HARNESSING RAINDROPS

Amaidhi homes

Shama Dalvi

SDA

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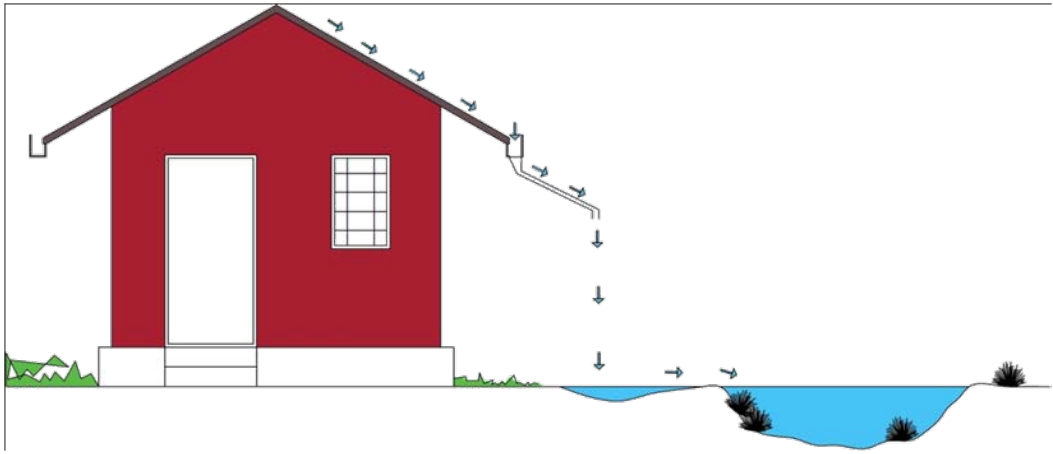
Amaidhi

- Located in Elagiri at an altitude of 1050 m
- Avg. annual rain fall 900mm
- 12 vacation homes.on 2.5 acres of undivided land

Types of Rainwater harvesting systems

Active system
uses pipes, tanks and pumps to collect and reuse the water



Passive system
uses infiltration, replenishes aquifers with soil as a storage reservoir

Passive rain water harvesting for Amaidhi

Expected amount of rain water

- 1770 m^3 from all the roofs
- 4030 m^3 from road, paved areas, gardens & rock outcrops

Projected cost of active system

- 12 lakh = 150 m^3 water
- Additional for erosion control

Projected cost of passive system

- 10 lakh = 3500 m^3 water
- Would take into account all runoffs

Implementation – passive rain water harvesting

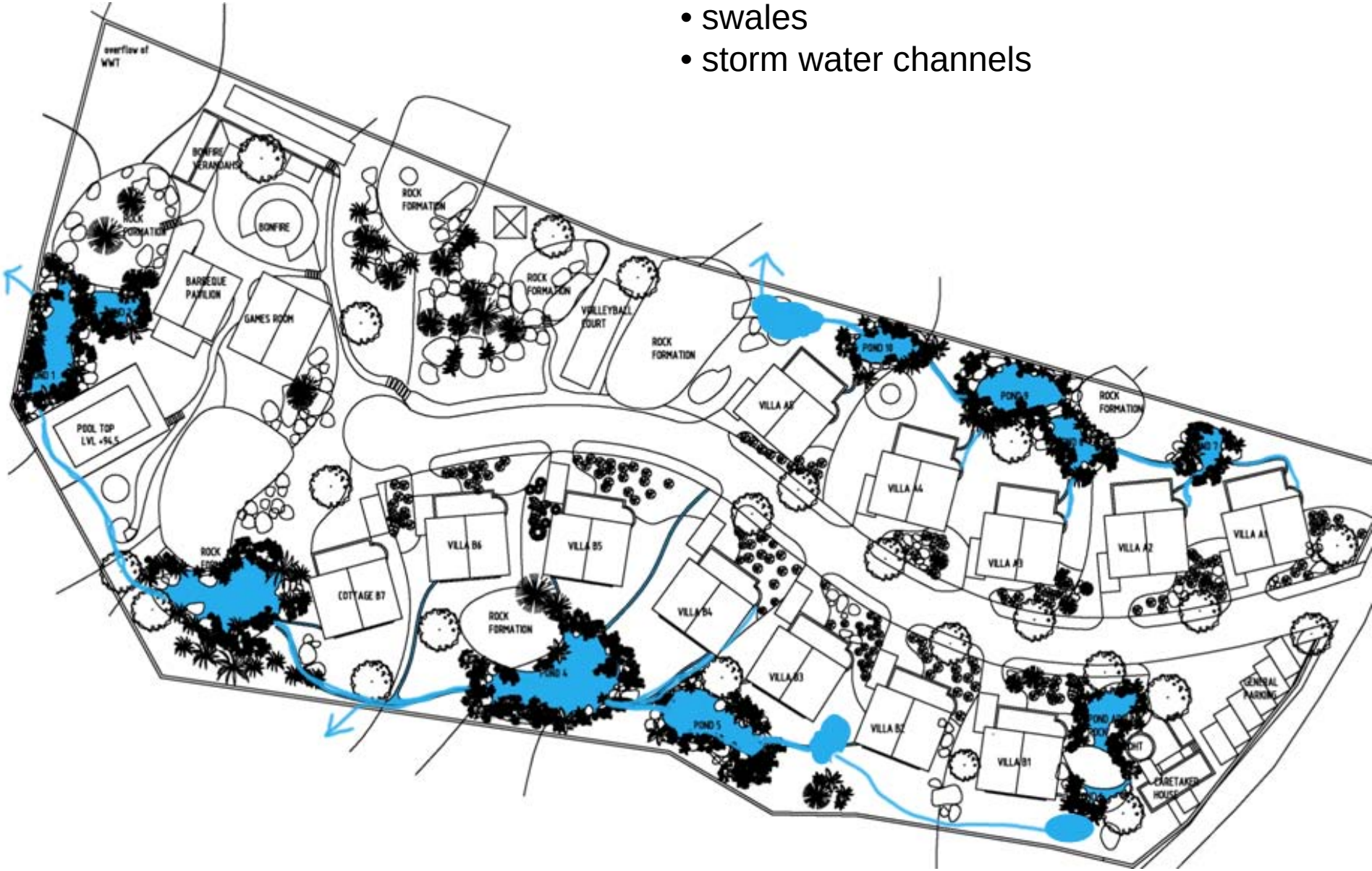
- Slow down runoff, provide retention, increase infiltration

Implementation details - Catchment

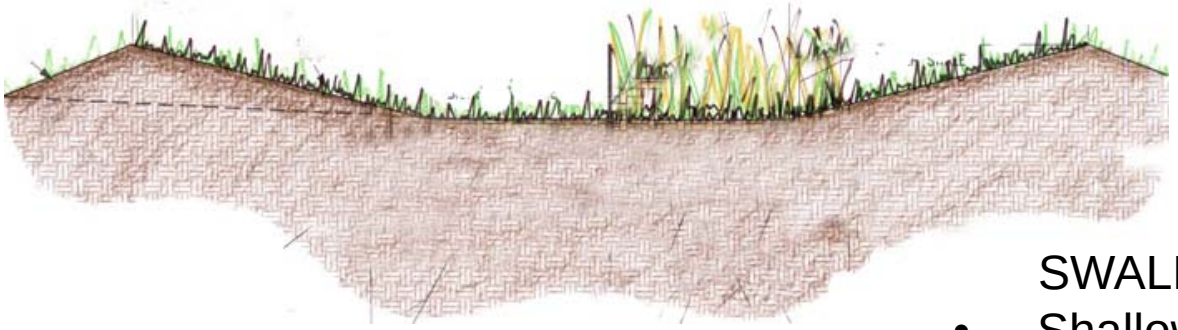
- Gutters & spouts

Implementation details - Conveyance

- swales
- storm water channels



Swales & Storm water channels



SWALES

- Shallow depressions in ground
- Planting filters water

STORM WATER CHANNELS

- Channels on road with concrete
- Directing water to the swales

Implementation details – Storage & infiltration

- totally 11 percolation ponds of varying sizes

RWH = catchment + conveyance + storage

Erosion around percolation ponds.

Erosion control around ponds

Conclusion

Salient points of a passive rain water harvesting system

- Cost effective
- Water purified by plants and microbes
- Groundwater is recharged
- Long-term solution to water management

The effectiveness of a rain water harvesting system lies in it's ability to meet the site specifics and end use preferences …..

The passive RWH system at Amaidhi is done in collaboration with Dirk Nagelschmidt, Paul Blanchflower and Ketty Gopinath

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