

# Water-Conscious Building Standards



**Rectorate Rain Garden functions to accommodate and absorb surface runoff from the rectorate building**

## 1. Rainwater Harvesting

The rainwater harvesting system built in the UNPAD Jatiningor area is located in two locations. The first location is at the ALG Research Greenhouse FTIP North Pedca area. Water is harvested from the roof of the greenhouse with a catchment area of 150 m<sup>2</sup>, then stored using a water tank with a storage capacity of 21000 liters. The harvested rainwater is then used as a source of irrigation water for hydroponic research in the greenhouse. The system has been built since 2015 until now.



Figure 10. Rainwater Harvesting System at the ALG Greenhouse FTIP

In 2020, the greenhouse and rainwater harvesting system was renovated and expanded with a total new catchment area of 264 m<sup>2</sup>, and the previous rainwater storage capacity added a ground tank with a 24 m<sup>3</sup>.



**Rainwater harvesting system development design at the ALG Greenhouse FTIP**

Rainwater harvesting system from the roof of the building was also built in the lecture building of the Department of Agricultural Engineering and Biosystems FTIP. Rainwater is harvested from the roof of the building with a catchment area of 750 m<sup>2</sup>, then drained and stored in the ground tank. The excess flow that is not accommodated is channeled to the infiltration wells.

## Rainwater harvesting system at the TPB FTIP building

### 2. Bio pores Garden and Infiltration Wells

Infiltration wells help infiltrate rainwater into the ground to reduce runoff that enters the main drainage channel. The capacity and number of infiltration wells at the UNPAD Jatinangor campus are two infiltration wells located on the old Geology campus and FTIP and 30 bio pore holes in front of the garden of the general medical faculty, Bale Aweuhan Park (UNPAD Grand Mosque), and the front garden of BNI bank UNPAD.



**Bio pores Garden in front of the UNPAD Grand Mosque**



### 3. Bio drainage Arboretum



**Biodrainage Arboretum UNPAD which functions to hold and absorb surface runoff water to the western part of the UNPAD campus**

The Arboretum area has a function as a green area at the UNPAD Jatinangor campus and as a water catchment area. Rainwater that falls in the western part of the UNPAD Jatinangor campus area, as depicted in Figure 2, is channeled to the arboretum area. In this area, the surface runoff flow is retained and absorbed into the soil; the rest flows to the check dam arboretum.

### 4. Arboretum Check Dam

The UNPAD Arboretum check dam area has an area of about 0.7 ha with a water capacity of approximately 14000 m<sup>3</sup>. This check dam is the last outlet point of the western part drainage area of the UNPAD campus that serves to restrain the flow of surface runoff and provides an opportunity for water to seep into the ground.



**Drainage at the western side of UNPAD Campus (Arboretum Check Dam)  
dammed to reduce the water runoff coefficient**