



- 1 Improved detention basin hydraulics
- 2 Phased erosion control, soil conservation
- 3 Showcase riparian corridor
- 4 Enhanced water circulation pumping and piping to maintain steady dry season flow
- 5 Slotted stream mud-walker areas
- 6 Wetlands treatment
- 7 Add tertiary treatment capabilities to existing plant
- 8 Modify existing treatment to reduce noise and odors
- 9 Removing/relocating existing treatment plant
- 10 Build dedicated recycled water system in non-forest area to offset potable water demands
- 11 Divert dry season flows from equestrian enclosures to treatment plant/new wetlands treatment. Apply to other areas as well.
- 12 Wetlands treatment system
- 13 Runoff recovery, irrigation conservation measures
- 14 Placement, runoff recovery, irrigation conservation measures
- 15 Settling tanks for solids removal
- 16 Treatment to remove solids
- 17 Capture and recovery systems for stormwater runoff



Master Plan Schematic

The San Diego Wild Animal Park is a zoo in the San Pasqual Valley area of San Diego, California. It is one of the largest tourist attractions in the city and Southern California. The Park houses a fabulous array of wild and endangered animals including species from the continents of Africa, Asia, Europe, North and South America, and Australia. The animals are housed in free-range enclosures similar to their natural environments. The park, visited by 2 million people annually, has an area of 1,800 acres (7 km²) and, in 2005, housed 3000 animals of more than 400 species plus 3,500 species of unique plants.

In conjunction with PBS&J, NSI was asked to participate in a master planning exercise for storm water management and restoration of ponds and water sheds. Overgrazing of the enclosures and concentrations of large animals led to accumulations of animal manure and sediment in habitat/stormwater ponds. NSI was asked to provide a series of techniques including storm water wetlands for sediment control, edge details for bank protection and animal access control, and reed beds for treatment of pond sediment and organic matter. These techniques were included in the master plan not only for water management (reuse for irrigation) but also to control nutrients and sediment in off site discharges of storm water.