# Dylan Luongo

#### GAM 170

September 16, 2021

Module Two – Finalized Walkthrough

# REACTOR

(Working Title)

Designer: Dylan Luongo

# **Table of Contents**

Layout, Flow, and Reference Images	3
Flow Outline and Timeline	3
Layout Drafts	4
Reference Images and Visual Concept Work	5
Level Overview/Outline	7
The Exterior Base	7
Crash and Coastline (A Rainy Day for a Walk)	7
Coastal Emplacements (Turrets and Levies)	8
The Harbor Refinery – Flee the Hellfire Drone ( <i>The Hunter The Prey</i> )	8
Underground Service Tunnel (The Rats Below)	9
The Tram Station (The Devil's Rail)	9
The Interior Facility	11
Tram Station Ambush (Intruder Alert)	11
Lower Reactor Silo Ring – Service Elevator (The God Machine)	11
Utility Control (Depths of Steel and Flame)	11
Calling the Elevator (Not Exactly What I ordered)	12
Reactor Control (Pulling the Plug is Faster)	12
The Central Elevator (Not Sure I'm Welcome Here)	12
Munition Loaders (Silencing the Guns)	13
The Bulwark	14
The AAA Bunkers (Four Shredders Remain)	14

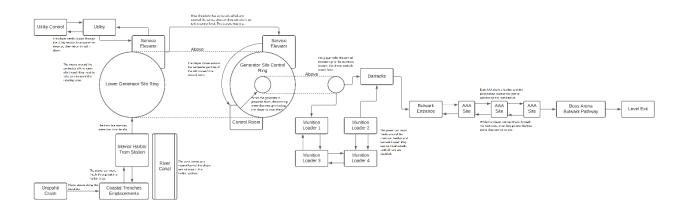
# Reactor Level Design Document

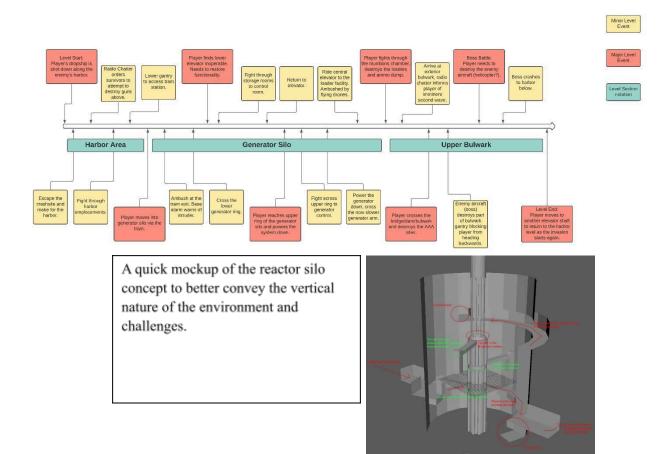
Boss Battle (Hunted, re: Hunter)	14
Level End (Just Another Day)	14
Asset List	15
Character/NPC/Enemy Assets	15
Hellfire Drone	15
Enemy AI	15
Visual/Cinematic/Scripting Assets	15
Allied Soldiers/Vehicles	15
Destructible/Interactable/Scripted Assets	15
Final Blockout/Gameplay Screenshots	17

# Layout, Flow, and Reference Images

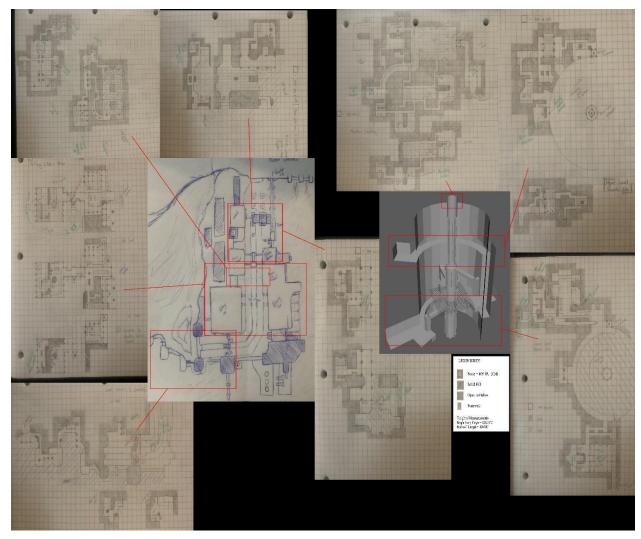
# Flow Outline and Timeline

These are two drafts of the special relations between the level zones as well as the level timeline. The "flow outline" (first picture) details the connections between each zone and how the player can move between them. The timeline (second image) plots out the course of gameplay and cinematic events the level will have. These two outlines were drafted early to better visualize the flow and give structure to the planned events.





Layout Drafts
While the blockout would see several minor alterations to the spaces and layout, these paper drafts were the initial level layouts. The maps were positioned and marked to indicate their position in the overview of the level.



Reactor Examples

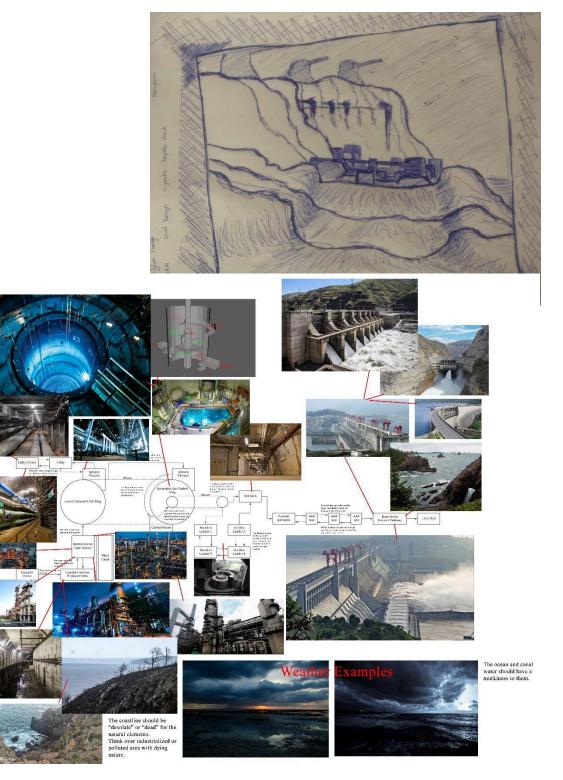
Large space with darker lighting. Dull lighting in the cool spectrum. Lots of bracing, steel works, and machinery.

Utility Tunnels
Lots of pipes along
the walls.
Narrow hallways.

The harbor is a refinery-like area. Plenty of pipes and smoke stacks. Steel scaffolding, large vats, and metal grating.

# Reference Images and Visual Concept Work

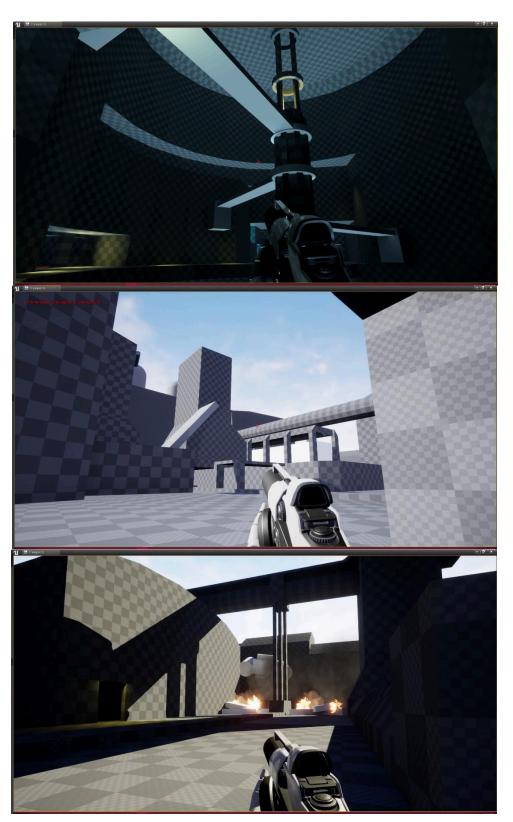
A reference collage as well as some other concept drafting was done to help bring a more concrete vision to the design. Some postcard screenshots were mocked up in the editor to help get a sense of the desired scale. The reference images were positioned along the level outline to explain which areas they were meant to represent.



The top image represents a draft of the reactor silo. The final product would grow substantially in vertical size.

The middle image shows a mockup of the tram station. The entry to this area would be raised to a second story position in the final product.

The bottom image is a concept piece for the initial attack of the Hellfire Drone on the player.



# Level Overview/Outline

The player takes control of a soldier named Mason who is sergeant of the Alliance military. Mason has been assigned to take part in an assault against his nation's enemy, which is a cybernetic military force bent on assimilation or annihilation of the remaining humans. Mason's dropship is shot down during the opening wave of the assault killing all on board except him. Radio chatter from command directs Mason, and any other survivors, to proceed towards the enemy's installation and silent the gun emplacements before the second wave meets a similar fate. If the guns aren't disabled or destroyed, the operation will fail and the Alliance will collapse. Mason must first make his way to the harbor/refinery area where he encounters a feared enemy craft known as a *Hellfire Drone* which is an automated airborne drone known to be a particularly deadly type of opponent. Dodging the drone's attacks, Mason fights his way to a tram that brings him into the inner section of the facility known as the Reactor Silo. Once inside, Mason must climb his way up the silo before disabling the enemy's emplacements. When remerging from the silo and inner facility, radio chatter will inform Mason that the second wave will be launched soon. After dealing with the coastal weapons, Mason is confronted by the Hellfire Drone but has no way to run this time. Using the enemy's equipment Mason needs to destroy this machine and rejoin his comrades for the second wave of the assault.

Notation Explanation: Each level section has a phrase or sentence in parentheses. These are rough ideas for in-game titles for each section. When reaching each section, the title would be displayed as part of the checkpoint process.

#### The Exterior Base

The opening third of the level takes place in the lower portions of the exterior of the enemy base. This area is a rocky coastline with an artificial harbor and refinery built at the base of the coastal batteries firing above. The player primarily needs to learn how to play the game as well as contend with basic enemies. The player also gets a preview of the boss that they will fight at the end of the level. The player should start to fear the *Hellfire Drone* which is clearly a deadly foe on this battlefield.

#### Crash and Coastline (A Rainy Day for a Walk)

The level opens with the player seated aboard a dropship headed towards the enemy facility under Alliance assault. The dropship is eventually damaged and crash-lands a bit down the coastline from the enemy facility. There are no survivors other than the player (Mason).

- Observable Cinematic: The other soldiers on board are chatting about the desperate nature of the assault and how the cybernetic enemy has pushed the Alliance to the breaking point. The player can gather that the Alliance's survival might ride on this operation. The soldiers will also mention the *Hellfire Drone* and debate whether such enemy units are real. One soldier tells a story of a friend of his witnessing a single *Hellfire Drone* completely annihilate a platoon.

When the player awakens, they need to open the side hatch to exit the crashed ship. During this process they will pick up their basic weapon. The dropship interior is littered with the bodies of fallen soldiers and rock is jutting through the cockpit. The side hatch has a blinking green light next to it to draw the player's attention. The back hatch has been forced partially closed and a fire can be seen burning near the small opening remaining to warn player's from trying to move through there.

- Gameplay: The player needs to walk across the gun to pick it up, which is positioned so that they'll naturally get it by heading towards the hatch. Pressing E will slide the hatch open revealing the path forward. Upon leaving the dropship, a radio message is heard telling survivors to move to silence the enemy's coastal batteries.
- Cinematic Moment: When the hatch opens it reveals a good view of the level ahead including the coastal guns, bulwark, and harbor refinery. The coastal guns are still firing and other dropships are being blown from the sky. There is clearly a battle raging on this rock coastline.

The battle continues to drag on in the skies and ocean around the player as they move towards the harbor refineries. The pathway is a dirt one that winds around the coast cliffs and rocky terrain. The player can make out the harbor as well as another crashed dropship in the distance. Gunfire can be heard coming from the dropship.

- Cinematic Moment: As the player moves towards the other crash, a large airborne craft streaks overhead (the *Hellfire Drone*) and moves to point towards the crash site. It fires its weapons at the site, completely destroy the ship and any survivors before flying off out of sight towards the enemy coastal guns.

The player moves through what remains of the other crash site sees a way into the coastal emplacements towards the harbor refinery.

- Gameplay: The player only needs to move through this area, learning their controls and how to move through the environment. (Tutorial section)

#### Coastal Emplacements (*Turrets and Levies*)

After passing the second crash site, the player can drop down into the coastal emplacement bunkers. They fight their way through these emplacements and eventually reach the perimeter of the Harbor Refinery. While the player does not encounter any allied survivors, they will find several fallen comrades and crashed dropships.

- Gameplay: The emplacements are a short stretch of concrete and metal bunkers built along the coast. The player faces basic enemies while moving through the area towards the harbor. A larger refinery structure is always visible to help orient the player towards the harbor area.

The player moves up a catwalk which places them on a road that runs through the harbor refinery at the end of the emplacement bunkers.

# The Harbor Refinery – Flee the Hellfire Drone (*The Hunter... The Prey*)

The player immediately sees a crashed dropship, still burning, blocking their path further down the road into the harbor. There is an open access to the refinery structure on their left with a warm light to drawn attention to it. As the player moves towards the structure the *Hellfire Drone* will return and start to attack the player. The drone is large and can only circle the general area shooting into the structure with its assault cannons.

- Cinematic Moment: When the player has gotten closer to the refinery access, the *Hellfire Drone* will streak down so that it hovers above the flames of the dropship. The drone will then start to shoot its guns at the player.

- Gameplay: The *Hellfire Drone* cannot be defeated yet and firing your gun at it will get your character to state that it doesn't seem to have any effect. While there are options for cover outside along the road, staying in the open is certain death and the only way forward is the refinery. The player needs to fight basic enemies as they move through the refinery structure towards a bridge across the road. The drone will move around the exterior of the structure to get angles on the player through some of the exposed sections of the structure. The player will periodically have to dodge drone fire or position themselves to use cover against it.
- Gameplay Element: Red pipes are present in these sections that expel a burst of flame when shot for a period of time. The flame can hurt the player as well as enemies if they get caught in it.

The player moves through the refinery towards a bridge that takes them across the road the dropship was blocking. While the bridge has cover, it exposes them at times to the *Hellfire Drone*'s attacks. Crossing the bridge brings the player to another refinery structure that juts out over the river canal splitting the harbor in two sections. The player moves down through this structure, occasionally crossing exterior gantries and exposed sections, eventually reaching a service tunnel under the ground.

- Gameplay: Similar to the first refinery, the player needs to fight through multiple levels of the structure against basic enemies. Periodically, the path will expose the player to the circling *Hellfire Drone* which will fire at the player.

#### Underground Service Tunnel (*The Rats Below*)

The player moves through a short underground service tunnel, occasionally fighting basic enemies to emerge near the tram station that will take them into the Reactor Silo. The tunnel is dark and cramp with myriads of piping everywhere. The tunnel is also partially flooded.

- Gameplay: The player needs to pass some stretches of electrified water by destroying transformers. While some enemies attack the player, this is a short section focused more on finding and destroying the transformers to cross the water to the next section.
- Gameplay Element: Electrified water rapidly damages the player when they enter it. Sparking and other electrified indicators mark the water as deadly. Destroying a local transformer will stop the current.

# The Tram Station (*The Devil's Rail*)

The player emerges from the service tunnel to see the tram station, which is slightly above them. Radio chatter will indicate that some allied survivors had reached an elevator up to the guns above but the *Hellfire Drone* annihilates them. Some enemies are present to engage the player at various points and the player needs to explore to find a way up to the gantry control. With the gantry down, the player can cross over to the station platform and board the tram car.

- Cinematic Moment: When emerging, the player can hear a radio message from some allied survivors. The message starts by saying that Dog Company managed to reach an elevator up to the bulwark with the coastal emplacements above. The player can see the *Hellfire Drone* streaks off out of site during the first part of the message. Afterwards, the second half of the radio message is heard explaining that the *Hellfire Drone* has engaged Dog Company. Sounds of battle and death are heard before static.

#### Reactor Level Design Document

- Gameplay: The player needs to fight up to the gantry control structure and lower the gantry to access the tram station. Once the reach the station, they can board the tram car and use the E button to activate the tram.
- Cinematic Moment: After activating the tram, the doors seal the player within. As the tram begins to move the *Hellfire Drone* returns and starts to fire at the tram. The player needs to hide behind the armored sections of the tram as the drone circles around them. The tram quickly enters the tunnel leaving the drone behind.

# The Interior Facility

The interior of the facility is primarily focused on the Reactor Silo area of the base which features moving hazards, some platforming, and more challenging enemies. In addition to the basic enemies throughout, there are longer range enemies that can strike from the various heights in the silo as well as smaller hover drones that attack the player at set points. The player needs to climb the silo and eventually reach the bulwark above.

#### Tram Station Ambush (*Intruder Alert*)

The player exits the tunnel they entered previously and pulls into a small but open tram station at the base of the generator silo. An alarm can be heard declaring that intruders have breached the facility and the player is ambushed by basic enemies when the tram pulls into the station.

- Cinematic Moment: An alarm warning of intruders can be heard when the player starts to pull into the station. Enemies have set an ambush that they spring on the player as the tram comes to a stop.
- Gameplay: The player needs to survive the ambush and eliminate the enemies. All of the doors that lead further into the facility show red lights and will not open. There is a single service path that leads into the Reactor Silo proper. The player can observe the rotating arm hazard prior to actually being in its way.
- Gameplay Element: The rotating arm swings around the perimeter of the silo where the player needs to walk. There are a few alcoves where the player can avoid being hit as it passes. Being struck by the arm will kill the player. This is telegraphed by having it kill an enemy that gets caught in its path.

# Lower Reactor Silo Ring – Service Elevator (*The God Machine*)

The player needs to cross the lower section, avoiding the rotating arm, to reach the service elevator. The elevator is stuck upstairs and indicates that the system needs to be reset in order to call the elevator down. The player can see routes open that head further into the utility section of the silo.

- Gameplay: The player needs to cross to the other side of the lower ring of the Reactor Silo. The primary hazard here is the rotating arm though enemies will attack from above and drones will ambush the player at the midpoint.
- Environment Note: The utility environment is lit enough to draw the player towards it after learning that the elevator requires a system reset. There should be some signs noting that the utility control station is farther through the utility path.

# Utility Control (*Depths of Steel and Flame*)

The player first needs to access the utility section by opening a security door. They need to acquire a keycard/code from one of the nearby rooms. Several basic enemies attempt to stop the player. After the security door is overcome, the player will then move through several corridors lined with piping. If they come to the utility control room before activating any of the valve wheels, they will see that there is a fire in the room causing the door to seal itself. Activating both valve wheels will extinguish the fire and open

the door. The player then resets the system using the console and can return to the elevator using the newly accessible utility corridor which is a faster route.

- Gameplay: The player first needs the keycode to open the security door. Then they need to activate the fire suppression system to access the utility control console which resets the system. Returning to the elevator afterwards allows them to call it down.
- Gameplay Element: The utility section has a large number of the red pipes making firefights in this section particularly challenging. There are some basic enemies throughout.

#### Calling the Elevator (*Not Exactly What I ordered*)

When the player calls the service elevator down, there are several ambushing enemies that come down with it. Eliminating them allows the player to take the elevator up to the Reactor Control level.

- Gameplay: The player needs to call the elevator, eliminate the enemies on board, then activate the button to head up to the control level.

#### Reactor Control (*Pulling the Plug is Faster...*)

The player needs to move around the upper ring and utility causeways, fighting enemies of all types throughout. The enemy attacks at range from multiple heights when the player is in the silo proper while basic enemies attack throughout the outer utility section. The player needs to blow an opening into Reactor Control and destroy a coolant vent to force a reactor shutdown. When the reactor has shut down the rotating arms come a crawl, allowing the player to jump onto the highest one and move towards the center pylon of the reactor. Once there, they move up a bit and board an elevator that heads up to the munition loaders for the coastal batteries.

- Gameplay: Traditional combat through the early portion of this section though the enemy attacks from multiple angles at different times forcing the player to remain vigilant.
- Gameplay: To blow an opening into the control room the player needs to overload a transistor/transformer along a wall. This is done by activating three things in the correct order to overload the thing.
- Gameplay: To force the reactor shutdown, the player needs to time lobbing a grenade into a hatch that closes on a timer. The player triggers the timer by forcing a coolant exhaust vent process from a console.
- Gameplay: The rotating arm comes to a very slow pace with the reactor down and there is a path the player could use to jump done onto it as it passes. Lighting and enemies will serve as an indicator for the player to do this.

# The Central Elevator (*Not Sure I'm Welcome Here*)

The player rides the central elevator up the rest of the way to the top of the silo, emerging in the munition loader and barracks section above the silo. While riding the elevator, the player is ambushed by multiple flying drones that they need to survive against until the elevator is out of the silo.

- Gameplay: The player is stuck in the circular elevator with some, but minimal, cover while dealing with the drones.

#### Munition Loaders (*Silencing the Guns*)

The player emerges into a more traditional bunker-like environment. While there is room to move in the larger sections, many of the areas here are smaller and force the player to avoid hazards on occasion. The player needs to move through the loader area and destroy four loader mechanisms. The player then heads through an enemy barracks to get out onto the bulwark overlooking the harbor refinery below.

- Gameplay: The player battles against numerous basic enemies as they use grenades to destroy the four loader mechanisms. When all four are destroyed, the exterior hatch in the barracks is opened allowing the player to proceed.
- Gameplay Element: There are carts with large shells on them that detonate when shot. Being near one of these when it blows is a death sentence for player and enemy alike. The cart can be moved by pushing and can serve as a method of destroying a loader if the player lacks grenades.
- Cinematic Moment: As the player moves out to the bulwark, radio chatter will indicate that the second wave will launch imminently. The messages notes that the coastal guns seem to have gone silent and urges the remaining members of the first wave to eliminate the AAA sites remaining.

#### The Bulwark

The bulwark is a primarily exterior stretch that is above the harbor refinery and coastline sections the player started in. The player has a steady view of their fleet at sea, allied and enemy aircraft fighting in the sky, and the coastal batteries no longer firing. However, the AAA sites are still actively firing and should help guide the player forward. The top of the bulwark, where the player is, is a large road-like path with multiple bunkers with gates built along the path. The bunkers (four total) each contain a AAA site on top.

#### The AAA Bunkers (Four Shredders Remain)

The player moves linearly along the road of the bulwark, destroying each AAA site as they go. Destroying a site opens the path forward though the player is able to backtrack if they wish to grab ammo or other things they might have missed. Moving pass the final AAA site is the point of no return.

- Gameplay: Each bunker is a small two floor structure with a AAA cannot on top. The AAA guns use lasers and require a generator below to power them. The player destroys these generators to open forward progress and destroy the site.
- Gameplay: The final site is laid out differently and destroying the generator opens a drop down that prevents the player from returning.
- Gameplay: The *Hellfire Drone* returns to attack the player as they move towards the last bunker.

#### Boss Battle (*Hunted, re: Hunter*)

The player is forced to confront the *Hellfire Drone* in the final stretch of the level. There are explosive weapons (rocket/missile launchers) that the player can use to fight the drone.

- Gameplay: The *Hellfire Drone* follows a set attack pattern of strafing the player then launching slow rockets at them. The rockets can be shot down by the player and the *Hellfire Drone* hovers in place while firing rockets. The player has a good chance of scoring a direct hit during this time.
- Gameplay: The *Hellfire Drone* needs to be hit six times with the rockets/missiles.
- Observable Cinematic: On the last hit, the drone explodes and crashes down into the harbor below. The player can see multiple allied dropships start to land around the harbor and fighter craft streak overhead

# Level End (Just Another Day...)

The player moves to the end of the boss arena to a now activated elevator. They board the elevator to complete the level.

 Cinematic Moment: As the elevator doors are closing, more allied fighters streak across headed inland. Radio chatter indicates that enemy resistance in the harbor is crumbling as the second wave secures the beachhead.

# **Asset List**

This is not a fully inclusive list yet and will need to be expanded and further elaborated on going further. Still, this is a general list to keep track of the direct scripting/asset needs that will be needed during development.

# Character/NPC/Enemy Assets

#### Hellfire Drone

- 1. Harbor AI The drone needs to move between a few set points firing when the player comes into sight. No health or stages.
- 2. Cinematic Version For the various moments when the drone needs to do a set series of actions.
- 3. Boss Version The drone needs the strafing and hovering mode as well as the health function and death animation
  - a. Rockets/Missiles: Simple projectiles that have collision for hitting the player and being shot by the player.
  - b. Auto Cannon/Machinegun fire

#### Enemy AI

- 1. Basic Enemy: Simple AI to move to bring player in view and range. Ranged attack and health.
- 2. Long Range Enemy: Targets and fires at player, doesn't need to move. Ranged attack and health.
- 3. Drone: AI to bring the player in range and target them. Ranged attack and health.

# Visual/Cinematic/Scripting Assets

#### Allied Soldiers/Vehicles

- 1. Alliance Dropship: Interior, exterior, collision (Cinematic motion only)
- 2. Alliance Dropship Wreckage: Openable hatch, damage marks, collision.
- 3. Dead Alliance Soldier: Various posed positions or ragdoll placement. (Static during play)

#### Destructible/Interactable/Scripted Assets

- 1. Electrified Water and Transformer
  - a. Electrified mode
  - b. Normal mode
  - c. Transformer model
  - d. Scripted behavior
- 2. Red Pipes
  - a. Pipe model variants
  - b. Scripted behavior
- 3. Reactor Cooling Vent
  - a. Reactor Cooling Vent
  - b. Opening Hatch
  - c. Activation Console
  - d. Scripted behavior

- 4. Munition Loader
  - a. Loader model
  - b. Munition model
  - c. Animation (Carrying ammo upwards, loops)
  - d. Scripted behavior
- 5. Munition Cart
  - a. Cart model
  - b. Physics behavior
  - c. Scripted behavior
- 6. AAA Generator
  - a. Generator model
  - b. Scripted behavior
- 7. Utility Section Devices
  - a. Security Door model
  - b. Keycode/Keycard item
  - c. Fire suppression valve wheel
  - d. Scripted behavior (Security door)
  - e. Scripted behavior (Extinguish Fires)
  - f. Scripted behavior (Activate service elevator, open faster route back)
- 8. Service Elevator/Central Elevator
- 9. Reactor Silo Rotating Arm
  - a. Model
  - b. Scripted behavior and kills characters on contact

Final Blockout/Gameplay Screenshots

