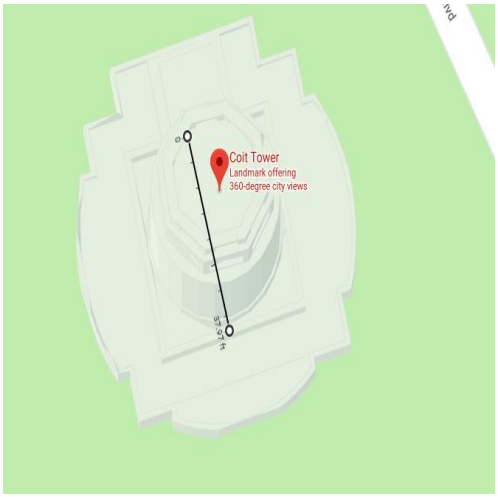
To calculate this problem, I first set out to find the dimension and size for Coit Tower and the Pokeballs. I am also working under the assumption that Coit Tower only stored regular Pokeballs – so I will not be measuring non-standard or event only balls. I will then take the total volume of Coit Tower, subtracting space occupied by stairs and floors, and divide that by the surface area of a Pokeball. This will give me a rough estimation of how many Pokeballs can fit in the tower, assuming they aren't being stored inside any boxes or cache.



Using Google Maps' measuring tool, I estimated Coit Tower's diameter to be approximately *38ft*. I also confirmed my estimation through a work permit blue print[1]. Additionally, according to the Coit Tower's brochure, the tower is partitioned into *three sections*, and the top of the tower is measured at "18 inches narrower" in order to not appear top heavy[2]. Knowing this, I estimated the second section of the tower to be 9 inches narrower than the first, and the third section to be 18 inches narrower than the first and 9 inches narrower than the second section. The height of the tower totaled to 210 ft, and there are 13 floors within the tower. This means each floor is approximately 16ft high.

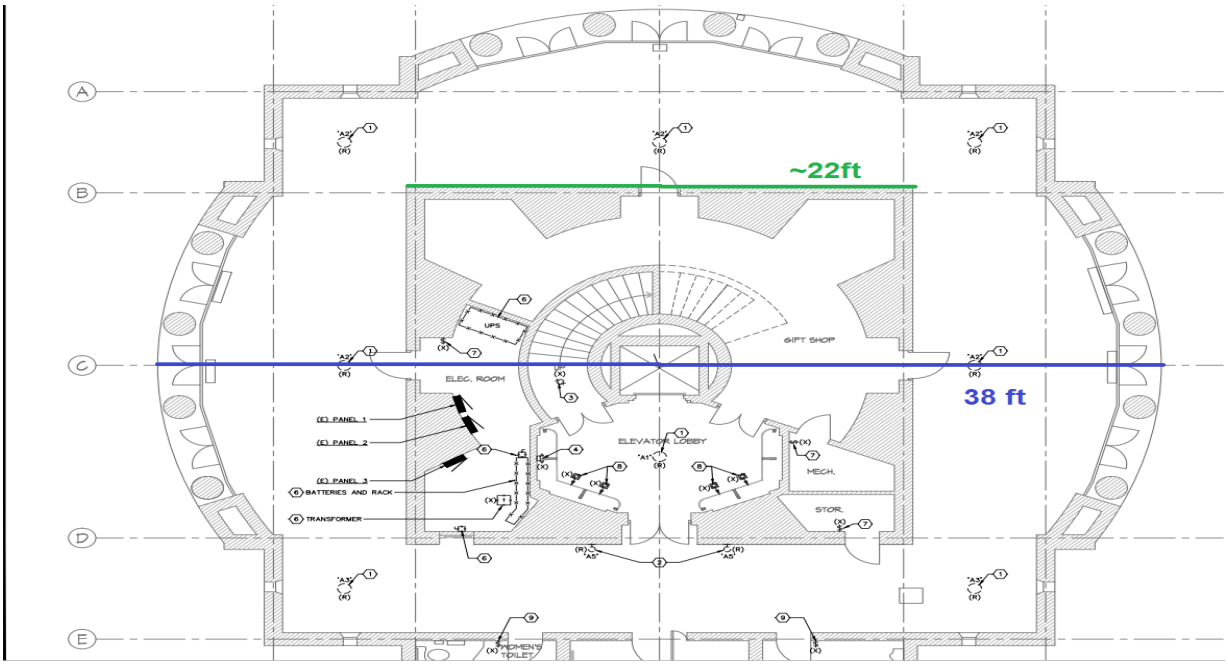
First Section (Floors One and Two)

According to the blue print, the sections are split after floors 2 and 9. The design for floors 1 and 2 can be seen in this image:

(Continued below)

[1] http://mission.sfgov.org/oca_bid_attachments/FA30915.pdf

[2] http://sfrecpark.org/wp-content/uploads/CoitTowerBrochure_V4_16_9_032016R.pdf



Using this blue print, I estimated the total volume of the 1st and 2nd floor to be approximately 18,146 ft³ by using the formula *volume = pi * r² * h.* However, as shown in the design, the middle area is reserved for gift shops, stairs, and the elevator. Silph Co. definitely wouldn't pass up the opportunity to place their PokeMarts, TM vendors, Pokemon steroids, and random PokeGifts shops there, after all, someone has to pay for the Pokemon Center around San Francisco. We can safely assume that Silph Co. would not let anyone store Pokeballs in their store. Using the formula *L * W * H,* the unusable area came out to be approximately 7,744 ft³. Subtracting the total available volume from the unusable volume, we would get about 10,402 ft³ in usable area.

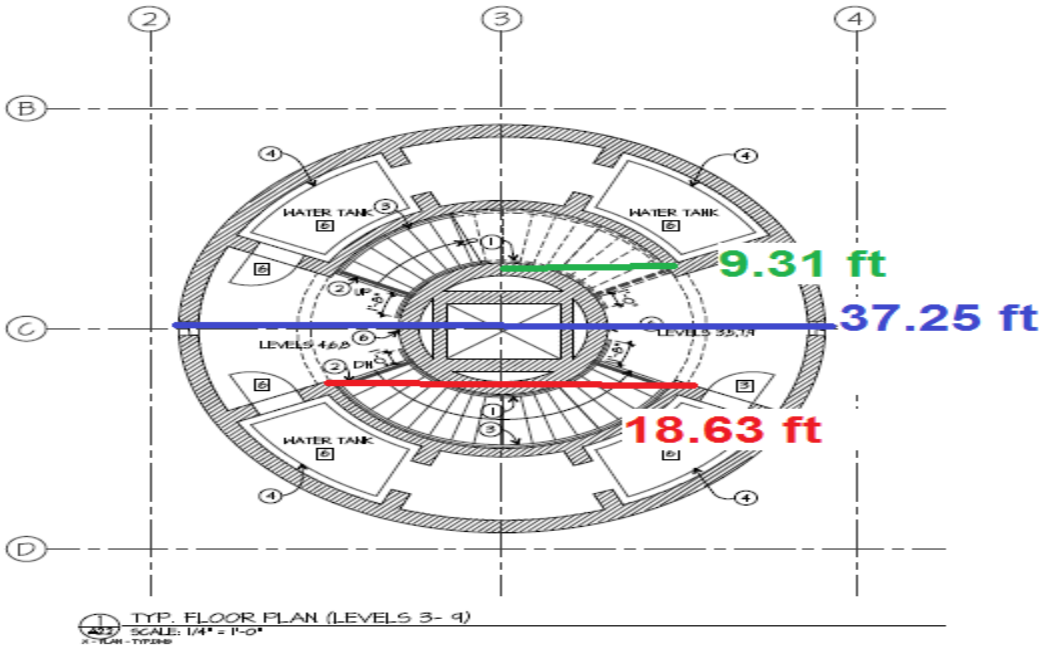
Next, we need to calculate the volume of a regular Pokeball. One thing we have to keep in mind is that Pokeballs can be shrunk down to roughly the size of a ping pong ball for easier storage [3]. The radius of a normal sized Pokeball is approximately 1.575 inches[4], and its volume is approximately 16.37 inches³, while the radius of a Pokeball when shrunken is .785 inches, and its volume is approximately 2.03 inches³. By dividing the total usable surface area by the volume of the regular sized Pokeball, we can store approximately 1,098,024 balls per floor when rounded to the exact number, or 8,854,510.34 balls per floor if they are kept in a minimized condition.

[3] https://bulbapedia.bulbagarden.net/wiki/Pok%C3%A9_Ball

[4] https://www.shapeways.com/product/GC6HBLTB3/real-size-openable-pokeball

Second Section (Floors Three through Nine)

Since floors three through nine are roughly 9 inches narrower than floors one and two, I estimated the total diameter to be 37.25 ft. We can see in the blueprint that the un-usable area, reserved for the stairs and elevator, splits evenly between the total diameters. By taking the total diameter and dividing it by four, and then multiplying the result by two, I estimated the unusable diameter to be approximately 18.63 ft. The total volume for the room using the volume formula for a cylinder would give us the total volume of 17,436.62 ft^3, and the unusable area using the same volume formula would be 4,366.18 ft^3. By subtracting the usable space by unusable space, we end up with 13,070.44 ft^3 of usable space.



When we take the total usable space and divide it by the Pokeball minimized volume size, we get 13,070.44 ft^3 / 2.03 $inches^3$ = 11,125,970 balls per floor. If we divide it by the Pokeball's regular size, we would get 13,070.44 ft^3 / 16.37 $inches^3$ = 1,379,701 balls per floor.

Third Section (Floors Ten through Thirteen)

Since floors ten through thirteen are roughly 9 inches narrower than floors three through nine, the estimated diameter is 36.5 ft. Similar to the second section, the unusable area's diameter would be 18.25 ft. The total volume for floors ten through thirteen would be 16,741.55 ft^3, and the unusable

volume would be 4,185.39ft³. When we subtract the unusable from the usable, we would get 12,556.16ft³ in usable area. If we divide the total usable space by the space of the Pokeball, we end up with 10,688,199 Pokeballs if they are stored in their minimized position, or 1,325,415 if they are kept at regular size.

Conclusion

With my calculation, it's estimated that floors one and two can carry approximately 17,709,020 minimized Pokeballs, and 2,196,048 regular sized Pokeballs. Floors three through nine would carry approximately 77,881,790 minimized Pokeballs and 9,657,907 regular sized Pokeballs. Floors ten through thirteen would carry 32,064,597 minimized Pokeballs, and 3,976,245 regular sized Pokeballs. All together, Coit Tower can hold 127,655,407 Pokeballs if they were all minimized, and 15,830,200 Pokeballs if they are stored regularly. If Team Rocket does manage to find a way to wake up Snorlax, **they would be able to steal a minimum of 15,830,200 Pokeballs if they are all stored at regular sizes, 127,655,407 Pokeballs if they are all stored at minimized sizes, and any where in between if Coit Tower stored both minimized and maximized balls**. Normally, Ash and friends would show up to stop Team Rocket, but since the cost of living in San Francisco is so high and Lombard Street is pretty overpriced, Ash never went towards that direction and Team Rocket (for the first time) was able to get away with everything. The end.