

1st Edition



PLANNING
CONSTRUCTION
MAINTENANCE
ELECTRICAL
CIVIL
TELECOMMUNICATION
RENOVATION
WATER SUPPLY
SANITATION
PUBLIC HEALTH
ESTATE
HORTICULTURE
ROAD
SOLAR POWER
WASTE MANAGEMENT

INFRASTRUCTURE UNIT



Indian
Institute of
Technology
Delhi

Vol. 1:: Infra Newsletter :: September 2020

FOREWORD

The infrastructure unit is happy to share the first edition of quarterly bulletin. Aim of this bulletin is to make the community aware of the various tasks being carried out by the Infra unit and the status of the same. Through this bulletin, we plan to provide periodic updates of the work carried out by the Infra team.

1.0 Challenges during Lockdown Period

The first and the subsequent lockdowns were a challenging period for the Infra unit. The major challenge was to keep essential services up and running. These included water supply, electric supply, house keeping with frequent sanitization of facilities, and civil and electrical maintenance. With the hard work of engineers and support staff, these challenges were handled successfully. The major challenge was the reduced staff for day-to-day activities, as the staff living outside the campus could not commute during this period. However, optimal re-organisation of the manpower was carried out immediately and various services remained unaffected, by and large, during the lockdown period.

Another challenge during the lockdown period involved handling in-situ workers. After the lockdown was imposed, all the construction activities came to a grinding halt. No new construction activity could be carried out. Further, on the next opportunity available, many of the workers migrated to their hometown paralysing the new construction activity even further. Infra unit looked after the welfare of the workers that were left on the campus. Things have improved recently and the respective Project Management Consultants (PMCs) are making sure that the delays due Covid-19 situation are compensated.

2.0 Highlight of the Bulletin

NALANDA Phase 1 Apartments

The highlight of this bulletin is the completion of 'Nalanda Phase 1' apartments. Nalanda Phase -1 is a married research scholar apartment consisting of 103 one bedroom flats. NBCC was carrying out the work for Nalanda Phase 1 and the work went on for about last two years. NBCC completed the project on 5th August 2020 and now it is in the process of getting clearance from local authorities to hand over the building to IIT Delhi. Each flat in this project has one hall, kitchen and one bedroom, with couple of adjoining balconies with hall and bedroom. A typical flat has **415 sq. ft. of carpet area**. An interesting feature of these flats is that there is a facility to connect window or split AC without any requirement of drilling a hole into the wall. It is a 7 storey building with 6 lifts. The lifts are provided with DG back up. The entire complex is covered with 67 CCTV cameras. Here are a few photographs of Nalanda Phase 1.



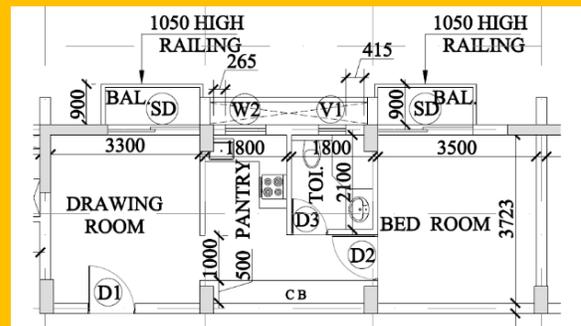
Concept Render for the Project



Completed Building



Completed Building (Night View)



Floor Plan of a Dwelling Unit

3.0 Nitty Gritty of New Construction Activity

Through this section, we would like to introduce to the community, details of certain activities carried out by Infra unit. In this letter, we will briefly explain – how any new project is conceptualized and executed with the broad steps and milestones involved.

The Infra Unit plays a crucial role when it comes to building any new facility. The new construction activity is planned according to the 'Master Plan'. Developing Master Plan is the responsibility of Infra Unit. Before starting any construction activity, it is essential that the Master Plan is sanctioned by the local authorities and various environment clearance authorities. Liaising with these authorities is carried out by Infra unit with the help of a consultant, on behalf of the entire campus stake-holders.

For any new construction activity, a design drawing is prepared by consultant architect based on the initial inputs provided by the institute experts (and the representatives of end users, if identified). This design travels back and forth for many iterations and at one level, final drawing is prepared and associated Bill of Quantity (BoQ) is framed. Based on this, the project cost is estimated. During this phase, the Infra unit deals with several internal units of the institute and gets approval from various authorities. It starts with getting a nod from Building and Works Committee (BWC), where external experts evaluate this project and offer feedback. Post BWC approval, the proposal goes to Finance Committee (FC) for its approval and then to Board of Governors (BoG), depending on the size of the project.

Once these approvals are in bag, Infra Unit, on behalf of the institute declares that we are ready to build this new facility! Big value projects are usually carried out by a Project Management Consultant (PMC) like CPWD, NBCC, etc.

During every phase of the construction, Infra unit carries out coordination activity between the consultant architect, PMC, Contractor and the end user (if identified). The coordination activity helps in fine tuning the design as the construction progresses, based on the users' feedback. Generally, Dean (Infra), all Associate Deans, Institute Engineer (IE), Executive Engineers and engineers from the cadre are part of this coordination activity, who provide their inputs to resolve any issues and speed up the progress.

Once the construction is complete, there is a formal handover procedure. Before actual start of usage of the new facility, there is a series of approvals that are required from various authorities.

In nutshell, right from making a master plan to getting a building ready for usage, there are numerous milestones involved, a large number of internal and external approvals

are required to be obtained, and coordination between various entities (internal and external) is involved. For successful project, it is extremely important that all the stakeholders work in unison.

4.0 New Constructions on Campus

Currently, five high value projects are being carried out on IIT Delhi's Hauz Khas campus. These are: Engineering Blocks (99B and 99C), Boys Hostels (Dronagiri and Saphthagiri), Girls Hostel (Sahyadri), Research and Innovation (R & I) Park and Assistant Professor Flats. In addition, Sports Complex is being built near the pavilion.

4.1 Engineering Blocks 99B and 99C

The Engineering blocks 99B and 99C are located on the either side of lecture hall complex (LHC). The central workshop will be located on the ground floor of 99B. 99B will also host various academic and research units like Department of Textile and Fibre Engineering, Department of Mathematics, Department of Material Science and Engineering and Department of Design. On the other hand, 99C will majorly be a *bio-cluster* hosting academic and research units like Centre for Bio-medical Engineering (CBME), Department of Bio-chemical Engineering and Technology and Kusuma School of Biological Science. Engineering Block 99B is a 7 storey building which has a total built up area of 37416 sq.m and Engineering Block 99C is a 7 storey building with a basement and has a total built up of 30362 sq. m. The work is being carried out by CPWD and it is expected that the buildings will be handed over to IIT Delhi on or before March 2021.



99B: Exteriors; Work in Progress



99B: Exteriors; Work in Progress



99B: Interiors; Work in Progress



99B: Interiors; Work in Progress



99C: Exteriors; Work in Progress



99C: Exteriors; Work in Progress



99C: Interiors; Work in Progress



99C: Interiors; Work in Progress

4.2 Dronagiri, Sapthagiri, and Sahyadri

These hostels are being built by CPWD. Due to Covid-19 situation, the work was stalled for about last 4 months. A small amount of work was being carried out with in-situ workers, however, the major portion of the work could not be achieved due to non-availability of labour. The situation has improved now and in the latest meeting with

DG, CPWD it was decided to revise the project completion date of these projects to 31st March 2021. Boys hostels (Dronagiri and Sapthagiri) will be 850 seater taken together, while the girls hostel (Sahyadri) will have 320 rooms. All the hostels have central air conditioning facility.



Boys' Hostel: Work in Progress



Girls' Hostel: Work in Progress

4.3 R & I Park

The R & I Park is being built by a Central PSU - NBCC. Again, due to Covid-19 situation, the date of completion of this project has been pushed to March 2021. Currently, the entire structure has been built and the internal details have been finalised.



R & I Park: Exteriors; Work in Progress



R & I Park: Exteriors; Work in Progress



R & I Park: Interiors; Work in Progress



R & I Park: Interiors; Work in Progress

4.4 Assistant Professor Flats

154 flats are being built under this project. Each flat has a carpet area of 1050 sq ft having one hall plus dining unit, one kitchen, two bedrooms and a study room. The flat will have two bath + WCs. The project has 6 towers planned out of which 3 were supposed to be delivered in the month of June 2020. However, due to Pandemic situation, the completion date of the project is slightly postponed and now, the 3 towers are likely to be available for allotment after December 2020. NBCC is carrying out this work.

Following photographs show the current status of the project:



AP Flats: Concept Render



AP Flats: Work in Progress



AP Flats: Work in Progress



AP Flats: Work in Progress

4.5 Indoor Sports Complex

Sports complex is being built through the partial funding provided by our alumnus Mr. Saurabh Mittal (B.Tech. EE, 1995 Batch). This facility will have 2 squash courts, one badminton court and tables tennis tables. The expected date of delivery of this complex is in the month of December 2020. This work is being carried out CPWD.

Following photographs show the current status of the project:



Sports Complex: Work in Progress



Sports Complex: Work in Progress



Sports Complex: Work in Progress



Sports Complex: Work in Progress

5.0 Recent News

5.1 Sonipat Campus

Recently, Central Research Facility (CRF) building was handed over by NBCC to IIT Delhi. Thus, Sonipat campus of IIT Delhi has two entities working on it: I-Tec building and CRF. The responsibility of maintenance of that campus was handed over to the Infra unit, recently. The infrastructure unit is in the process of building a team dedicated for Sonipat campus. For this, liaison with Establishment -2 section is going on for recruitment purpose. Once, the recruitment of dedicated team is done, the infrastructure unit will start looking after the maintenance of Sonipat Campus.

5.2 Installation of 700 KW Solar PV

In addition to 2 MW solar PV installation in the academic area, additional 700 kW solar PV panels were installed on rooftops of various hostels. This work was carried out under Resco mode under SECI's framework. The electricity generated through these panels will be consumed locally inside the respective hostel and if there is excess power generation, same will be exported to the grid through net metering mechanism.



Image: Solar PV at Zanskar hostel



Image: Solar PV at Zanskar hostel

6.0 Renovation Work

Amongst various renovation works, one of the important work is renovation of B and C type staff quarters. CPWD is in the process of completing renovation of B1 Block and 12 Dwelling Units are scheduled to be handed over in September.



Image: Block B1; Exteriors



Image: Block B1; Interiors

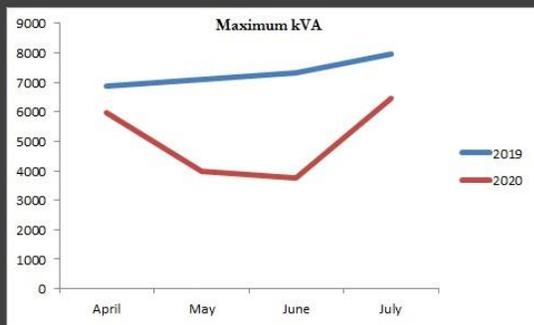
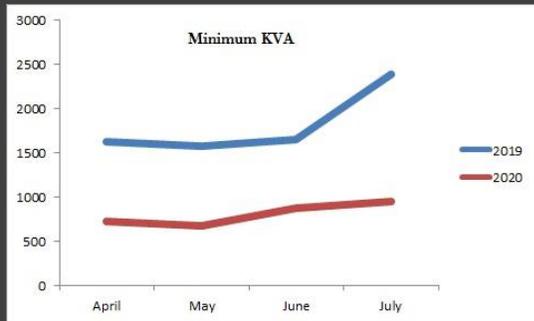


7.0 Some numbers at a glance

The following numbers are for the period of March 2020 to July 2020.

Total Electricity Units Consumed	54,23,912 kWh
Peak Electricity demand	6444 KVA (July 2020)
Water Units Consumed	3,20,398 kL
Payment towards Water Bill	4.85 Crore Rupees

The figures show comparison of the peak and the nadir of power consumption for years 2019 and 2020.



8.0 Changes in manpower

Sh. Ashok Kumar, AE (Electrical) has joined AIIMS Haryana on deputation as Executive Engineer, for a period of 3 years.

Sh. Sachin Verma, JE (Electrical) has joined IIT Kanpur as Junior Engineer.

For feedback and suggestions,
please email us at:
eoadin@admin.iitd.ac.in

Electrical Maintenance

Academic Area

#6140

East Campus

#6854

West Campus

#6997

Civil Maintenance

Academic Area

#6130

East Campus

#6840

West Campus

#6907

Water

#6905/ 6884

Sanitation & Malaria Prevention

#6638

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