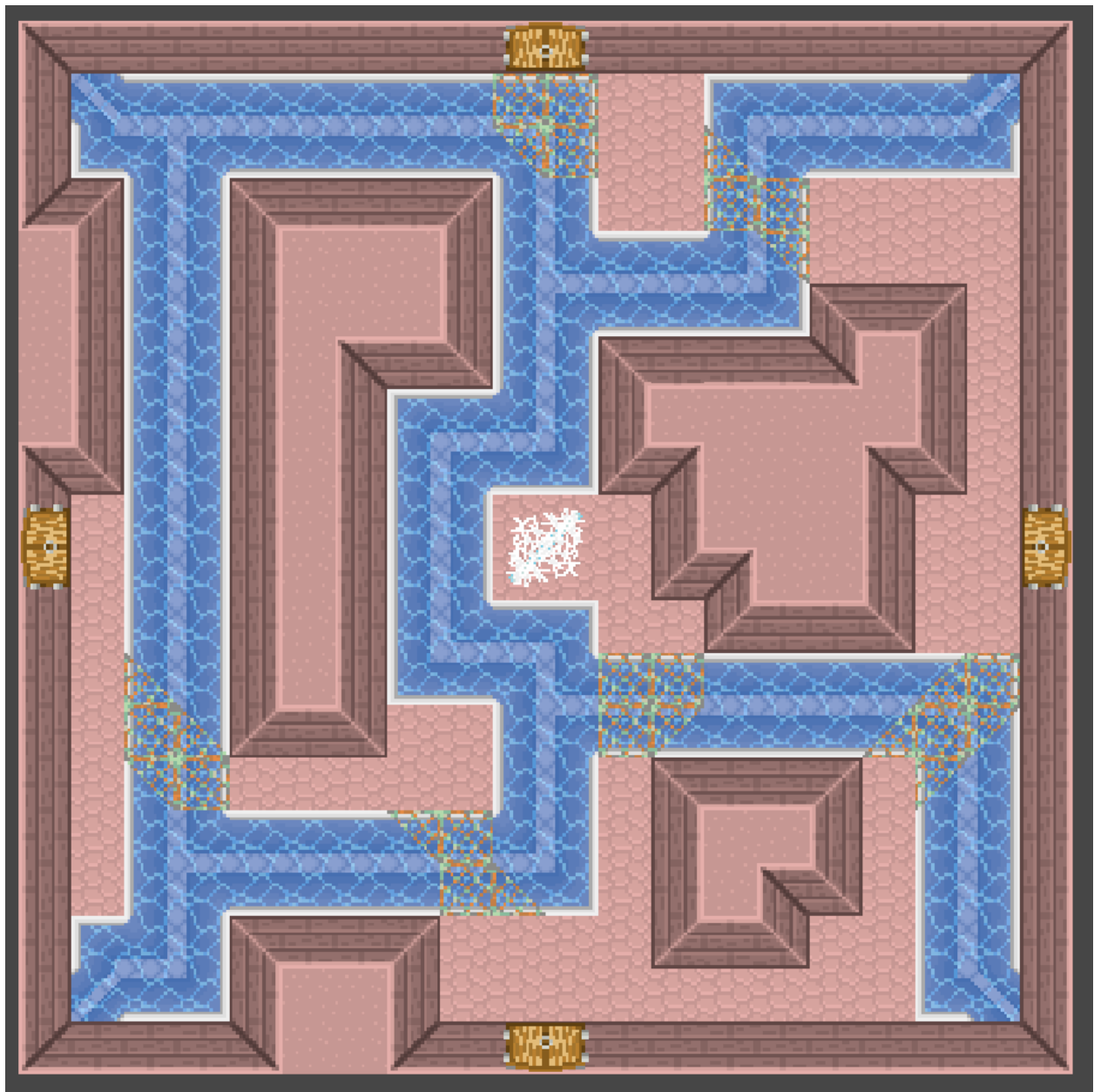
Spring Underbelly



Yacht's underbelly has two canals, one entering from the northwest and northeast, and the other entering from the southeast and southwest, and one mirror reflecting from top to right.

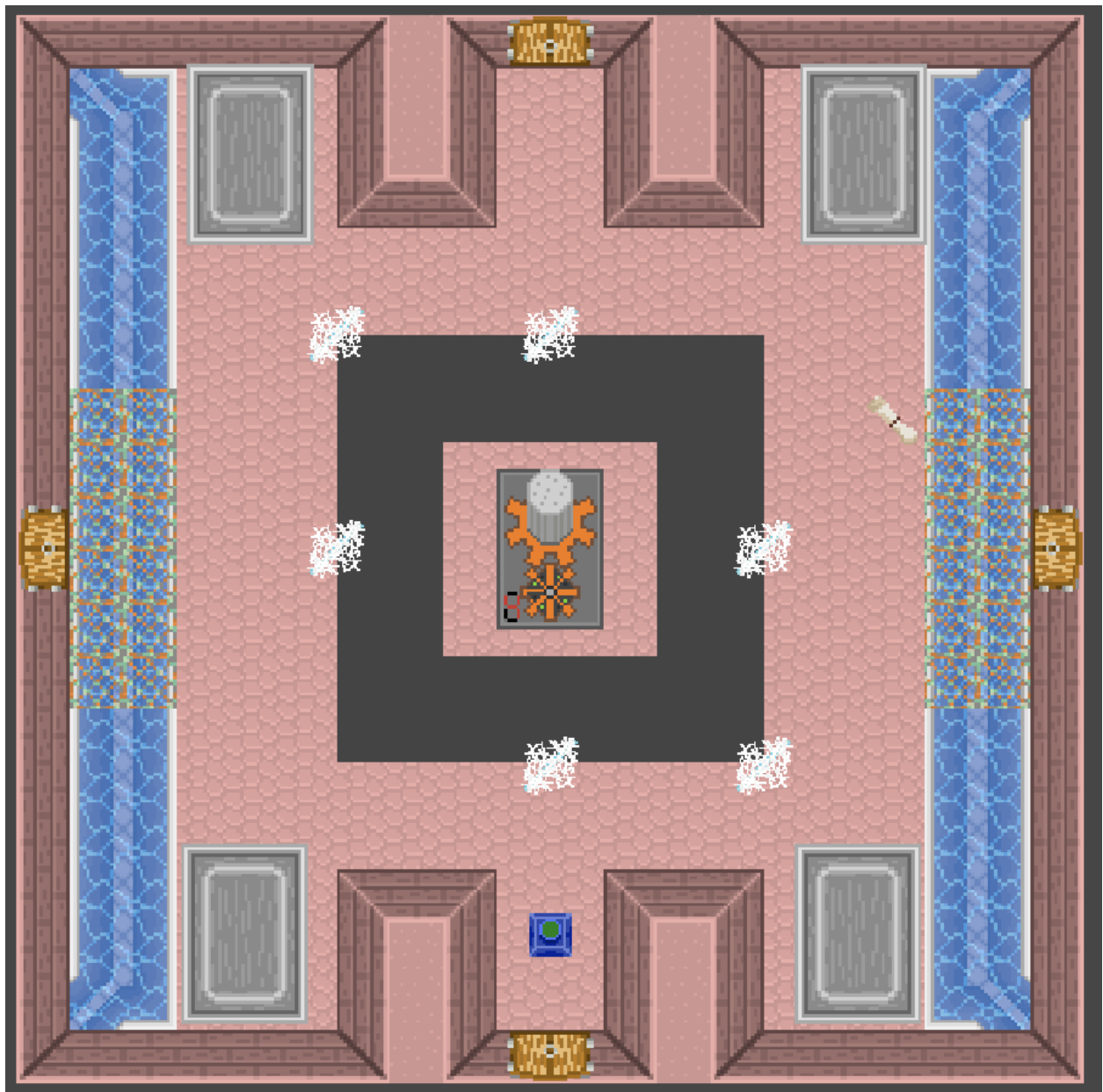
Rotation (red) Underbelly Rooms

Factory Underbelly



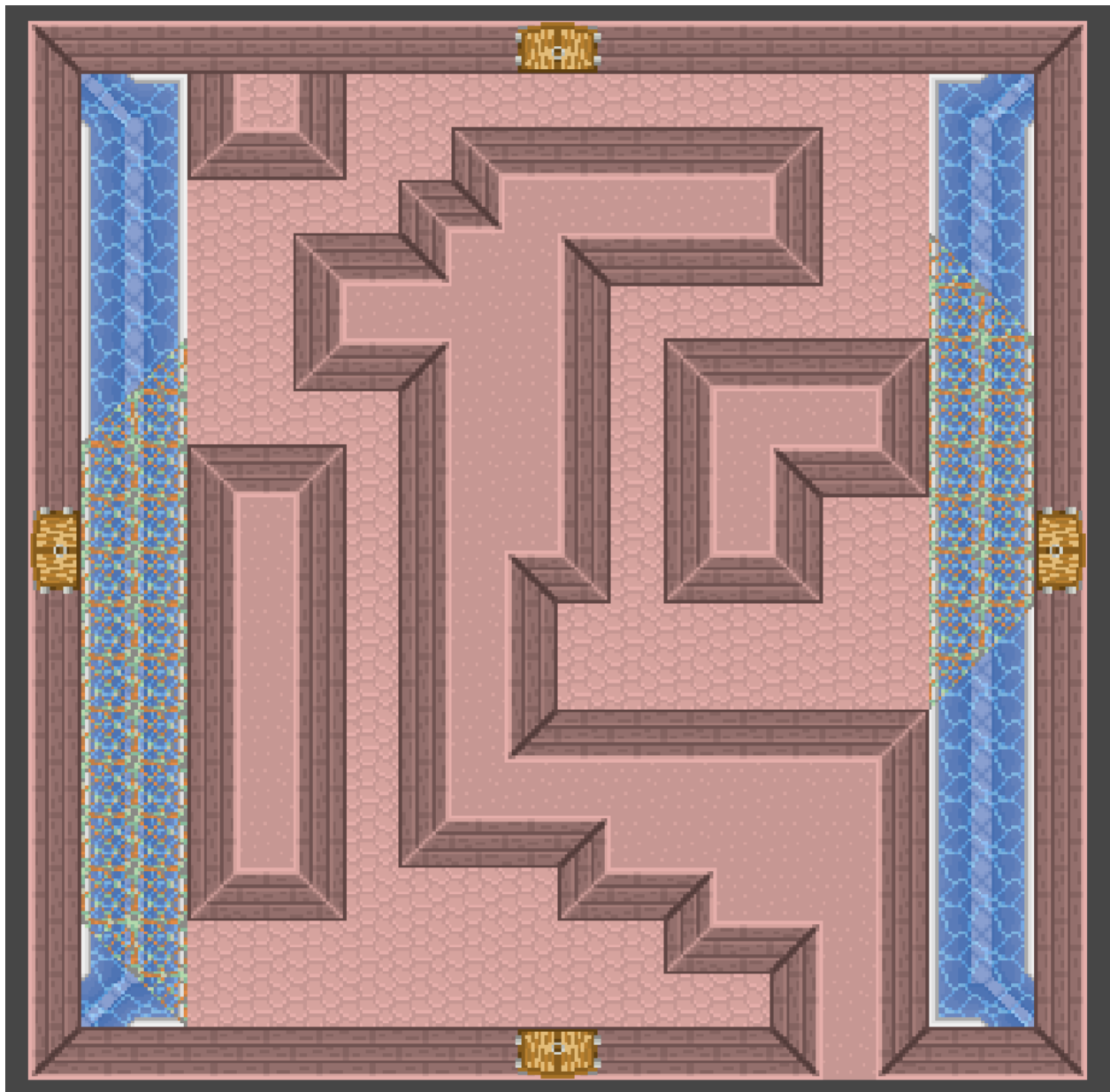
Factory's underbelly has one canals, entering from the northwest, northeast, southwest, and southeast, and a mirror reflecting from top to left.

Hub Underbelly



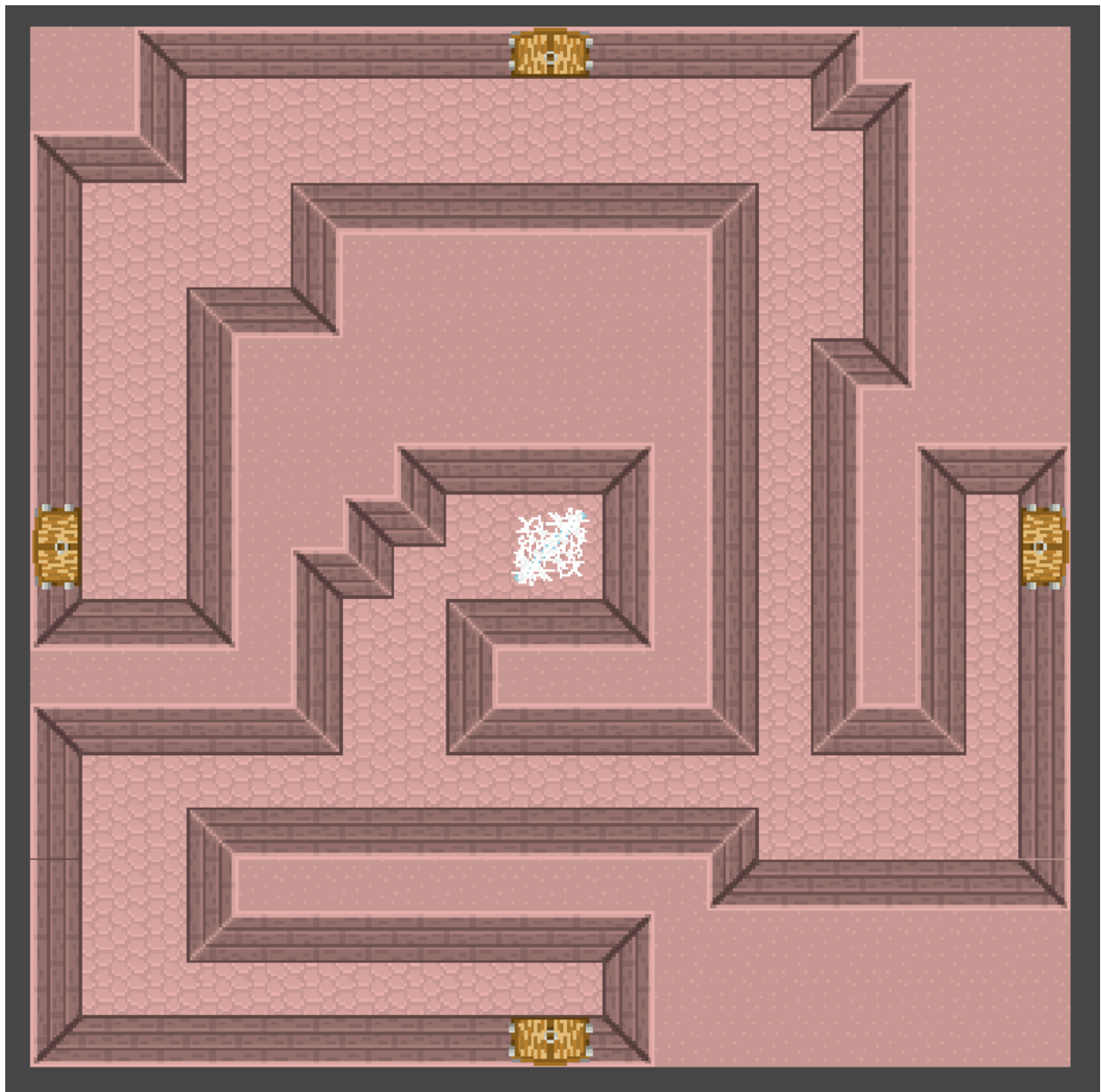
Hub's underbelly has two canals, one entering from the northwest and southwest, and the other entering from the northeast and southeast, and a set of mirrors that reflect from top to left and bottom to right. Hub's underbelly also contains the force field button for the set, and a note from N.T.E. hinting about the object in the center of the room. Hub's underbelly also contains four coffins connecting to the upper level.

Motor Underbelly



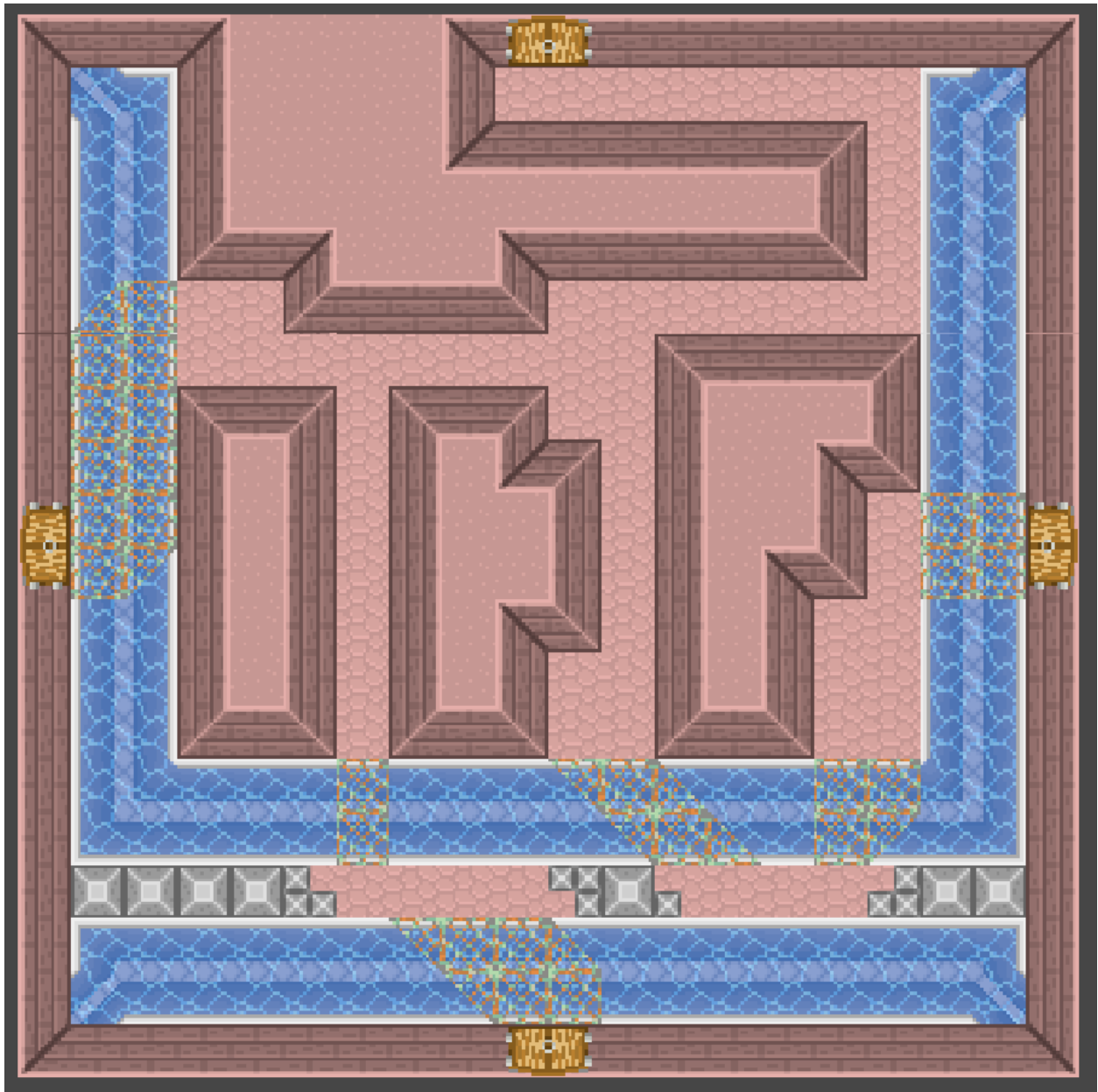
Motor's underbelly has two canals, one entering from the northwest and southwest, and the other entering from the northeast and southeast, and no mirrors.

Diametral Underbelly



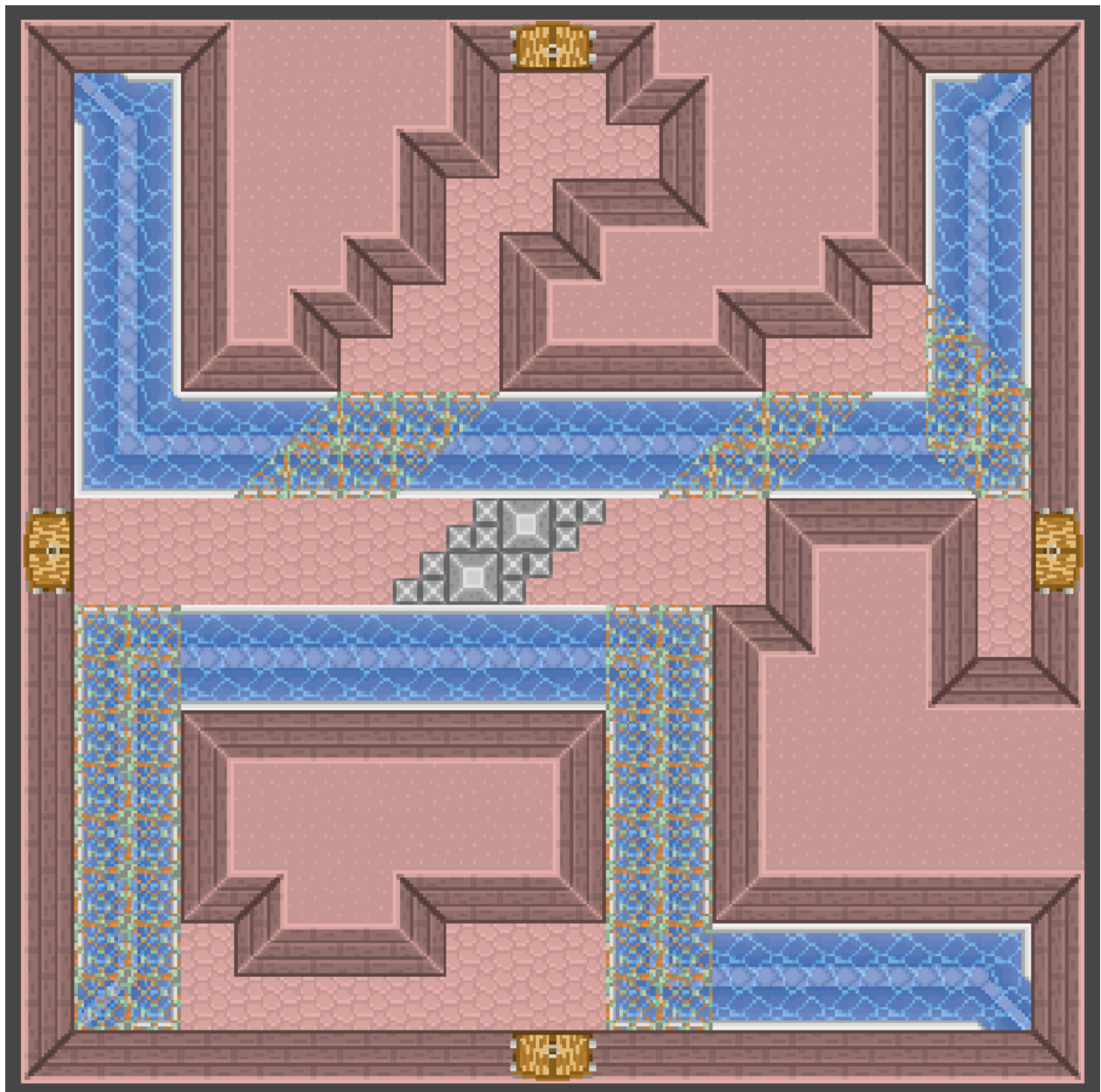
Diametral's underbelly has no canals, and one mirror reflecting from top to left.

Kinematic Underbelly



Kinematic's underbelly has two canals, one entering from the northwest and northeast, and the other entering from the southwest and southeast, and no mirrors.

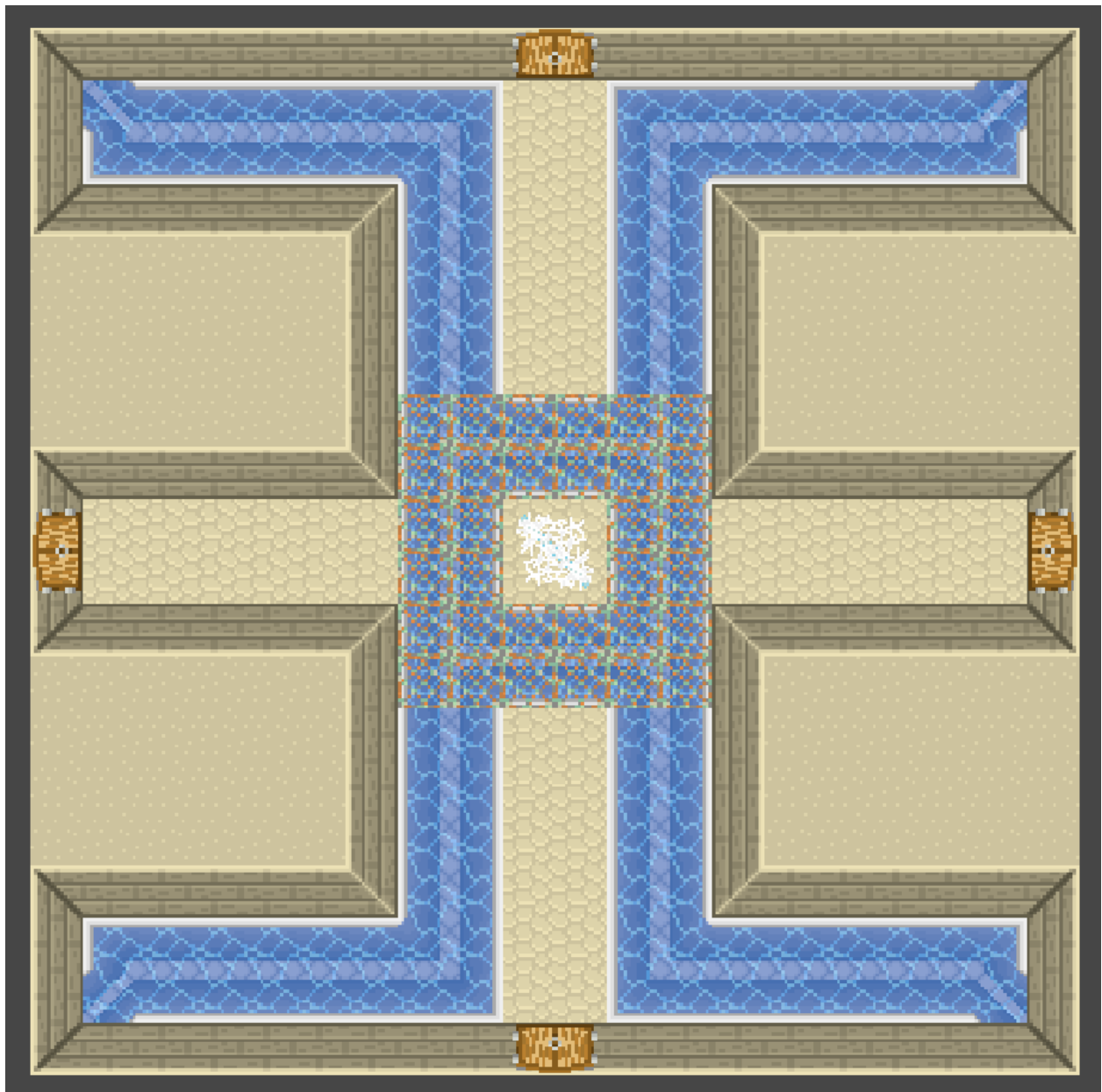
Unidirectional Underbelly



Unidirectional's underbelly has two canals, one entering from the northwest and northeast, and the other entering from the southwest and southeast, and no mirrors.

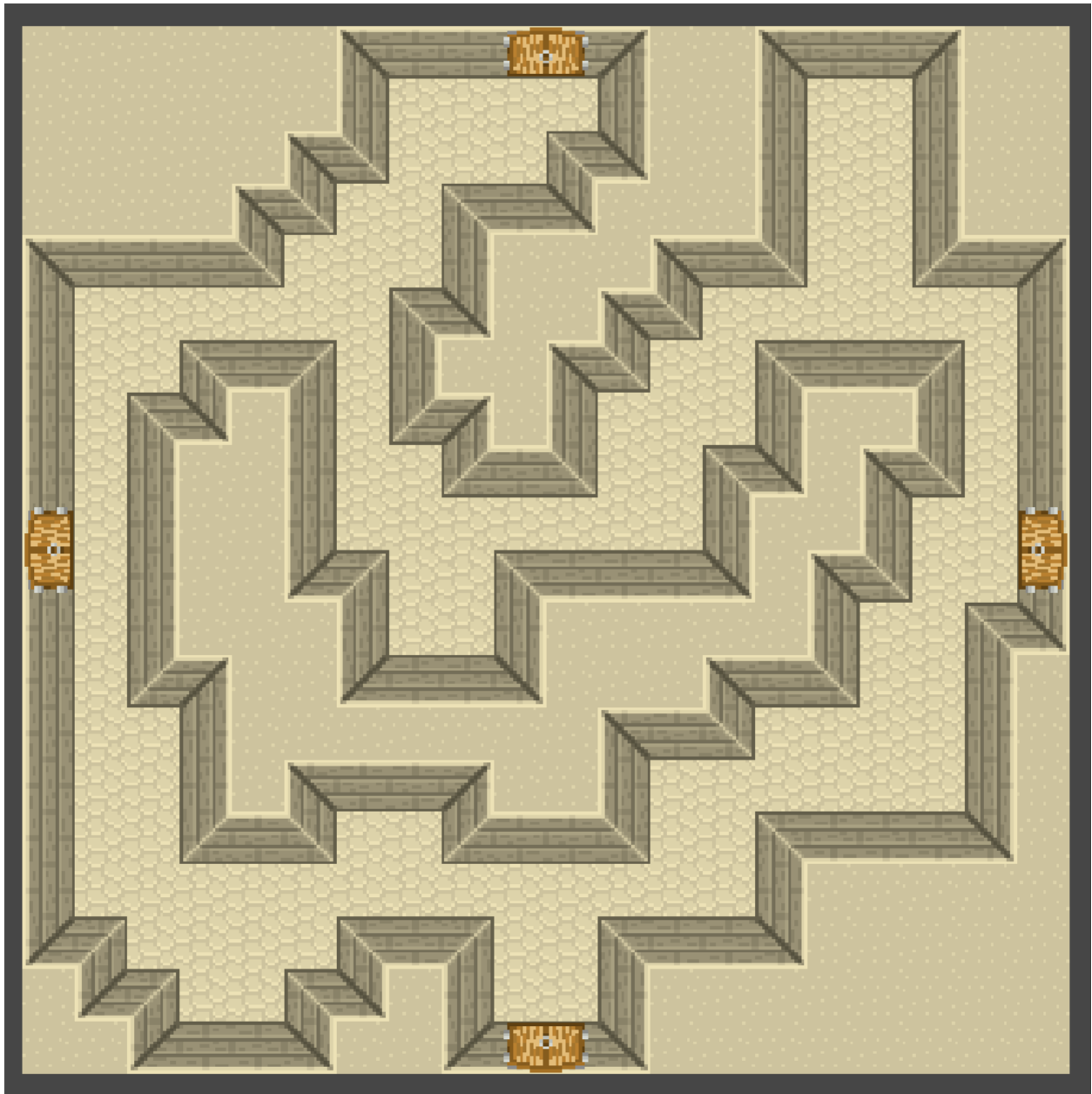
Light-Dark (yellow) Underbelly Rooms

Enclosure Underbelly



Enclosure's underbelly has one canal, entering from the northwest, northeast, southwest, southeast, and one mirror reflecting from the top to the right.

Zigzag Underbelly



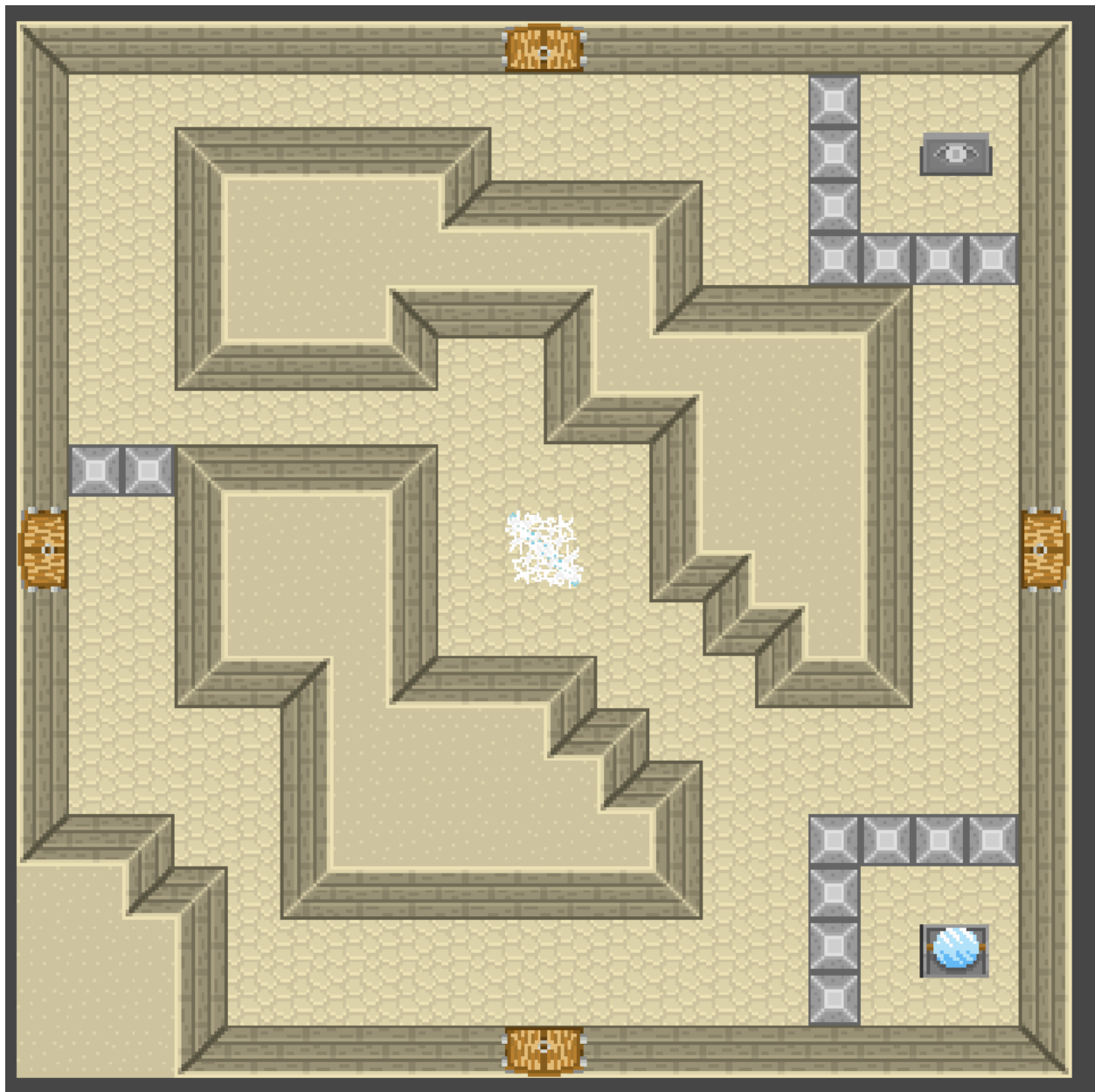
Zigzag's underbelly has no canals no mirrors.

Quarters Underbelly



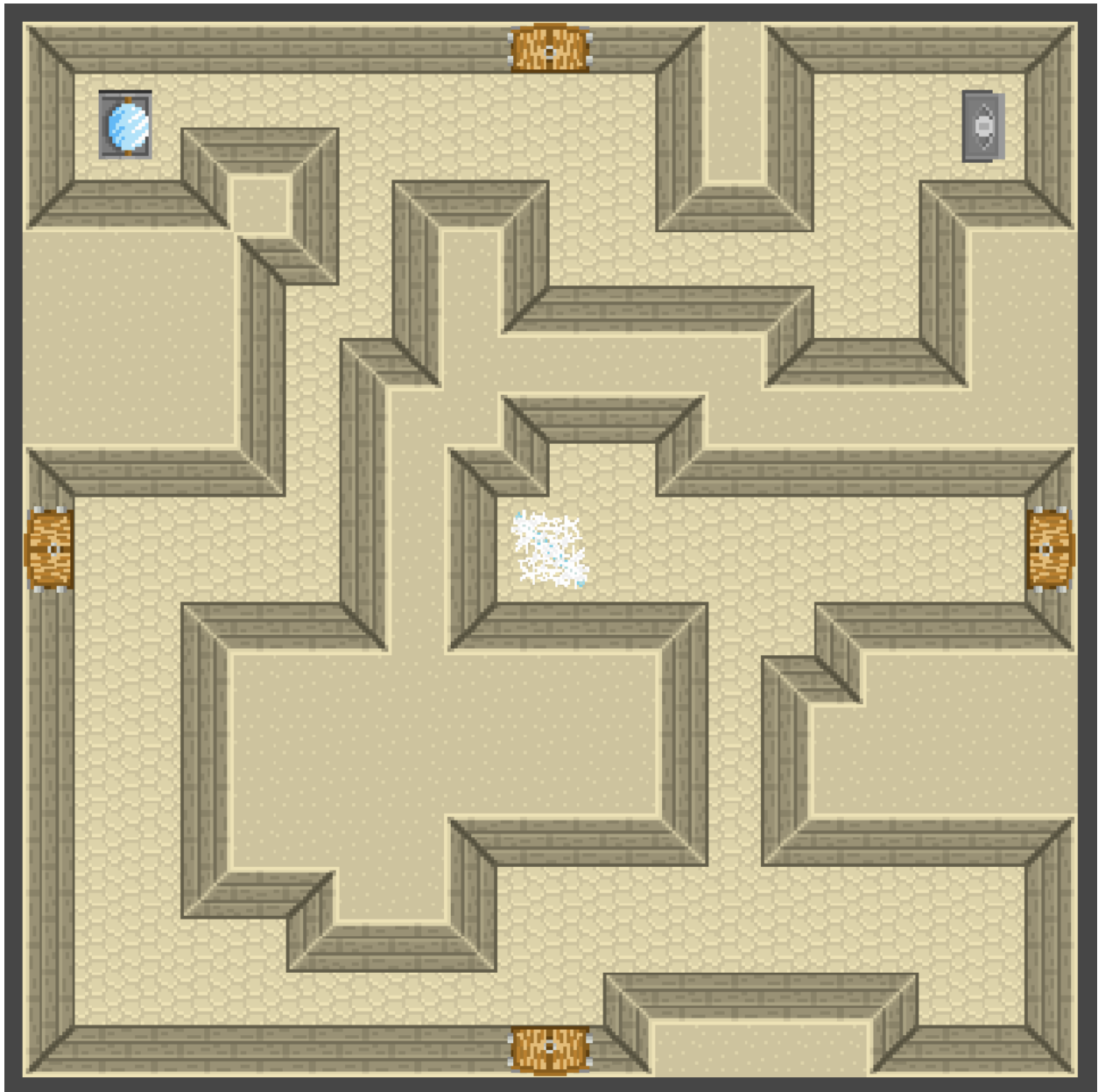
Quarters' underbelly has no canals, and no mirrors. Quarters has a light source that casts a beam directly into a receiver. This means the receiver will always be activated when Quarters' underbelly is placed in light. Quarters' underbelly also has a note from **N.T.E.** telling the player to pay attention to the receivers in this roomset. The three receivers on the wall will be explained in a later section.

Tunnel Underbelly



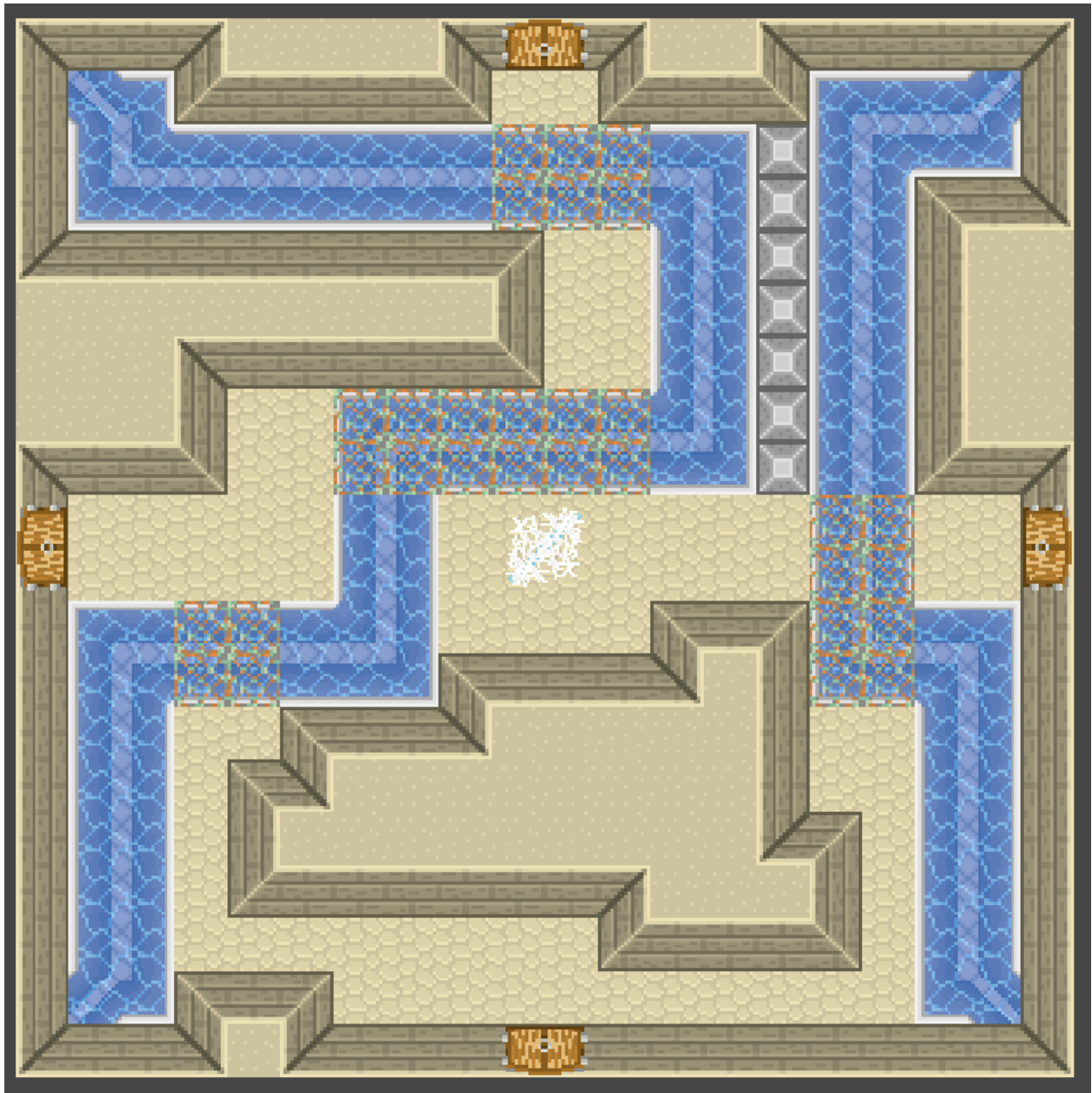
Tunnel's underbelly has no canals, and a mirror reflecting from top to right. Tunnel's underbelly also contains a light source casting directly into a light receiver.

Network Underbelly



Network's underbelly has no canals, and a mirror reflecting from top to right. Network's underbelly also contains a light source casting directly into a receiver.

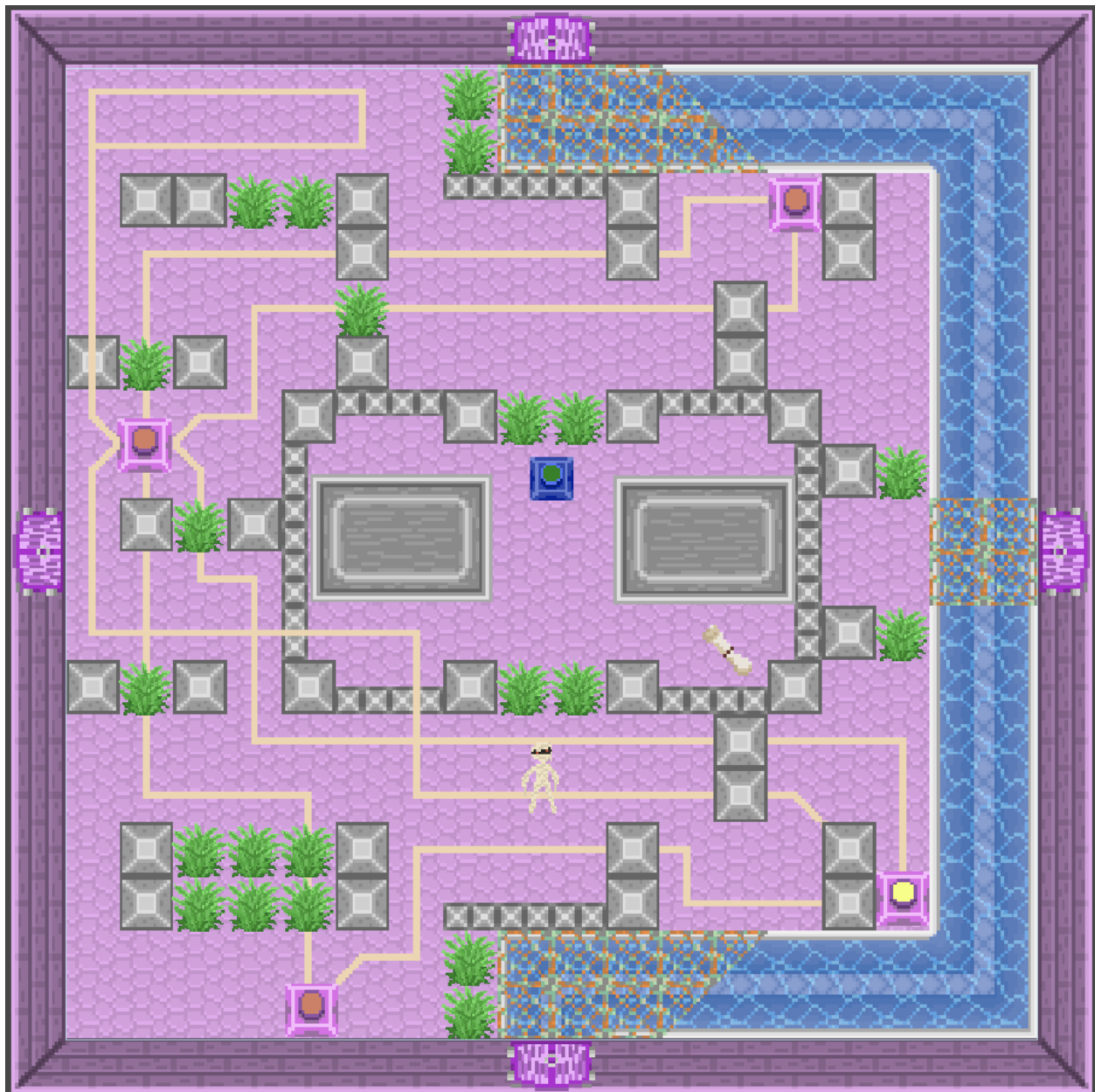
Oxbow Underbelly



Oxbow's underbelly has two canals, one entering from the northwest and southwest, and the other entering from the northeast and southeast, and one mirror from top to left.

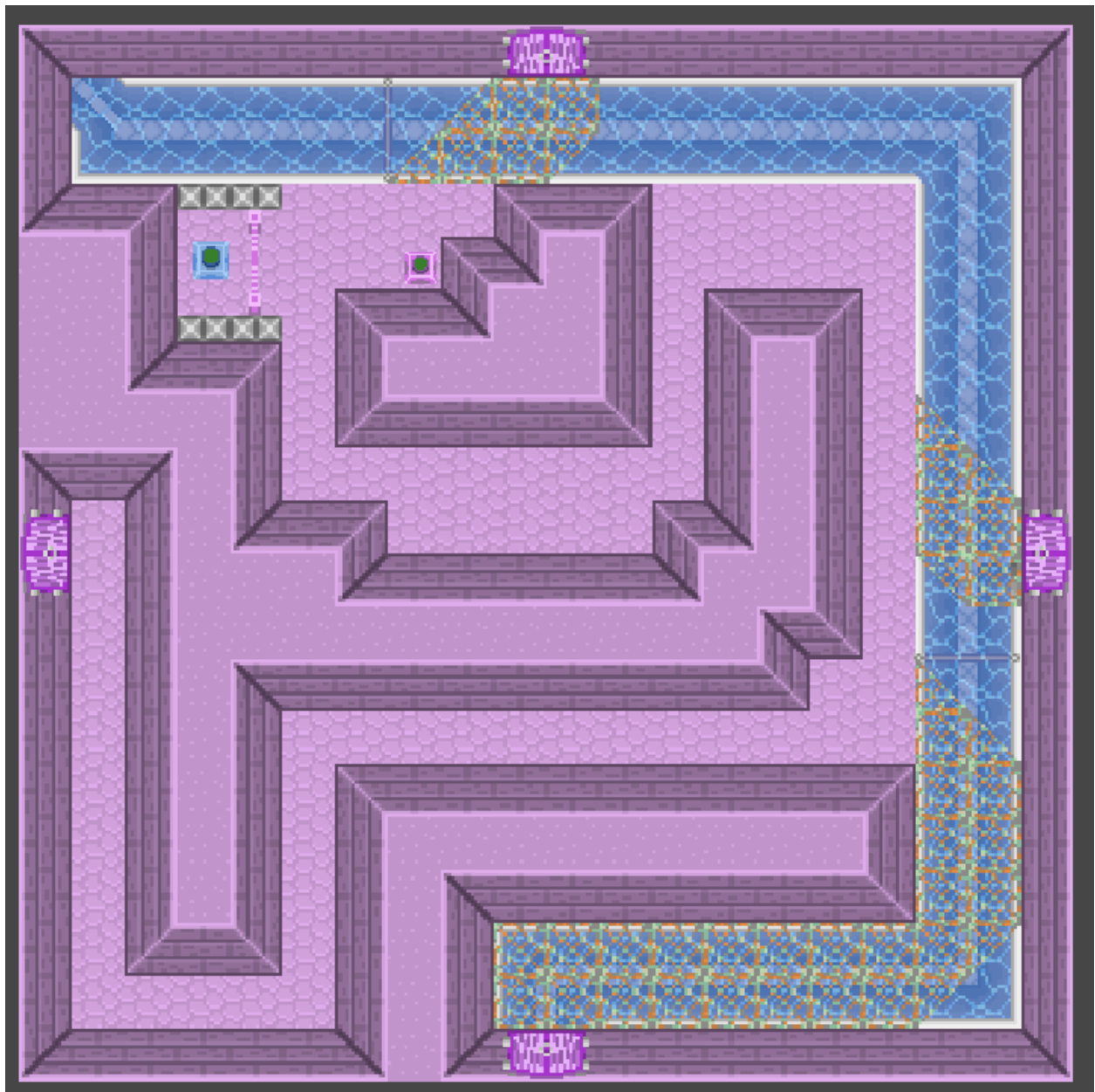
Pacman (purple) Underbelly Rooms

Bridge Underbelly



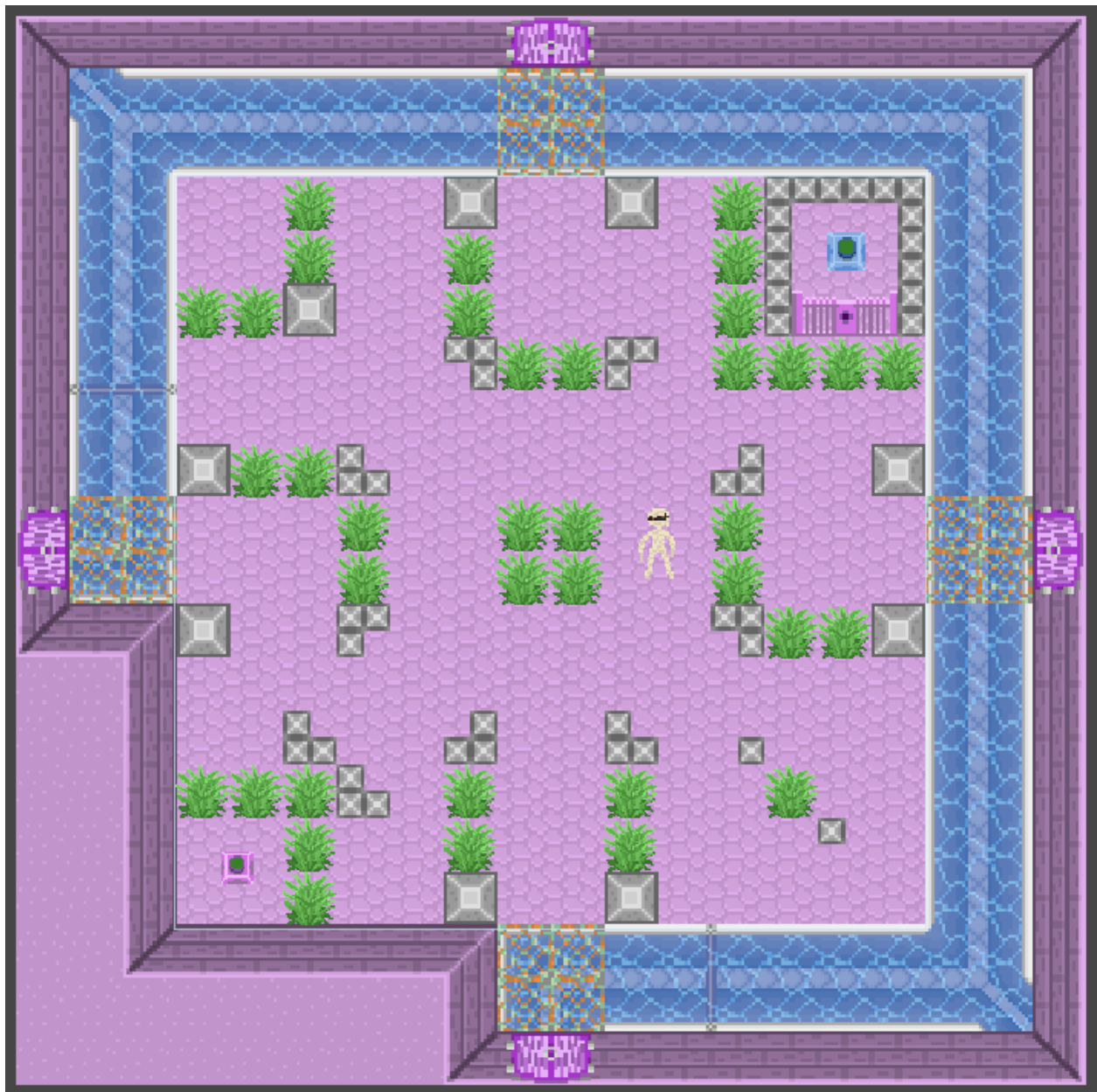
Bridge's underbelly has one canal, entering from the north and south, and no mirrors. Bridge's underbelly has a mummy and a wire puzzle, which opens one of the coffins. Bridge's underbelly also has a button which disables its set's forcefield, and note from N.T.E. hinting that the mummy follows your movements even when it's on a different level from you.

Crypt Underbelly



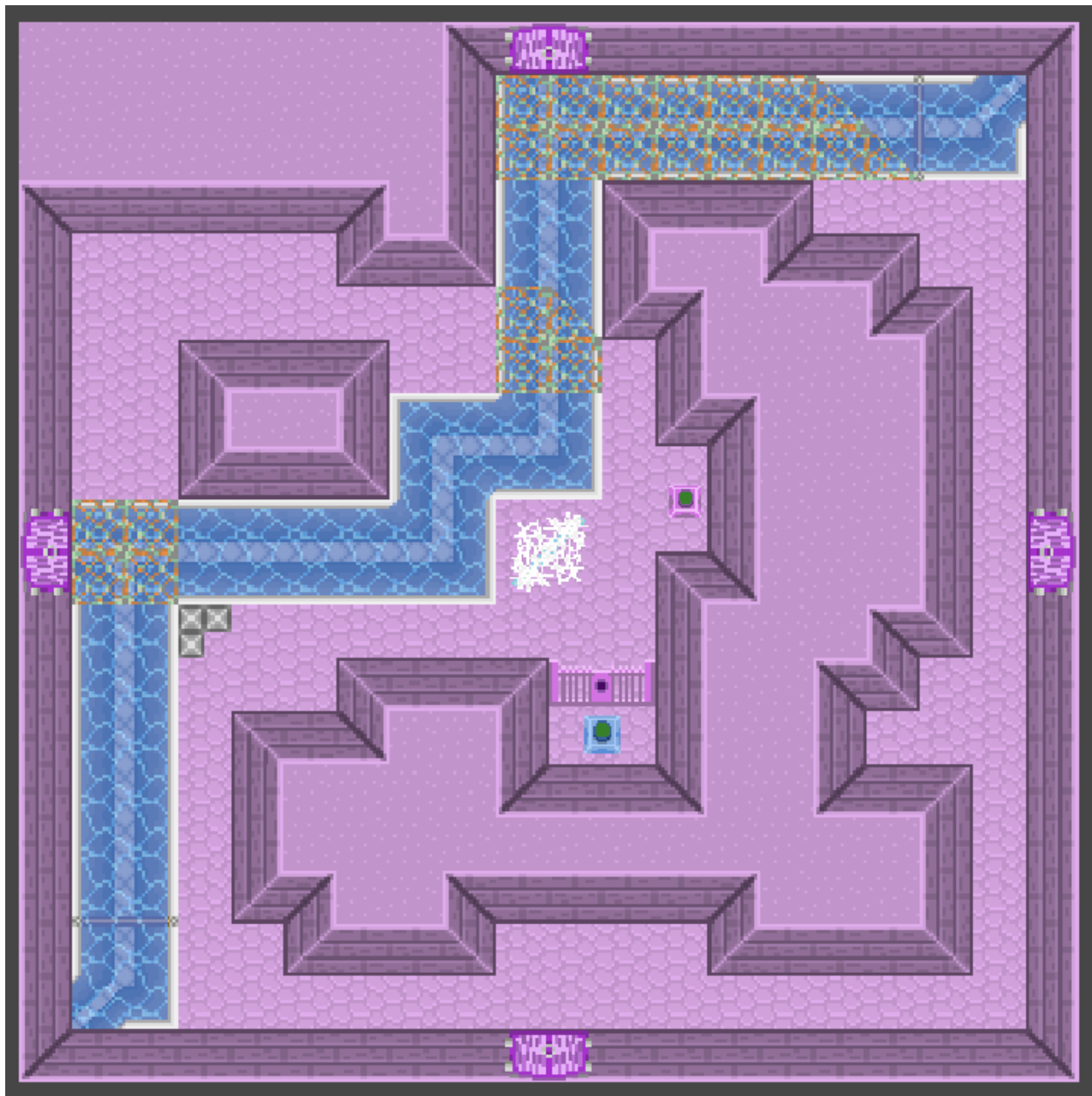
Crypt's underbelly has three canals separated by dams, one entering from the northwest, one entering from the south and one entering from the east, and no mirrors. Crypt's underbelly also has a mummy button which when activated allows the player to open the dams.

Inside-Joke Underbelly



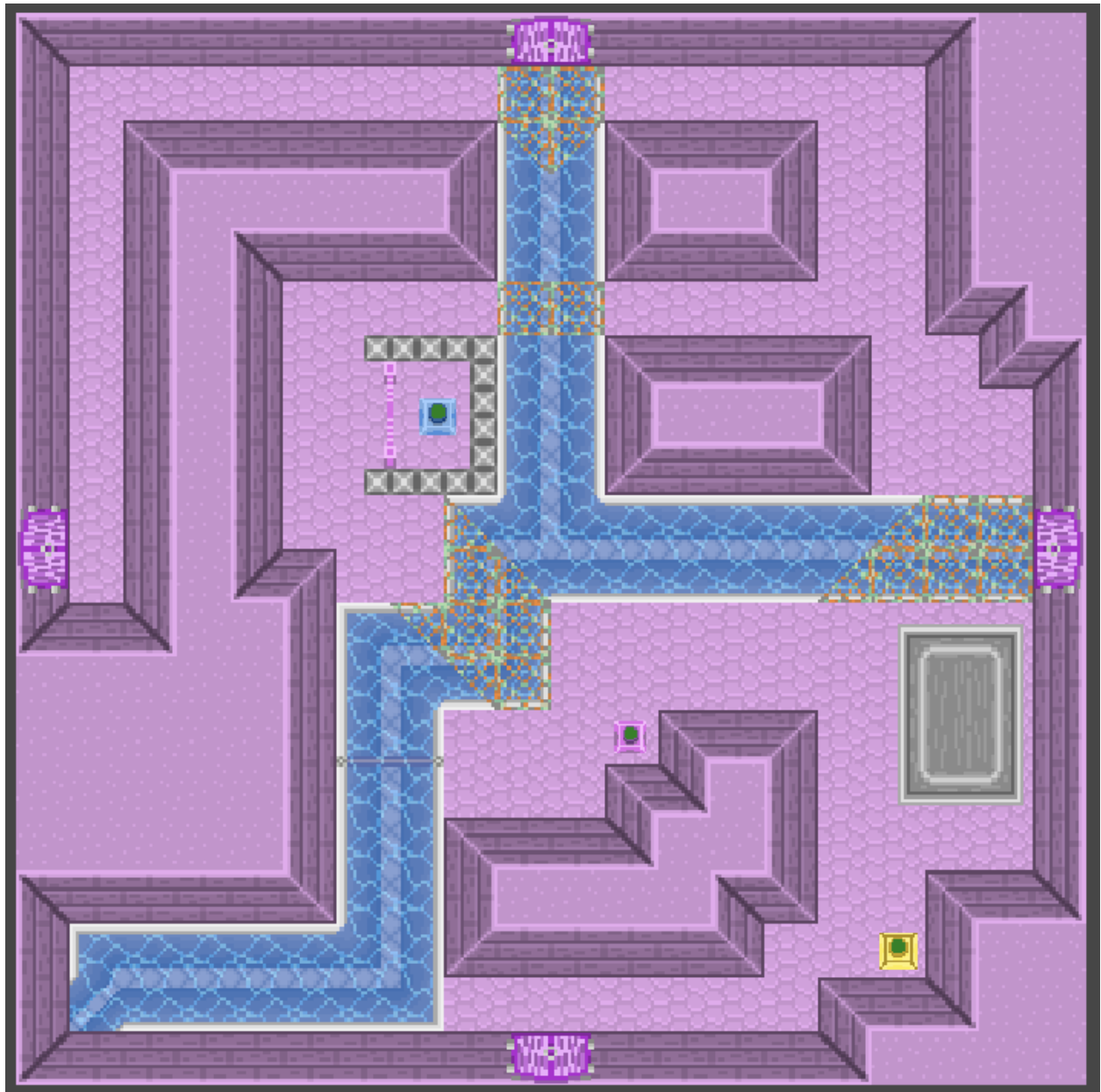
Inside-Joke's underbelly has three canals separated by dams, one entering from the west, one entering from the south and one entering from the northwest and southeast, and no mirrors. Inside-Joke's underbelly also has a mummy button which when activated allows the player to open the dams. This button cannot be reached by the mummy inside the room, and requires the amulet to be used.

Labyrinth Underbelly



Labyrinth's underbelly has three canals separated by dams, one entering from the southwest, one entering from the northeast, and one entering from the north and the west, and one mirror reflecting from top to left. Labyrinth's underbelly also has a mummy button which when activated allows the player to open the dams.

Greenhouse Underbelly



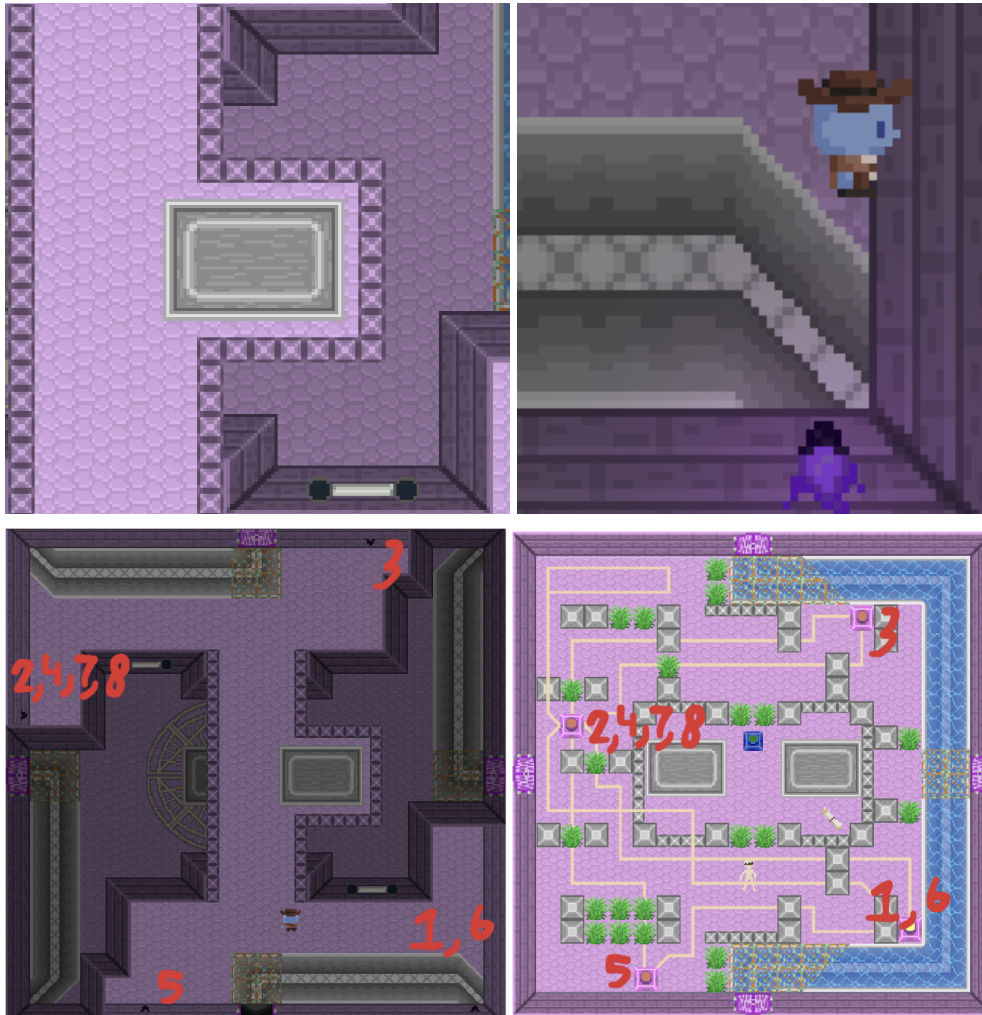
Greenhouse's underbelly has three canals separated by dams, one entering from the northwest, one entering from the south and one entering from the east, and no mirrors. Greenhouse's underbelly also has a mummy button which when activated allows the player to open the dams. Greenhouse's underbelly also has a coffin which is opened by the golden button in the bottom right of the room. This button does not require any puzzle to be activated.

Coffins part 2

Of the 11 coffins across the dungeon, 6 are opened from “below”. These include one in **Bridge**, one in **Greenhouse**, one in **Quarters**, two in **Hub**, and one in **Xylem**. This refers to the fact that their requirements are not revealed until you have entered the underbelly and visited the rooms relevant to each coffin. Opening the underbelly from below is important, as these requirements are much less strict than opening the underbelly “from above”.

We will skip the coffin in **Greenhouse** as it is trivial, and discuss the four puzzles for **Bridge**, **Quarters**, **Hub**, and **Xylem**.

Bridge Coffin



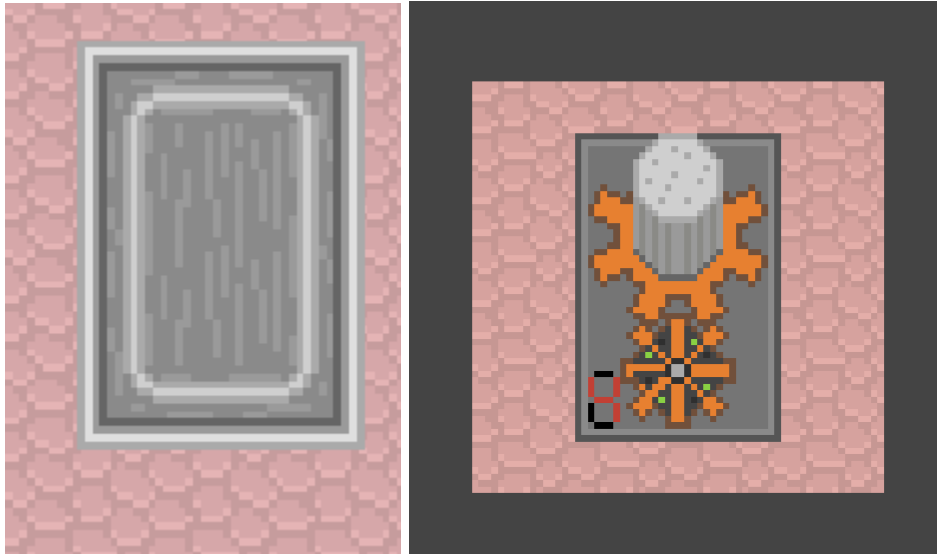
To open the second coffin in bridge, the player must be on the upper level of Bridge, and must lead the mummy in Bridge's underbelly through the wire puzzle. Any time a button is activated, the corresponding purple torch on the walls lights up. The sequence that the mummy must activate the buttons is shown in the diagrams above.

Quarters Coffin



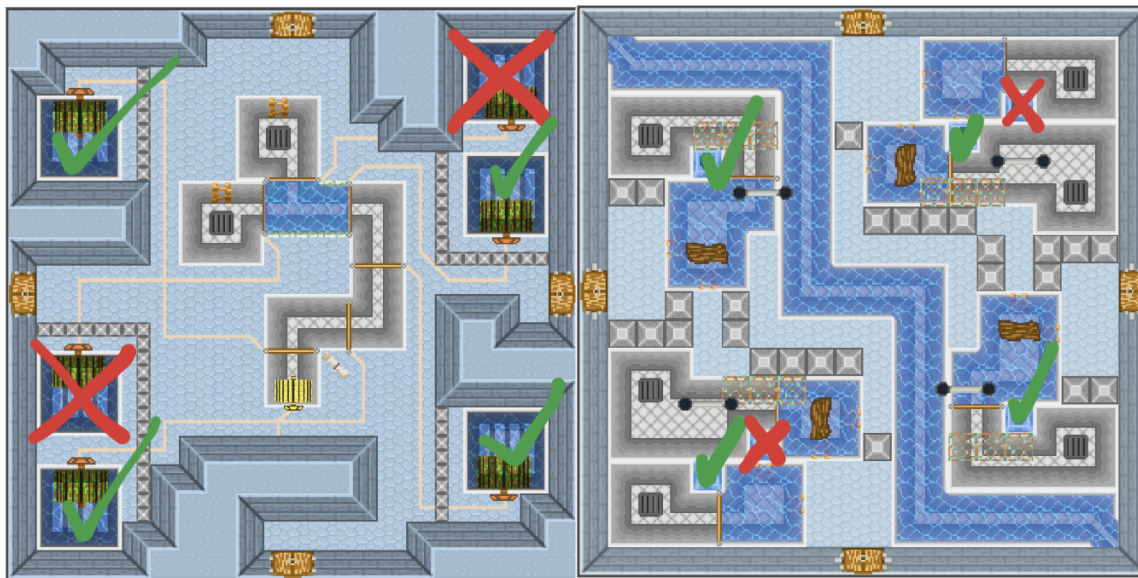
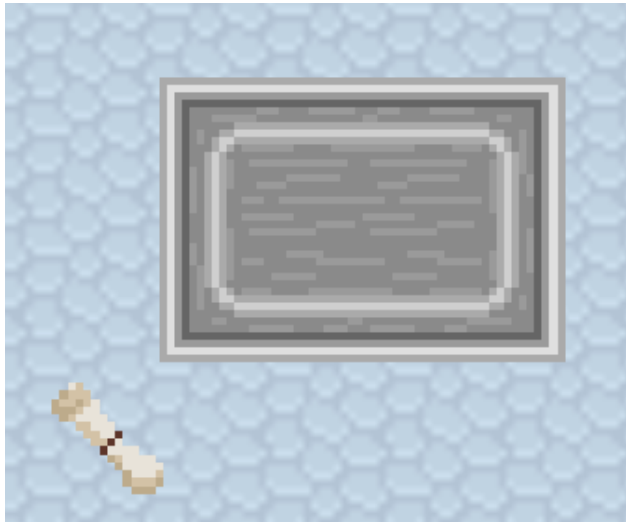
In the underbellies of **Quarters**, **Tunnel**, and **Network**, there are light sources casting light directly into receivers. Since sources only cast light when the room their in is placed in light, and since the Light-Dark room set's underbelly has light opposite to when it's upper level has light, the upper levels of each room must be placed in dark. Therefore, to open this coffin, **Quarters**, **Tunnel**, and **Network** must all be placed on dark checkered squares on the map.

Hub Coffin



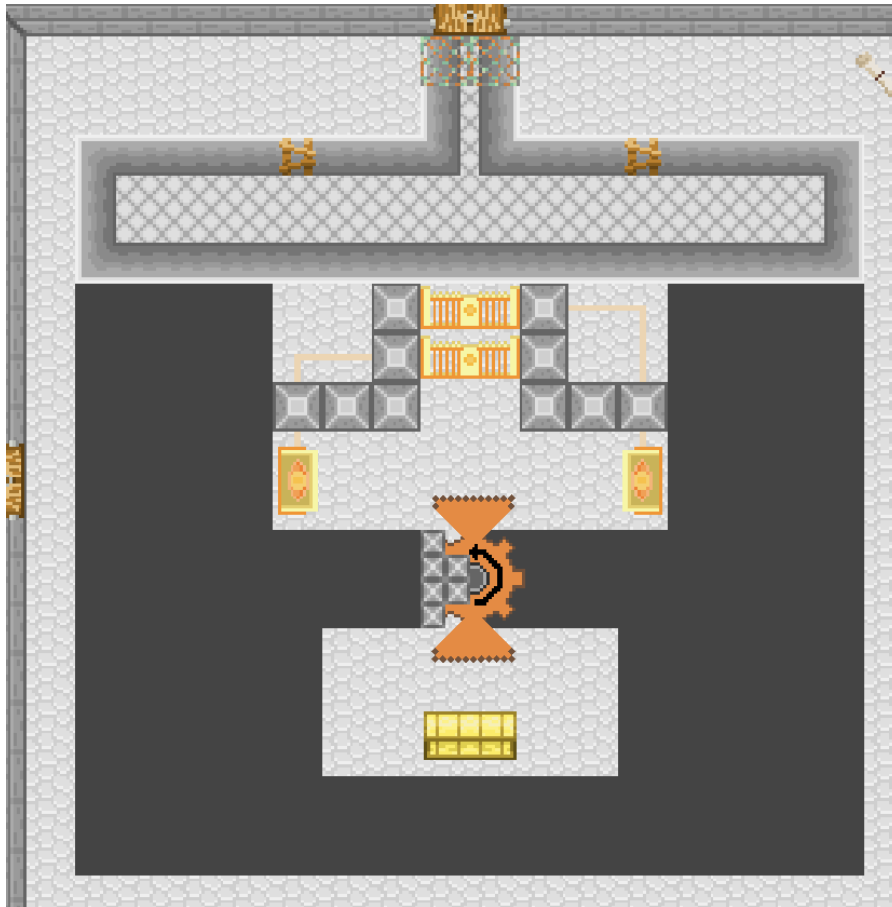
To open this coffin, you need to rotate the alternating spinner in Hub four times in the same direction. The current number of rotations made is displayed on the object in the center of Hub's underbelly. Rotating in a different direction resets this count. Therefore, opening this coffin cannot be done without the magnet item.

Xylem Coffin



To open this coffin, the player must correctly drain water from **Runoff** to open the correct dams in its underbelly. When all the correct dams are open, the water in the canals in the center is able to reach the golden water wheel and open the coffin. If the top right grate or middle left grate is flooded, then in the underbelly a dam will open that drains all the water in the center canals. Therefore, only the correct grates in the upper level of **Runoff** can be allowed to drain water. This coffin requires either the whip or floaties to open

Solving the Puzzle

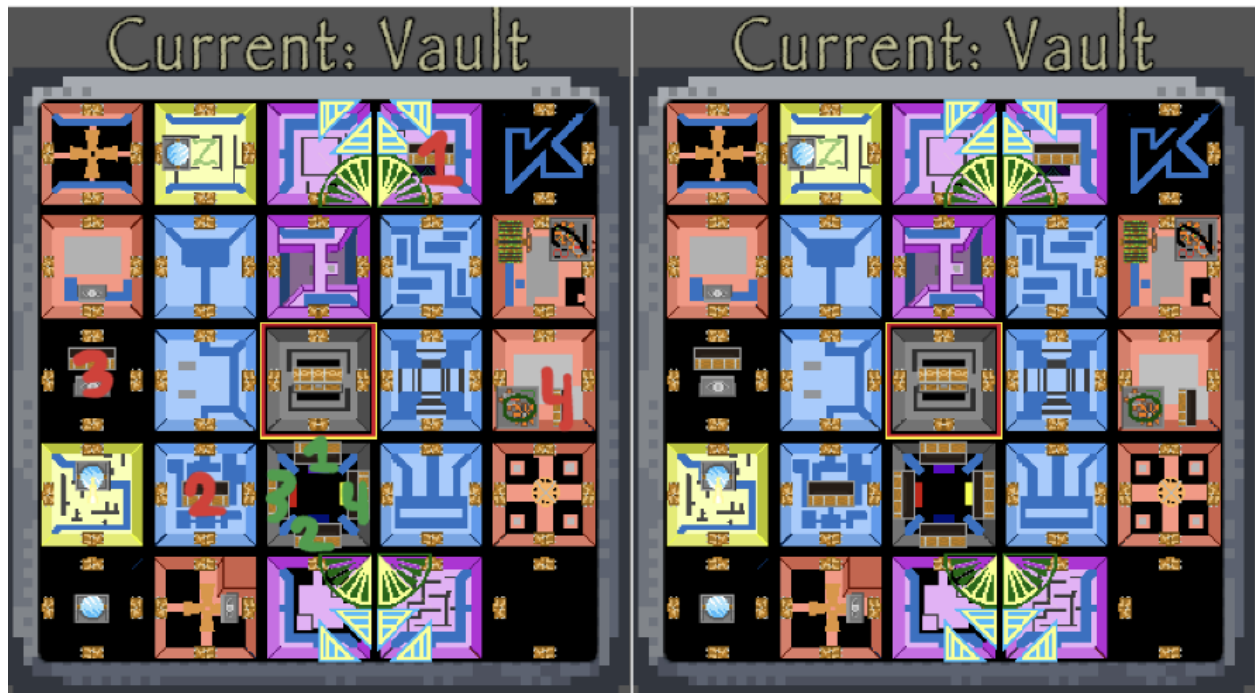


We've seen everything in the dungeon, and so it's time to put it all together. To reach the center chest, we must achieve the following

- Get the magnet
 - Get water into the north canal of **Pools**
- Get floaties
 - Place **Crypt**, **Inside-Joke**, **Labyrinth**, and **Greenhouse** in the arrangement that connects the blue corner pattern
- Get light into both receivers in the underbelly of **Vault**
 - Get the torch
 - Rotate **Kinematic** once
 - Place the underbelly in a way that allows light to reflect into both sources
- Flood the canal in the underbelly of **Vault**
 - Get the amulet

- Cast a light beam into **Tunnel** from the bottom door
 - Place the underbelly in a way that allows water to flow into the canal
 - Place the upper level in a way that lets water flow into **Abyss**
- Other constraints:
 - Cannot use keys on anything except the four items listed
 - Room placement
 - While the underbelly will make room placement easier, this will still be a constraint on the solution

The solution

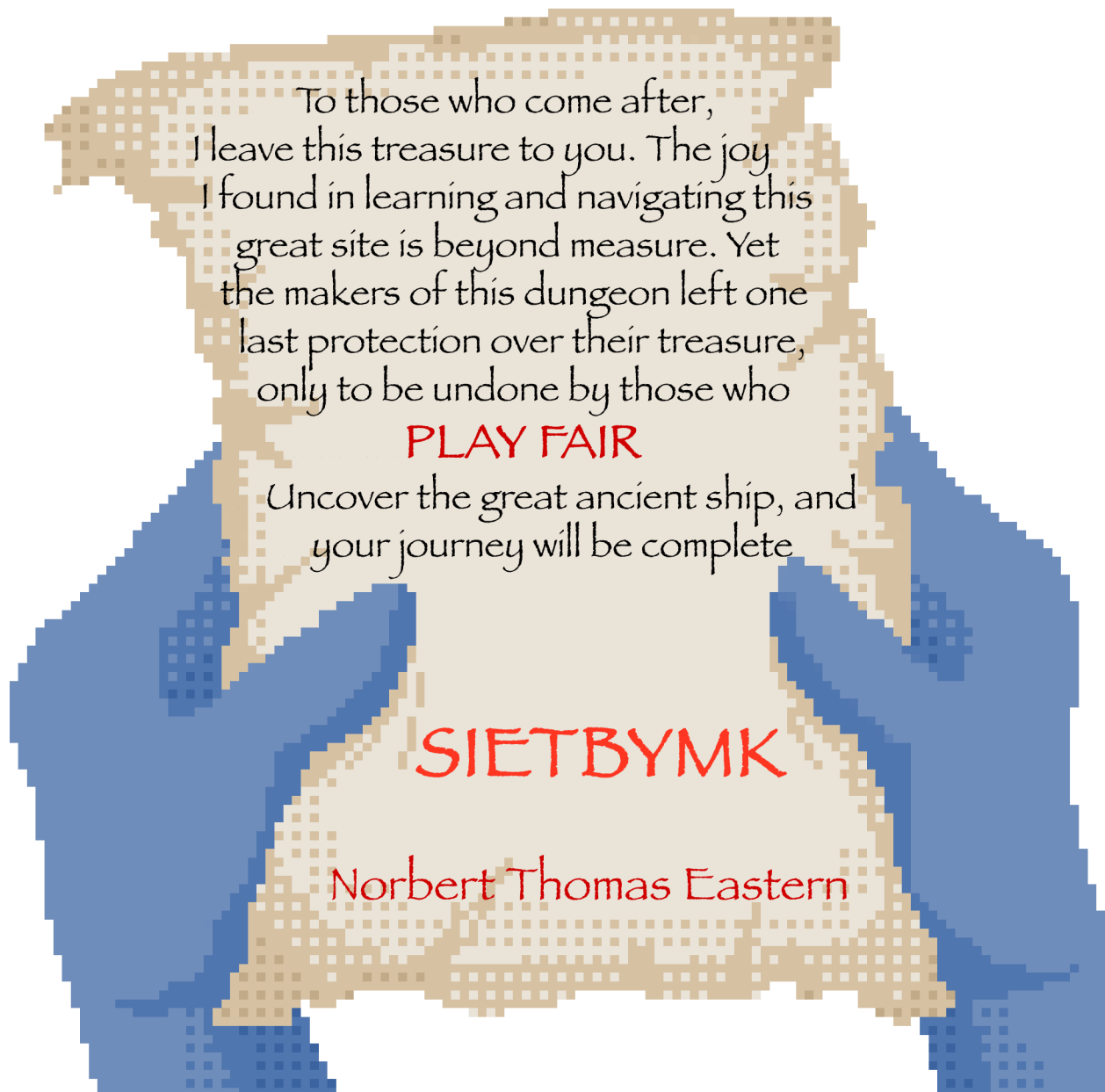


Notable parts:

- Room order: Purple set, then blue set, then red set, then yellow set.
- Key/Item Order: Grab keys when available. Use the first key for floaties, the second key for the magnet, the third key for the amulet, and the last key for the torch.
- Item usage:
 - Use the magnet to open the underbelly from **Hub**, as well as on any gear/spinner to make navigation easier
 - Use the floaties to open the underbelly in **Xylem**, and to navigate across water
 - Use the amulet to open the dams in the upper level and underbellies of **Crypt**, **Inside-Joke**, **Labyrinth**, and **Greenhouse**
 - Use the torch for mirrors in the underbelly
- Underbelly movement:

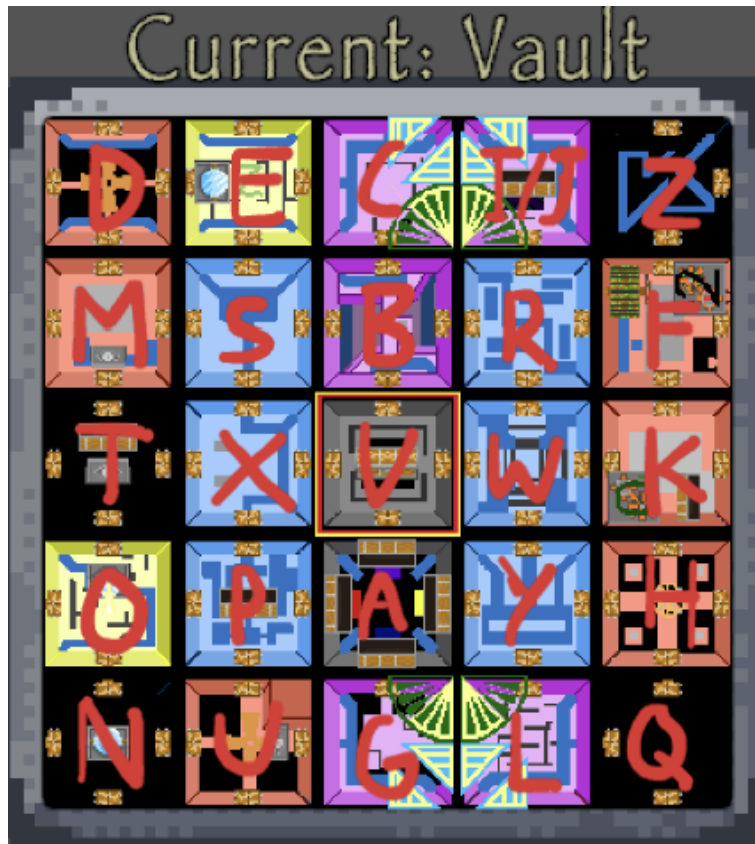
- Enter the underbelly as soon as you can (Immediately after placing **Bridge**)
- Place rooms from and navigate through the underbelly whenever possible

The Cypher



To prevent decompiling, we tied the final arrangement of rooms into a cipher, so that anyone who saw the final note from Norbert Thomas Eastern without opening the final chest would be unable to solve the puzzle.

As hinted by the bold all caps red text, the cipher used to encode “SIETBYMK” is a playfair. Since every room starts with a different letter, and the map forms a five by five grid, we can use the map itself as the key of our playfair. There is only one valid solution to the game, and it is the following grid.



Using this as a key to a playfair cipher, we decode SIETBYMK to the following text:

PLAYFAIR DECODER

★ PLAYFAIR CIPHERTEXT
SIETBYMK

★ PLAYFAIR GRID

\	1	2	3	4	5
1	D	E	C	I	Z
2	M	S	B	R	F
3	T	X	V	W	K
4	O	P	A	Y	H
5	N	U	G	L	Q

DECIZMSBRFTXVWKOPAYHNUGLQ

★ SHIFT IF SAME ROW Cell on the left ← (Encryption with right cell →) ✓

★ SHIFT IF SAME COLUMN Cell above ↑ (Encryption with below cell ↓) ✓

★ ORDER OF LETTER ELSEWHERE Same row as letter 1 first ✓

Results

REDXRAFT