

MAULANA ABUL KALAM AZAD
UNIVERSITY OF TECHNOLOGY,
WEST BENGAL



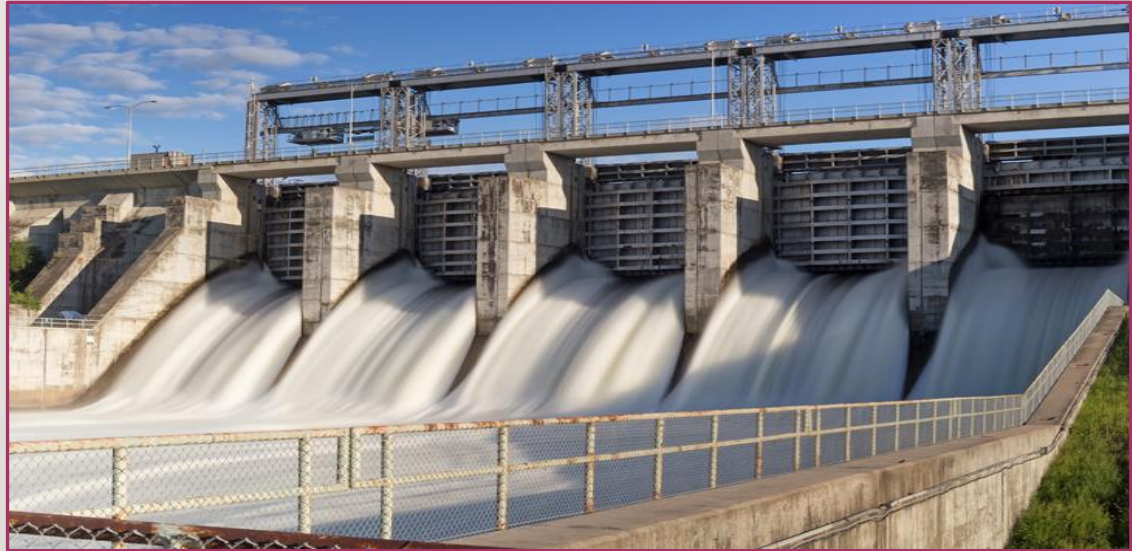
Bengal College Of Engineering & Technology



DAMS AND IT'S TYPES, USES AND NECESITY OF DAM

Presented By

Name Santosh yadav
College Roll No.-
198010283
Unv Roll No-12501319014
Year:4th Semester:-7th



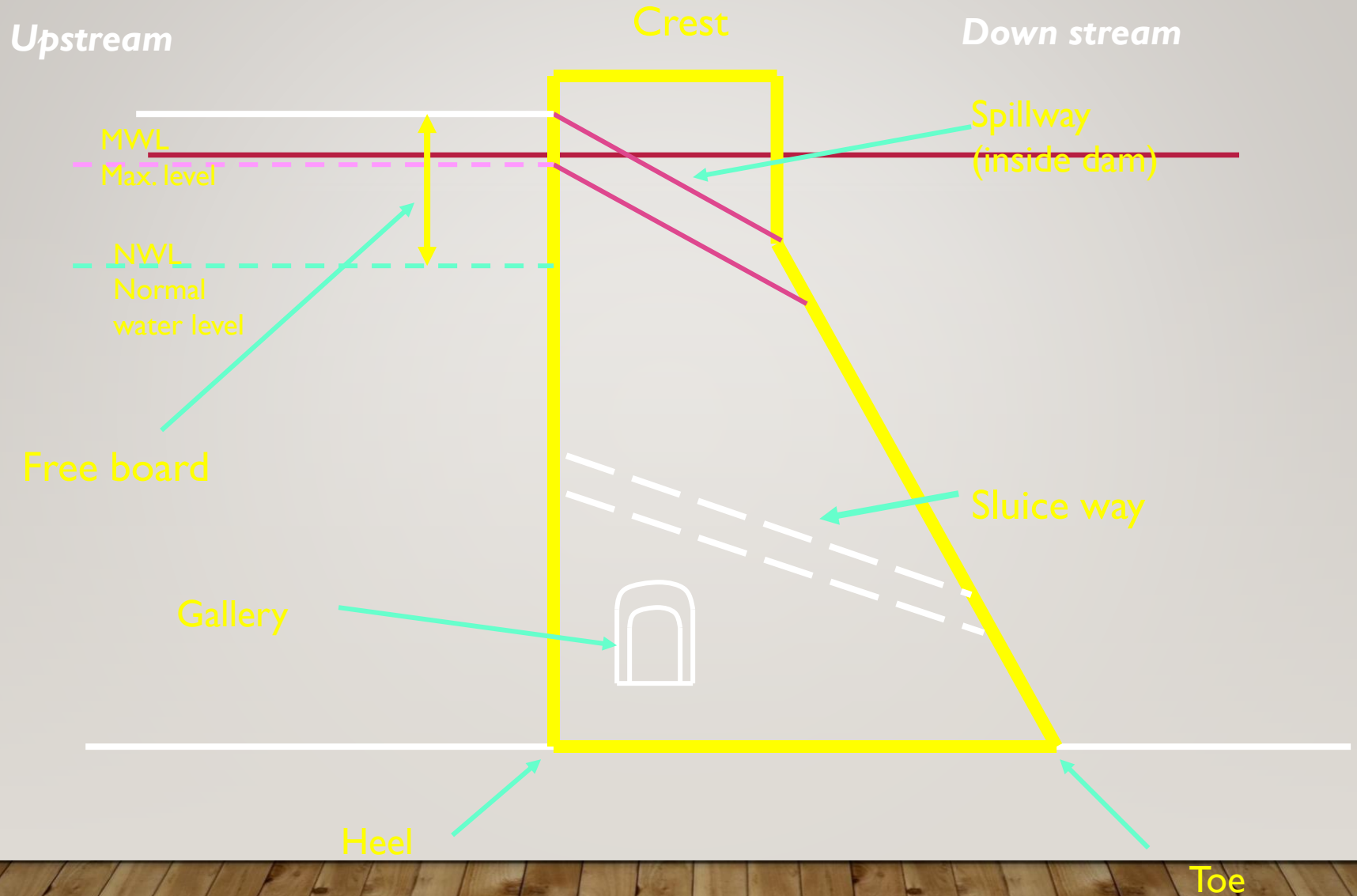
CIVIL ENGINEERING

4th Year

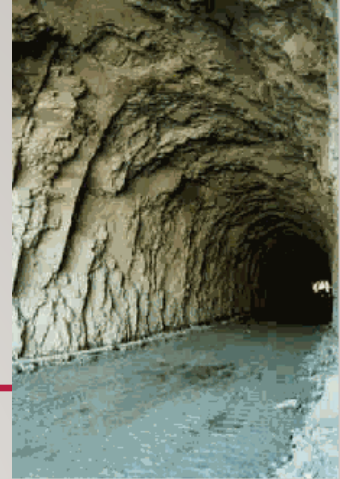
DAMS

- *Dam is a solid barrier constructed at a suitable location across a river valley to store flowing water.*
- Storage of water is utilized for following objectives:
- **Hydropower**
- **Irrigation**
- **Water for domestic consumption**
- **Drought and flood control**
- **For navigational facilities**
- **Other additional utilization is to develop fisheries**

STRUCTURE OF DAM

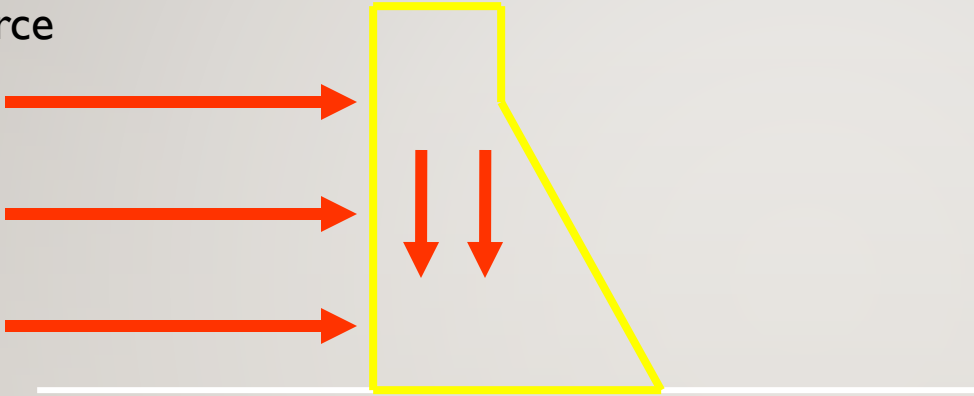


- **Heel:** contact with the ground on the upstream side
 - **Toe:** contact on the downstream side
-
- **Abutment:** Sides of the valley on which the structure of the dam rest
 - **Galleries:** small rooms like structure left within the dam for checking operations.
 - **Diversion tunnel:** Tunnels are constructed for diverting water before the construction of dam. This helps in keeping the river bed dry.
 - **Spillways:** It is the arrangement near the top to release the excess water of the reservoir to downstream side
 - **Sluice way:** An opening in the dam near the ground level, which is used to clear the silt accumulation in the reservoir side.



TYPES OF DAMS

Reservoir
Force



- Gravity Dams:
- These dams are heavy and massive wall-like structures of concrete in which the whole weight acts vertically downwards

As the entire load is transmitted on the small area of foundation, such dams are constructed where rocks are competent and stable.



- Bhakra Dam is the highest Concrete Gravity dam in Asia and Second Highest in the world.
- Bhakra Dam is across river Sutlej in Himachal Pradesh
- The construction of this project was started in the year 1948 and was completed in 1963 .

- It is 740 ft. high above the deepest foundation as straight concrete dam being more than three times the height of Qutab Minar.
- Length at top 518.16 m (1700 feet); Width at base 190.5 m (625 feet), and at the top is 9.14 m (30 feet)
- *Bhakra Dam is the highest Concrete Gravity dam in Asia and Second Highest in the world.*





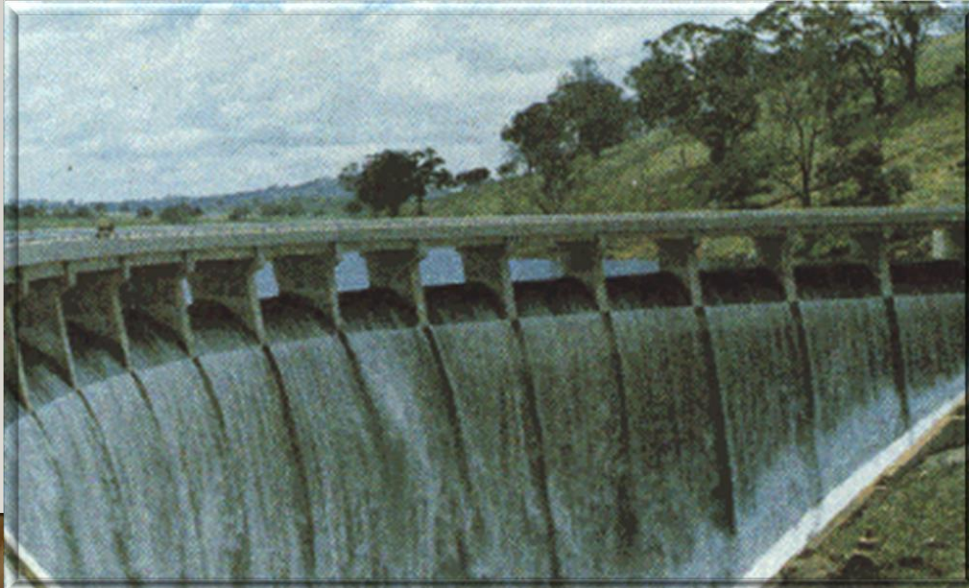
BUTTRESS DAM:



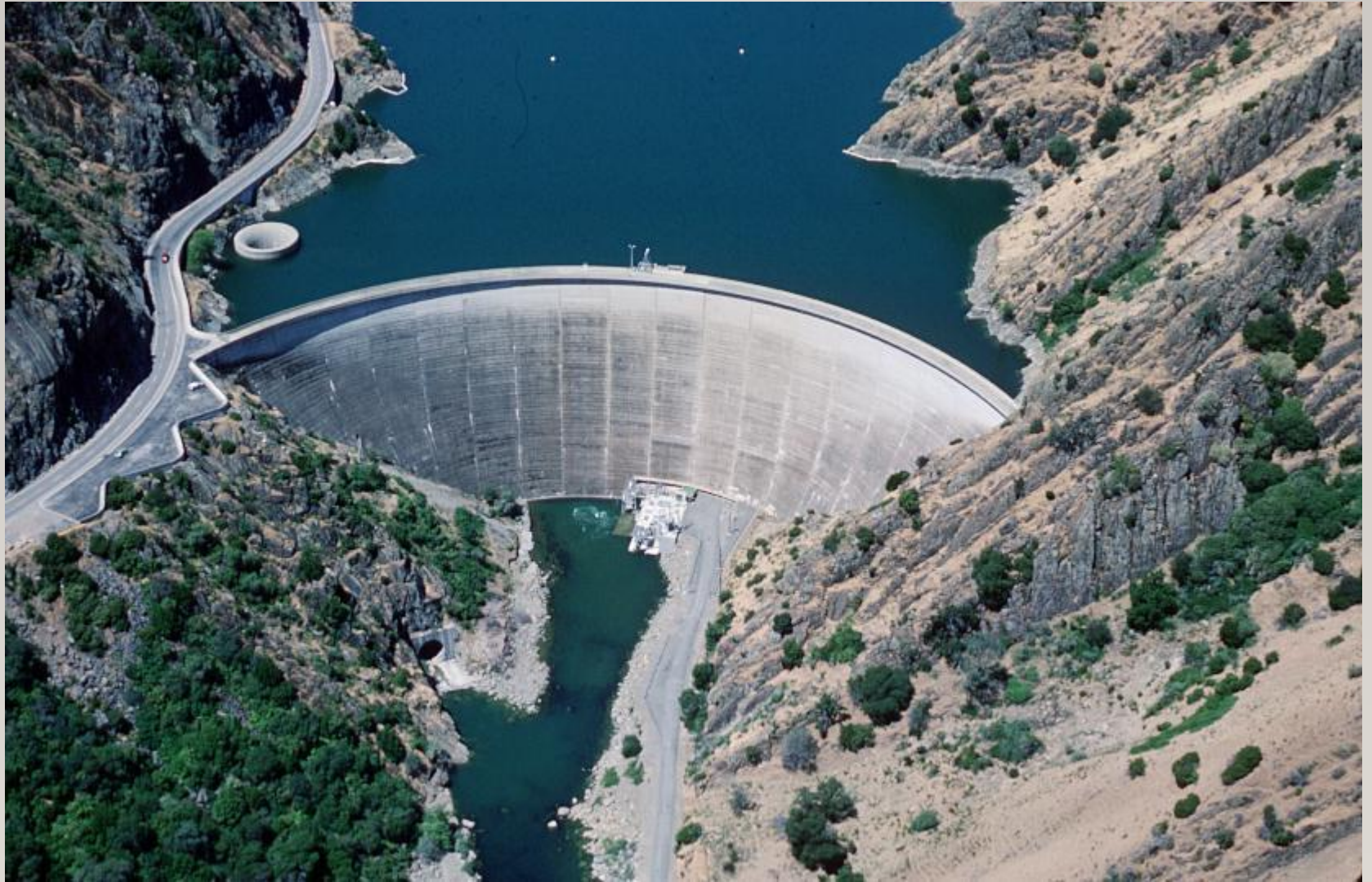
- Buttress Dam – Is a gravity dam reinforced by structural supports
- Buttress - a support that transmits a force from a roof or wall to another supporting structure

This type of structure can be considered even if the foundation rocks are little weaker

Arch Dams:



- These type of dams are concrete or masonry dams which are curved or convex upstream in plan
- This shape helps to transmit the major part of the water load to the abutments
- Arch dams are built across ***narrow, deep river gorges, but now in recent years they have been considered even for little wider valleys.***



EARTH DAMS:



- They are trapezoidal in shape
- Earth dams are constructed where the foundation or the underlying material or rocks are weak to support the masonry dam or where the suitable competent rocks are at greater depth.
- Earthen dams are relatively smaller in height and broad at the base
- They are mainly built with clay, sand and gravel, hence they are also known as Earth fill dam or Rock fill dam



THANK
YOU!