

NICMAR - CONFERENCE ON URBAN PLANNING

FLOOD CONTROL - THE
KERALA EXPERIENCE

THE SITUATION THAT WAS (BEFORE 2015)

THAMPANOOR, TRIVANDRUM



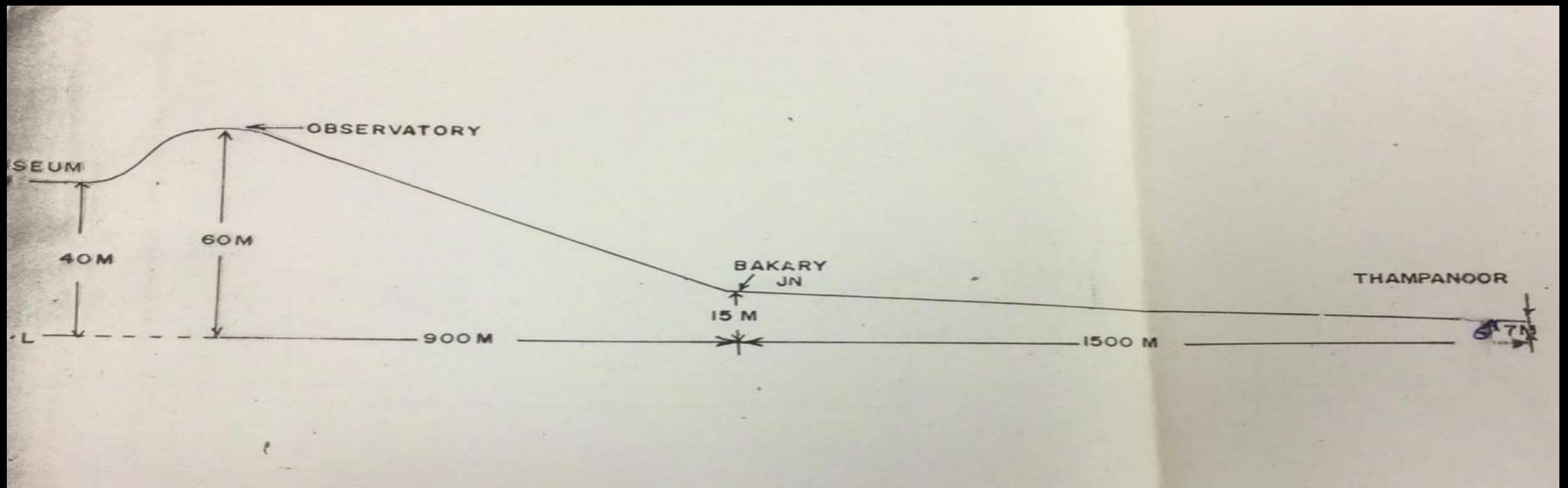
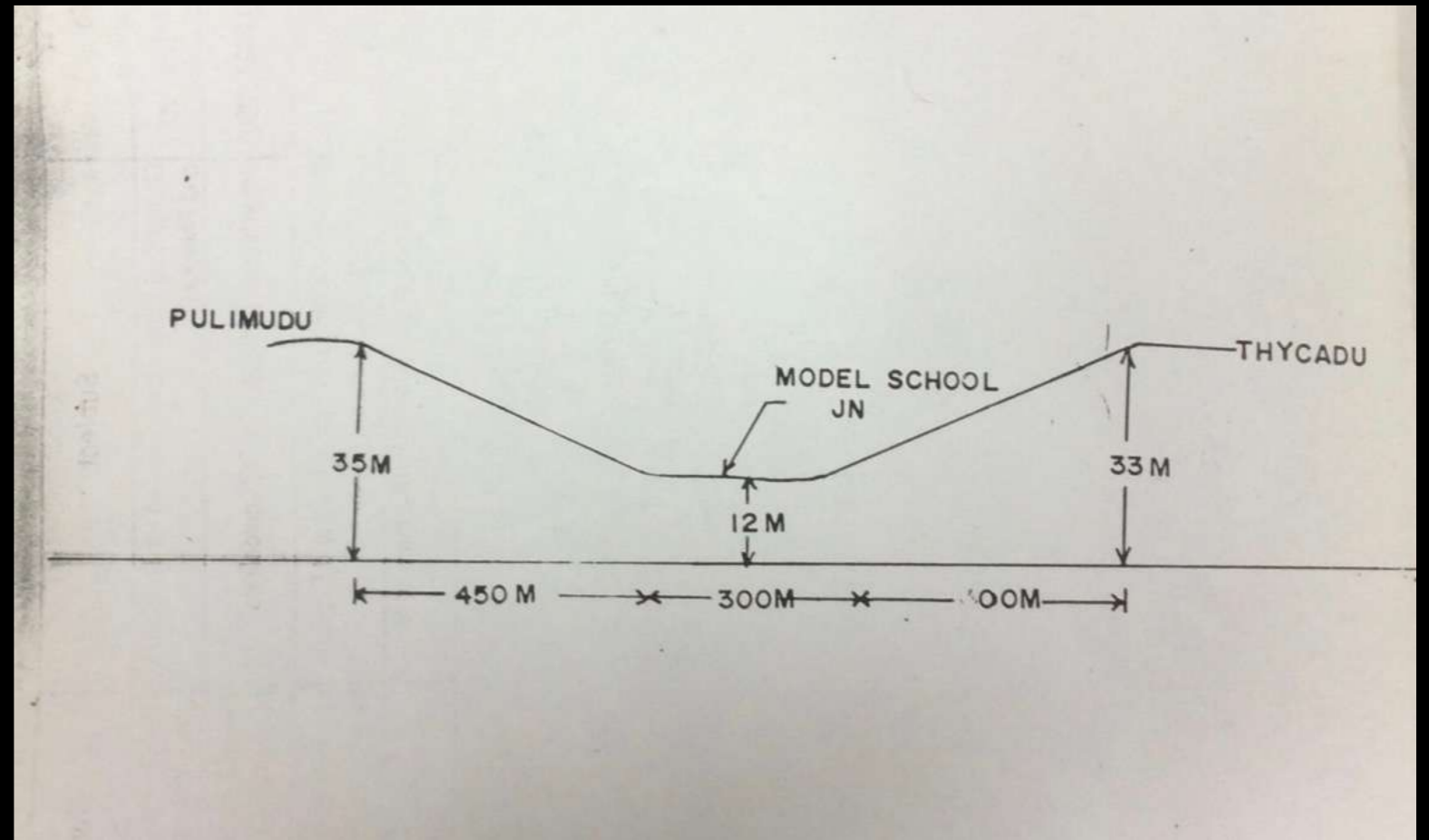
THAMPANOOR, TRIVANDRUM

The aerial shot of thamapnoor with
Busstand,railway stations etc to show
its importance

THE OPERATION ANANTHA

WHY THAMPANNOOR FLOODS

The slope towards Main Central
Railway station ; a trough is formed
between two elevated areas



WHY A CITY FLOOD



WHY CITY FLOODS



Shops set up over drains



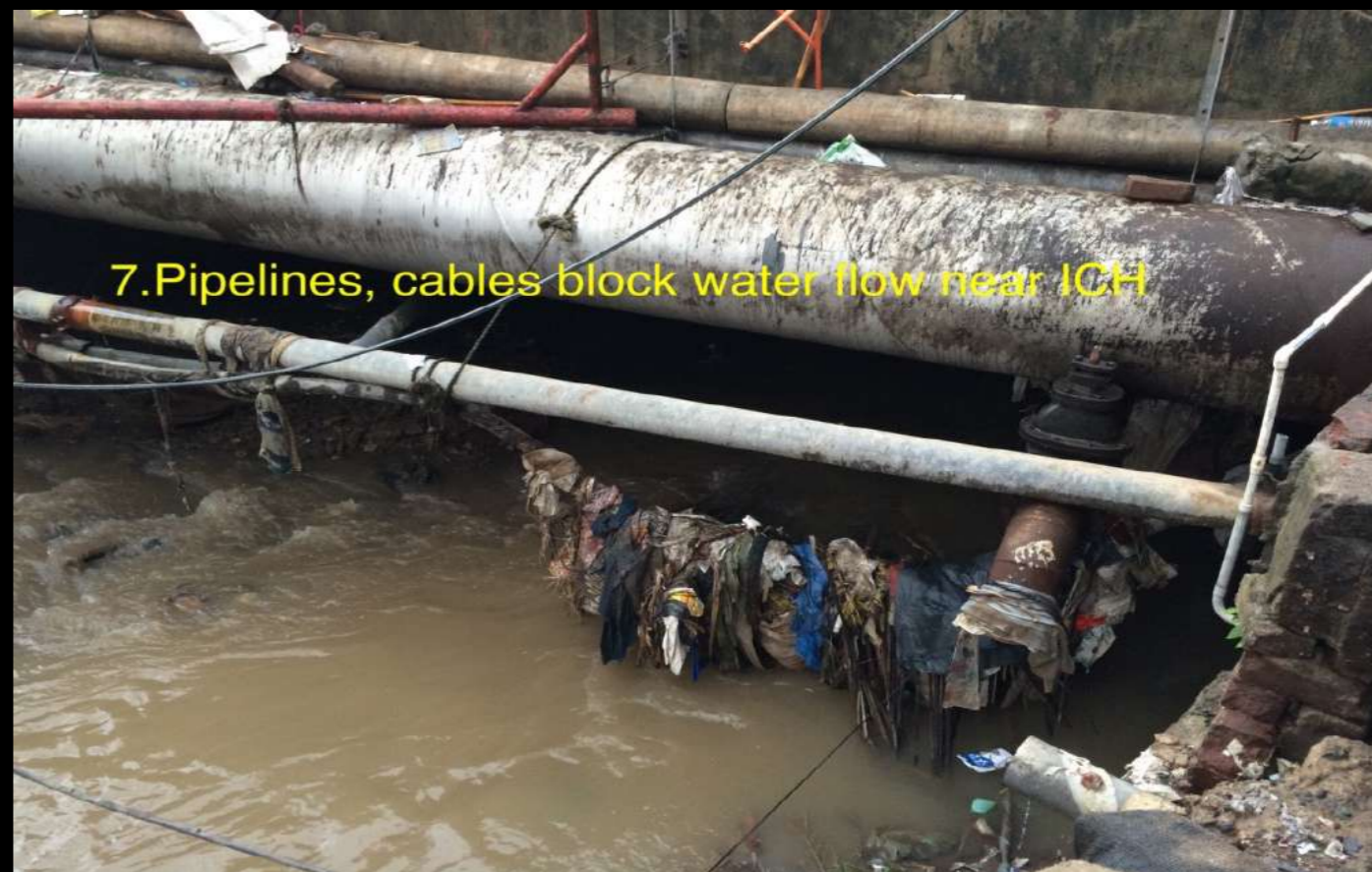
WHY CITY FLOODS



Thrashes, plastic wastes and pipelines



Pipelines and cables across the drains

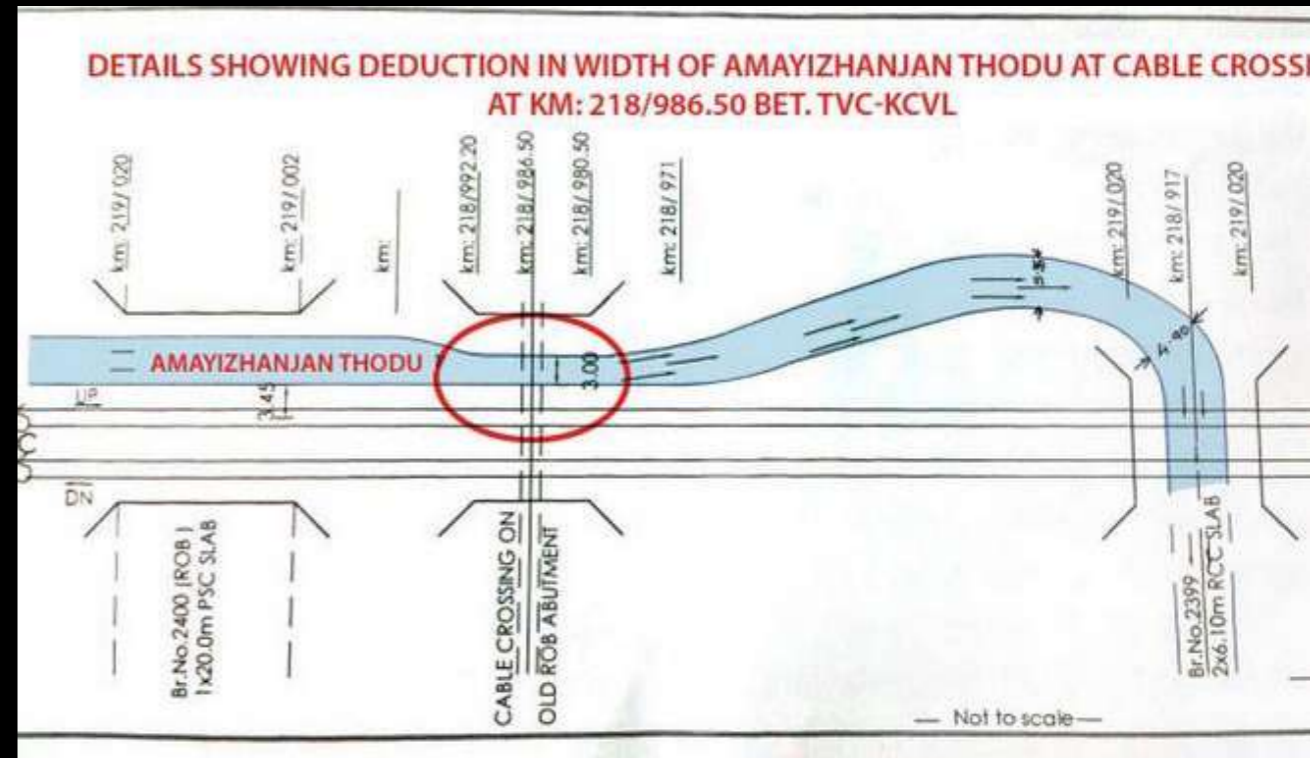


Multiple agencies in charge of Roads and Drains

WHY CITY FLOODS



Drains constructed for Overbridge juts into Drains - reduces width



Schematic diagram of width reduction - Southern Railways



Abutment of Railway Over bridge

FLOOD MANAGEMENT



Drains recovered ~ 30 kms
; widened for 3.5 mts

How floods were managed



Hand Drawn Picture
here ; Sent by whats
app

Photo of old
putharikando
m Maitan



Changes brought by Operation Anantha



Drainage Gratings covered



Old Drains



Silt traps

THE IMPACT OF OPERATION ANANTHA THAMPANOOR DURING 2019 FLOODS



HOW OTHERS CONTROL FLOODS



HOW JAPAN CONTROLS FLOODS

THE TOKYO FLOOD TUNNELS

THE NEW YORK VIDEO HERE 2 MIN

THE BALTIMORE MR.THRASH WHEEL

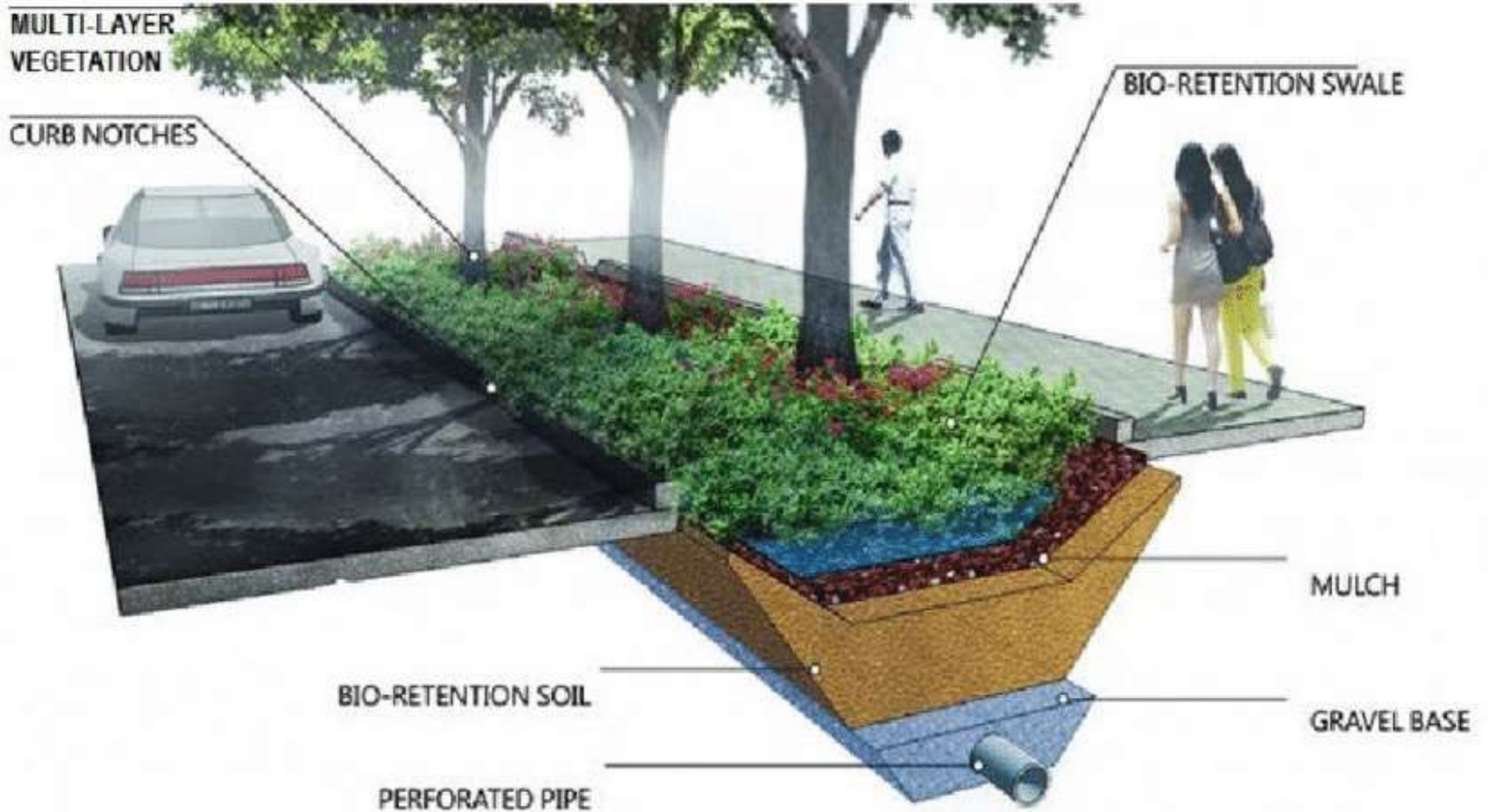


The Mr. Thrash wheel, officially called Inner Harbour water wheel, removes thrashes daily from Jones falls river of Baltimore, Maryland USA

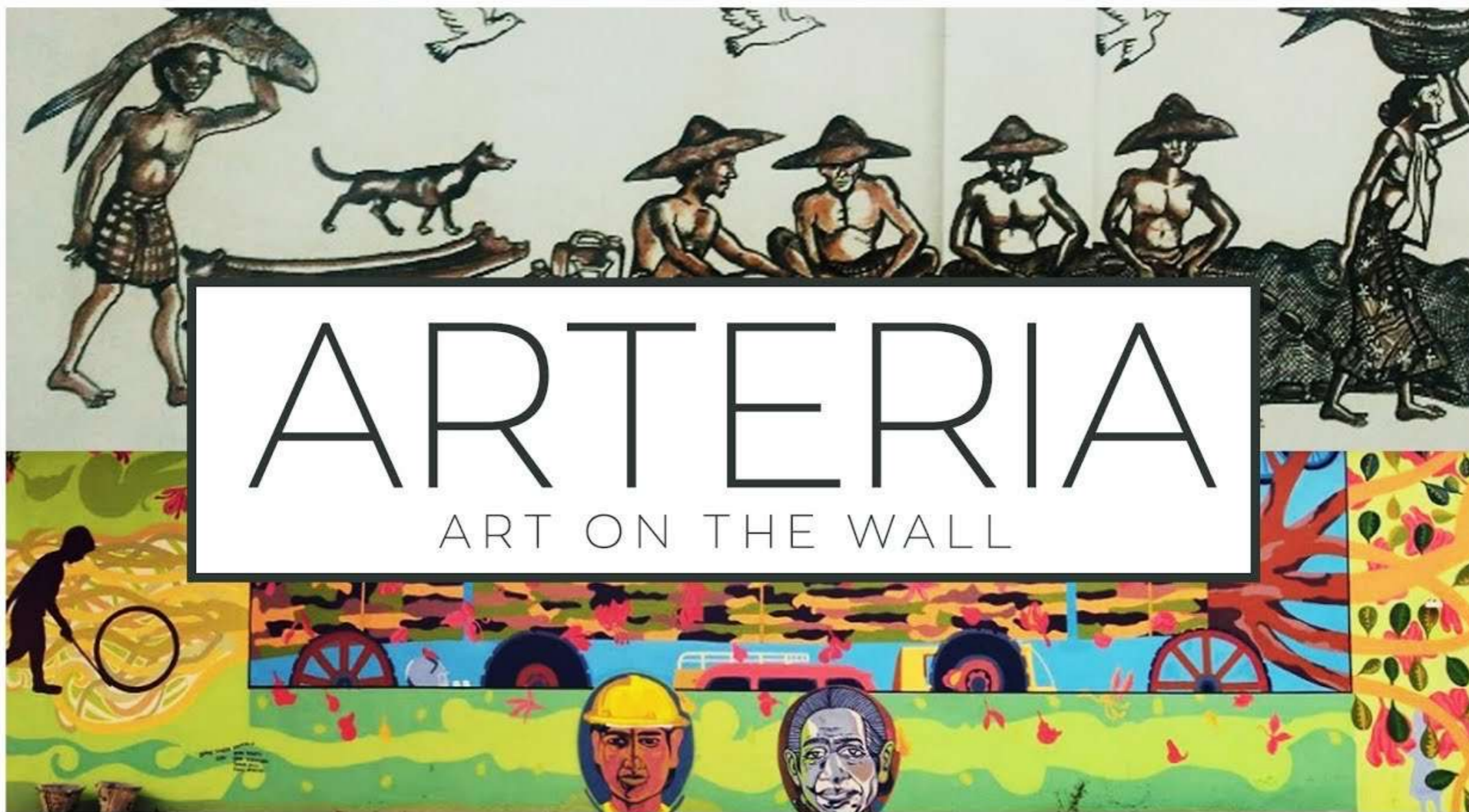


Type to enter a caption.

FLOOD CONTROL THROUGH BIO-SWALES



ARTERIA IN THIRUVANANTHAPURAM



ARTERIA

ART ON THE WALL

THE OSAKA HIGHWAY THROUGH BUILDING



THE PORT AUTHORITY BUS STATION,
NEW YORK

