

# ICI Student's Chapter SITE VISIT



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## *A Report on -*

### **“BARAMATI SITE VISIT”**

- ⦿ **Name of event:** Baramati Airport Site Visit.
- ⦿ **Date of visit:** 01-09-18
- ⦿ **Objective of visit:** To study the components of an airport,  
: To understand & observe technical terms of an airport.
- ⦿ **Organized by:** ICI Student's Chapter, Civil Engineering Department,  
V.I.I.T., Pune.
- ⦿ **Guided by:** Mrs. A. G. Tanawade Mam, Mr. Adinath Yadav sir.

#### **Introduction:**

Baramati Airport is located in Pune district of Maharashtra state in India. This Airport was constructed by MIDC in 1996, at a distance of 12 km from Baramati city/ Baramati railway station. It is currently being used for General aviation and pilot training.

The visit to airport of Baramati, was conducted by Civil department faculty under the ICI student's chapter, on Saturday, 01 September 2018. Students of TE Civil were taken to the Baramati Airport for observing and understanding the components of the airport in order to enhance their knowledge about how the parts of an airport are constructed. Students were allowed to see the functioning of each unit of the airport and their queries were also answered by the airport engineer Er. Paul and Er. Tejas & Pilot Trainer gave us all general information regarding the airport.

The airport has an advisory tower (Frequency = 129.25 MHz). The tower is managed by senior pilots from the Academy of Carver Aviation flight school. The senior pilots monitor traffic and give directions over VHF frequency to the pilots flying around the area. The Main Apron parking capacity is 100 m x 75 m. The engineers gave us information about the aircraft. All the aircrafts parked there had a common feature in their name i.e. VT which stands for Vector Tango. The tyres used for the aircrafts were the same as normal vehicle tyres with pressure of

42 psi. The fuel tank of the aircraft is of 100 litre capacity which is placed in each wing of the aircraft. The 100 litre fuel lasts for a 6-hour duration flight. The ADF antenna is used for the contacting purpose. The maximum flight of these aircrafts was 15000-16000 ft. There are two types of engines which can be found in an aircraft, which are piston engine and jet engine. The piston engine requires Augas fuel whereas jet engine requires ATF fuel. The approximate length of the aircraft is 156 inches. The radar is a vertical stabilizer at the rear end which functions for directing the aircraft. The propeller placed at the nose of the aircraft has an angle of attack of  $3^{\circ}$  -  $4^{\circ}$  for the lift of the aircraft. Baramati, being a rain shadow region, functioning of flights is easily possible. Also, this place has an elevation of 2000 ft, so beneficial for the smooth functioning of flight.

The runways are oriented on the basis of wind direction. It is oriented such that the aircrafts will take a flight from tail wind direction towards the head wind. There is a reference point ARP which defines the radius of the airport. Any type of waste is prohibited to be dumped 15km around the airport. The aircrafts where they are placed is known as apron, and the structure built for the parking is known as hanger. The strength of the apron is required to be greater than the strength of the runway pavement. While constructing the runways, the strength is to be determined by examining the weight of the aircrafts acting on it continuously and the torque reaction which will be acting on it. If lights are to be installed at the centre line, threshold line etc. of the runway, then the wiring of the pavement has to be planned before constructing the runway. Also, the runways are built on the basis of type of landing, such as if it is a smooth landing or a hard landing. On a rainy day, due to the water spilled over the runway, hard landing is preferred to avoid slipping of the aircraft, which applies a high magnitude impact on the pavement. Also, if the runways are of shorter length, hard landing called punch stop are practiced. Codes for the layer of pavement used are usually Code F and Code X. The draining of the water from the pavement is done by the runway itself, the layers of the runway are built in such a way that the runway will percolate and infiltrate the surface water.

## ICI Student's Chapter SITE VISIT

Airport owner/ Operator- Reliance Airport Developers Private Ltd (RADPL)

Suitability of Airport - Small aircraft up to 10 Tones

Administration - Reliance (RADPL)

Total land area available— 451.11 Acres

Status of land - Leased to Reliance Airport Developers Private (LEASE/LICENSE ETC.)

(RADPL) for 99 years from 2009 from State Govt.

Aerodrome elevation/ Reference - 606 m

Aerodrome traffic density - State Govt. and Private aircraft only

Type of traffic permitted - Sparingly used by state govt. and private and small aircraft (B-200 type) under VFR

Runway Operation -  $106^{\circ}$  /  $286^{\circ}$

Runway designation and dimension - 11 / 29 2350m x 45m

Runway Slope - 0.3%

Dimension of Runway - 2432m x 113 m (Restricted due to operation boundary restriction in the beginning of Runway 11)

Runway strength - 17/F/B/W/T

Runway Shoulders - 22.5m on either side

Location of threshold - Beginning of Railway

Stop way / Blast pad (SWY/BP) - Nil

Turn Pad - 30 m wide turn pads at both ends

TWY dimension/locality - TWY 1 - 150m x 22m / 350m from RWY 29 beg

TWY 2 - 150m x 22m / 430m from RWY 29 beg

TWY 3 - 150m x 22m / 555m from RWY 29 beg

Bearing Strength - 17/F/B/W/T

**DIMENSION/AREA (IN SQ M)**

Apron 1 - 180m x 100m = 18000 sq. m

Apron 2 - 100m x 75m = 7500 sq. m

Apron 3 - 24m x 33m = 792 sq. m

Capacity - About 15 small aircraft (B 200 and Cessna 172 type)

Non-AAI - Two hangers outside operation boundary of 25m x 25m each.

Air to ground communication – VHF Control Tower facilities provided by Flying School Academy of Carver Aviation (Private Flying School)

## ICI Student's Chapter SITE VISIT

Observing the airport, its construction, acquiring knowledge about the aircrafts led to the end of visit with tremendous knowledge. Visit was concluded with vote of thanks by Mrs. Tanawade Mam. The site visit was very informative and the students got the feel and knowledge about the different technical terms of an airport.

### BARAMATI SITE PHOTOGRAPH



#### ➤ Runway Orientation and Its Marking



#### ➤ Group Photo of VIIT Faculty, Students with Airport Office Staff