**Base Build GDD**

* Building repair – When buildings are destroyed, they can be repaired by followers for a lower resource cost than the full build cost
* Larger buildings (4 tiles)
* Fog of war
* Focus on selected follower with F key
* Spawn creatures over time (up to a maximum number)
* Separate world into chunks

Functionality

* Land corruption and healing – healthy land can be corrupted by enemies, and corrupted land can be healed by priests
* Resources that are mined in corrupted areas draw more enemies and drop fewer resources
* Land healing draws far more enemies (priests must be heavily defended to heal land)
* Enemies can only be spawned in corruption
* Spawners appear in corrupted lands, the player must find them and destroy them before they grow
* Enemies target the home building (firepit etc.) until they are hit or are blocked by a wall
* More enemies and tougher enemies spawn as the player progresses
* Squads – allows soldiers, archers and priests to be commanded as groups rather than as single units. Combine squads to create armies

Buildings

* Guard tower – allows for archers to fire over walls when assigned to the tower
* Spikes – deal damage to enemies that walk over them
* Barracks – Convert followers to soldiers
* Temple – Convert followers to priests
* Archery range – Convert followers to archers
* Lumberyard/Mine/Farm – allows for resources to be gathered over time indefinitely
* Roads – Followers move faster on roads
* Bridges

Follower types

* Priests – priests can heal corrupted land over time, they must be defended while healing (more enemies attack priests while healing)
* Archers

Enemy types

* Undead – followers and soldiers can be raised from the dead by enemy necromancers. Standard undead followers have low health and damage, but soldiers have higher health and damage
* Necromancer – Raises followers and soldiers from the dead in an area around them (can only raise the dead in corrupted land)
* Corruption spreader – Spread corruption to uncorrupted tiles
* Explosive – moves really slowly but deals AOE damage when in range of followers or buildings. They must be killed in time

Stretch goals

* Play as the other side (spreading corruption) – possibly multiplayer, possibly AI

Bugs:

* Hitting creatures from far away
* Directing follower with full inventory to gather resource sends them to the storage, then sets to idle (FIX LAST TARGET THING)
* Bunnies outside map
* Sometimes doesn’t hit bunnies (not sure why)

Inspector

* Add building description
* Add follower details to the inspector
  + Health
  + Profession
* Add building damage to the inspector for all constructed buildings
* Add squad details and management

Pathfinding

* Update path if wall is built or the target moves
* Separate pathfinding with multithreading (or job system)
* When in squad instead create squad path
* Update everyone’s path whenever a building is built or destroyed
* Update every frame?
  + Instead update more often when close to the target and less often when further away.
  + Check if target is static, if so there is no need to update every frame
* **Need to improve enemy pathfinding efficiency**

Corruption

* Prevent starting in water
* Ensure distance to start is greater than minimum value
* Add enemy squad spawning in corruption

Followers/Squads

* Update follower count on UI when follower dies
* Drag select multiple followers into a squad instead of right clicking on each one
* Squad management (removing followers)
* Buildings can call nearby followers to defend it?

Worker improvements

* Find new build target when finished construction (continue building wall sections etc.)
* Followers store a list of previous commands and targets

Improved building system

* Drag build for some building types
  + Walls – click to begin drawing, then click again to build
  + Bridges
  + Roads
* Destroy/remove building
* Larger buildings
  + Select multiple tiles
  + Check all selected tiles are clear before building
  + Get mouse pos and select tile under it
  + If mouse x remainder (%) is greater than .5, add the tile to the right else add the tile to the left

Priest

* Command to heal followers when not in a squad by right clicking
* Recharge restoration pillars
  + Pillars lose charge over time
* Move away from enemies when too close (find path able tile far enough away)

Necromancer

* Necromancer movement
  + Move towards target unless there are corpses in range and the raise dead ability is off cooldown (if so move towards corpses)
* Check if target already has a shadow effect on them, if so attempt to find a new target

Tile effects

* Freeze effect – Freezes any follower on the tile, slowing them down until eventually freezing in place

Possible roguelike elements

* Infinite procedurally generated dungeons
* Unlock new followers, enemies and buildings between ‘runs’

**Day/night cycle**

* Gets dark at night, limiting vision
* Corruption spreads faster at night?
* Maybe more enemies spawn at night

UI

* Somehow update squad inspector without deleting and instantiating icons and health bars every time
* Make sprites for Follower UI that is the same scale as the resource icons (standardised icon size)
* Description box
  + Explains the building/follower when hovering over a button (e.g. button in building menu will give building explanation and resource cost)
* Squad management in inspector (remove, reorder and separate followers in squad)
* Toggleable building menu

To do:

* Fix followers (and enemies) walking through wall corners in 8D pathfinding
  + Think it happens because follower’s start position when pathing IS the wall position, so it doesn’t check it for obstacle
  + Need to ensure follower is always pathing from the correct place
* Prevent starting in water
* Find way to show followers behind structures (maybe shader)
* Save cooldown positions (maybe serialize the whole cooldown class object)
* Save corpses
* Save projectiles
* Save status effects
  + Maybe instead of having the status effect be as part of a coroutine, instead set it up with a tick function (similar to the cooldown class) so that the whole status effect can be easily added to follower and enemy data classes.
* Rework resources system (very unnecessarily confusing)
* Rework HUD (needs to be easier to update intuitively (finds all of the data from static classes etc.)
  + Toggle between followers by clicking on the HUD icon
* Go through the codebase improving readability
  + Comment functions
  + Add comment headers to separate sections in classes
* Clear building functionality (i.e. storage) when destroyed
* Fix enemy pathing lag
* Fix followers not facing target
* If directing follower with red hit colour – does not reset as all coroutines are stopped
  + Instead store current action as coroutine then stop it when directing rather than stopping all coroutines
* Have some buildings open a default building inspector
  + Just shows health bar and building name