Miss Julia Morgan, Merchants Exchange Building, San Francisco, Calif.,

I inspected the water supply here as we spoke of in your hol: hur office. To begin with the pipe at the concrete same in the creek bottom on Pine Mt. which is 4" disheter for a short distance reducing to 4" does not carry officiall the water. The sump itself appears to be receiving all the water from the creek which comes from the acquining property (unless some runs in gravel below the surface). Into this sump is discharged a 3" wood pipe line from a very good spring coming from below a large granite rick directly into a sump about 2 feet square. On this wood pipe line there is a loss due to holes etc. in the pipe, but being that the sump which it discharges into overflows at present there is no need of doing anything with that line, but would suggest that when 3" pipe is taken from present main line it be used to replace this wood pipe line it be used to replace this wood wipe line.

I do not believe present line from main sump is delivering the full volume of the pipe, due to air pockets at high points of the line. On the main high point there is a vent 20 feet up in the air. I got a ladder and climbed up, opened the valve and considerable air was lodged there. At a point nearby there a tap is taken to supply a trough for cattle. If that trough was taken from the high point it would automatically take care of the air lock. This could probably be done. There are also 2 or 3 small springs which supply troughs direct, but so little that if many cattle come at one time the trough becomes empty. These springs could be run into a wood tank set anywhere and then be supply to trough of the air lock. This could probably wroughs direct, but so little that if many cattle come at one time the trough becomes empty. These springs which supply into a wood tank set anywhere and then by regular ball-cock supply to trough. This would also take care of overflow and waste at trough at times. The pipe sizes as you know should be increased. At present the supply coming into the main resevoir is just about what is required for the grounds and very little overflows into the compartment for the grounds could deliver all the water wanted I am sure there would be none left for power compartment, which receives its water from the Bouse compartment.overflow.

The amount of overflow at present from the sump at the source of pipe line in Pine Mt. would about fill a 3" pipe, as that is the way I measured it, - a short piece of 3" pipe running level nearly full bore gave better pressure.

(Signed) James Rankin