



LEVEL DESIGN DOCUMENT

Multiplayer Level Design

"Portside" (KOTH Map)

Capture the control point! Red v Blu clash, who will leave the port?



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Level Design Document “Portside”

High-Level Overview

Brief summary of the level's purpose and context within the game.

Team Fortress 2, or TF2, is a team-based shooter made in early 2007. This was a successor of Team Fortress made by Valve. In TF2 two rival companies, “Red” and “Blu” ” compete on maps and different modes for control in the industry.

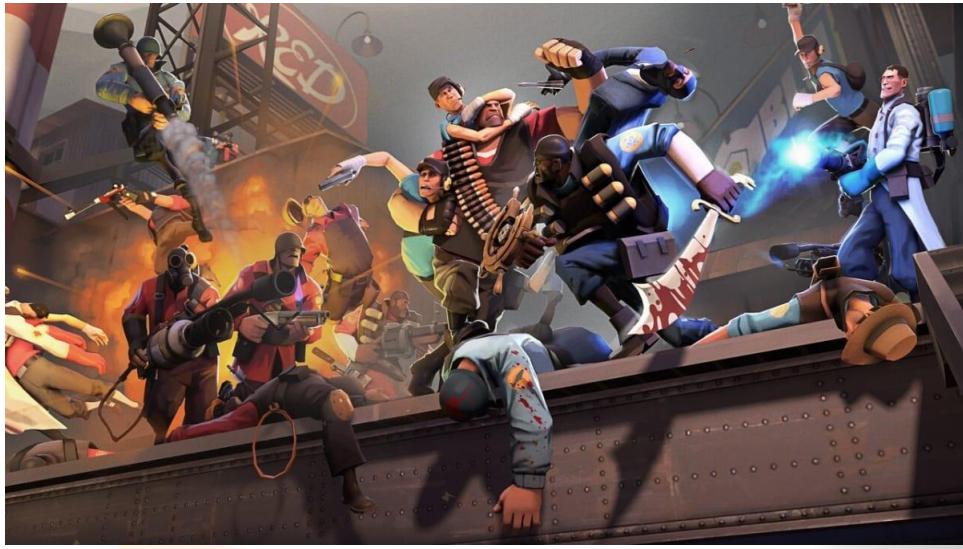


Figure 1, Promotional Gameplay Render

TF2 is known for its diverse range of characters, weapons and modes, this game was the building block for many team-based shooters such of the likes of Overwatch, Paladins, LoL.

Inside of TF2 there is a set of core game modes these include:

- Attack / Defence
- Capture The Flag
- Control Points
- King Of the Hill (KOTH)
- Payload

In this project, I developed a Multiplayer level in the Hammer Editor for TF2 over the span of an 8-week period. The aim of this project was to create a fully-fledged, tested and completed Team Fortress 2 map as well as learn the Hammer Engine. This Team Fortress 2 map was specifically designed for the KOTH (King of The Hill) game mode. This document breaks down the iterated level and the design workflow and development process.

Level Goals

Clear objectives and intended outcomes for the level.

For this Project I, I'm looking to develop an KOTH level for TF2. For this project the core goals of this will be:

- Fun Player Experience on the Portside Map – The goal of a level designer is to create a fun and competitive experience for players on a particular game mode or mission, failing this outcome is failing as a Level Designer
- Complete and fully fleshed level- The level should be complete, and no bugs or issues should be in the game that could tarnish the player experience.
- Have an Iterated, Tested, and Played level – Player interaction in the level will ensure the map is of the highest quality.

When developing this level this project should be taken to the level of a core Valve made such as Sawmill, Fort, and Badlands. When completed if someone were to play said level on community servers it shouldn't be questioned or found unenjoyable (IE Industry Standard).

Design Considerations

Factors influencing the level design, gameplay mechanics, characters, player interaction, and Narrative.

When developing this map as a Designer I need to consider several things, these include:

- A balanced player experience – Both sides should have an equal and fair experience, should the map be designed with asymmetrical aspects both sides should have equal advantages and disadvantages. This could be in the form of cover, health/ammo, and map topology.
- Characters and Character abilities – In the game of TF2 each character has a unique playstyle and loadout, the map design should include playabilities for all classes otherwise it is not a fair and enjoyable map. For example, there should be high ground and Vantage points for Sniper, Choke Points for Pyro and Heavy, Flanks, and other paths for Scout/ Spy
- The Map should include multiple paths of entry – The map should be designed in the form of “Channels” of short, medium, and long-range, said paths should have collectability between all paths. This will maximize player enjoyment.
- Looking at similar multiplayer titles Aswell as existing TF2 maps – The best way to develop is to evaluate and learn from old examples of maps created for AAA titles. This research shall be included in this document.

Core TF2 Mechanics

In the game Team Fortress 2 or (TF2) There are 9 classes total. Those being:

- Demo
- Heavy
- Engineer
- Spy
- Medic
- Sniper
- Scout
- Pyro
- Soldier

These classes are broken down into 3 Groups and all have different characteristics and abilities.



In the game defensive classes are broken into 3 characters. Each character has a preferred style of area to play around. Those being:

- Demoman – Choke Points, Overlooking high ground.
- Heavy – Choke Points, Confined areas of play
- Engineer – Protected Nest Areas, Control Point



In the game offensive classes are broken into 3 characters. Each character has a preferred style of area to play around. Those being:

- Scout – Flank routes and behind the enemy
- Pyro – Choke Points and Enclosed Areas
- Soldier – Areas with Lots of Cover, High Ground



In the game defensive classes are broken into 3 characters. Each character has a preferred style of area to play around. Those being:

- Spy – Flank Routes, Sniper/ Engineer Nests
- Medic – Playing around teammates, Cover.
- Sniper – Long Open Sightlines, Sniper Nests

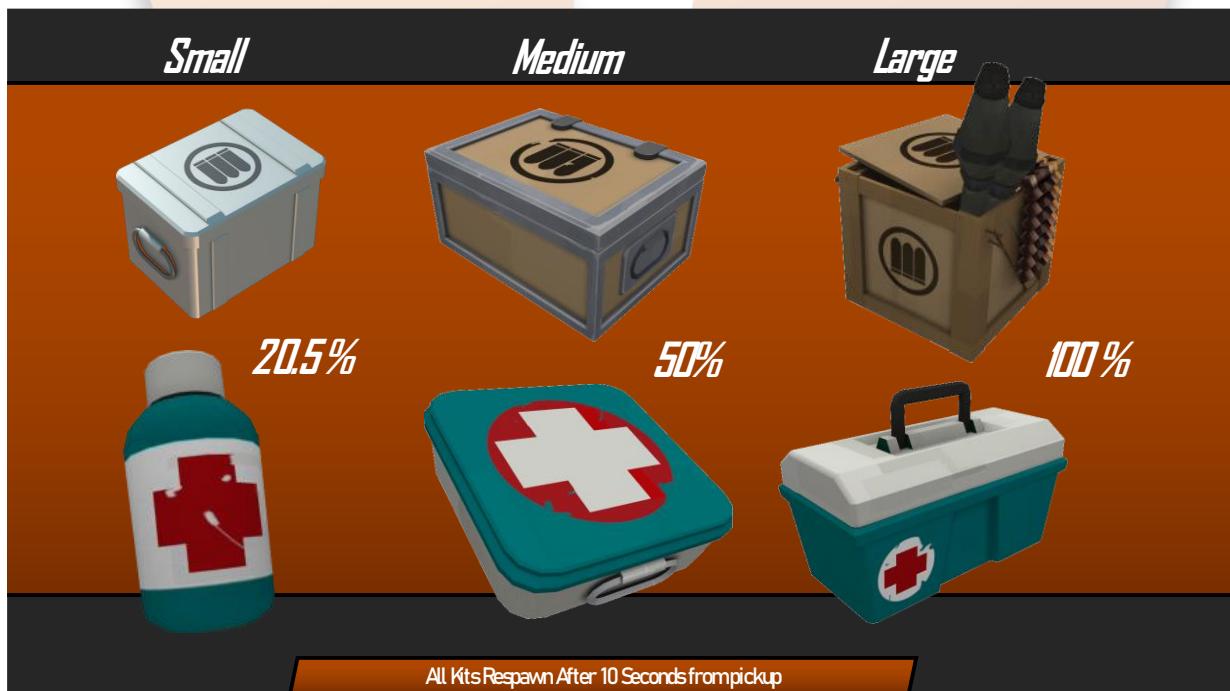


Figure 2, Health, and Ammo Kits

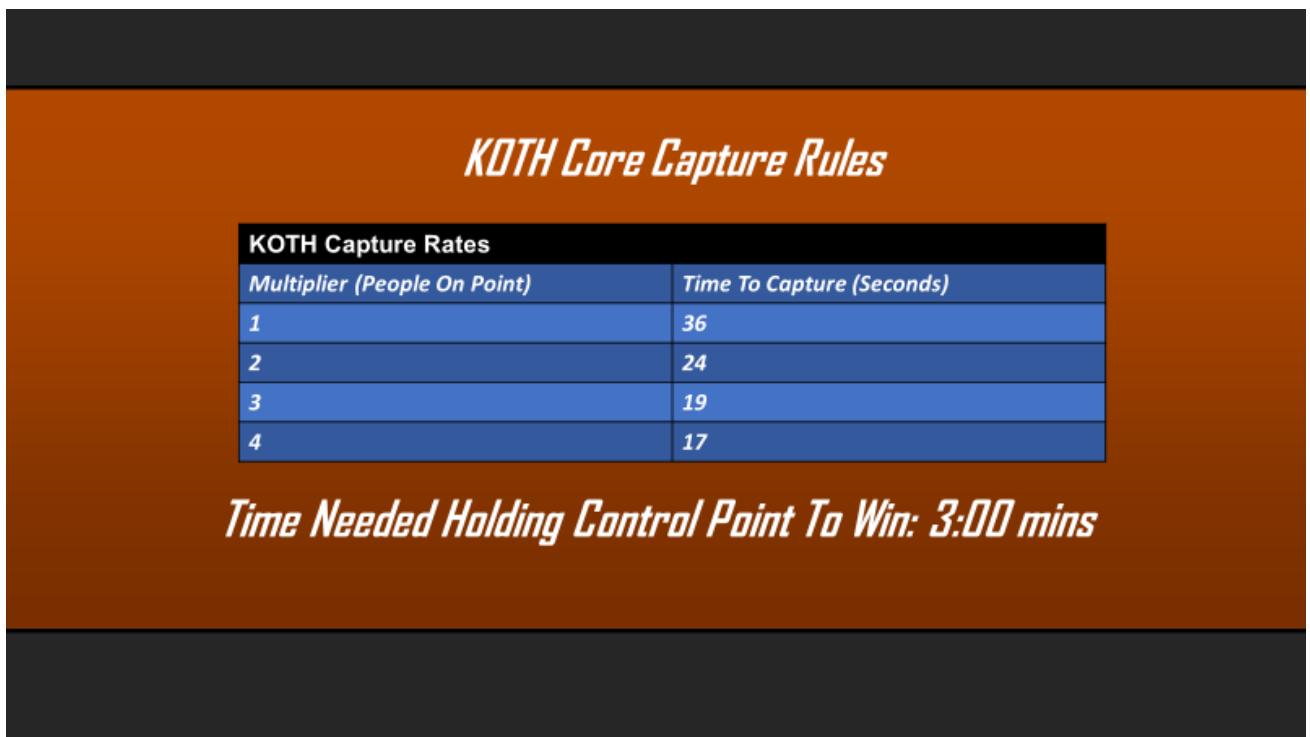


Figure 3, Rates of Capture

Time needed to capture the control point goes down the more players that are on the control point, if contested with enemies the capture progress will halt. The only character that can interact with the control point faster is scout with his X2 Capture rate passive.

Expected Player Experience

Anticipated emotions, challenges, and engagement for the player.

For this game experience, I aimed to create an engaging environment for all classes. This map was intentionally designed to involve every class at some point, ensuring each character had a meaningful role to play throughout the entire map.



Figure 4, Counter Play in TF

Another core thing that was expected for the player experience was counterplay. Every class should feel strong in their domain while also being able to be countered, no one class should be able to strongly prevail against the rest. Ensuring this meant a good state of play for the game. And would encourage all players to feel accommodated playing the game.



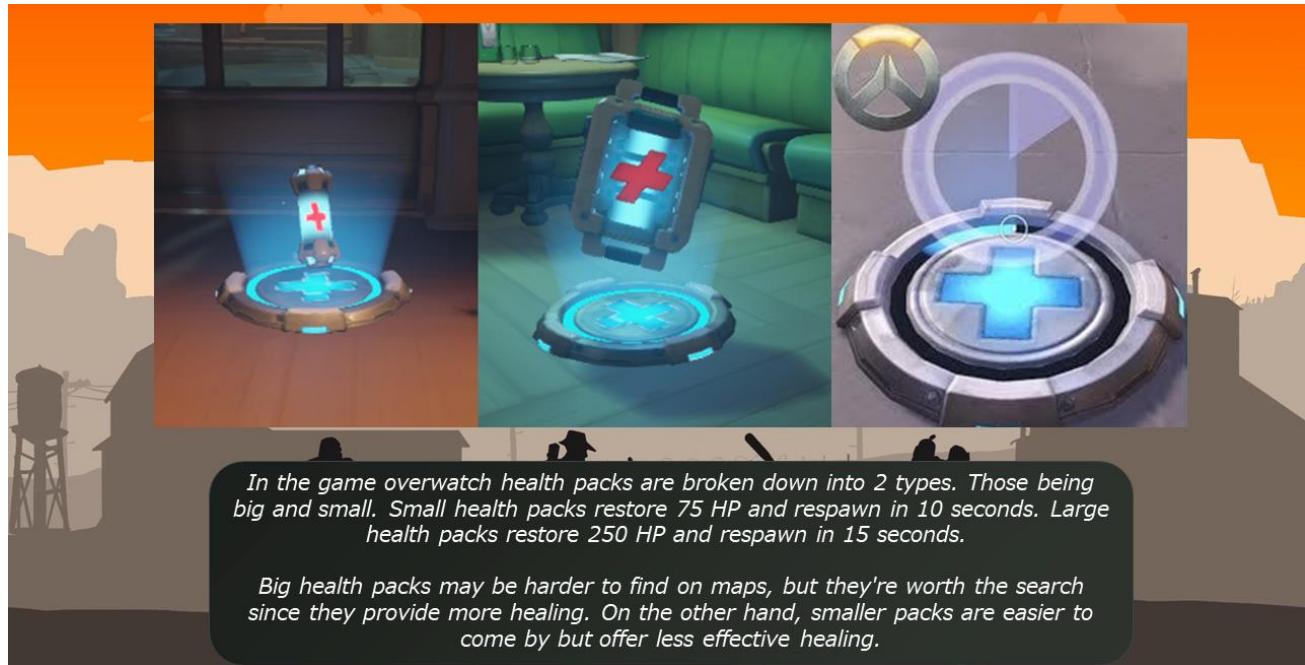
Figure 5, 2 Fort

With the creation of the map Portside, my aim was to craft a hybrid level that coherently blends indoor and outdoor engagements. Portside was designed with two aspects in mind: the integration of water features and its unique waterfront setting. As a port-themed map set in deep winter, the incorporation of water elements brings an additional layer of challenge as they pose a danger to players, compelling them to avoid an accidental swim! The water element encourages players to navigate and interact with the environment creatively, resulting in different gameplay dynamics and flows of play. This would be like 2 Fort.

Ensuring all these aspects were taken into consideration and implemented in the level helps ensure a fun player experience, losing sight of these will cause level quality to suffer.

Similar Title Research

Before starting this project, I investigated researching about a similar game Called overwatch 2 to understand what makes a good multiplayer control map. Looking externally was helpful at generating outside of the box ideas for making an TF2 map. Here is this research below.



Multiplayer Level Design, Map Research – Thomas Meere, Portside

On this Oasis map, there is a total of 12 health packs, with three being large packs and the rest small. All healing packs are situated at the point. This is to prevent people from being able to hold the objective too easily. This is common in any OW2 map aswell as in Team Fortress 2. The large health packs are found on the main channel of gameplay.

Small Healing Pack

Large Healing Pack



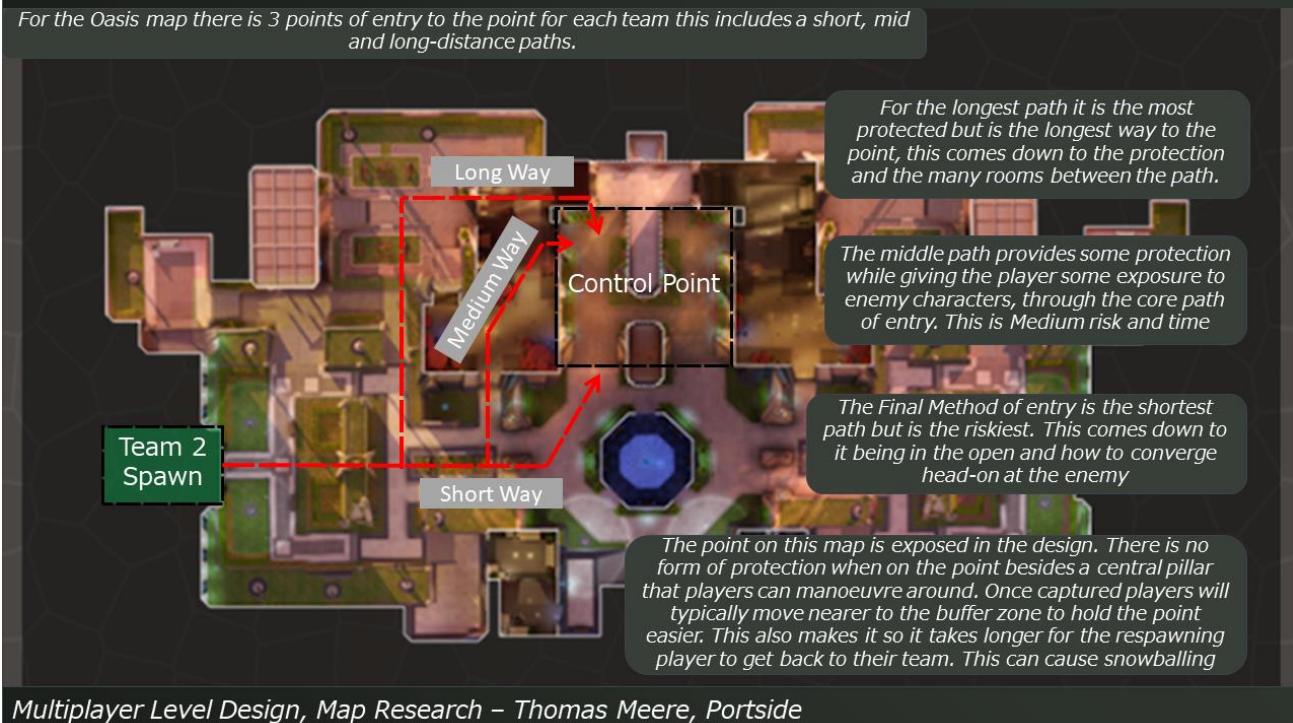
Multiplayer Level Design, Map Research – Thomas Meere, Portside

In the player buffer zone of this map, there are walls in place to prevent spawn killing. Within these zones, health packs are strategically positioned to favour defenders, making it more challenging for attackers to benefit from spawn camping since there's no advantage for them in these areas.



Multiplayer Level Design, Map Research – Thomas Meere, Portside

For the Oasis map there is 3 points of entry to the point for each team this includes a short, mid and long-distance paths.



Multiplayer Level Design, Map Research – Thomas Meere, Portside

On this map, there is 3 levels of height used on the map. While there is difference in height the map is relatively flat. On this map there is limited combat seen between ranges of height. The only time we can see difference in height used is on the control point and in the buffer zones.

Low Ground

High Ground



Multiplayer Level Design, Map Research – Thomas Meere, Portside

Key Points Of Interest



Multiplayer Level Design, Map Research – Thomas Meere, Portside

Oasis – Channels of Engagement



On this Oasis map players converge 3 mostly 3 Channels of play exclusively. With 2 channels being on the control point and one being just outside the core gameplay

Multiplayer Level Design, Map Research – Thomas Meere, Portside

Oasis – Core Points of Conflict

Magnitude Of Conflict



On this map conflict most occurs at the two spawn chokes and on the point, this is where almost all fighting is seen

Multiplayer Level Design, Map Research – Thomas Meere, Portside

On Lijiang Tower, There is a total of 10 health packs on this map. Most packs are situated away from the point with 2 being opposite the points of the map, Lijiang Tower core concepts are the open pits of death that limit some players and allow others to traverse. This includes characters like Tracer and Genji, while another character like Roadhog will need to go around

Small Healing Pack

Large Healing Pack



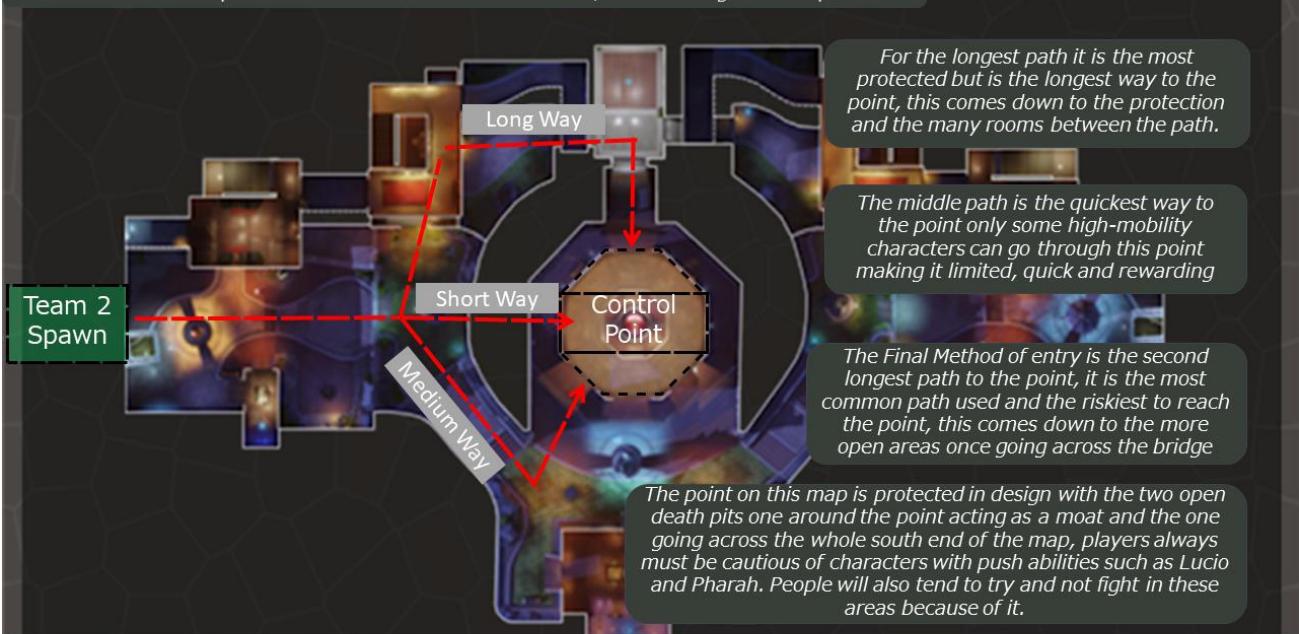
Multiplayer Level Design, Map Research – Thomas Meere, Portside

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Multiplayer Level Design, Map Research – Thomas Meere, Portside

For the Lijang Tower map there is 2 points of entry and 1 path which is limited to particular characters. To the point for each team this includes a short, mid and long-distance paths.



Multiplayer Level Design, Map Research – Thomas Meere, Portside

For this Overwatch Map, Lijang Tower is almost entirely Flat, Elements with height to the map are purely on the north side of the map. While these high-ground spots do provide an advantage, They do not overlook the control point and are restricted sightlines.

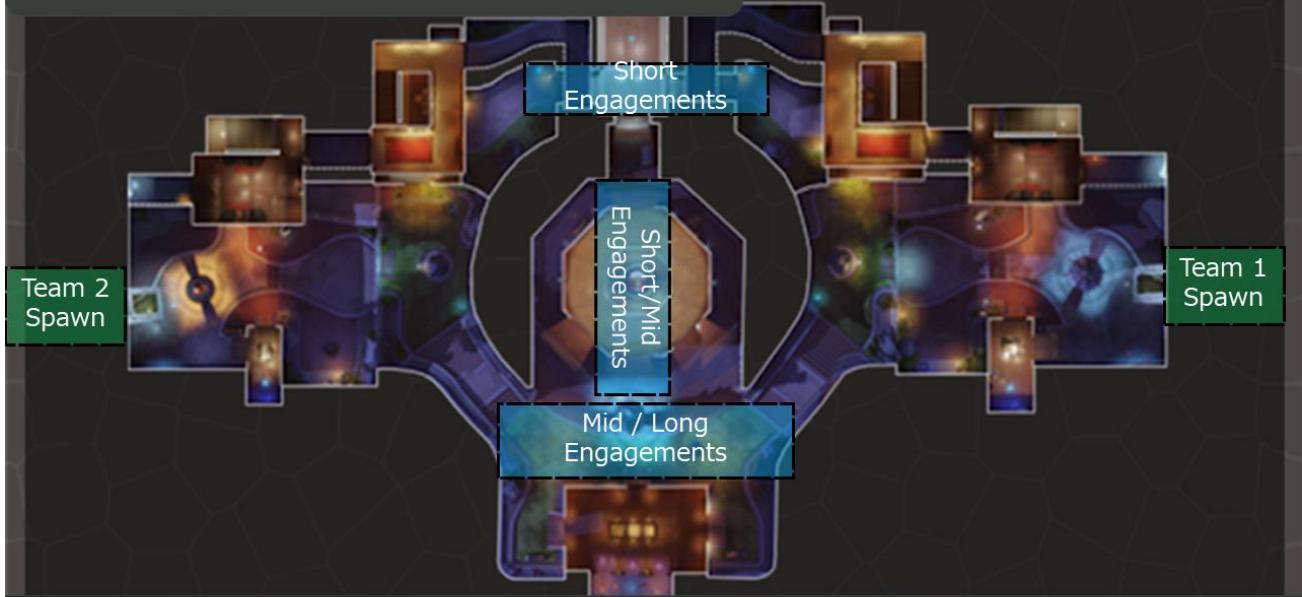
High Ground

Low Ground



Multiplayer Level Design, Map Research – Thomas Meere, Portside

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Multiplayer Level Design, Map Research – Thomas Meere, Portside

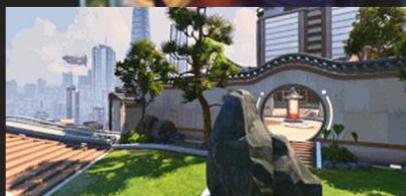
Lijiang Tower Points of Interest



Control Point has a Top Entrance. Can only be reached by high-mobility characters.
Alternate route to point.



Trident Shaped designed control point with entrances. Has a Pillar in centre for people to maneuver around.



Buffer zone has wall dividing spawn area from rest of map. Prevents spawn killing



Control Point has bridge. The bridge has sides open death pits on either side. Characters can be pushed off to their death.

Multiplayer Level Design, Map Research – Thomas Meere, Portside

Lijiang Tower Points of Conflict

On this map, conflict is broken down into a triangle-shaped design. Almost all conflicts outside the control point are on the bridges that lead to the point

Magnitude Of Conflict



Multiplayer Level Design, Map Research – Thomas Meere, Portside

Illios Map

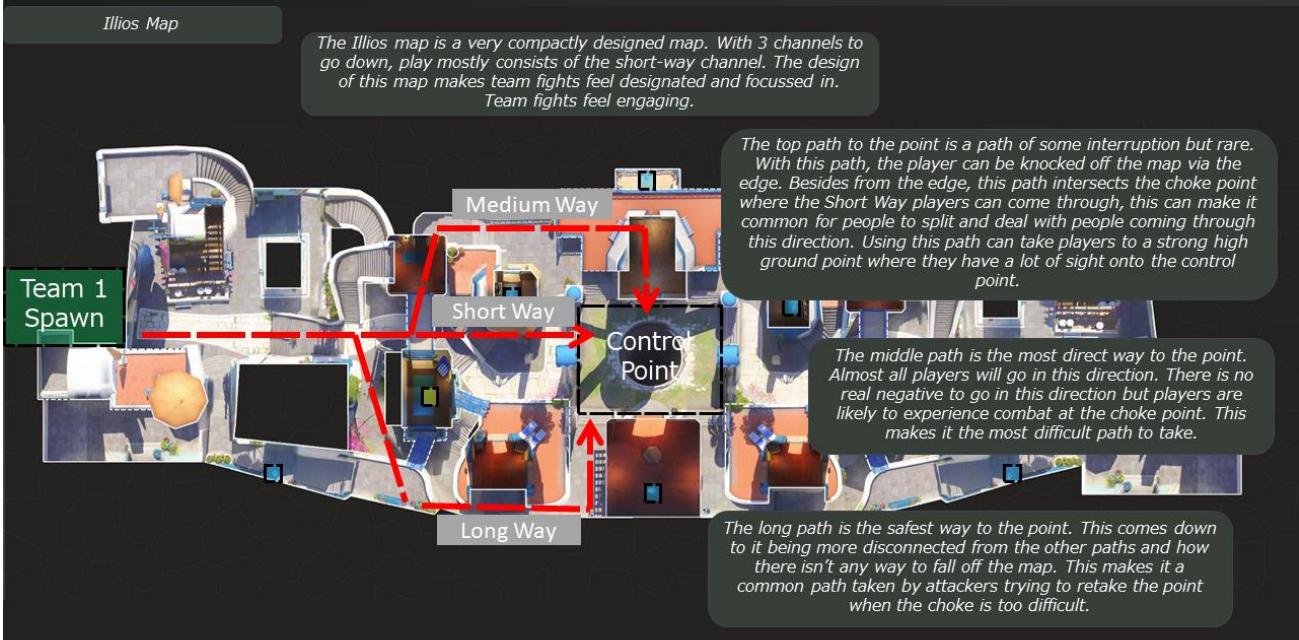
On the Illios on the map, there is a total of 8 health packs. With 2 being large health packs and the rest being small, they are posted symmetrically on the map. This makes the map more Support-focused as people need more healing.



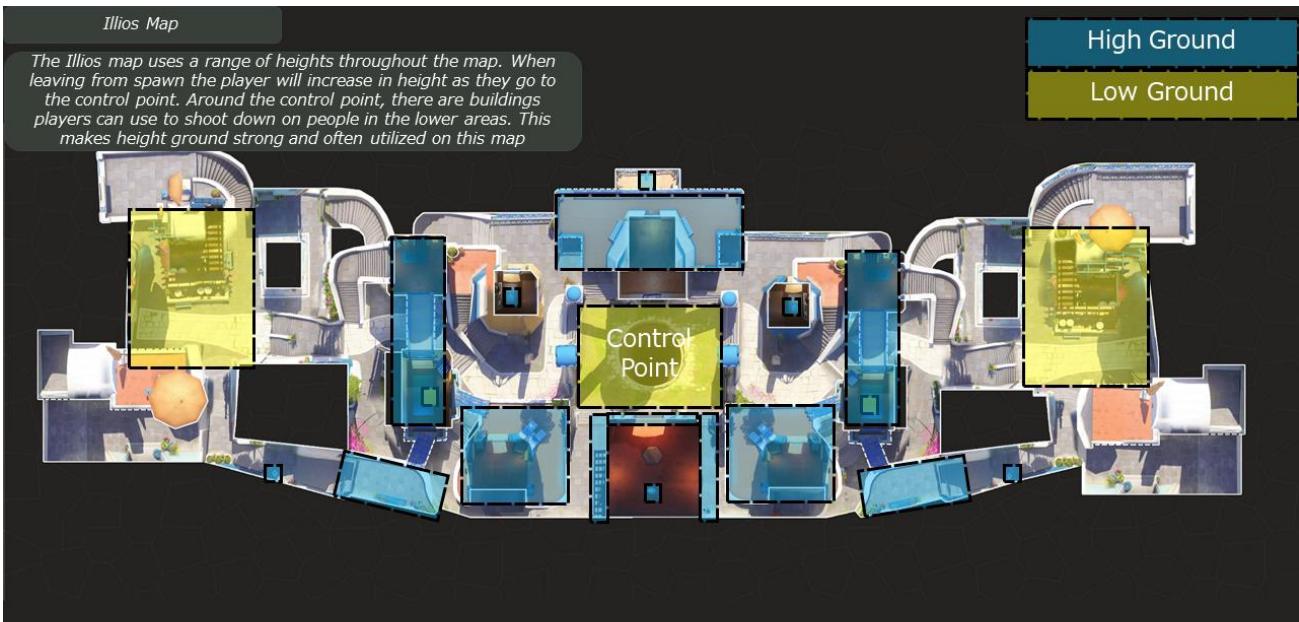
Multiplayer Level Design, Map Research – Thomas Meere, Portside



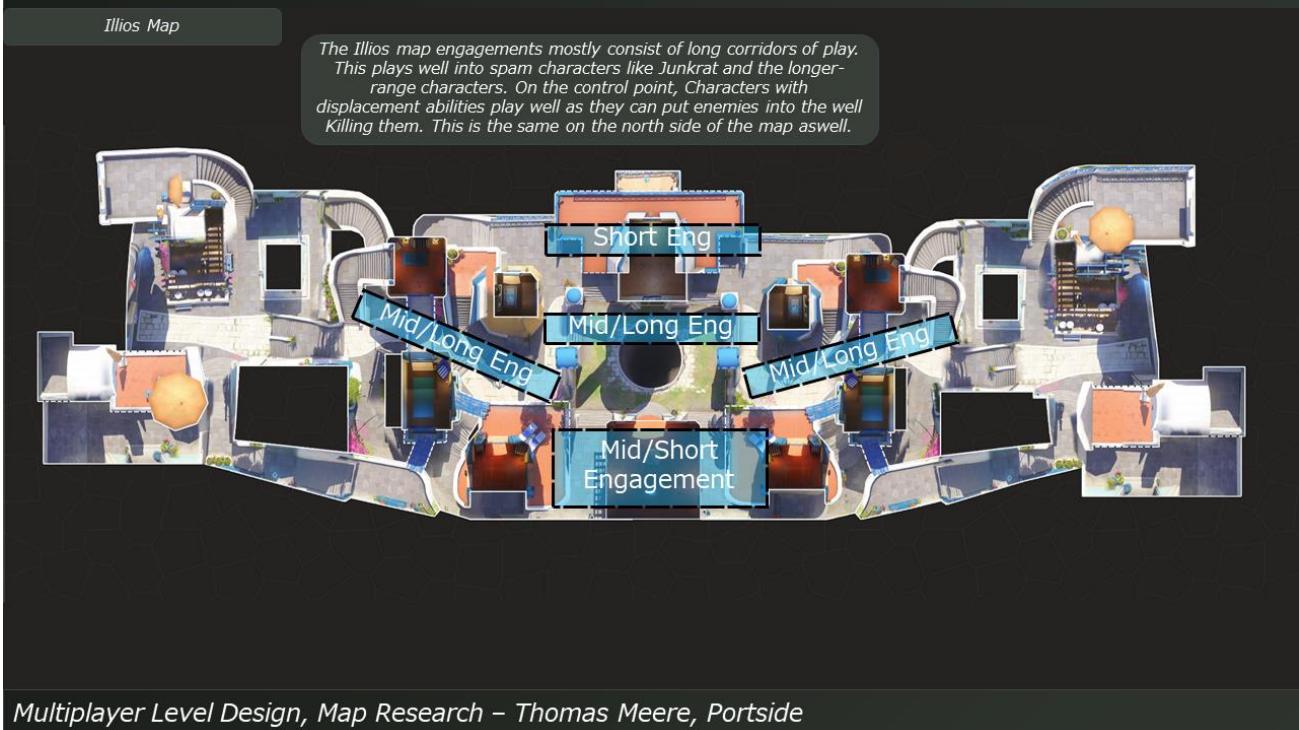
Multiplayer Level Design, Map Research – Thomas Meere, Portside



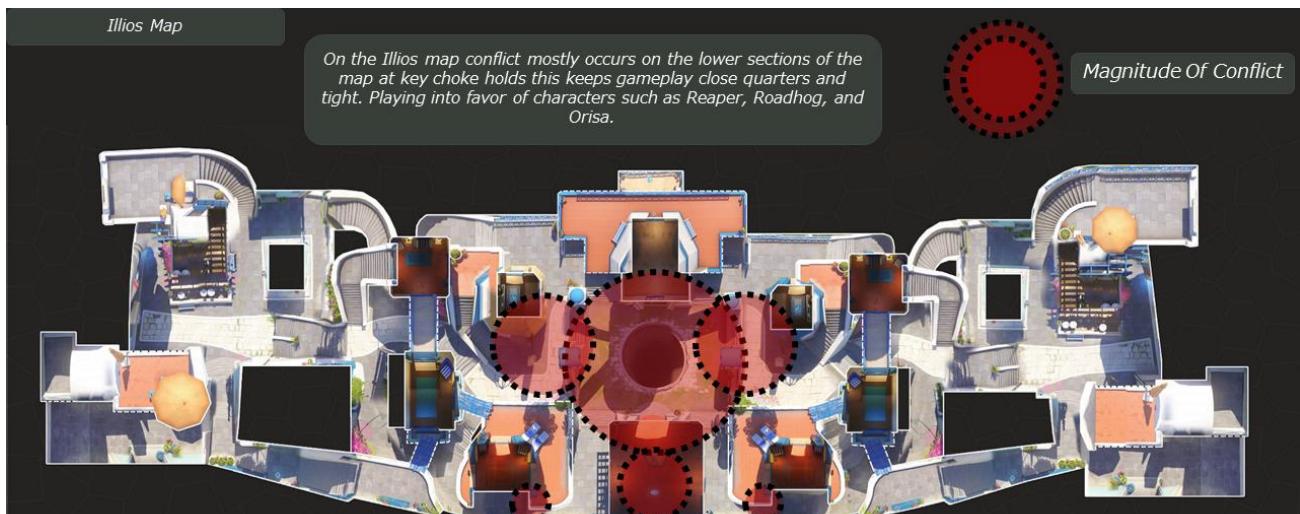
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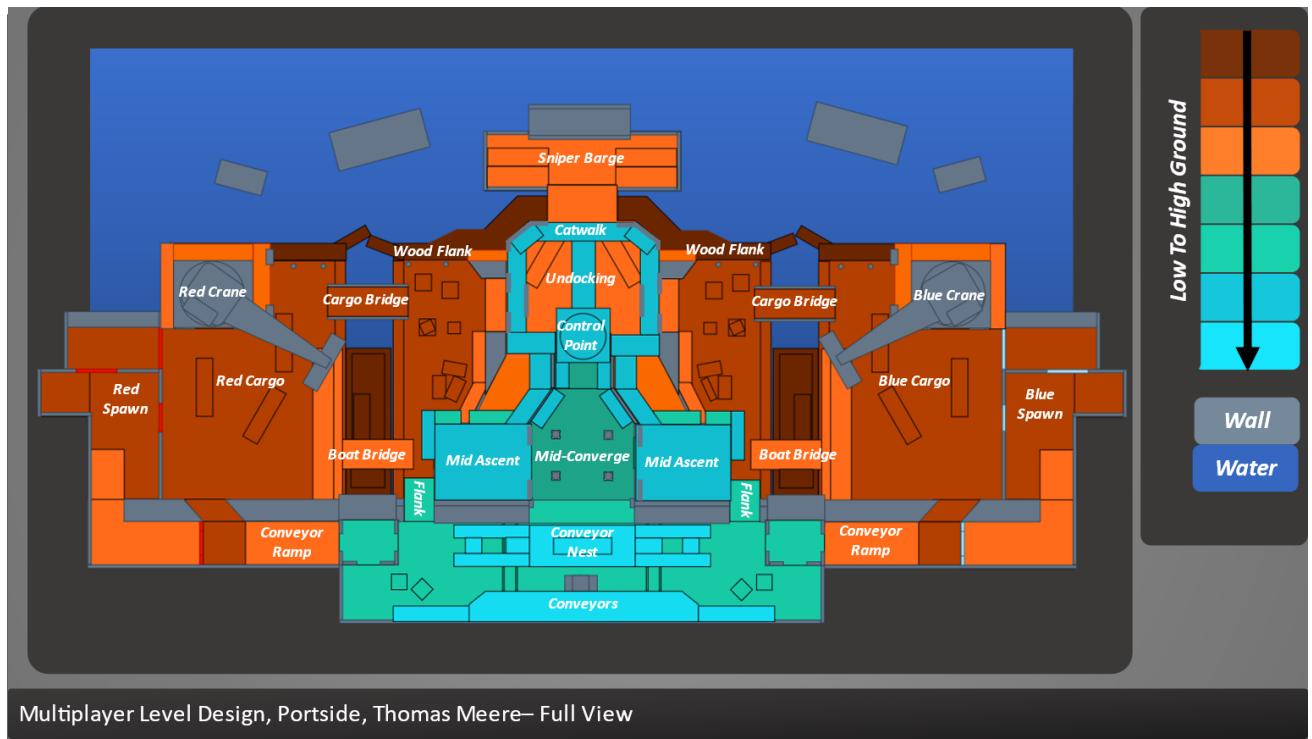


Multiplayer Level Design, Map Research – Thomas Meere, Portside

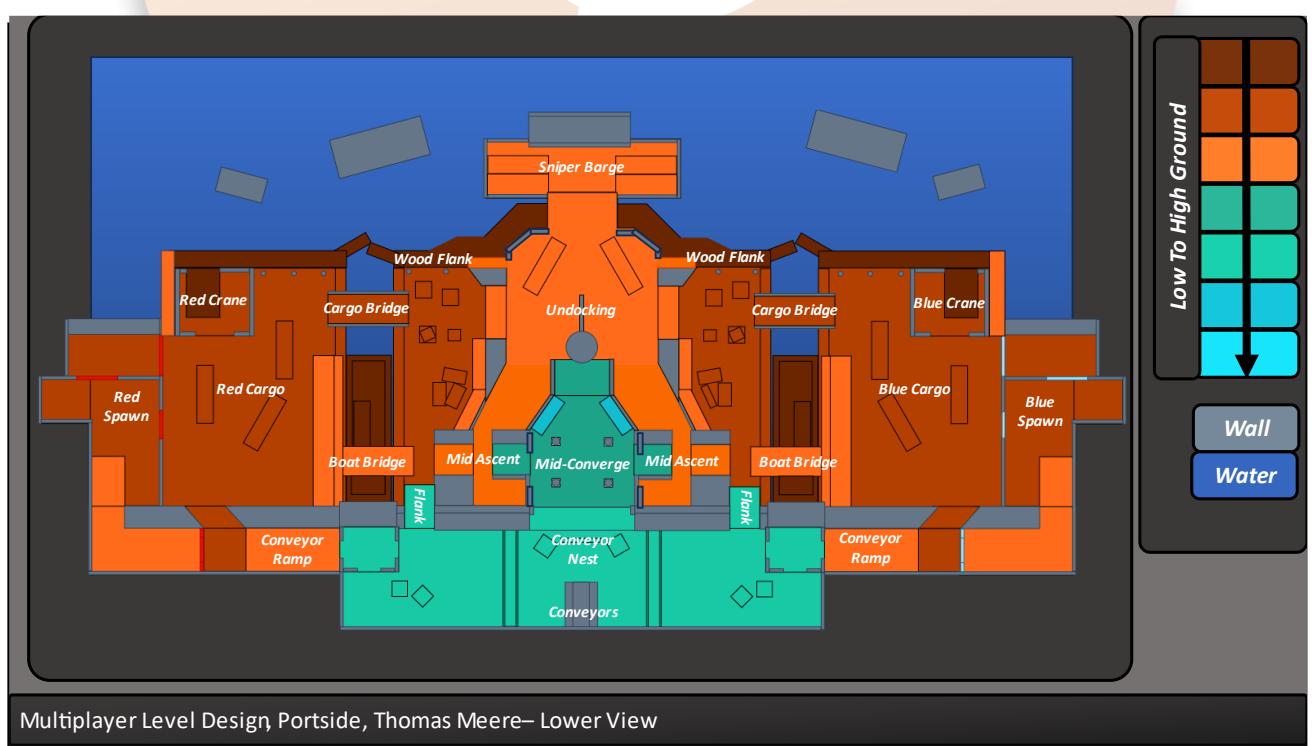
Map Overview

Map Design

Portside is broken down into several sections, those being interior and exterior. The core goal of the player is to reach the control point on the higher ground in the central warehouse. As the player approaches the goal map elevation increases regardless of location chosen to enter on the centre of the map. The map is partitioned into 3 chunks and 3 channels of play all with different intended styles of play being short, mid, and long-distance engagements. Here below are the Map Designs regarding the map and its Upper and Lower Levels.



Multiplayer Level Design, Portside, Thomas Meere – Full View



Multiplayer Level Design, Portside, Thomas Meere – Lower View

Map Structure

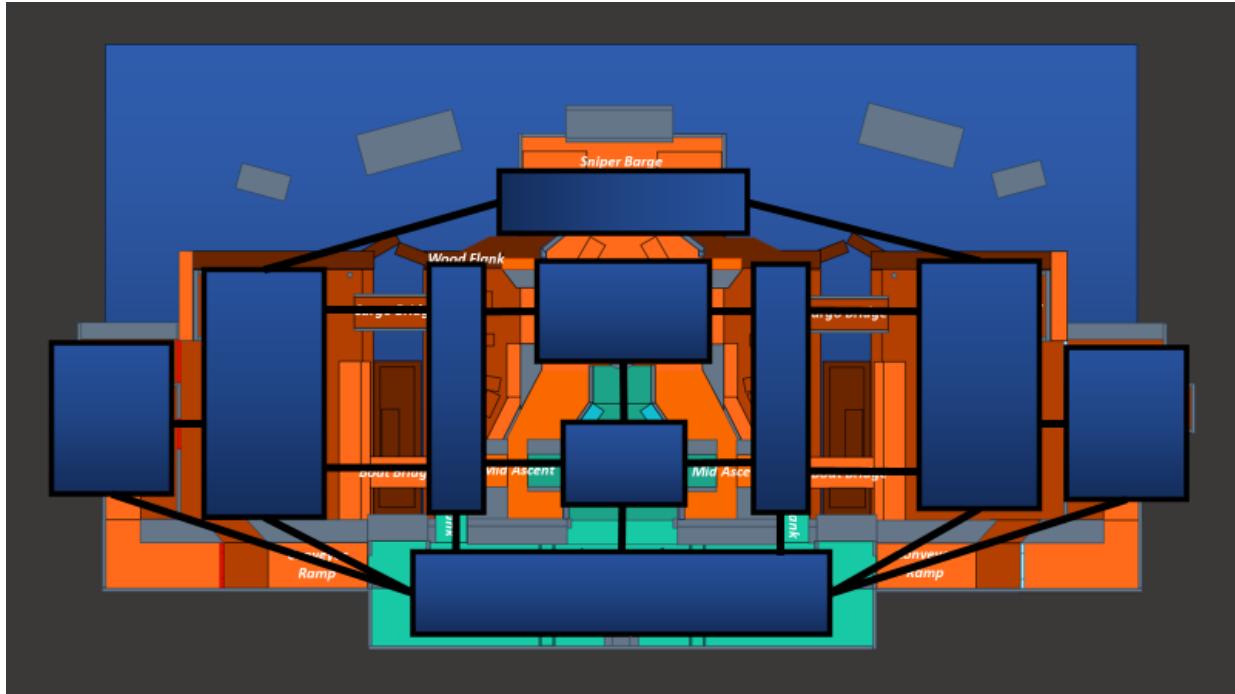


Figure 6, Map Structure

For Portside map structure it is made into the form of a Mixture of a Network and a Linear structure. Going from the spawn point potential paths an options increase as the player exits the initial zone of play, going into the central structures of play on the map, the options for both rooms and use of height increase exponentially. This design structure is the most common found in TF2 maps and the most suitable for TF2 and the KOTH Game mode.

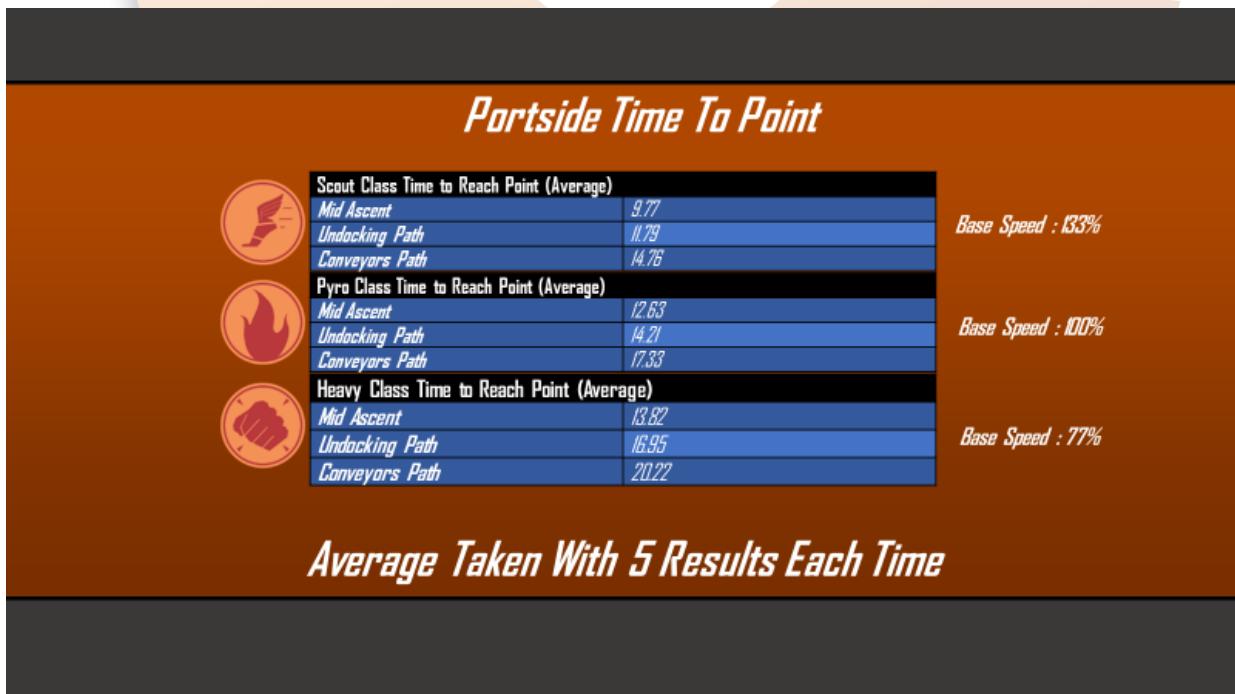


Figure 7, Time to Reach Control Point

The time it takes to reach the control point on the Portside map is like other maps in Team Fortress 2. For Pyro, it typically takes around 11 to 13 seconds, following the main path of play. In my personal testing, using the closest route, it ranged from 10 to 14 seconds. This slightly extends the overall time compared to an average map by about 1 to 2 seconds. Consequently, Portside is appropriately sized, striking a balance between not being too large or too small for gameplay.

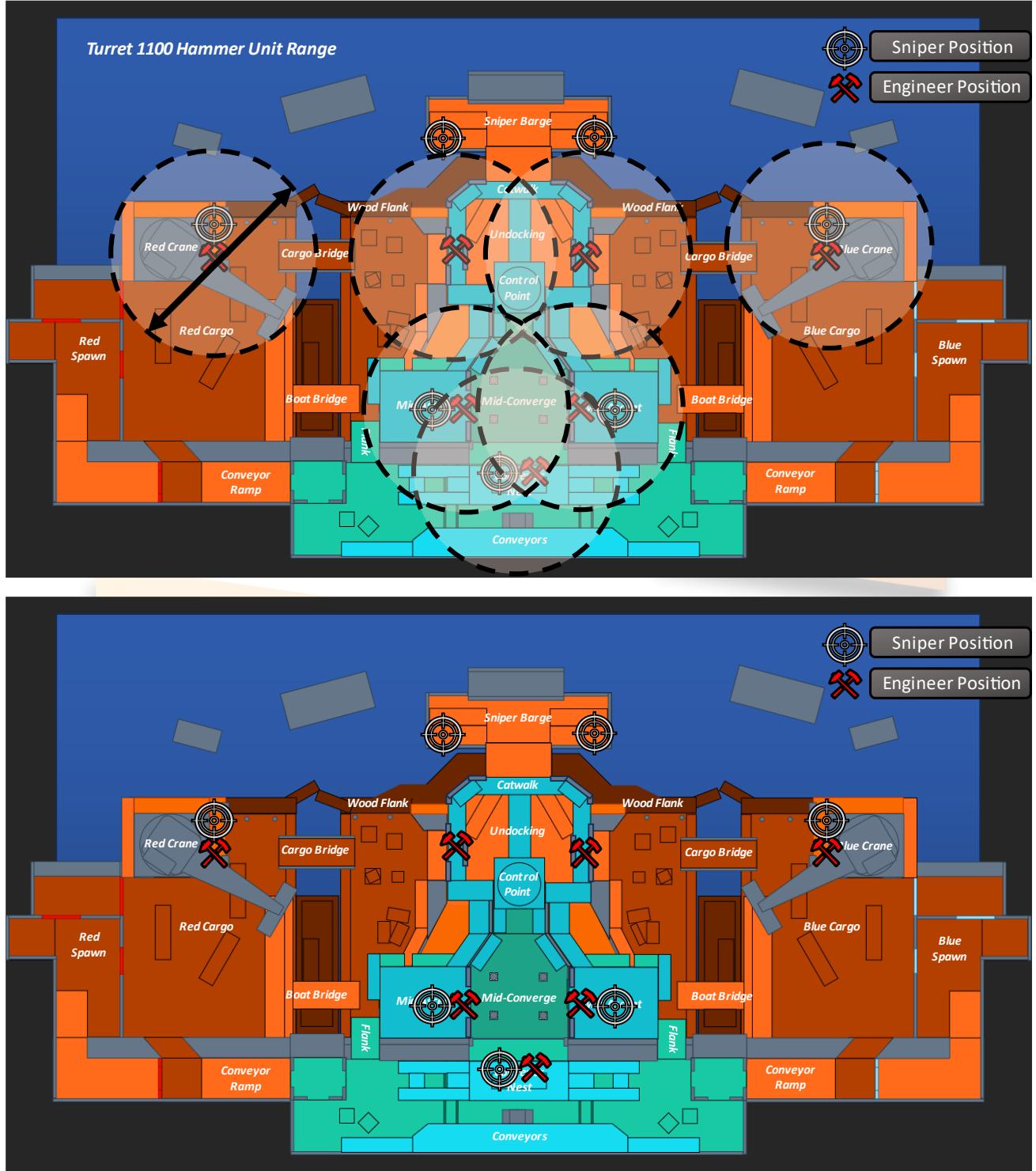


Figure 8, Engineer/Sniper Nests

Across the map there is areas where the Engineers and Snipers can setup on the map, these while plentiful do come with risk to reach, this keeps it fair and engaging for both sides attack or defence.

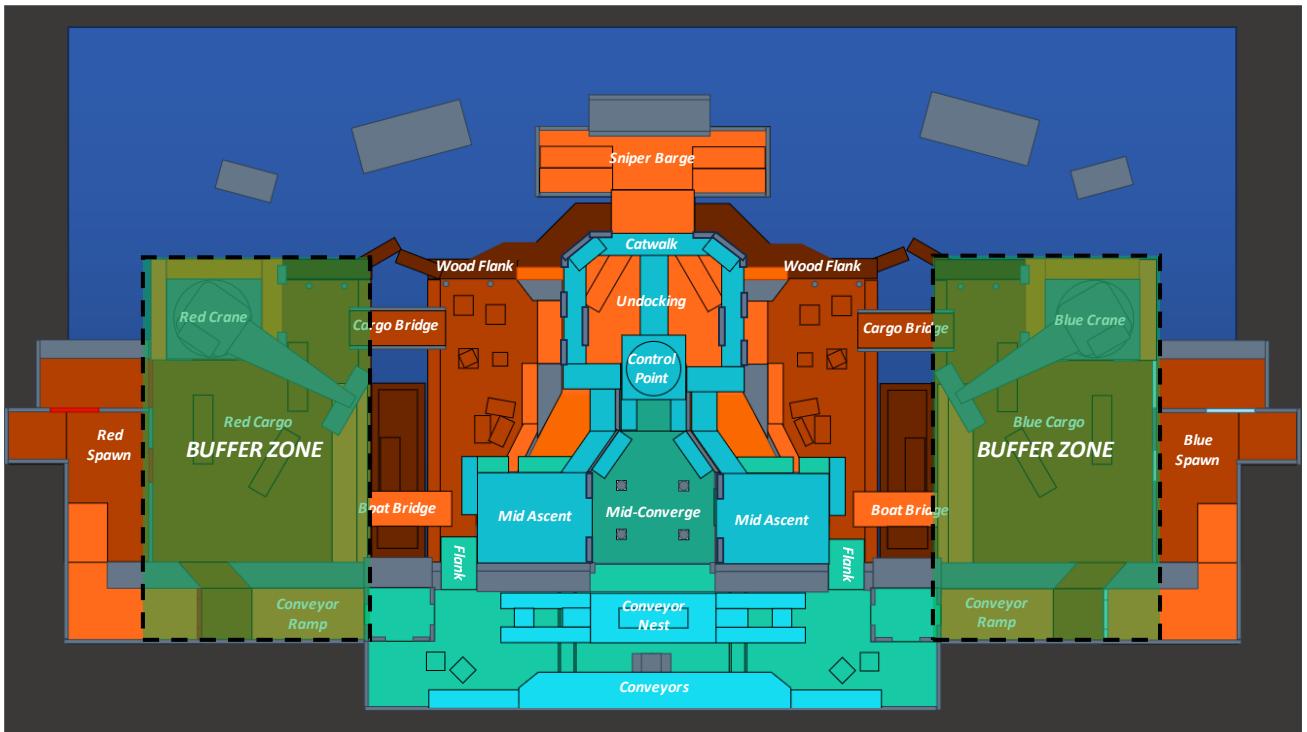


Figure 9, Buffer Zones

Player Paths

For the play paths, portside has 3 Channels of play, those being Conveyors, Control Ascent, and Undocking. The 3 Core player paths they separated by two factors. Those being height and environment structural divisions.

Lanes Of Engagement

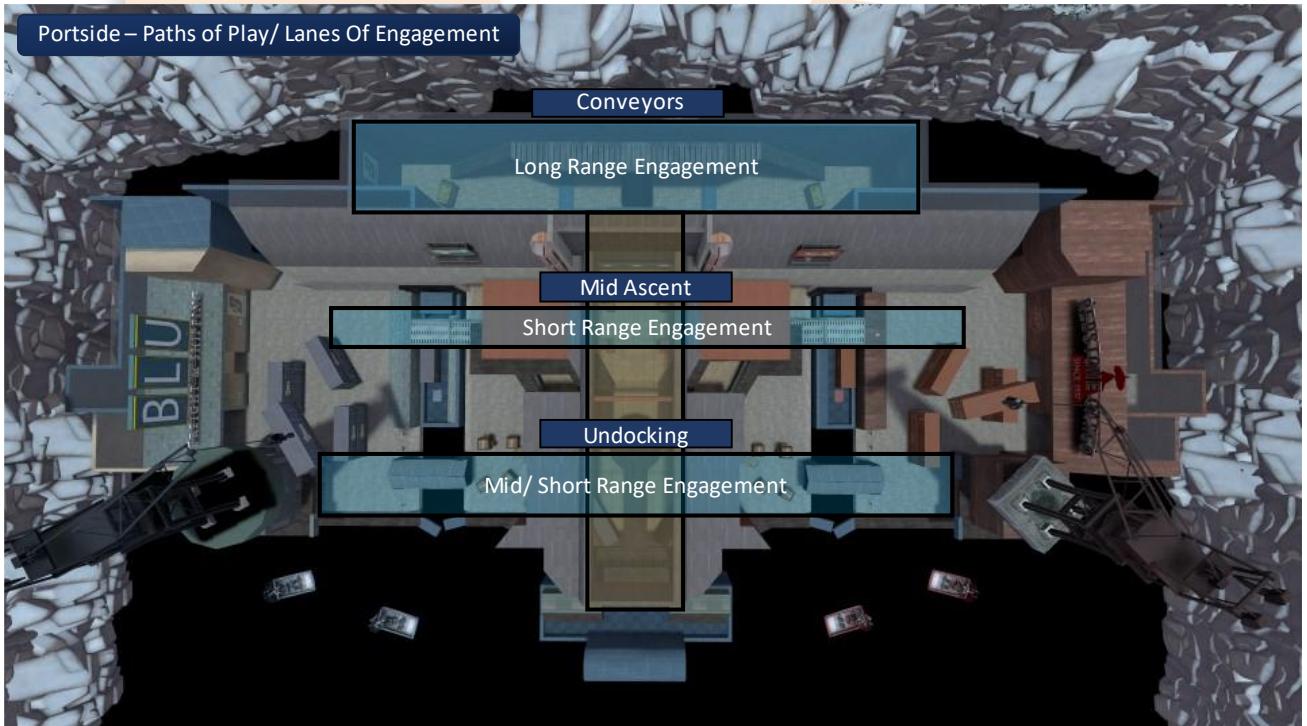


Figure 10, Player Paths Core Overview Diagram

Each path is designed for a style of play and is designed for different ranges, short, medium, and long. For the 3 Channels of play:

- Conveyor – Long Range, Height Elevation the highest
 - Control Point Ascent – Short Range, Height Elevation medium
 - Undocking – Medium Range, Height Elevation small

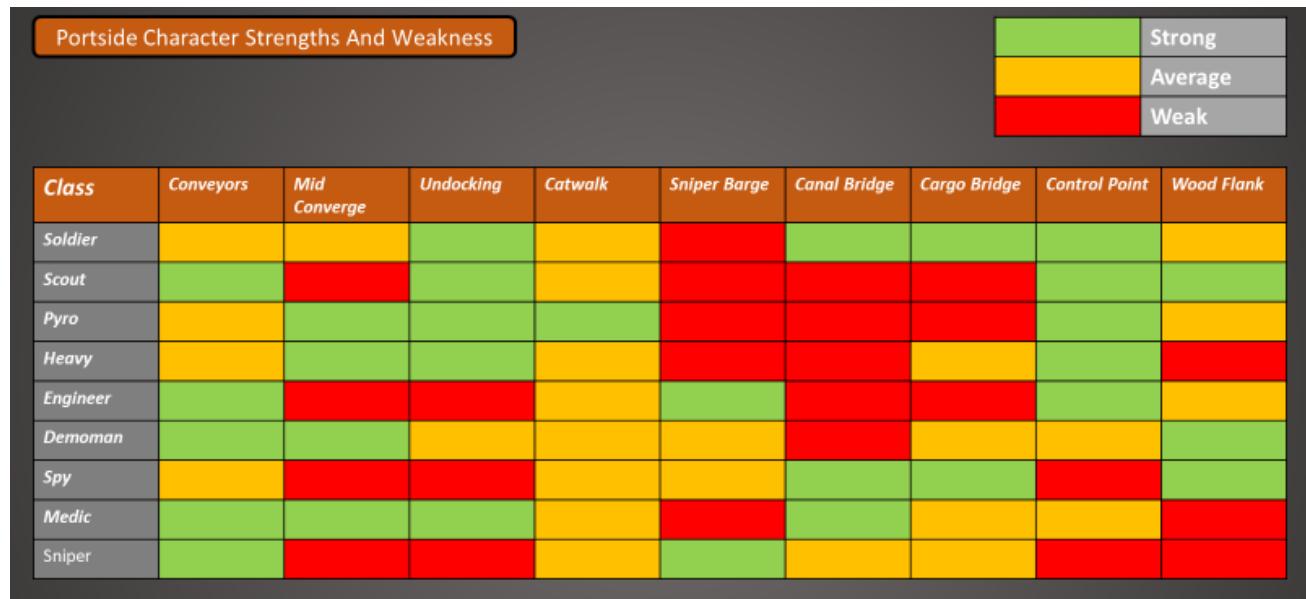


Figure 11, Character Areas of Strength, and Weakness

On Portside Characters have areas of strength and weakness. With all TF2 Maps there are areas where characters will thrive against other plays in particular zones or areas, with this graph as seen most characters have around 3 Strong Points and 3 / 4 points of weakness, this helps keep gameplay engaging and not one-sided.

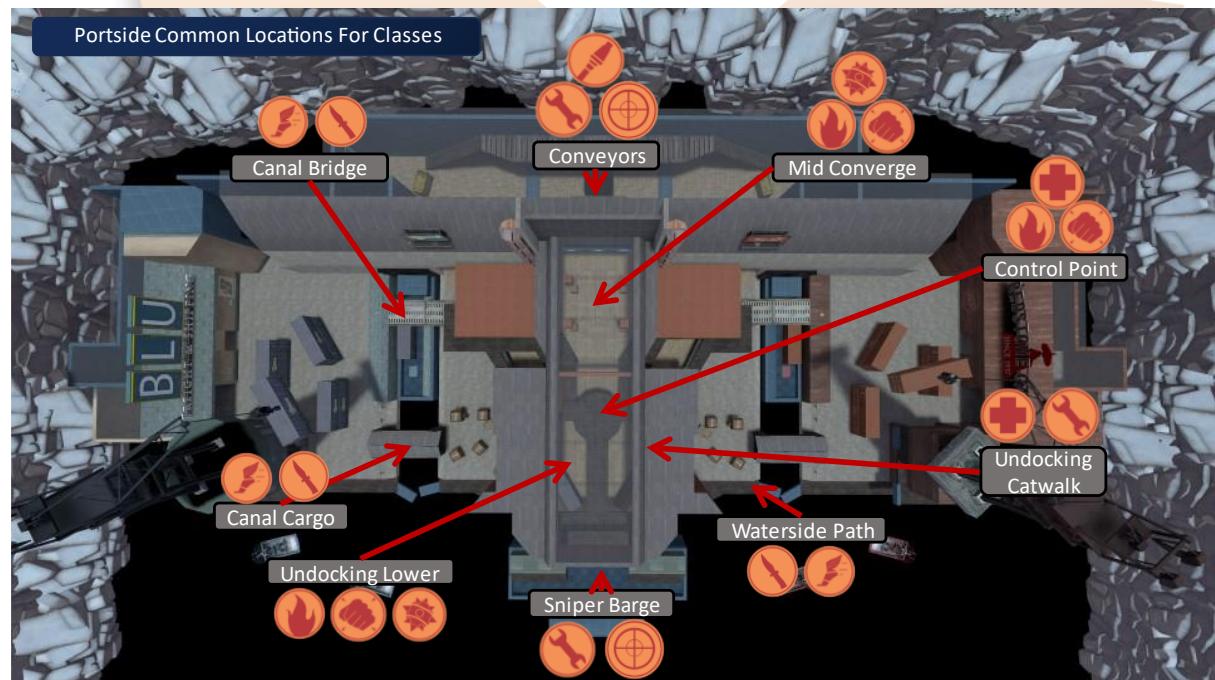


Figure 12, Common Positions of Play

Here above shows more visually where players will commonly play around for the select class chosen. While this isn't absolute it gives an idea of where people operate from. These points have been generated from 4 Iterations of play testing and common player behaviour.

Conveyors

Upon reaching core of this channel the player is left with 3 options. Those being:

- Enter the Sniper/ Engineer nest.
- Attack the Mid-Point Ascent Converge
- Continue through towards enemy spawn.



Figure 13 – Initial Entrance to Conveyors

Conveyors is an isolated section on the south side of the map. The conveyor is a point where the player will ascend on the map to the highest point, once players get to the peak height of the section players clash on a long corridor with a moderate amount of protection. Protection can be found at the entrances and the midpoint only. This section was designed to be in Favor of longer-range characters like Sniper and Solider that can shoot from afar with minimal damage drop-off.

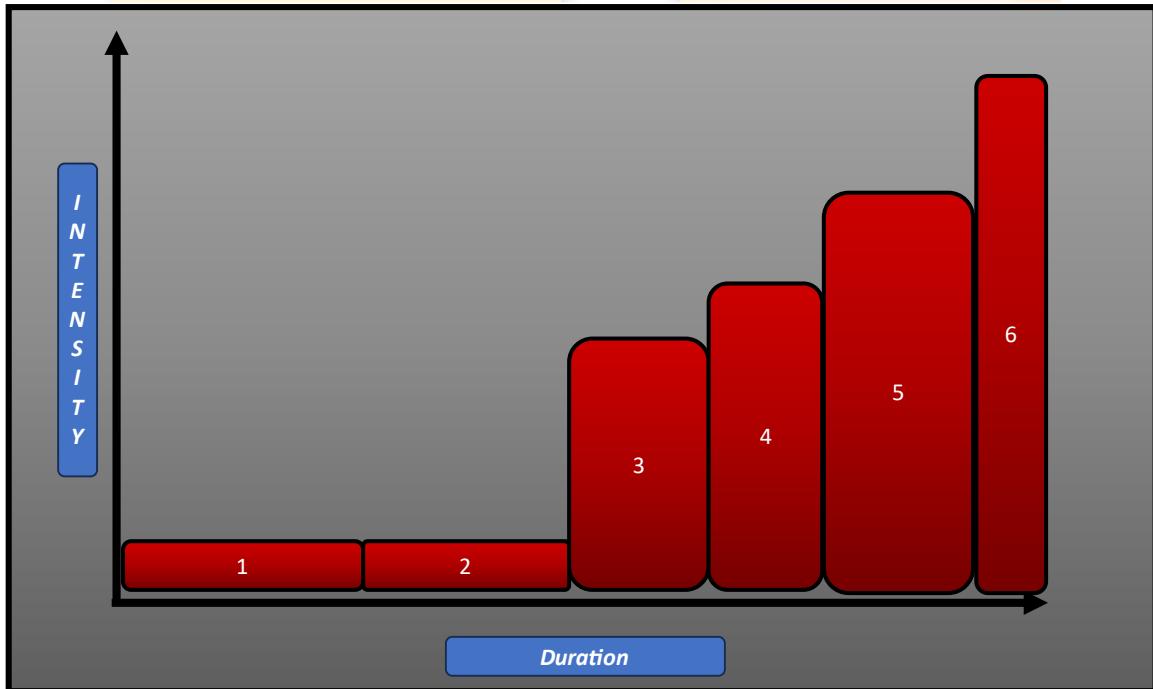
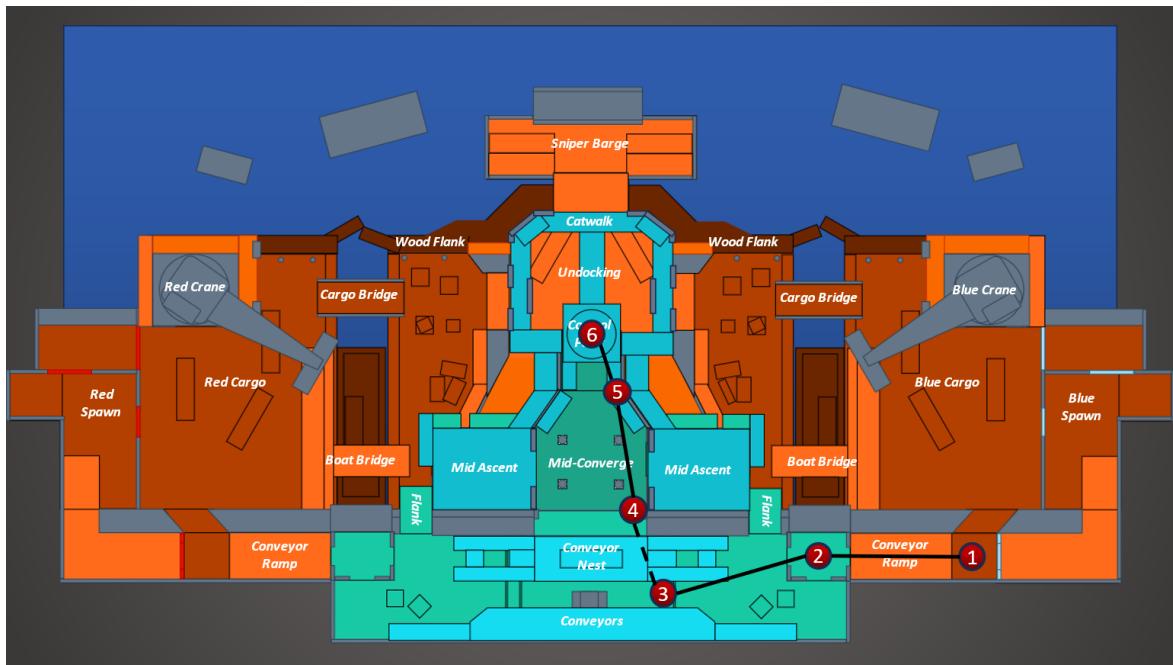


Figure 14, Beats and Pacing Conveyor Path to Control Point

General Time taken initially is long and protected, Duration decreases while intensity increases dramatically as the play ascend to the control point via Mid Converge.

Enter the Sniper/ Engineer Nest



Figure 15, Sniper/ Engineer Nest, Conveyor Belts

Entering the Sniper / Engineer nest is an area of high risk and reward. To enter this zone characters with a not-so-up close play style need to challenge players that specialize in close-quarters play, once situated it is hard to take players off this site. This makes it a powerful area to be for Engineers, Sniper and Solider

Attack the Mid-Point Ascent Converge



Figure X, Mid-point Boxes, Conveyor Belts

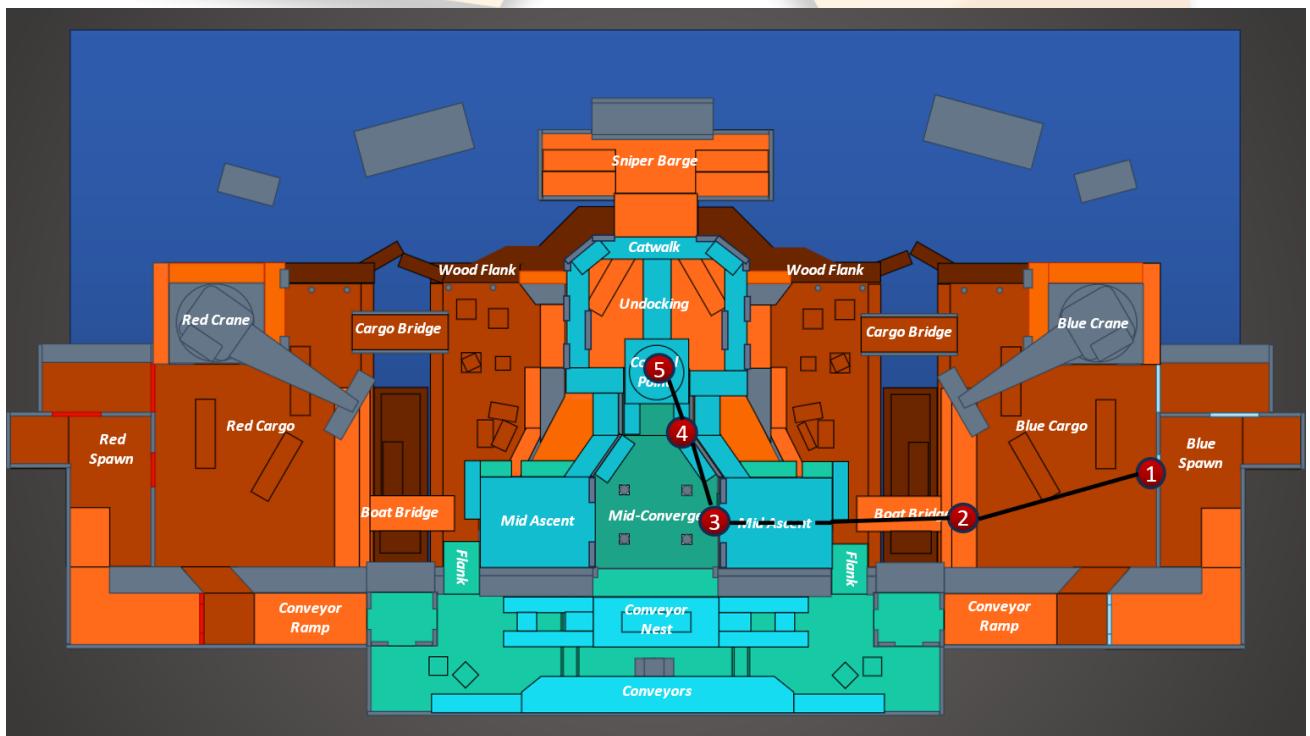
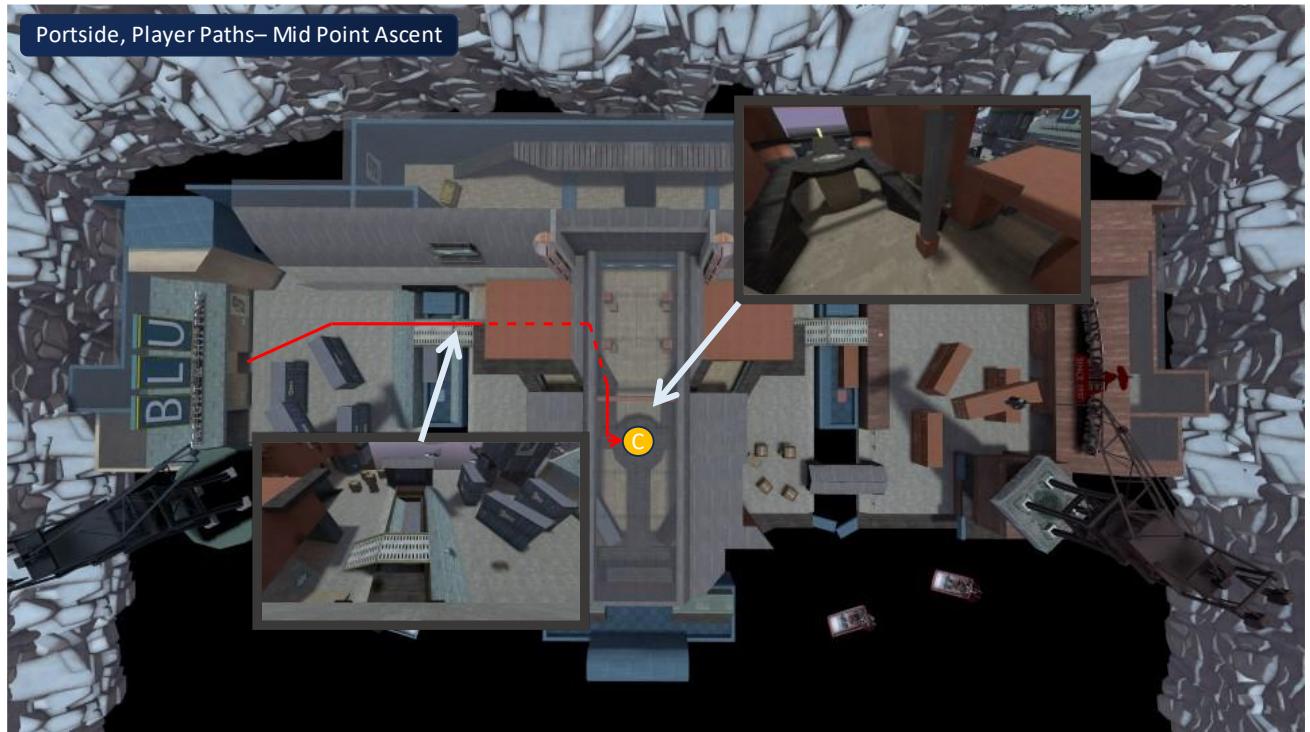
Should players decide to go towards Mid Ascent Converge they are given moderate protection in the form of some head-height boxes and barricades. This was designed to do two things. Separate two lanes of play and make the transition from one section of play to another smoother going into both lanes of play. This will commonly be utilized by the likes of Scouts, Heavy's, and Demo men.



Figure 16, Points of Spawn Attack, Conveyor Belts

Should the players decide to continue to want to extend beyond the middle point and attack closer to the enemies' spawns' players will come across two options of play. Those are going down the ramp or down the flank path and getting behind the enemies in the middle lane. While risky this play can be rewarding. This comes down to the time it takes to do this play and the minimal amount of health packs going down this path.

Mid-Point Ascent



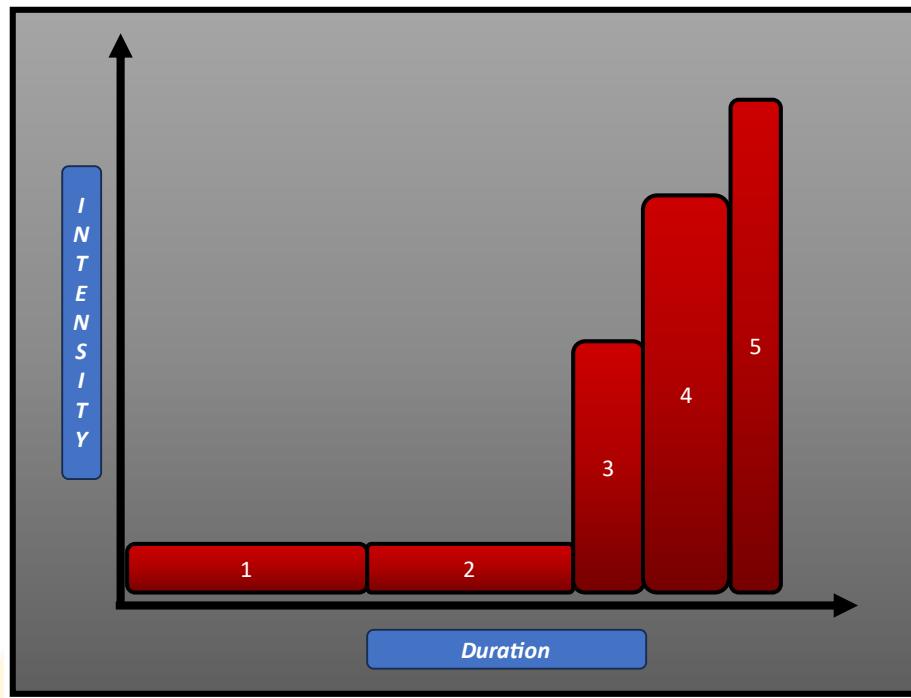


Figure 17 Beats and Pacing to Control

Like with the Conveyor belt approach to the control point is relatively safe until Mid-Ascent, from there it gets exponentially harder for the player as they enter the open ground. The Mid Ascent is a choke point which proves it hard but rewarding as a fast route.

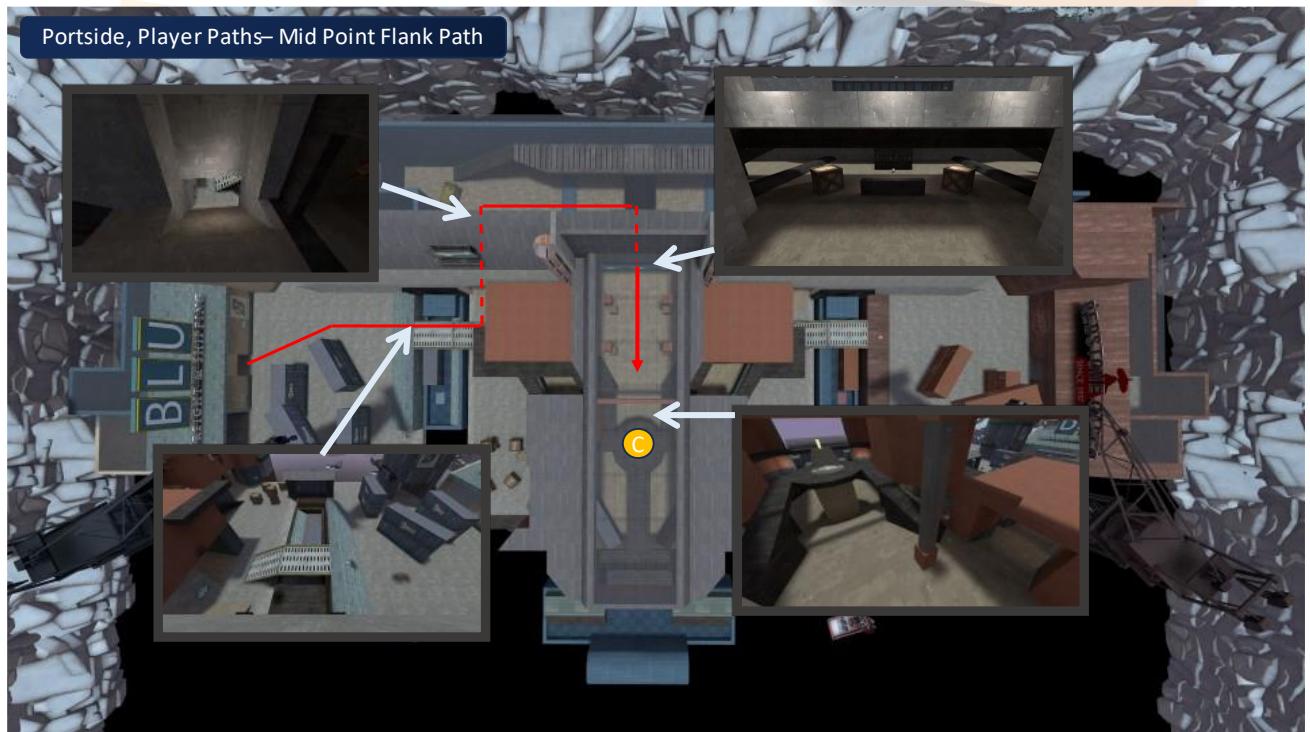


Figure 18, Method Of Approach Mid-Point Flank

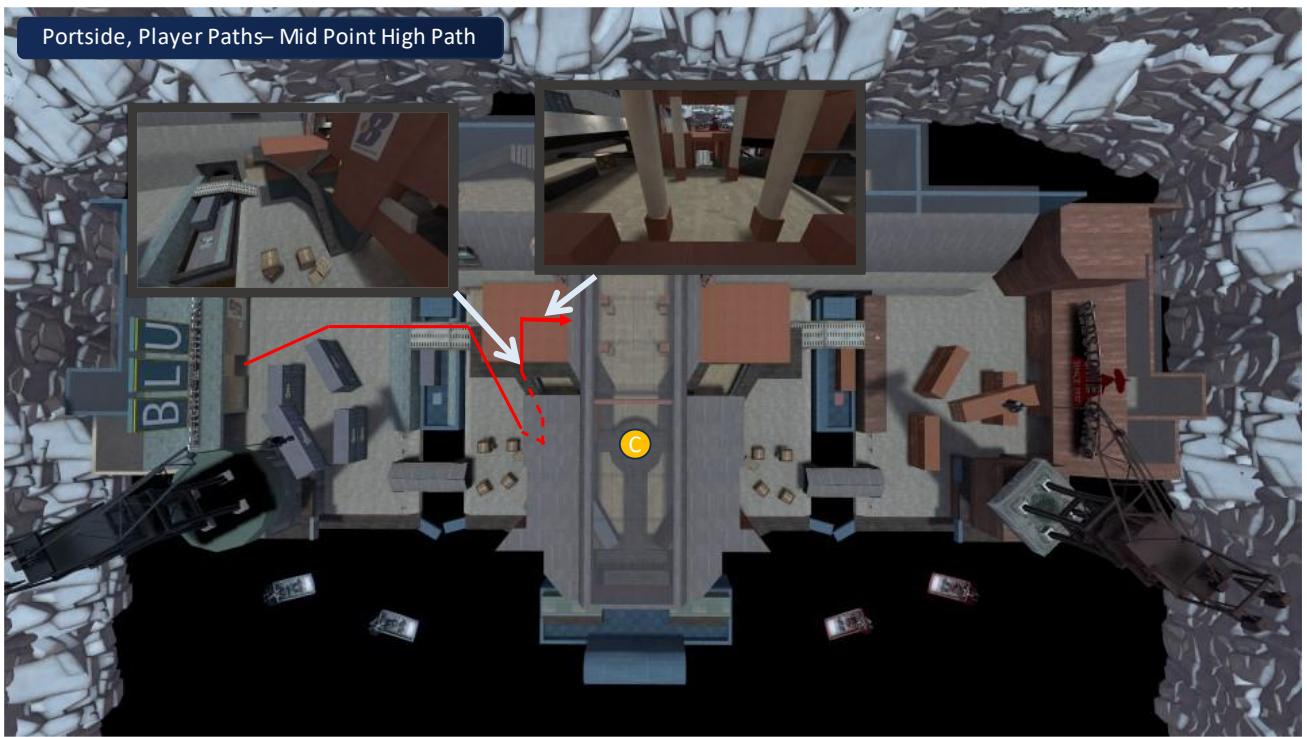


Figure 19, Core path Of Approach

The Mid-Point Ascent is the core path of entry towards the control point and the fastest way in. Should the player's goal be to get into combat quickly or to the control point this path is the most common one chosen. While relatively simple the player is left with 3 options of play when using this channel of player. Those being:

- Enter Conveyor Channel of Play
- Enter the Undocking Lowe Levels of Play
- Go to Mid-Point Clash
- Ramps to Control Point Objective



Figures 20, and 21, Mid Ascent alternate pathing.

Just before entering the control ramp, the player has the option to take a ramp that takes the player into the Conveyor Channel, this acts as a flank should the player not be able to attack head-on, this also goes for the exit leading towards the Undocking Channel of play. This helps the team approaching the point but also acts as a pathing route should a spy or scout need a non-direct method of getting kills.



Figure 22, Secondary channels, Mid-Point Ascent

Should the player attempt the attack the control point they will ascend in height up two ramps. Furthermore, if the player needs to recover health or ammunition, packs are situated on the tertiary level on either side. While minimal it provides a moderate boost and gets a player back into the fight.



Figure 24, High Ground Advantage, Mid-Point Ascent

As a final option available to the player when approaching the control point through this channel, there are ramps towards the north side, offering access to elevated levels of gameplay. These ramps serve as a strategic choice, granting players seeking a high-ground advantage the opportunity to position themselves strategically near and around all gameplay channels.

Undocking

For the Undocking channel of play the player has three core options of pathing. Those being:

- Use the external Ramps and climb to the point.
- Attack Head on into Undocking and use central Ramps.
- Use the Lower Portside flank and get behind the enemies.



Figure 25, Player Path Undocking, Path Option 1

For this path the player's core path or option 1, is to go through the container bridge and into undocking lower sections of the map, while this is the quickest way to get to the control point of the map, it is also the path of greatest resistance. This comes down to the site lines being exposed and the many opportunities of attack that can come from all angles. This makes it hard for players like snipers and engineers to enter these zones and plays more into the strength of characters such as Pyro and Heavy.

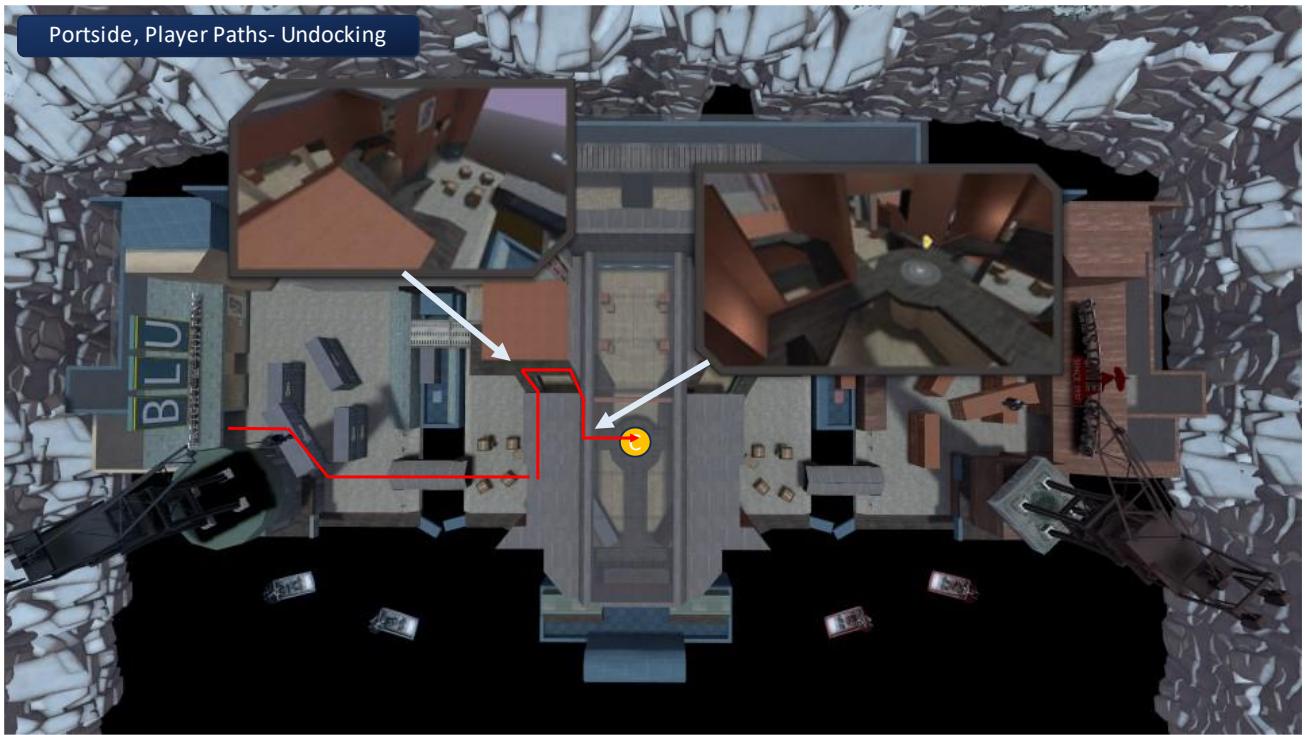
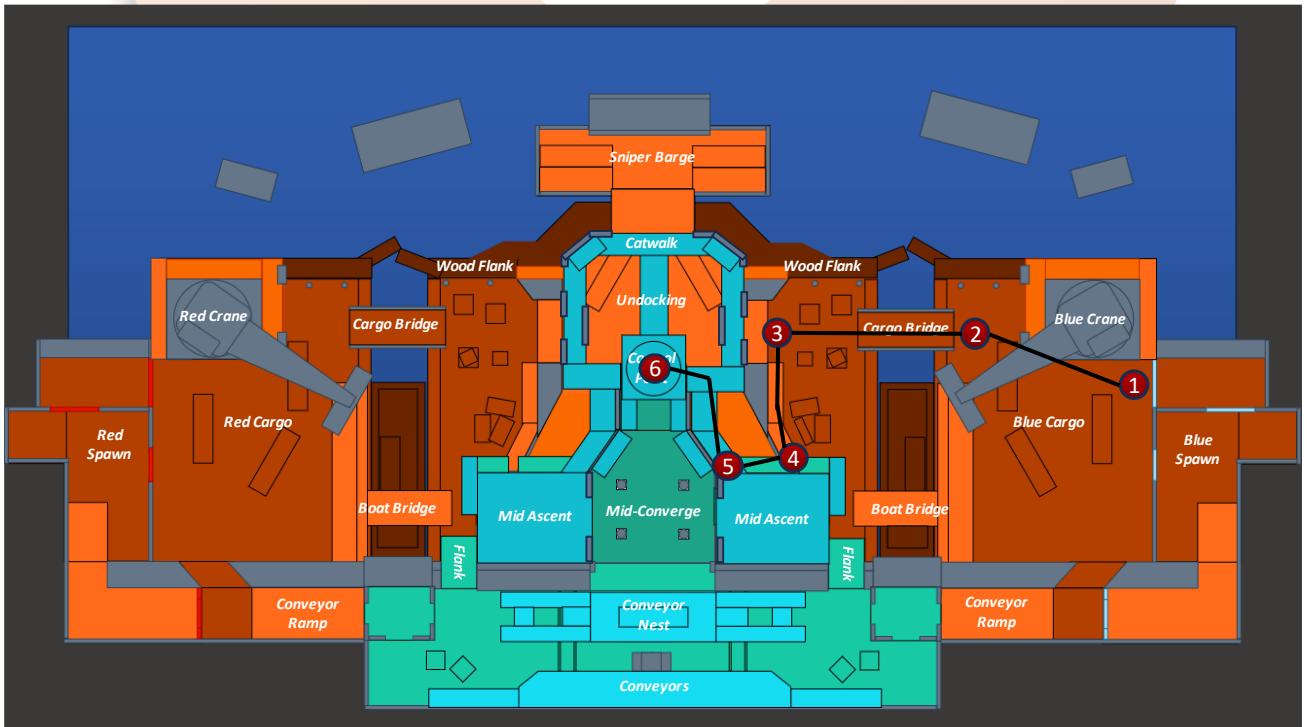


Figure 26, Player Path Undocking, Path Option 2

The next possible method of approach for the undocking channel of play on the map is through the upper section ramps. For this section should players deem the core path on entry not suitable for them they can ascend the ramp, Following getting up this ramp the player has two possible options they can do, those being:

- Setting up defence overwatching the Mid-Point Ascent
- Continue the ramp ways to the control point.



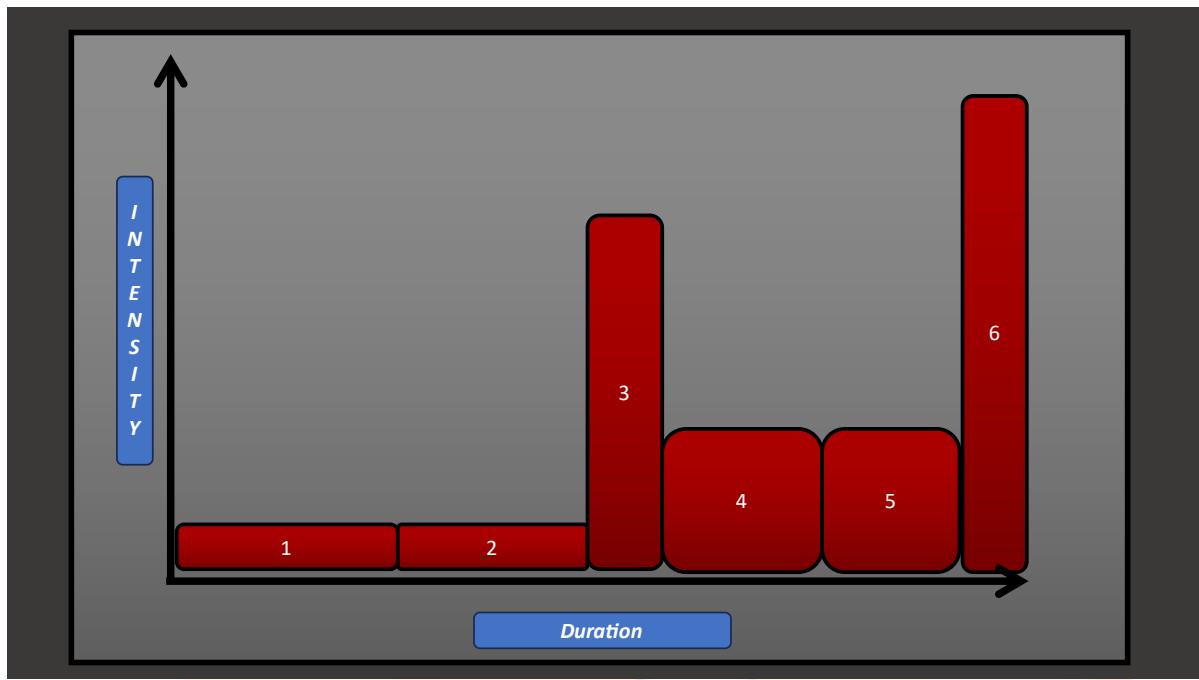


Figure 27, Beats and Pacing Undocking

Risk to the player is great only for two points. Those being 3 and 6. With 3 being the entrance to undocking it will be common to see resistance from this location. Furthermore, at point 6 when the player touches the control point.

The advantage of taking this path to the control point is that there is minimal risk of exposure to the enemies. Possible points of conflict that could occur using this path to the control point is entering and exiting the wooden ramps. This section is more commonly used by 3 classes, with characters like Sniper, Engineer, and Scout. The Scout Will use this path to reach the control point quickly and the latter will use this area to hold the midpoint Ascent section choke point. This elevated section also acts as a sight line to see into the Conveyor Belt Sniper/ Engineer Nest, utilizing this section helps take the pressure off the defending team making it easier to hold the control point.

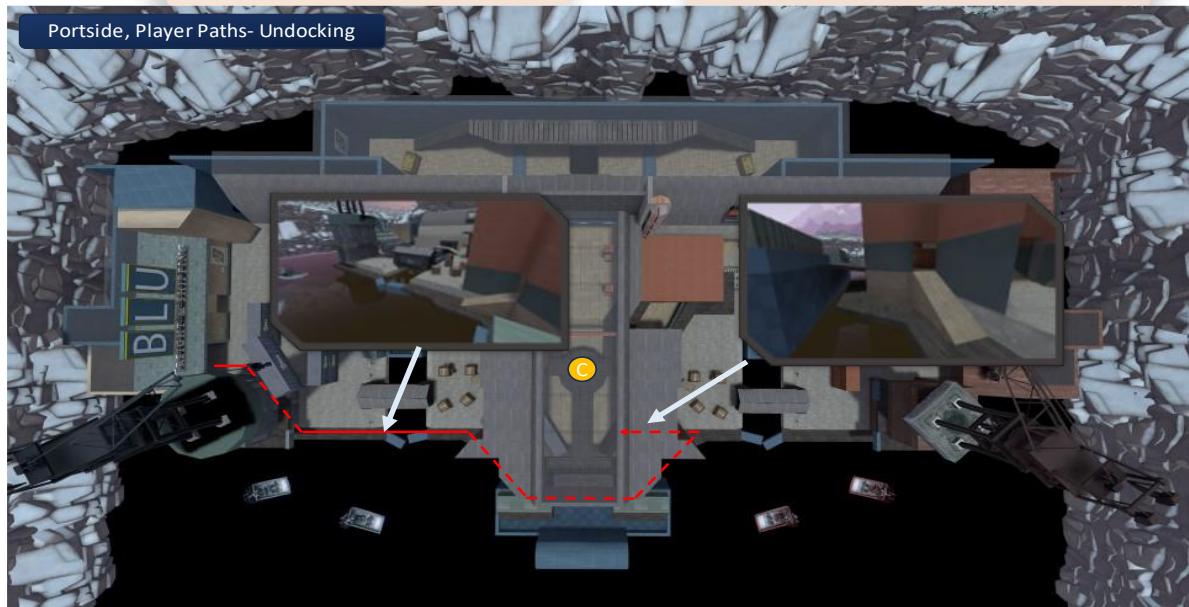


Figure 28, Player Path Flank, Path 3 Option

The final possible method of approach or path of play to this section would be the dock side flank. This section is the lowest in height on the map and is a narrow-isolated path a player can use to get to the other side of the map. This flank would typically be used by characters such as Scout or Spy looking to get in a quick Flank attack, upon reaching the back end and re-entering the warehouse the player has long protection Infront of the door in the form of a cargo container, this helps them filter into the area without being berated with shooting from people defending atop on the control point. This helps make flanking characters feel more viable and encourages players to be cautious and double-check this section to see if it's in use.

Conflict Points

For the map Portside, there is a total of three core conflict points as well as an additional 4 points of smaller conflict on the map. With the control point being the largest point of conflict the other two points are Middle Ascent and Conveyors.

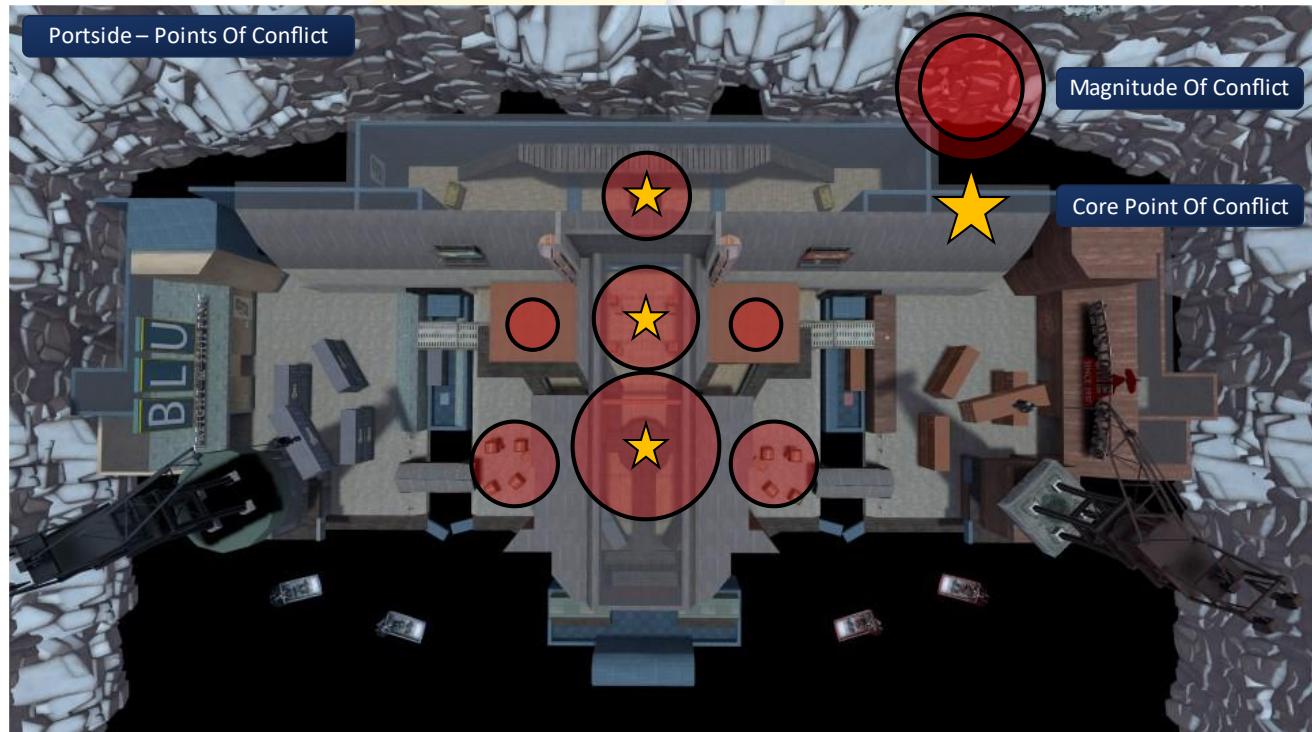


Figure 29 – Points of Conflict Overview Diagram



Figure 30, Core Point of Conflict – Control Point

The control point area is the greatest point of conflict on the map. While this mostly comes down to it being the core objective of the game mode and map to hold and control it, the control point is very exposed in design. The design of it is made in way where danger can come from any point and almost any direction. This means players must stay cautious, aware, and together to hold this place in any capacity. This was done to promote more team-based gameplay than independent endeavours on the map. This is important in a team-based game. The position of the point allows for all different types of characters and playstyles to do well.



Figure 31, Core Point of Conflict – Mid Ascent

Middle Ascent is the centre most point of the map. With 4 points of entry to this area from 4 angles to look out from, furthermore this section is exposed to higher areas of play. This makes it more prone to attacks from above as well, this makes it almost on par with the control points conflict. While holding this area isn't what makes it strong its connection to other parts of the map is, holding this area as well as the control point has its advantages.



Figure 32, Core Point of Conflict – Conveyor Belts

For Conveyor belts conflict can occur between point next to the cargo containers and the engineer nest above it. Conflict is less common here compared to mid converge and the control point but still common to occur, engagements are smaller in scale and a typically a contest between engineers and snipers to see who can vie for control on the nest. Conflict occurs in this area as team force people out of the strong overwatch position.

Choke Points

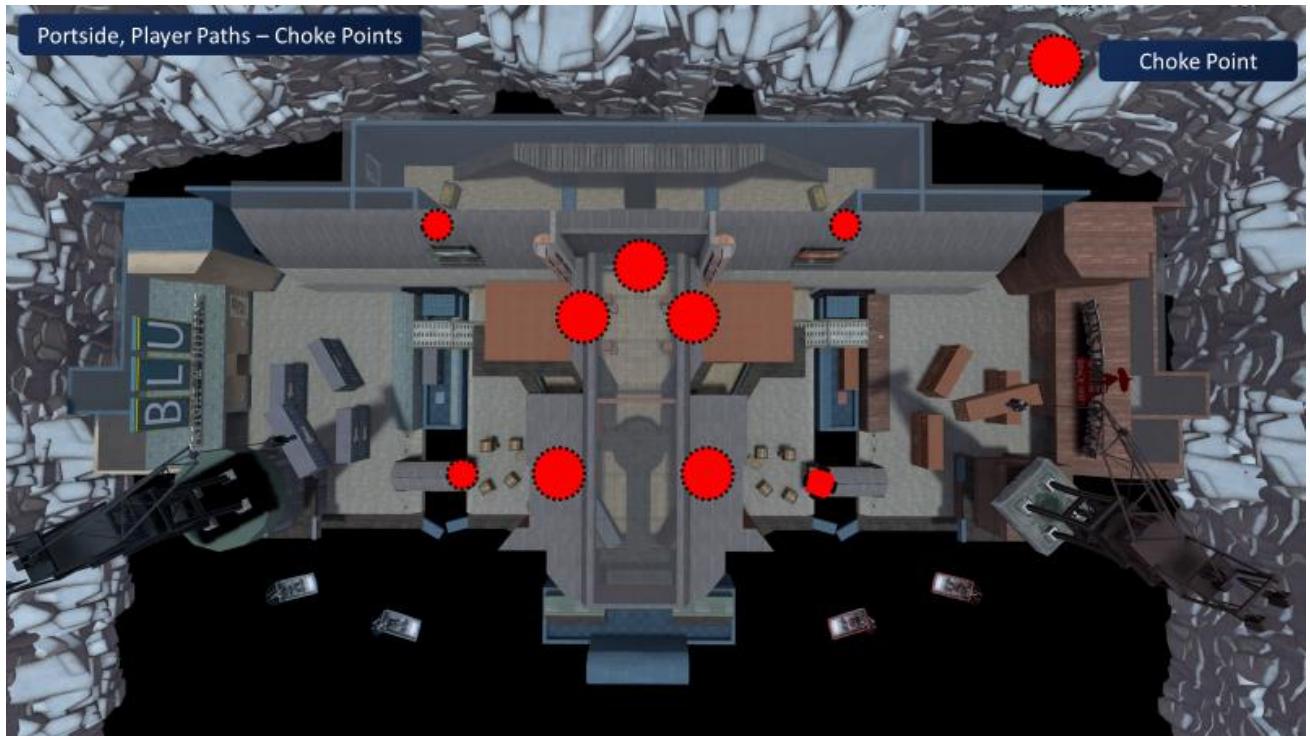


Figure 33, Portside Choke Points

For the choke point sections on the map there is a total of 9 choke points on the map. Choke point situated on Portside are Symmetrical in design and are equal in number for both teams keeping it balanced. While there are several choke points that will not see much play there are 4 positions that will commonly see a lot of use on the map, those being the entrances around the control point. When designing this map, it was important to consider how many choke points is a good number to be working around and finding the sweet spot. Following 4 iterations and doing some TF map research this came to be the good number.

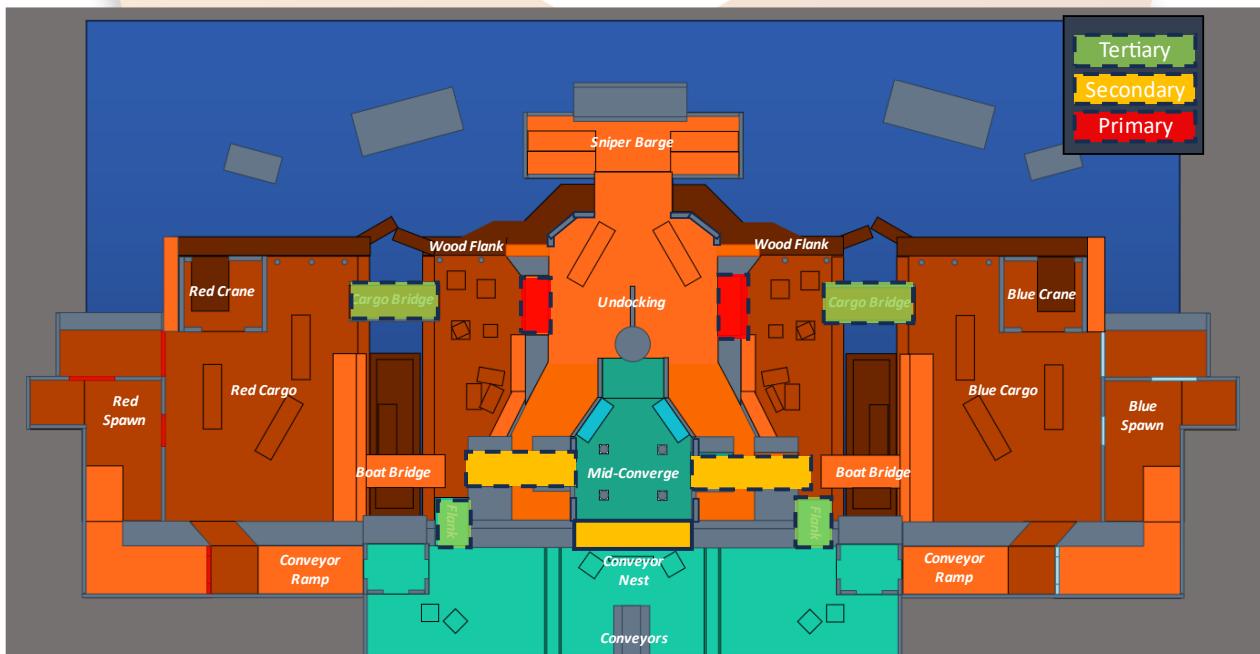


Figure 34, Danger of Chokes





Points of Interest

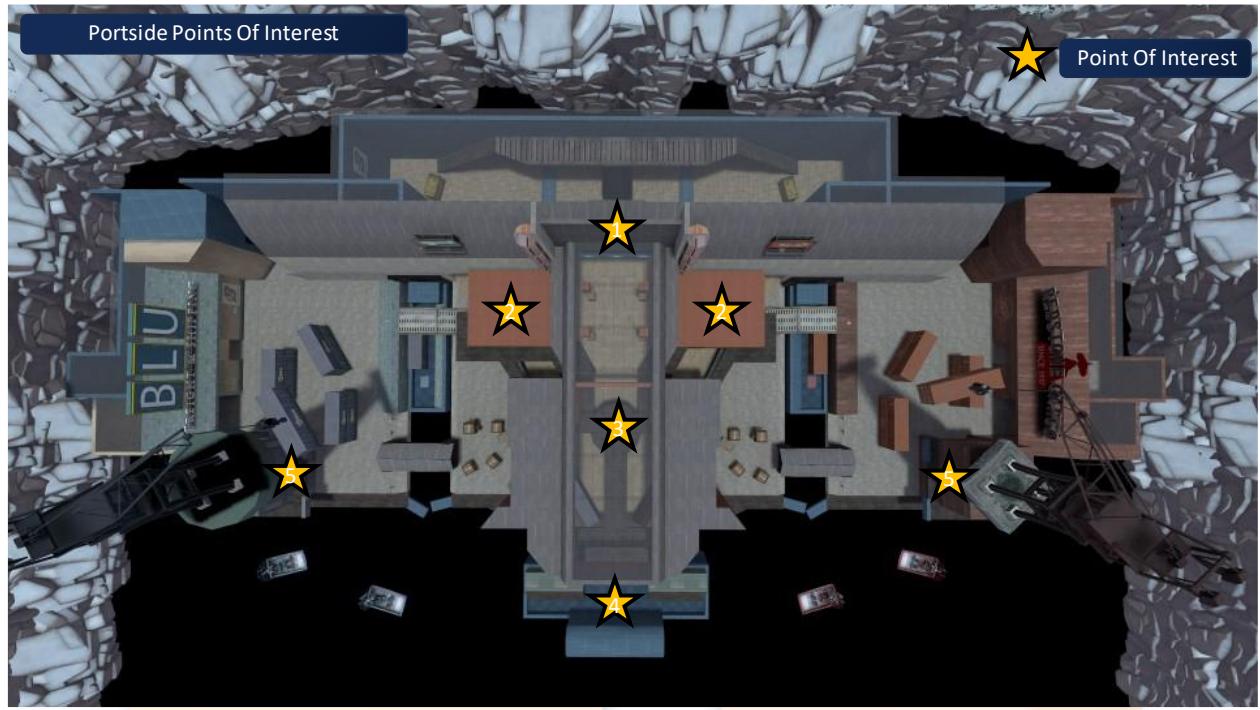


Figure 35, Points Of Interest Overview



Figure 36, Points of Interest Images

Point of Interest – Sniper Boat



Figure 37, Sniper Boat Position

At the south most point on the map is the sniper barge. This is a powerful point on the map as it has a wide view overlooking each of the control points. While this seems powerful at first the risk to get to this area on the map is severe. For any player to get to it they must go down the core path of entry for the undocking zone. This forces snipers to deal with the close quarters characters like Heavy and pyro where they typically will lose in close-range fights, should they get past this ordeal and get to the barge they can shoot at players that have exited the container bridge or started to cross over the mid boat bridge. While they can shoot at the exit site has deliberately been blocked at the entrance to stop any spawn killing. Another thing Snipers will have to be cautious of in this section of the map is the Demos or Soldiers using their boosting mechanics on the Wooden Dock flank to boost up onto this area and attack them.

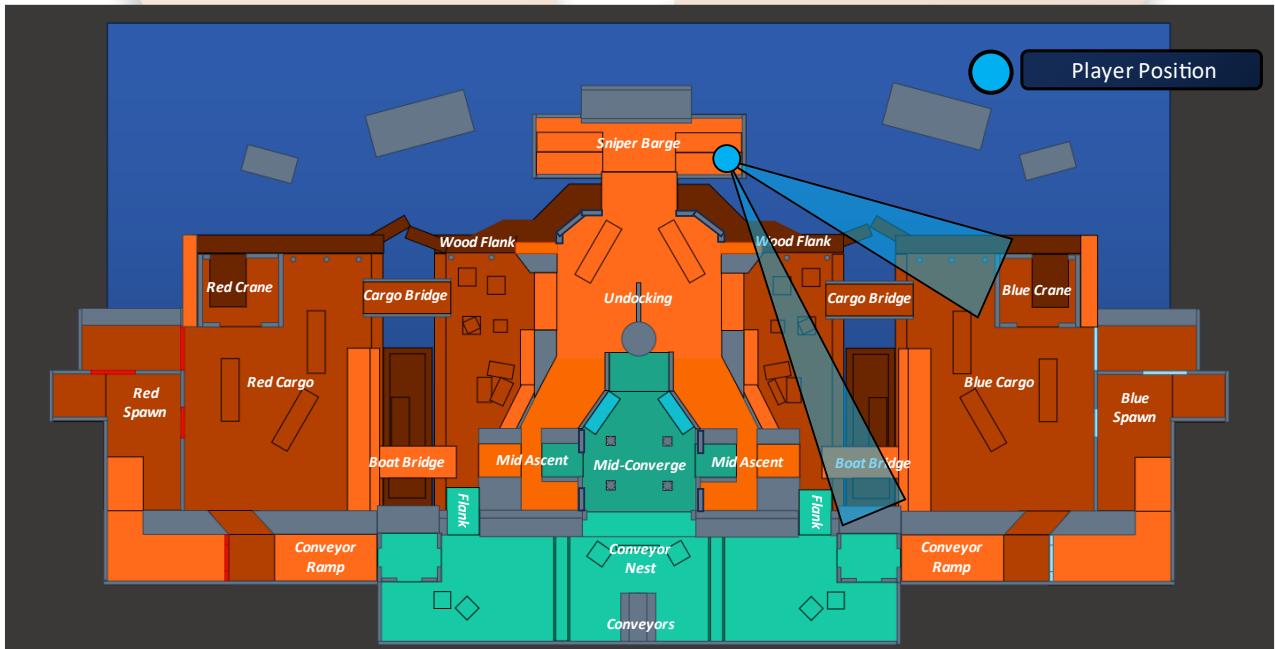


Figure 38, Sightline Map Overview

Point Of Interest – Conveyor Nest



Figure 39, Conveyor Nest

At the middle point of the conveyor channel is the highest point on the map where engineers and Snipers like to operate. In this section the nest looks over the control point and the Mid Point Ascent, like the Sniper barge the risk to get to this point on the maps for the characters that can use it the most, is a great risk due to the confined close quarter play. What makes this POI different from the Sniper Barge is the fact that it has strong sightlines going through the interior sections of the map and has no site over the exterior buffer sections on either side of the map. While this point is advantageous to the Nest characters, they need to be cautious of the exposed window they look out from and the backboard behind them (for explosives), bringing too much attention to this position can cause them to be countered easily.

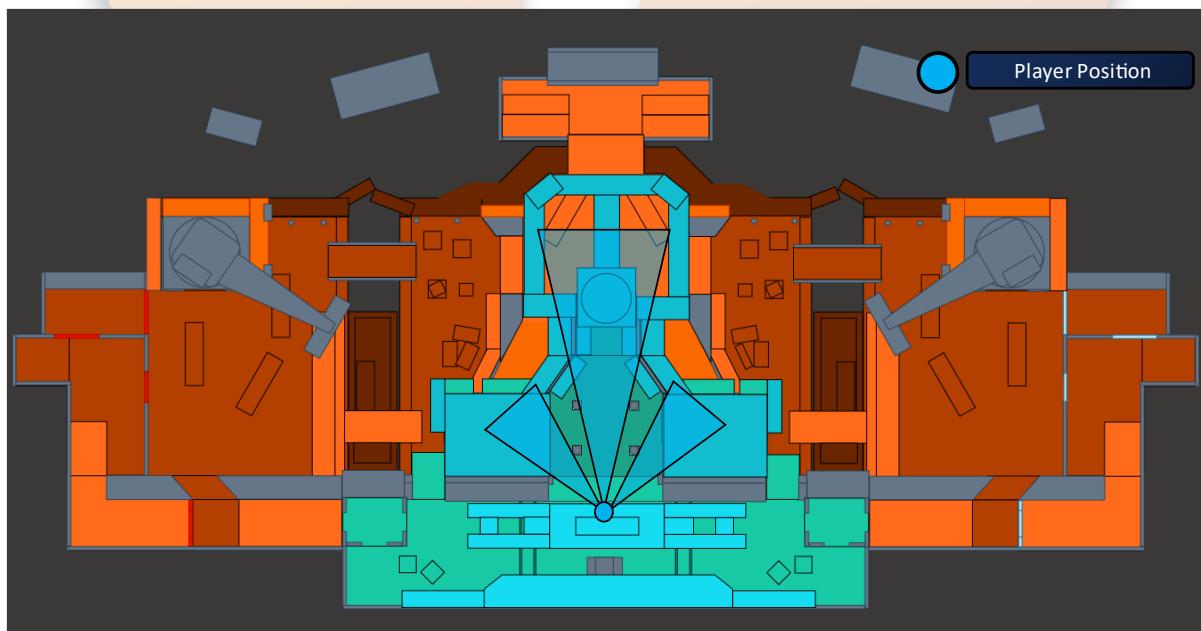


Figure 40, Line of View

Point Of Interest – Catwalk Control Point

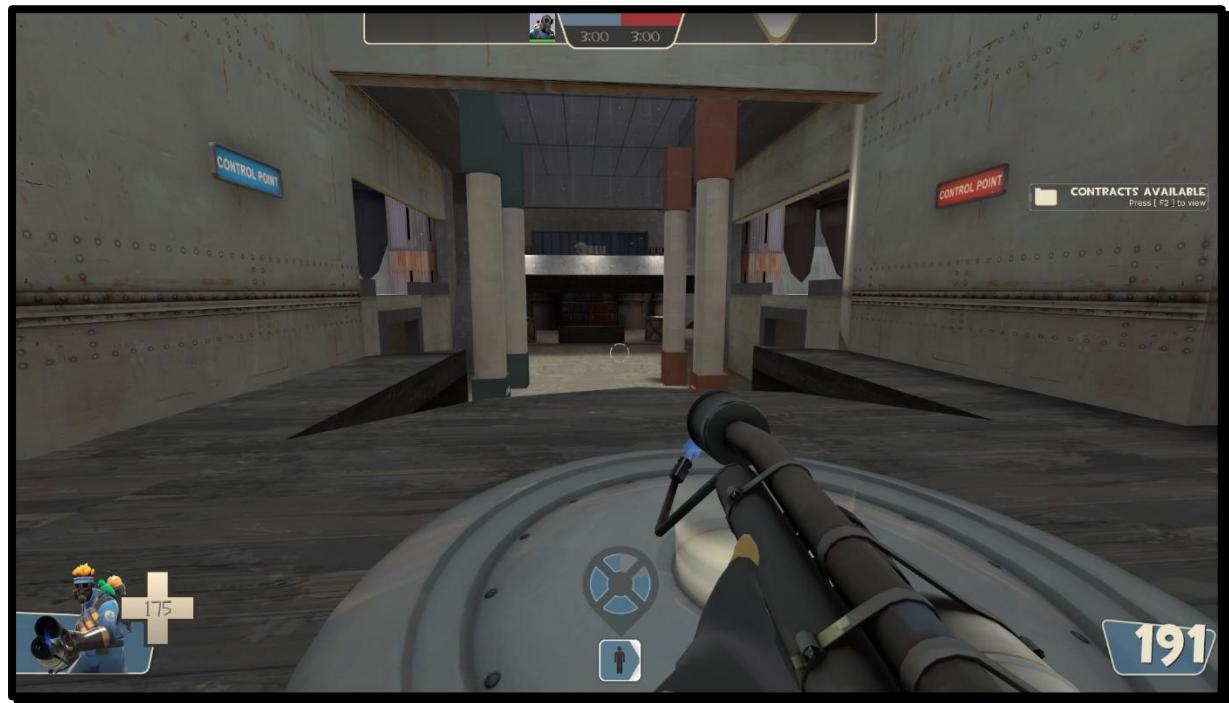


Figure 41, Catwalk Control Point

Between the Undocking Lane of play and the Mid Point Ascent is the control point. The control point is positioned on a connected series of wooden platforms that are on a higher level to the undocking area. Playing in this area is an exposed risk where a player can be shot from several angles, the other thing the control point allows for is multiple points of exposure to enter from. The catwalk's height and design also allow for characters like Demo and Solider to boost up to it. Another strong part of this section is that Pyros can displace people on the catwalks with their Push ability.



Point Of Interest – Crane Overwatch



Figure 42, Crane Overwatch Position

Position just outside the spawn points are two cranes on the water side of the map. These towers serve as a defence point that overlooks all the player's buffer zone, this area will typically be used by the nesting characters and allows for them to defend against enemy characters trying to spawn camp. This position further has a few good sightlines on other sniper channels allows for additional counterplay like the Sniper Barge, the Undocking windows Aswell a mid-converge

Point Of Interest – Canal Boat



Figure 43, Attackers View of Barge

As the player exits the buffer zone, they pass over the canal boat, marking the final point of the buffer zone. The canal boat acts as a one-way barrier, dissuading enemies from advancing further. Just before the boat is a ramp that obstructs the view for enemies but allows spawn leavers to see over. Adding complexity to this section is the canal's water element. Players receive clear warnings of death should they enter the water with the signage, compelling them to stick to designated paths or employ characters like Demo, Soldier, and Scout, utilizing their movement skills to traverse the area.



Figure 44, Attackers View of Barge

Point Of Interest – Flank Paths



Figure 45, Routes of Flank

On the map Portside, there's a central path that interconnects the three main play channels within the interior. Moreover, each team has specific pathways closer to the end of the buffer zone. These paths enable players to navigate to different sections of the map while minimizing exposure to enemy fire. This feature significantly enhances gameplay diversity and improves overall map connectivity. Additionally, it functions as a flanking route, which skilled enemy spy characters and scouts can utilize to outmanoeuvre opponents by getting behind their lines.



Rewards

For rewards on the map there are several

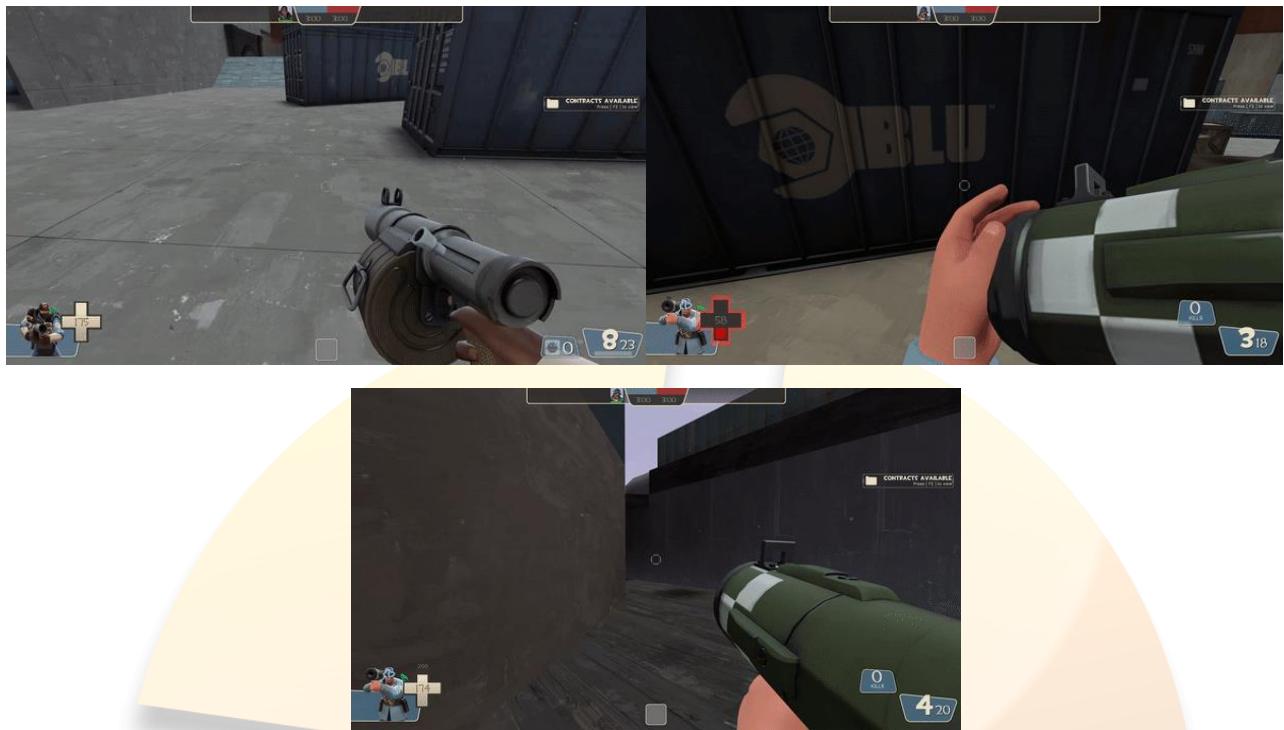


Figure 46, Skill Jumps

I designed the map with considerations for mobile characters like the Demoman and Soldier, allowing them to use their explosive abilities for strategic jumps to higher ground. I placed jump spots with consideration, aiming for a balance between challenge and reward, ensuring these opportunities felt consistent yet satisfying to pull off amidst the varied terrain heights. This helped improve the feeling of reward on this map.

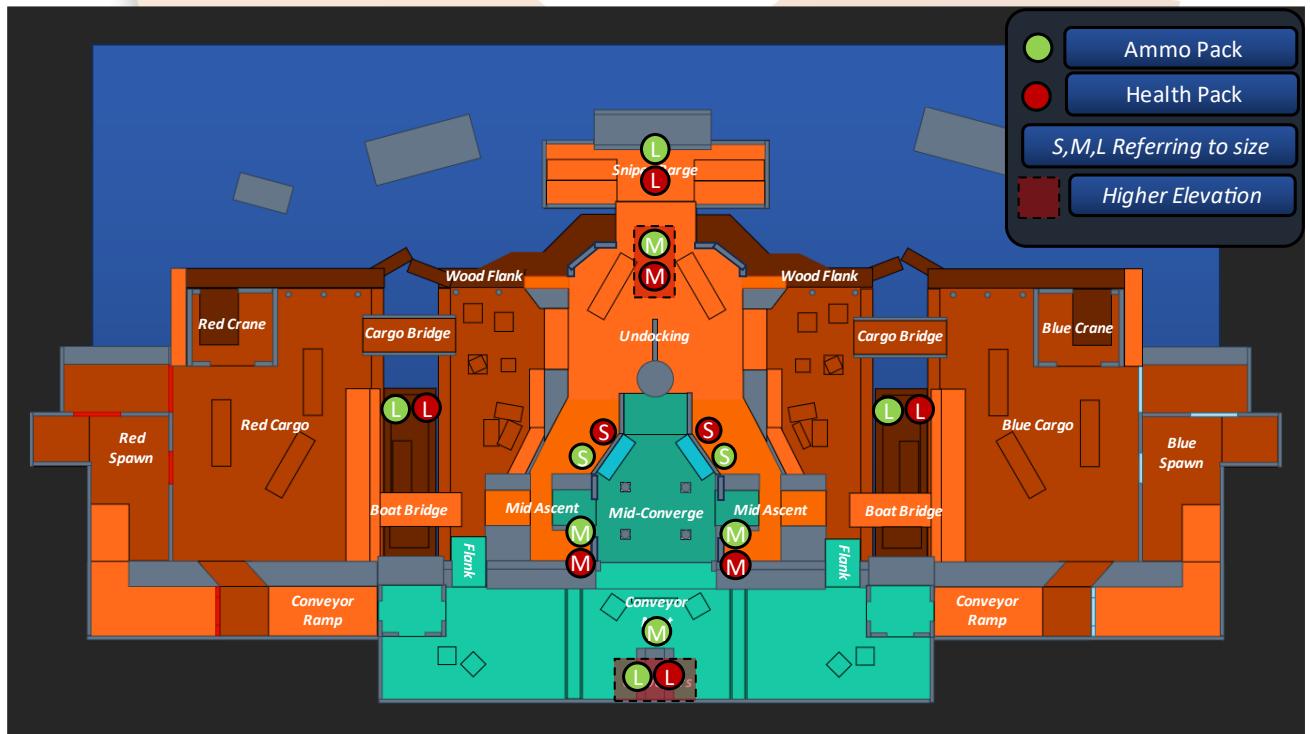


Figure 47, Health, and Ammo Pickups

On the map there is a total of 17 Pickups on the map that any player could gather. Of which:

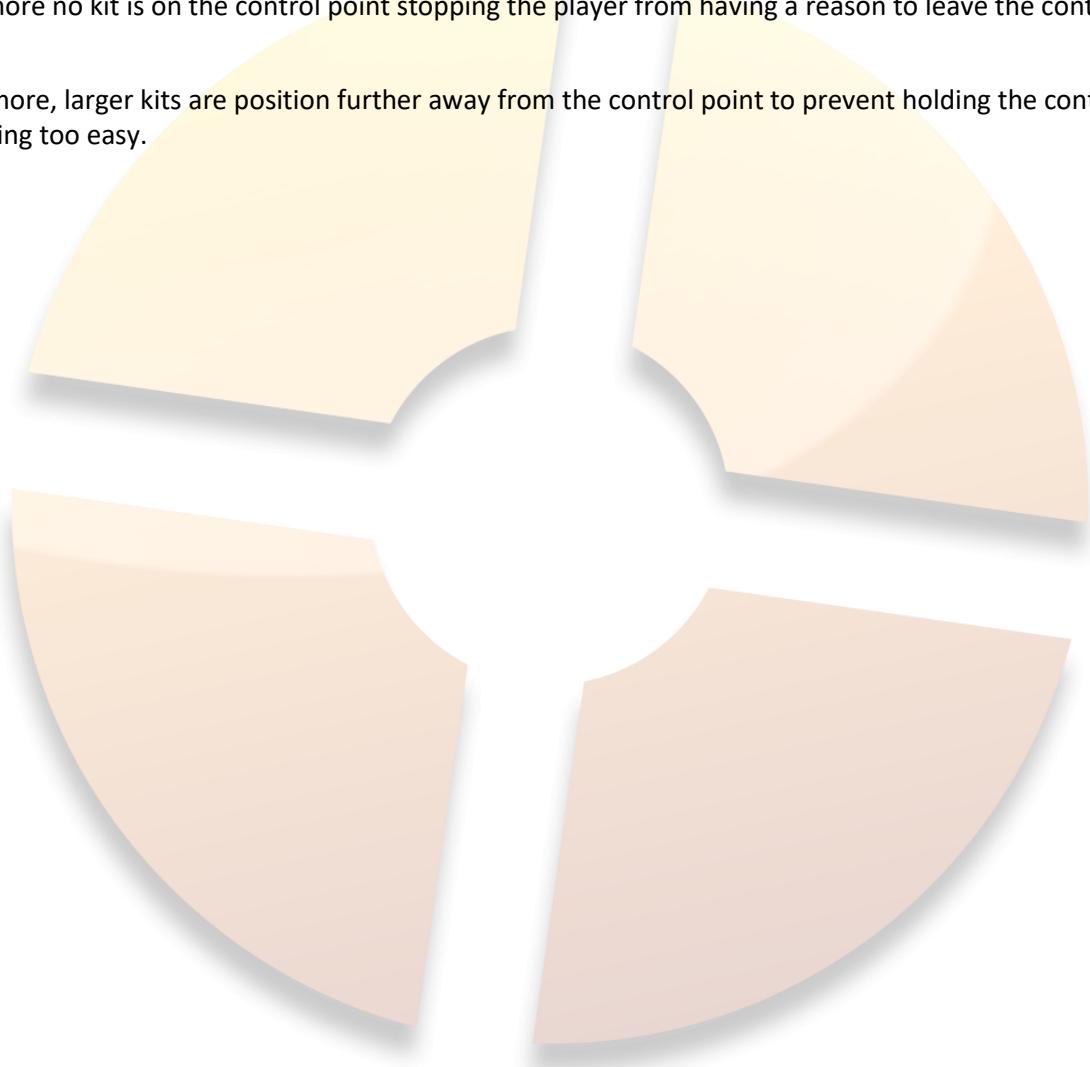
- 8 Large Kits
- 7 Medium Kits
- 4 Small Kits

(Ammo and Health Pickups Included)

Health and ammo pickups are positioned around the control point but not near it. Health packs get larger and give the player more the further from the control point it is. Positions of High risk can also provide more health where chance to grab it are not likely or probable.

No health or ammo kit is positioned close enough to a Spawn point to encourage spawn camping, furthermore no kit is on the control point stopping the player from having a reason to leave the control point.

Furthermore, larger kits are positioned further away from the control point to prevent holding the control point being too easy.



Aesthetics (Look and Feel)

Setting

Portside is a cargo port nestled within a chilly mountainside terrain, with a panoramic view of water. The map's essence revolves around its industrial atmosphere combined with the frigid waterside ambience. During the map's development, I aimed to show the contrasting division between the two sides and their distinct appearances. The blue side adopts an industrial, metallic aesthetic, while the red side leans towards a more traditional vibe with wooden structures.

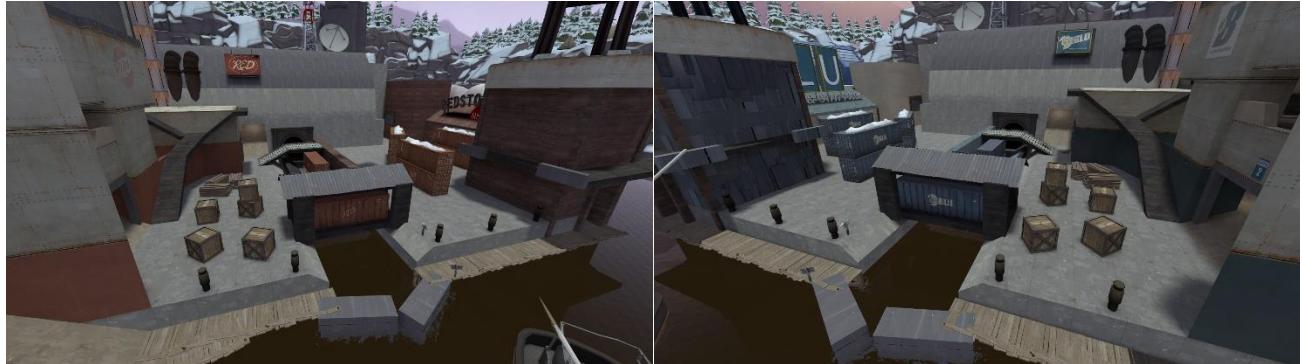
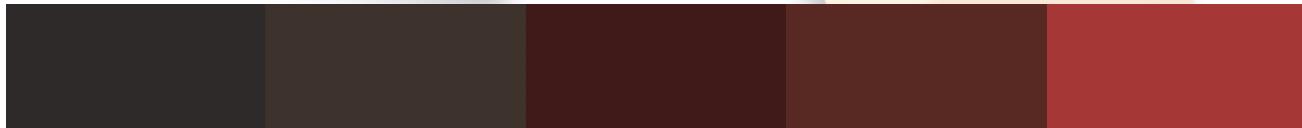


Figure 48, Comparison of Sides

Colour Palate



Red Side Colour Palate



Blue Side Colour Palate

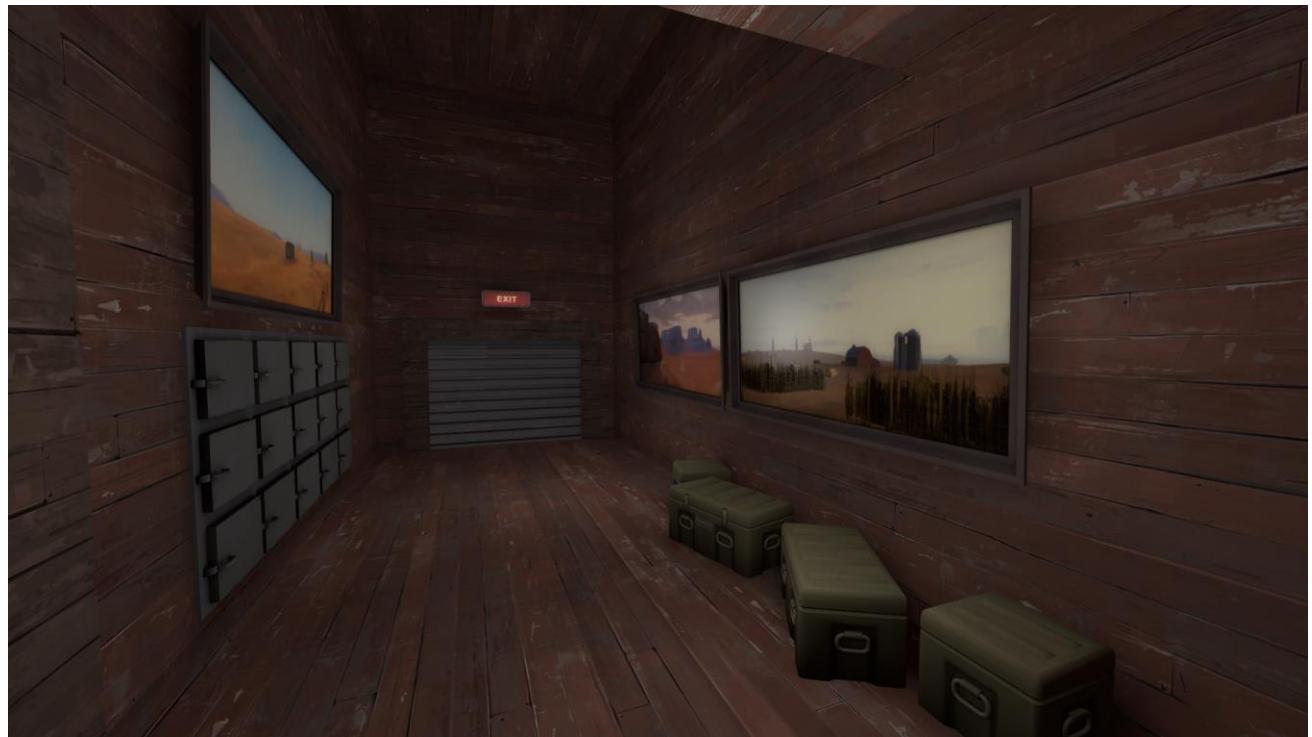


Middle Warehouse Colour Palate

The colours used in Portside are mostly similar and muted, creating a subtle and somewhat gloomy atmosphere. However, the winter mountainside adds pops of vibrant colours that contrast with the muted tones. The map mainly features reds, blues, browns, and creams. Each section of the map has its own distinct colours and textures.

Each Side is clearly Partitioned via the use of the colour Aswell as meshes/ Textures.

Spawn Room RED





Spawn Room BLUE





This deliberate design serves two main purposes. Firstly, it visually shows the conflicting industries vying for dominance over the port. Secondly, it significantly aids players in orienting themselves within the map. Maintaining symmetry in the map's layout is crucial, but it's equally essential to differentiate elements on both sides to prevent confusion among players. This differentiation should be shown as well in meshes and textures to ensure each side stands out distinctly.

Visual Development

Here below is all phases of development with the map design. During this project the map's design has been iterated on quite significantly, here's every map designed during this project.

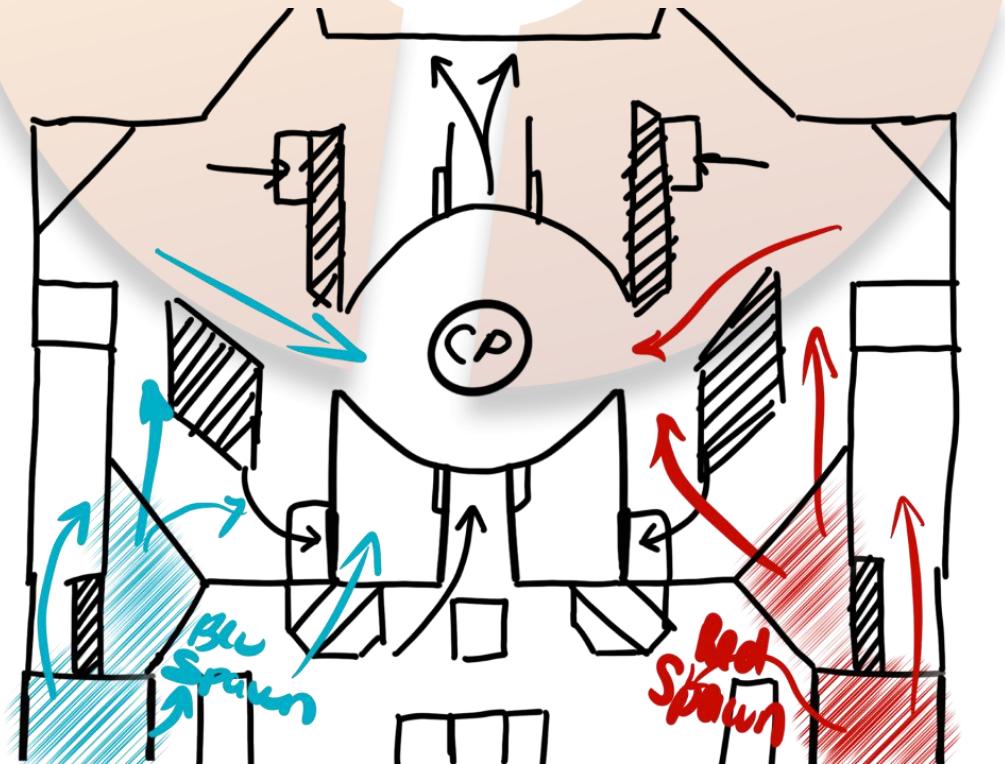


Figure 49, Initial Prototype Rough Sketch of TF2 Map

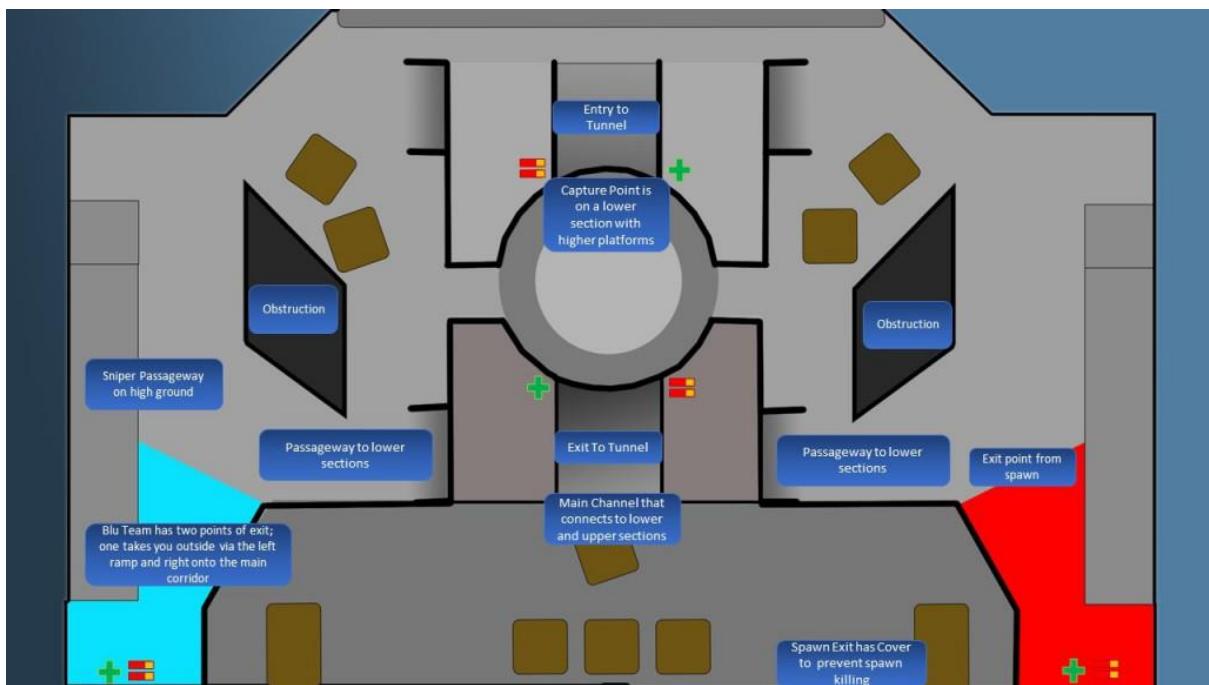


Figure 50, Map Prototype Initial Design and Concepted

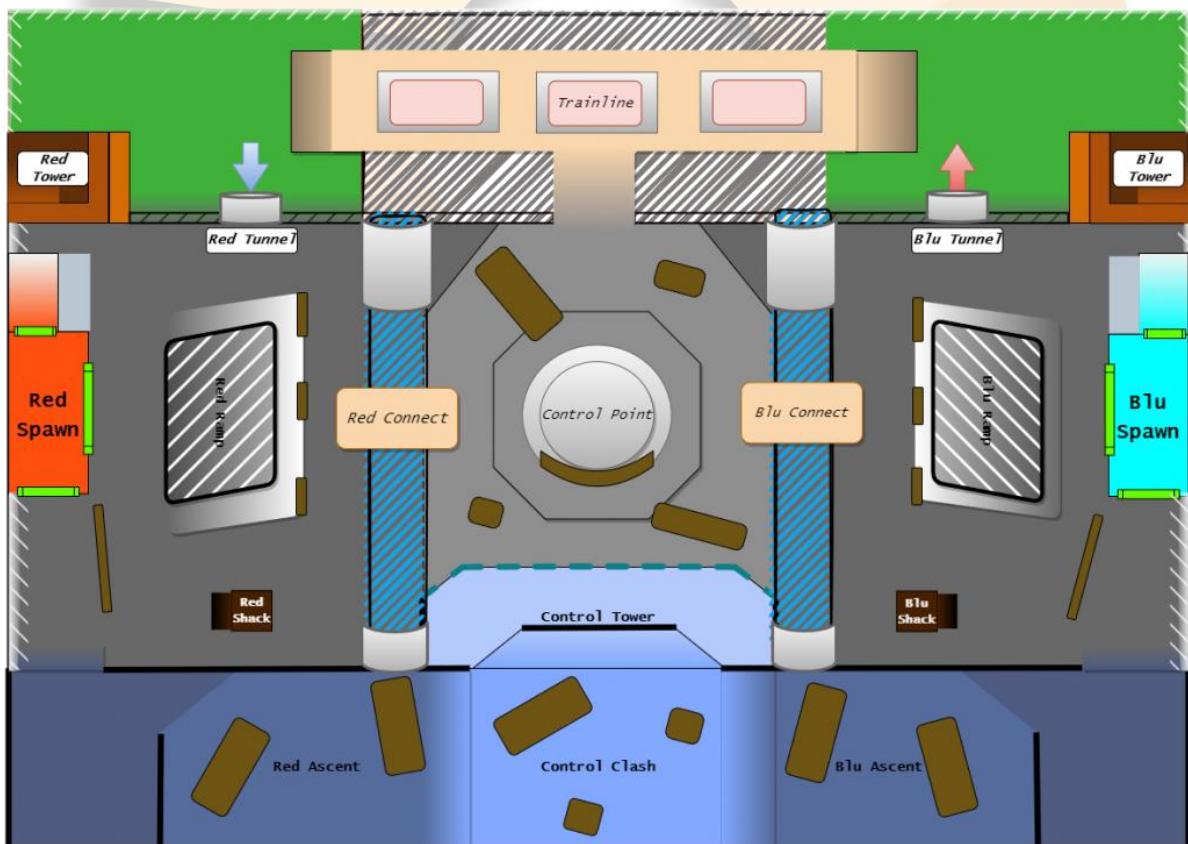
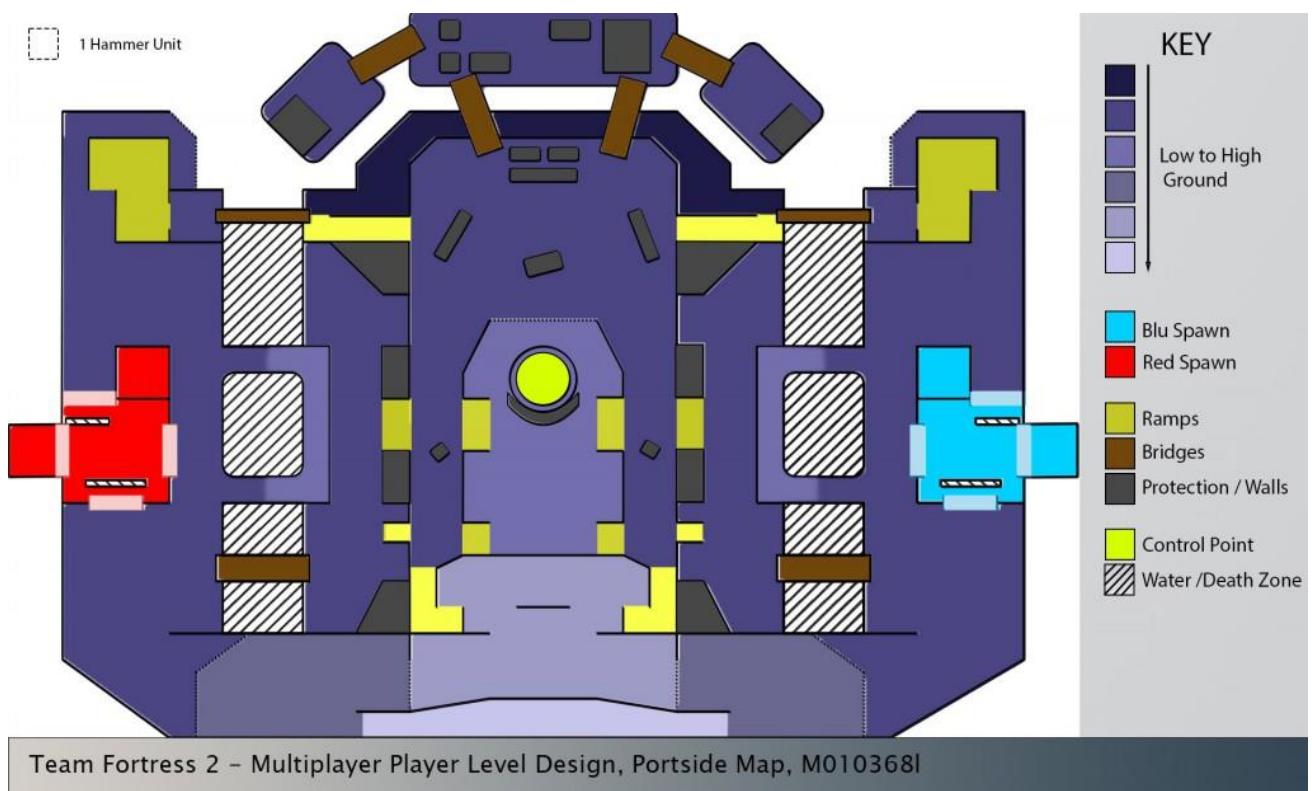
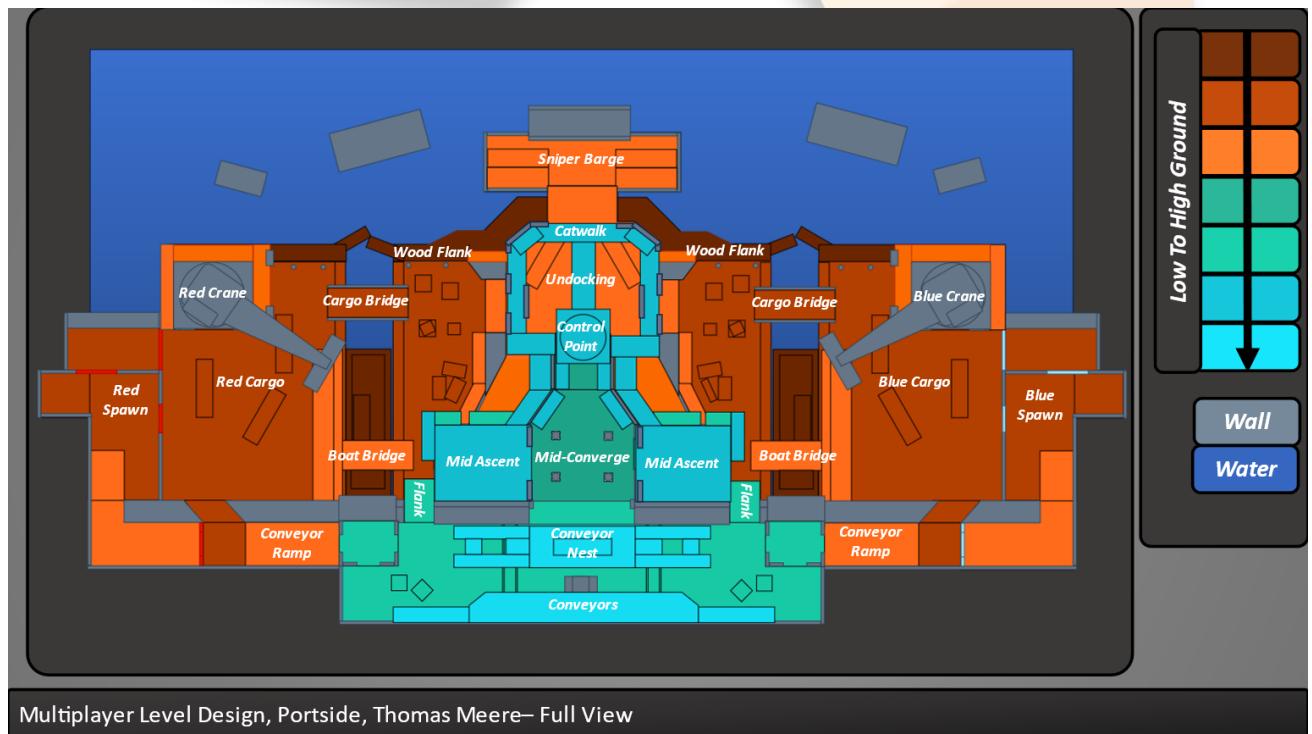


Figure 51, Map Design Further Iteration



Team Fortress 2 – Multiplayer Player Level Design, Portside Map, M010368I

Figure 52, Initial Portside Map Design



Multiplayer Level Design, Portside, Thomas Meere—Full View

Figure 53, Portside Iterated Final Map Design

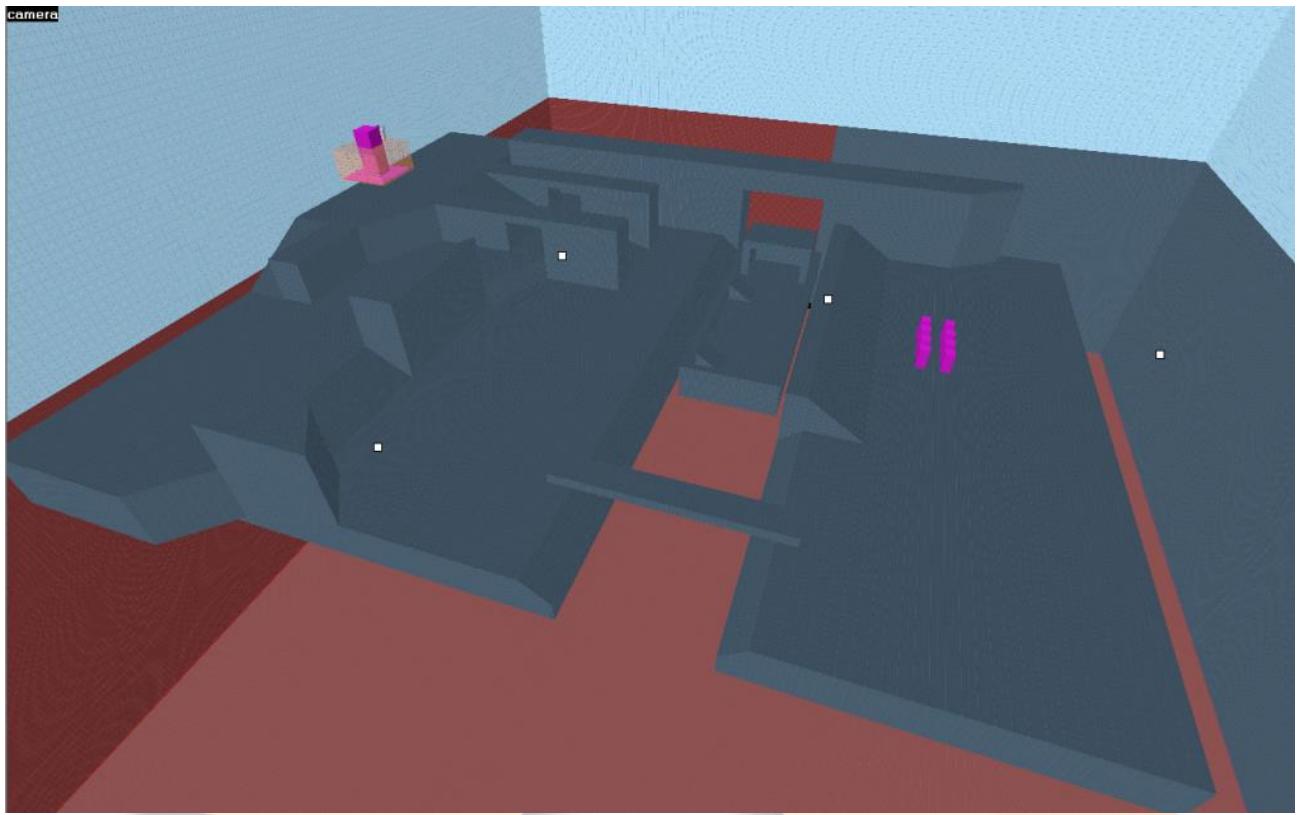


Figure 54, Initial Blockout on first half

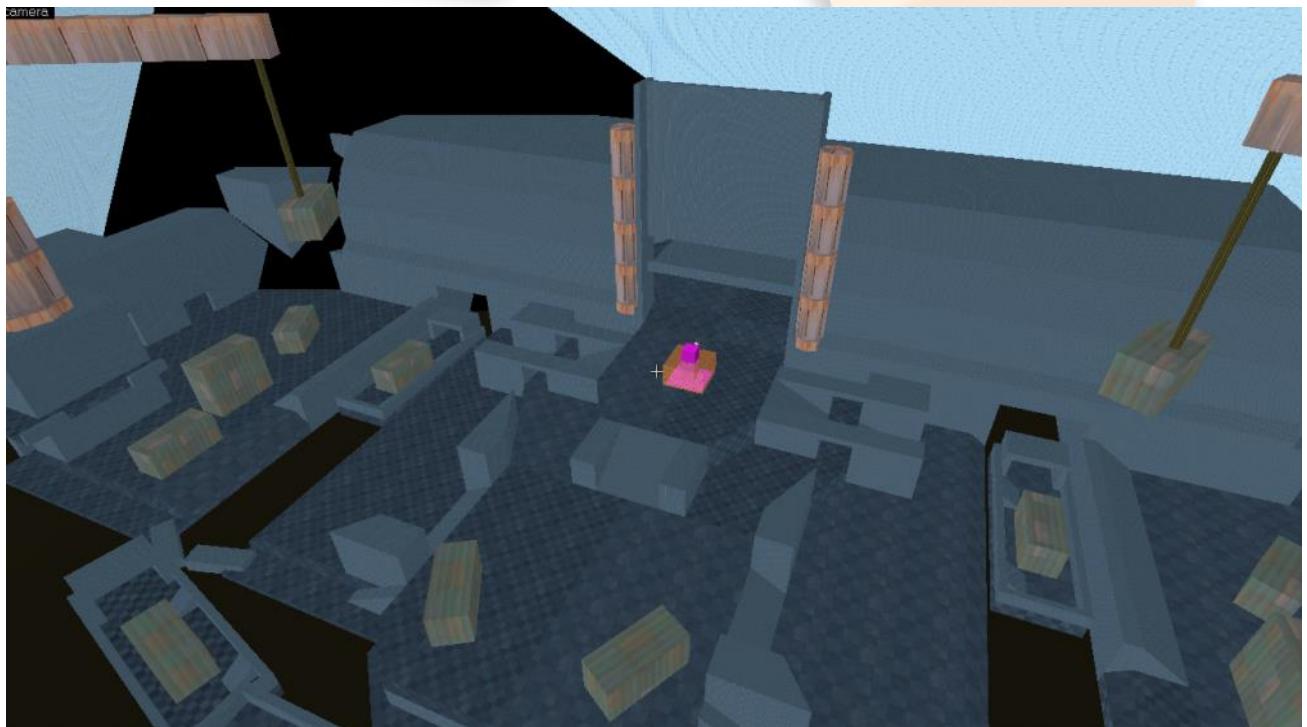


Figure 55, Initial Blockout taken further.

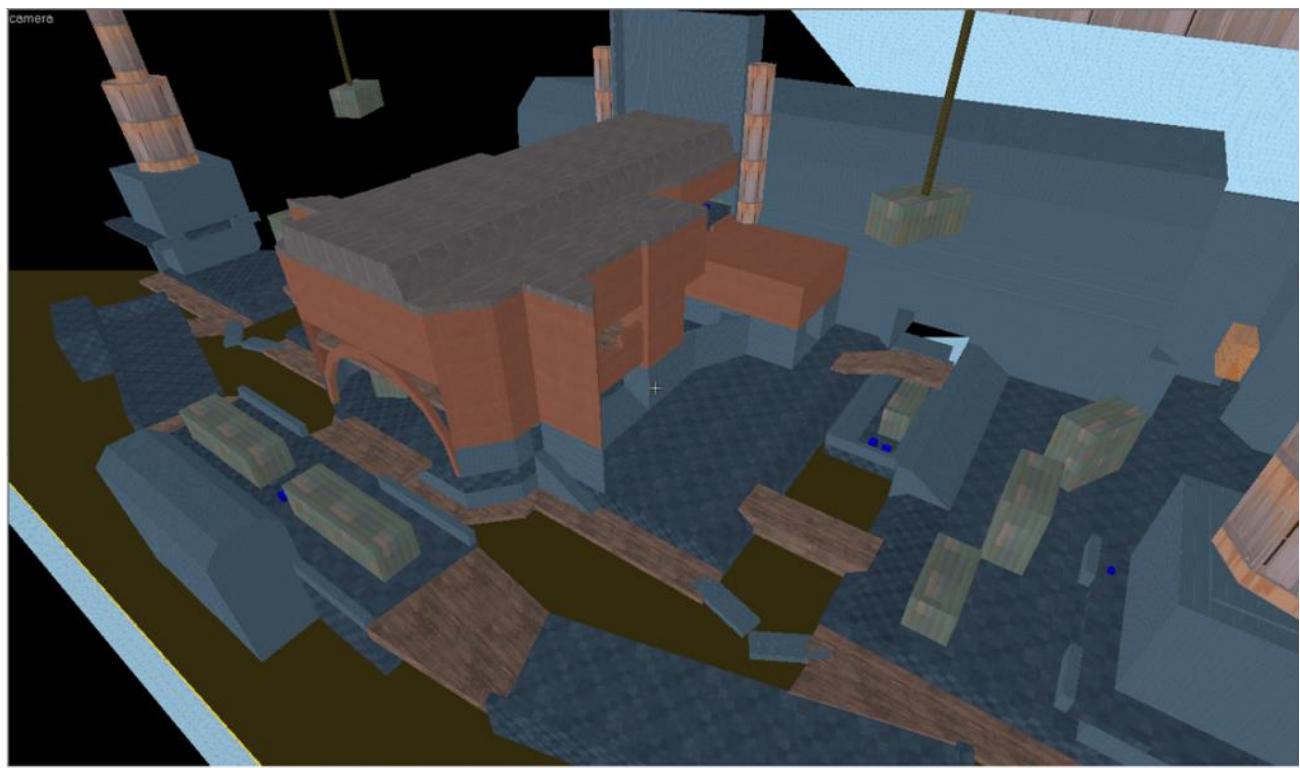


Figure 56, Blockout with Rough Interiors added.

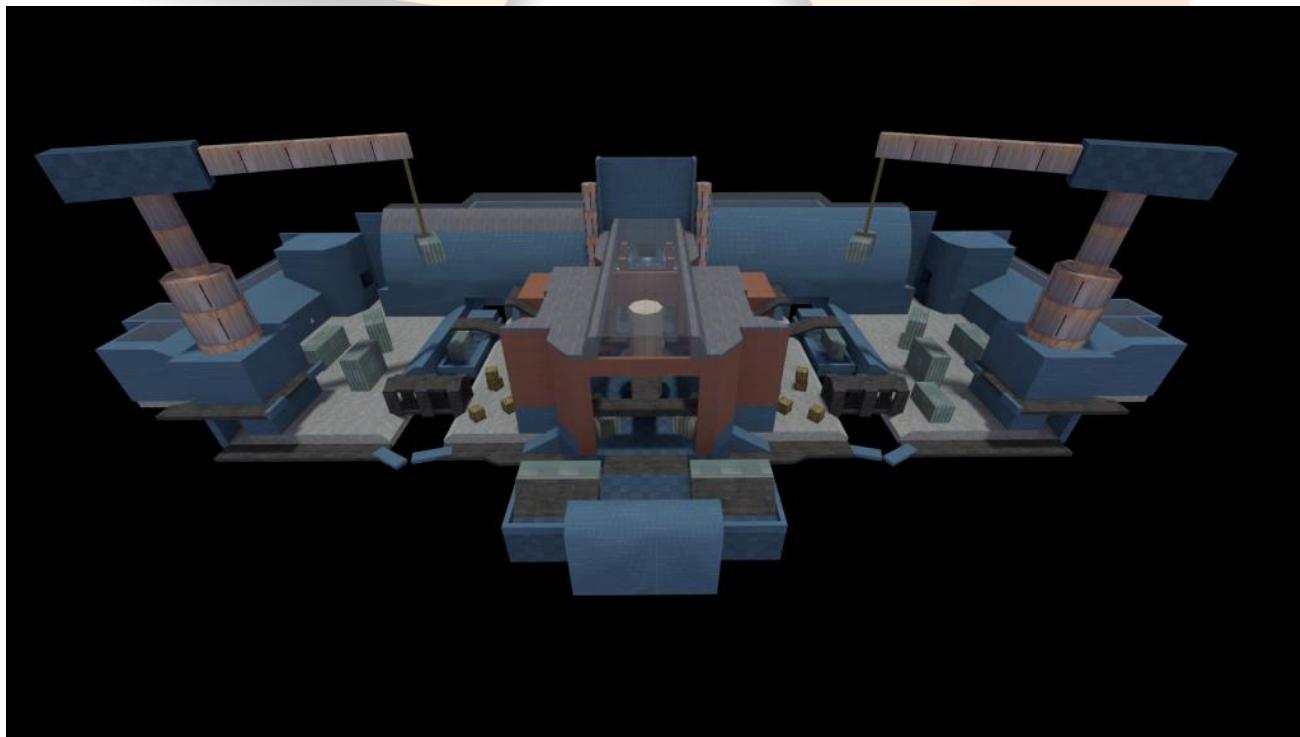


Figure 57, Blockout with Further Forms added, Rough Textures



Figure 58, Portside with Initial Meshes and Textures Added

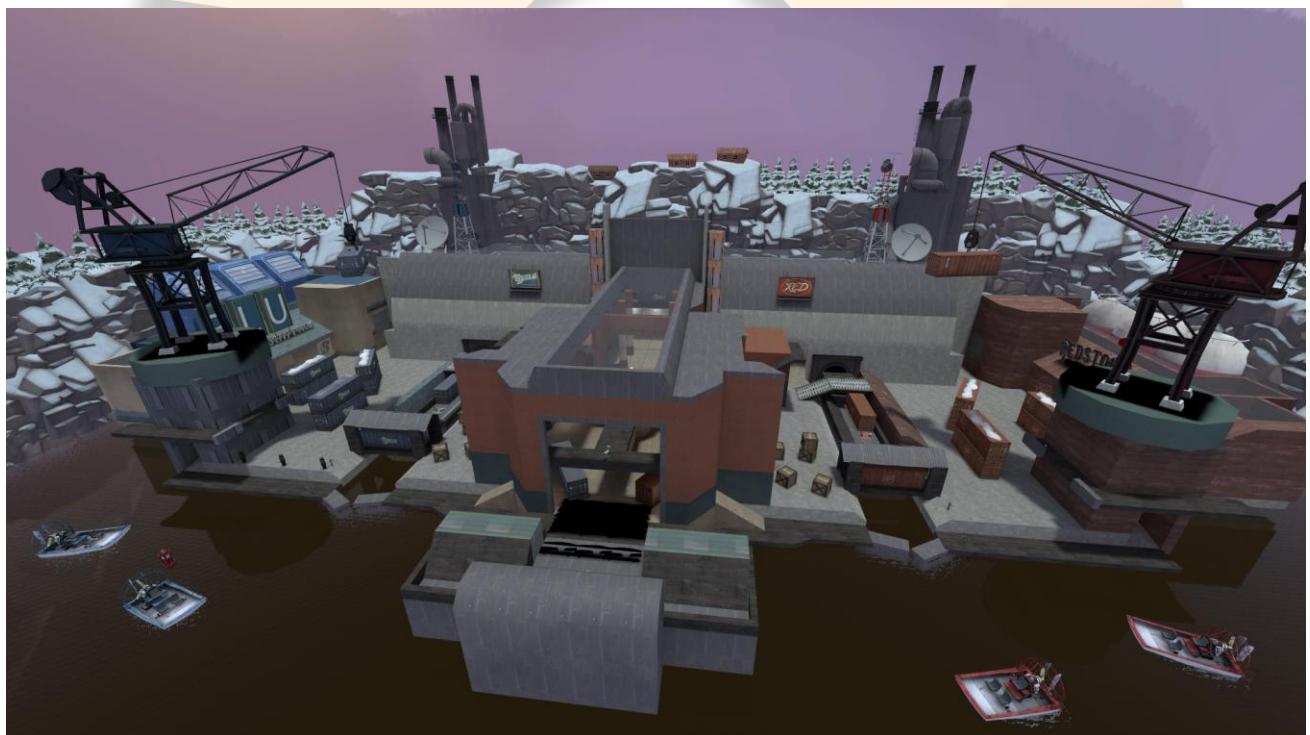


Figure 59, Further Additions and Meshes/ Corrections



Figure 60, Iterations of Interior Sections, more meshing



Figure 61, Final Iteration of Portside

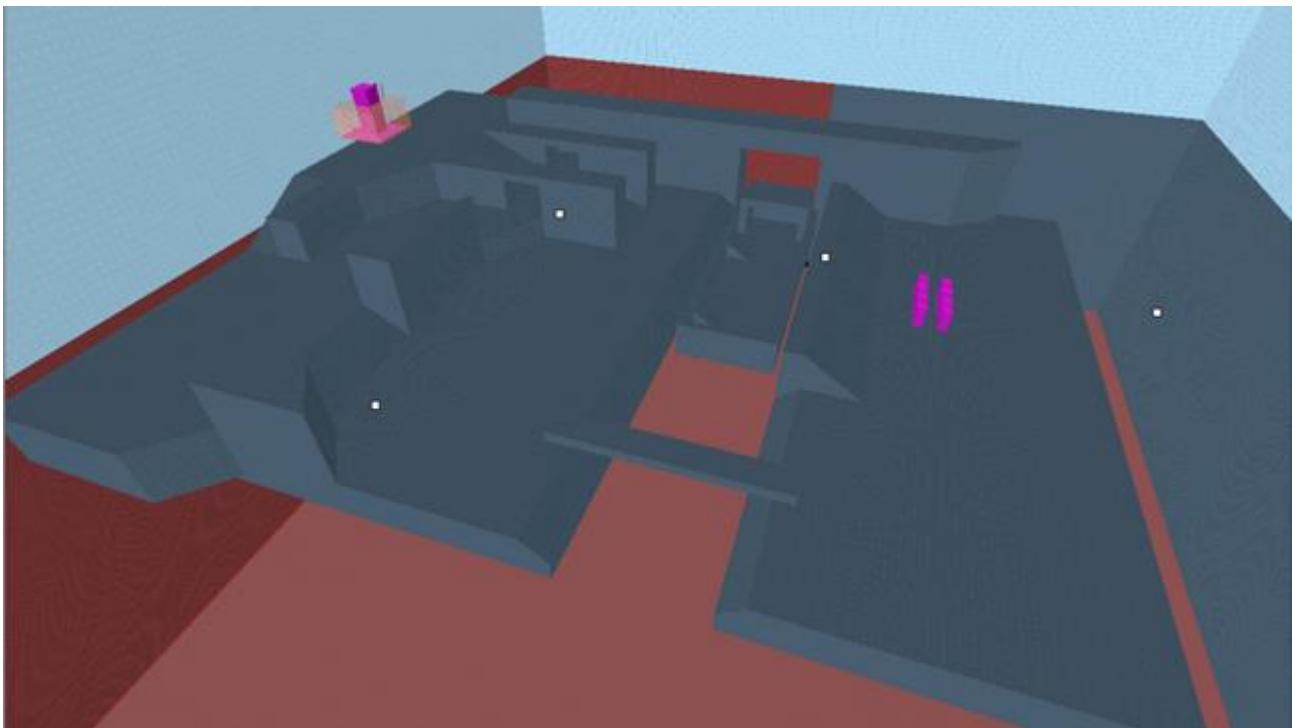


Figure 62, Final GIF Render



Figure 63, Portside Intended Look of Map Diagram

Here is the image diagram of how I would intend Portside to look on the map. The overall theme of the map is a cold port setting near or next to a large body of water, the map would feel very inorganic and would not have many if any elements of organic on the map, the map would be designed with large concrete structures and crude warehouses. Its intended design is to feel busy and condense while having open elements.

Affordance

To enhance the map's understanding and gameplay, I focused on integrating affordance, particularly concerning dynamic elements such as the hazardous water and guiding players to the control point. Affordance played a crucial role in these map elements.



Figure 64, Use Of Signage And Overlays

One strategy I employed was incorporating arrow overlays throughout the map to direct players toward the control point. Precision mattered here; I ensured a balanced number of arrows to avoid confusion among players. Each lane featured a few arrows, effectively signalling the path to players.



Figure 65, Warnings Through Meshing

Additionally, I addressed affordance through sign meshes placed around the water elements. Through testing, I observed that players were unaware of the water's lethal nature, a common occurrence in TF2 maps where water is often non-lethal. To rectify this, I introduced sign meshes in the buffer zones surrounding the water, signifying the danger zone. However, I limited these signs to prevent map clutter and repetition. Once players encounter the warning, its message remains clear without inundating every corner of the map.

This approach aimed to improve player comprehension of the map's risks while keeping visual cues minimal to avoid confusion and maintain a balanced gameplay experience.



Figure 66, Shape and Colour

To further enhance affordance, I focused on manipulating specific forms within the map to encourage desired behaviours. A notable area of modification was the catwalk around the control point. I altered the shapes and colours of the windows, particularly those overlooking the cargo bridges. By changing the mesh colour, I emphasized these windows against the surrounding walls, ensuring they stood out distinctly. This intentional design aimed to alert attackers about potential threats from this vantage point, this helps the attacker's awareness when approaching.

Moreover, I implemented an angular pointed design for the window covers, creating a visual distinction to as potential threats rather than mere windows. This deliberate alteration aimed to draw attention to the potential danger posed by these openings, further reinforcing their role as strategic points rather than just a high-ground window.



Figure 67, Lighting Enhancing Visibility

To address issues regarding player attention and visibility at the Conveyor Nest position, which holds significant power within the map but was frequently overlooked, I looked at improving this section to enhance affordance. I incorporated point lights along the window frame in this area. This addition was aimed at drawing attention to this specific section of the map, ensuring that players would focus more on this crucial area and not overlook its power on the map.



Figure 68, Guiding the player.

Another point of affordance I looked at was through the design of entrances and way to the control point, for each of the channels of play I've designed them in a way to guide players towards the control point in the shapes on the map, For the undocking zone of play I made these wedges on the doors frames that bring attention to the spot and narrow the player into a field of play when they enter through the direction. With the undocking zones as you converge at the centre of the channel, the player is directed to move to the middle channel of play or mid-ascent with the cargo containers that push them to the right. With the midpoint ascent players are provided with two large ramps and signage that suggest the control point is to the right of them. This is further suggested by the dense amounts of protection on the Undocking Lane of play that partitions the two channels.

Balance

Considerations

When designing the map Portside it was important to consider several things. Considering these aspects and implementing them are vital in making a well-designed map.

Potential Issue	Resolution
Demos and Soldiers can use their enhanced movement mechanics to get to an unintended area of play on the map.	Adding invisible displacement barriers to sections not intended to be played on. Adding this will stop these characters from entering this area of play. And push them off
Players in towers on the exterior sections of the map can have far too long sightlines or sightlines that cover a far too wide cone of view	Implementing more cover on exposed areas or hindering the view presented from the position of play on the map.
Players can misinterpret that the water is safe, go in the water, and die causing frustration	Add more signage onto the map to tell the player it is not a safe option to enter in
Players going down long channels of play getting shot and killed immediately after entering the zone	Implement cover near and around the channel entrances to prevent excessive spawn kills
Players can get confused about where the control point is on the map causing them to get lost	Implement overlays and meshes to suggest to the player where the control point is situated.
Upon looking out from the control point windows and the middle ascent widows, the spawn points can be seen	Implement cargo containers on the maps spawn exits to prevent any possibility of getting shot from these locations.
High-ground positions on the map are powerful and hard to reclaim	Ensure there are multiple points of entry to the high ground or give it some kind of disadvantage if not