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INDUSTRIAL ARCHITECTURE

Pureeplant for Wagpcos Ltd., Warananagar

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Location

Warananagar is located About 225 km from Pune Off Mumbai highway (NH4) It lines in the most fertile sugar zone of the state & is one of the developing cites. Kolhapur is just 25 Kms. away.

Site

The site is about 24.28 hectares, with a level difference of about 10.5 M within a length 650 mtrs. The site has an approach from 2 sides with H.T. and L.T. lines cutting across the site and also two wells with water throughout the year & ten existing sheds of about 600 sqm. each.

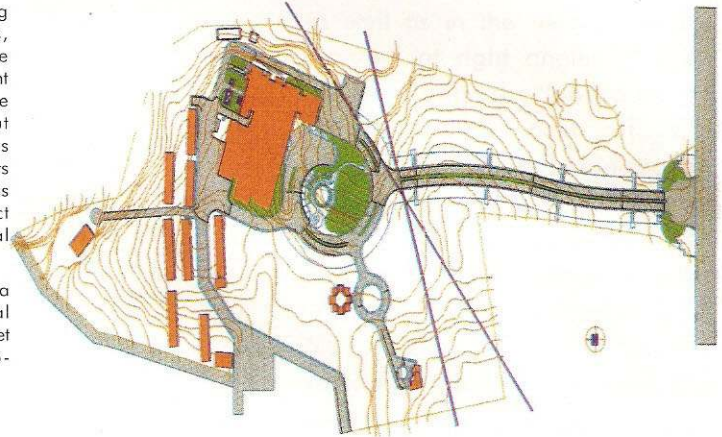
Campus

The campus consists of various long term allied activities such as R & D

Constraints

The site has existing H.T. & L.T. lines, shades and the necessity for the plant building to be one level and without moving the shades even from the clients point of view, this was the major project from the local standing.

Giving it a look of a modern industrial building within the set up of typical co-operative sector.



Farms, Tissue Culture and Product display for ISO certification. This supporting activity consists of Administrative Building, Guest Houses, and Storage Sheds. The main plant Building is constructed

along with service facilities, which admeasures about 10505 sqm.

Plant

This is the first plant of its kind in the Indian co-operative sector



having mango, Guava, Papaya & Banana Puree and Chilly Paste all at one place which has been supplied and commissioned by C & I Engineering, Kentucky, U.S.A.

Design Features

The total plant built up area is around 10505 sqm. out of which 3253 sqm is percolated sheet roofing & rest of the area is under RCC slab. The main process area of about 2323 sqm. is under positive pressure system for better ventilation. The Ripening chambers (292 sqm each) 7 Nos. require insulation from all sides such as walls Flooring and Ceiling, According to their "R" values, because of this an ambient temp. of 15degree.

Special design features

1. Floors in processing and filling rooms with quarry tile with strength suitable for lift movement, with min. 2% slope & floors in ripening, peeling, and pre-processing rooms to be epoxy sealed concrete with 1/2% slope
2. Concrete strength to be 4.0T/sqm. with steel reinforcement. (M20 Grade)

3. All internal finishes should be as per U.S. FDA Norms
4. The Dimensions of the ripening chambers & finished goods storage was decided upon the stacking pattern of the raw and finished goods.
5. The ripening chambers are constructed having R-19 Value for ceiling and walls a single large sliding Door of 2.4Mx3.0M with smaller manway access door is provided for ripening room. And 2 Nos. 0.9M DIA Fans installed in wall opp. door to be installed for co2 ventilation.
6. In ripening chambers the drainage is managed Thro underground pipes at intermediate levels with necessary traps and water seal.
7. The walls of the preparation section clad with glazed tile dado upto 2.4 m & rest of the portion painted with white epoxy anti-fungus paint.
8. The whole plant is provided at one level except finished goods storage, which is at

two levels, by taking advantage of the natural level difference at the site.

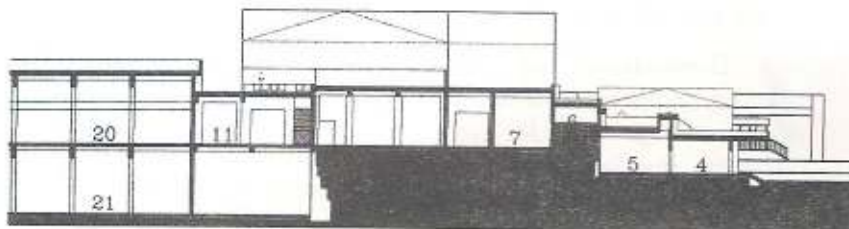
9. Tremix flooring of 8200 sqm. is provided to whole plant except the process hall.
10. The construction was completed within 12 months.

Taking into consideration the client of the promoters, the Aesthetics was designed to produce a Non-Conventional Industrial look, with a tinge of colours to raise the building from the background. These feature have helped this project to create its own identity, against the old typical industrial structures in the region.

Visual Analysis

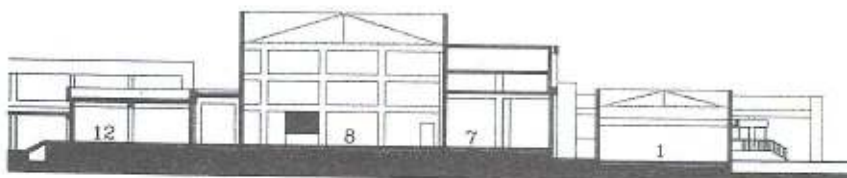
As one gradually approaches the main plant bldg. Along the avenuall road at a dist. of about 200 m. a foreground of landscaped area catches focal attention. The main plant building looks evolved from the ground itself this one single structural mass if visualised in its fullest grandeur along with landscape area.





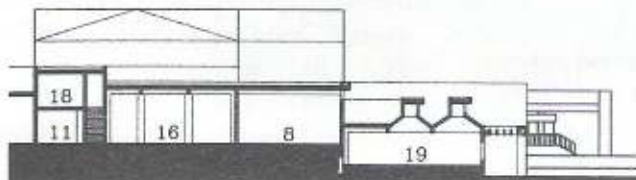
SECTION THRO'

FINISHED GOODS STORAGE, PASSAGE,
WASHING AREA, LOCKER ROOMS



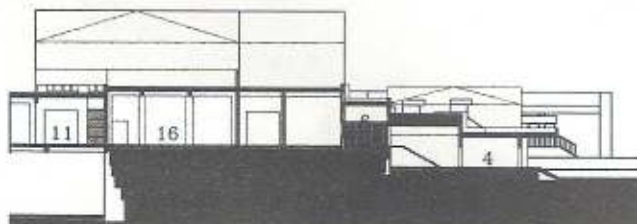
SECTION THRO'

RECEPTION LOBBY, PASSAGE,
EXTRACTION AND PREPARATION SECTION,
BOILER ROOM



SECTION THRO'

MICROBIOLOGY LABORATORY AT MEZANINE LEVEL
LOBBY, CONSUMABLE STORES, PREPATATION SECTION &
WORKERS' DINING ROOM



SECTION THRO'

LOBBY, CONSUMABLE STORES, WORKERS' WASHING AREA
ENTRANCE LOBBY

Topography

The site has a gradual slope from the N-E & N-W sides. A considerable amount of plane table land allows for building activity with the controls descending down helps make use of level different for the basement where the finished goods storage is located.

The location allows for better slope for the drainage and effluent.

Structural system

The structural grid system is worked out on the basic dimension of pallets used for the raw fruits stacking, and finished goods storage, which allows for the minimum wastage of the built up area, thereby optimising the construction cost.

Project Information

Client	: Wagpcos Ltd.,
Location	: Warnanagar, Kolhapur
Consultants -	
Structural	: Bhagwatwar / Kulkarni
Electrical	: Praj Consultants
Landscape	: Ravi and Varsha Gavandi
Interiors	: Groups & Architects
Built up Area	: 10505 sq.m.
Cost of Construction	: Rs. 4760/- per sq.m.