Project Components and Benefits -

The following tables summarize the interrelated hydraulic and capacity deficiencies addressed by each of the project components, and the associated and added benefits which address those deficiencies.

Table 1: Reservoir B Replacement

Current Deficiencies	Project Benefits
System wide contamination issues may occur with a breach in the cover: Storm water, debris and detritus collect on reservoir cover	Remedied with two (2) 2.5 MG Steel Tanks with an aluminum roof and site security measures. Total storage 5.0 MG.
Cover and liner once brittle are difficult to inspect and repair	
Reservoir does not include a separate inlet, outlet, and drain lines	Project includes these regulatory criteria
Must be able to be isolated from distribution system	
Site security may allow trespassing that leads to cover damage	Improved site security and impenetrable tank materials will minimize potential for contamination
Usable storage capacity is limited by WTP hydraulic elevations	Reservoir B will no longer feed WTP pumps with the installation of the ZAPS and ZATM
Fire Flow capacity does provide sufficient firefighting flows for urban-interface firefighting operations per Title 22 regulations, however it was not sufficient during the Camp Fire.	Increases the total usable system capacity by 3 MG
Reservoir B cannot be to be taken out of service in the summer for maintenance and only in the winter by using the Treatment Water Storage Tank at the WTP.	Two tanks provide redundancy when working on one of the tanks. Also provides for storage adjustments if water quality becomes a concern.

Table 2: Zone A Pump Station (ZAPS)

Current Deficiencies	Project Benefits
WTP hydraulics reduce the usable storage volume of Reservoir B by 1 MG. 2 MG storage is available.	WTP pumps will be supplied by ZAPS and not Reservoir B, remedying hydraulic issue at the WTP
	ZAPS elevation is less than PS #2, which decreases energy needed to pump to Zone A. Calculations to compare energy savings will be needed if SRF will consider principal forgiveness regarding a 20% reduction relative to the Green Project Reserve eligibility guidance.
PS #2 has no redundancy if it fails to operate	ZAPS will provide an alternate water supply to Zone A, and supply to Zones B, C, D, E, F & G in the winter and partially in the summer.
PS #2 is at least 51 years old, estimated lifespan of mechanical equipment is 60 years	
Fire flow is limited in Zone A due to the capacity of PS #2	ZAPS provides a higher pumping capacity into Zone A in an emergency. In a major fire both pump stations can provide more firefighting resiliency.

Table 3: Zone A Transmission Main (ZATM)

Current Deficiencies	Project Benefits
42" Transmission Main has no redundancy	ZATM will provide redundancy to 42". ZAPS and ZATM can supply the entire distribution system if the 42" transmission main is offline (either due to failure or maintenance). Reserves land adjacent to the 42" for its eventual replacement.
42" Transmission Main location is susceptible to wildfires, landslides, and other ecological failures	
42" Transmission Main is at least 65 years old, estimated lifespan of mechanical equipment is 60 years	
42" Transmission Main location is difficult to access for service, therefore is not an ideal location for another transmission main	New Skyway alignment will provide accessibility for ZATM construction and maintenance, and is relatively protected from ecological disasters
The source of the WTP potable water supply is creating hydraulic deficiencies, and the equipment is an aging liability	Connecting the WTP potable water supply to the ZATM allows for the removal of the aging hydropneumatic tank