

### Design Assumptions

Gross Head ..... 93 feet  
Flow..... defined by pipe losses  
Tail water elevation above sea level..... 2130 feet  
“Turbine Floor” above round conduit ..... 8 feet  
Top of conduit below tailwater .... 6”  
30: Steel Pipe ID..... 28.75” 5 years old  
Pond and tailwater levels fixed – no tailwater curve

### Design Intent

In order of importance:

- \* Safety due to placement inside a PG&E dam
- \* Reliability due to remoteness and access
- \* Ease of maintenance is primary
- \* Small modular elements due to limited space
- \* Maximum power recovery – will operate 24-7
- \* Efficiency is secondary
- \* Cost

### Constraints

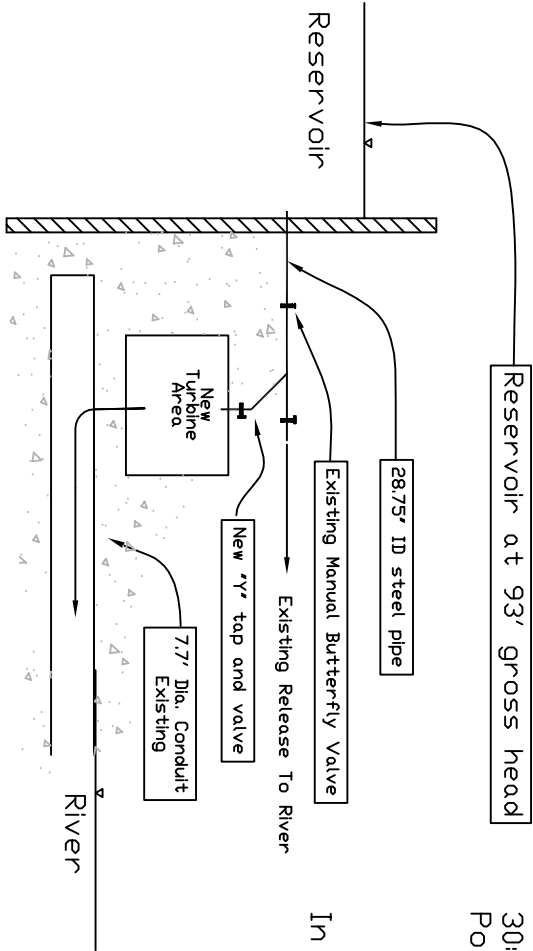
Existing turbine space is roughly 5’ x 10’ footprint before any concrete is removed. Concrete is removable.

All equipment must be lowered down a 5’ x 8’ shaft.

Shipping modules must weigh less than 1 ton.

Ability to release water at all times must be maintained:  
i.e. a synchronous bypass is required.

Water contains light gravel.



Rock Creek  
Diversion Dam Retrofit Project

### Design Intent and Setting Schematic

12/15/04 Drawing # RC-T-5

Davis Hydro