

Government of India
 Ministry of environment forests and climate Change (MoER&CC)
 Regional Office - Ranchi
Monitoring Report
Part - I
Data sheet

1.		Project Type River valley/Mining /Industry / Thermal /Nuclear /Other Specify	:	Township and Area Development Projects 8(b)
2.		Name of Project	:	Indian Institute of Technology Patna at Bihta
3.		Clearance letter (s) / OM No. and date	:	SEIA, Bihar, Patna Ref. no. 97 dated 26.10.2012
4.		Location	:	At BihtaCampa Road, 4 KM from Bihta Station
	a.	Taluk (s) District	:	Amhara and Dilwarpur Block, Bihta, Patna
	b.	State (S)	:	Bihar
	c.	Latitudes/Longitudes	:	253155.92 N 855109.90 E
5.		Address of Correspondence	:	Registrar, Indian Institute of Technology Patna, Bihta - 801106
	a.	Address of concerned project Chief Engineer (with Pin code & Telephone / Fax Number	:	Head, Institute Works Department, Indian Institute of Technology Patna
	b.	Address of Executive project Engineer / Manager (with Pin code & Telephone / Fax Number	:	Shri S K Jha Executive Engineer, IWD, IIT Patna
6		Salient features:	:	
	a.	Salient features of the project	:	Project Location: 25° 31' 55.92"N, 84°51'09.90" E. Land Area 20, 23,436.5 sqm. Present built up area:- 137954 sqm Built up area proposed for expansion :- 139044 sqm Water requirement : 775 KLD (Existing + Proposed) Built up Area in Environmental Clearance dated 26-10-2012 : 1,37,997.62 sqm

	b.	Of the environmental management plans	:	Regular monitoring of EMP is being carried out and a copy of EMP has been submitted to RO, Ranchi. Environment Management committee has been formed for the purpose. Which are mentioned here, 1. PIC-landscape----- Chairman 2. Associate Head----- Member 3. Dr. Subrata Hait (Civil)---- Member 4. Executive Engineer (RZ)... Member
7		Breakup of the project area:	:	Attached
	a.	Project area Land Area Ground Coverage Built up Area Parking Area Parking ECS Road Area Hardscape Area Green Area (Trees, Shrubs & Grass)	:	20, 23,436.5 Sqm Existing 40,287 Sqm 1,37,997 Sqm. 28,325 Sqm. 1133 ECS 56,850 Sqm 21,877 Sqm 65,263 Sqm Total 80,000 sqm 2,76,998 sqm 76,125 sqm 3045 ECS 90,350 sqm 41,254 sqm 1,30,398 sqm
8		Breakup of project affected population with enumeration of those losing houses dwelling units only, agricultural land only, both dwelling units and agricultural land and landless labourers /artisans	:	Vacant plot allotted by Bihar Government. No population is affected.
	a.	SC, ST /adivasis	:	Nil
	b.	Others	:	Nil
9		Financial details:	:	
	a.	Project Cost has originally planned and subsequent revised estimates and the years of price reference	:	520 Crores
	b.	Allocations made for Environmental management plans, with item wise and year wise breakup	:	Rs 8.60 Crores

c.	Benefits cost ratio / internal date of return and the year of assessment	:	Not applicable as this is an educational Institution recognized by Gov. of India.	As per project proponent
d.	Whether (C) includes the cost of environmental management as shown in (b) above	:	Not applicable	
e.	Total expenditure on the project so far	:	495 Crores	
f.	Actual expenditure incurred on the environmental management plans so far	:	Rs 8.60 Crores	
10.	Forest land requirement	:	No Forest land involved	
a.	The status of approval of a diversion of forest land for non forestry use	:	N.A.	As per project proponent
b.	The status of compensatory afforestation, if any	:	N.A.	
c.	The Status of Clear felling	:	N.A.	
d.	Comments on the viability and sustainability of compensatory afforestation programme in the light of actual filed experience so far	:	N.A.	
11.	The status of clear filling in non – forest area (Such as submergence area of reservoir, approach road), if any with quantitative information	:	Nil	
12.	Status of construction:	:		
a.	Date of commencement	:	January 2013	
b.	Date of completion (actual and / or planned)	:	Partly in 2016 and remaining planned in September 2019	
13.	Reasons for the delay if the project is yet start	:	Project Started	
14.	Date of site visit:	:		
a.	The dates on which the project was monitored by the Regional Office on previous occasions, if any	:	24.05.2018	
b.	Date of site visit for this monitoring report	:	03.05.2019	

PART - II

Descriptive report on status of compliance to conditions of environmental clearance

1.	Project type	Building & Construction Project
2.	Name of the project	Proposed Indian Institute of Technology Patna at Bihta
3.	No & date of environmental clearance	SEIAA, Bihar, Patna Ref. no. 97 dated 26.10.2012
4.	Address for correspondence	
	(a) Project Office	Registrar, Indian Institute of Technology Patna, Bihta – 801106
	(b) Corporate Office	Shri S. K. Jha Executive Engineer, IWD, IIT Patna-801106
5.	Date of site visits :	.
	(a) Dates of earlier monitoring	24.05.18
	(b) Date of monitoring	03.05.19

The project was visited on 03.05.19 along with Er. Devanand Jha, (IIT, IWD), Er. S.K. Jha (IIT, IWD), Er. Anil Burma, Er. Sujit Kumar (CPWD). Discussions were held with different unit heads of the IIT Patna Bihar. During discussion period project proponent stated that present built up area is 1,37,954 sqm and area proposed for further expansion is 1,39,044 sqm. Construction for remaining portion is in process. Based on the site visit, documents provided and discussion held with project officials, the point-wise status of compliance to the various environmental clearance conditions, are as follows:

Part A- Specific Conditions	
Conditions	Status of Compliance
i. Construction Phase	
Facility of labourers during construction	
i	Provision of drinking water, wastewater disposal and solid waste management should be ensured for labour camps. Water usage during construction should be optimized to avoid any wastage.
	Complied : At the project site it was observed that for the construction workers provision of drinking water is being provided. The construction phase involves generation of construction waste/debris, waste oil and chemicals from construction machinery and domestic solid waste from camp site etc. Which is being handled as per the C&D waste management and handling rules 2016. For the wastewater generated from labour camps adequate number of separate male and female portable toilets, septic tanks and soak pits are

		provided (as can be seen from photos no. 25 & 26) and onsite for disposal of sewage is being done as per the design aspects of Bureau of Indian Standards.
ii	Proper sanitation facilities should be provided for construction workers to ensure environmental sanitation. Sewage generated from the areas occupied by the construction labourers have to be directed into the existing sewage drain of the area. In case of non availability of the sewer system, an onsite treatment system has to be provided.	Complied: Proper sanitation facilities are given to the workers. The sewage generated from the portable toilets is vacuum-collected and emptied into the main sewerage system of the area. Soak pits are provided at the construction areas to absorb wash water and other domestic waste water.
iii	Health and safety of the workers should be ensured during construction. Personnel protective equipment like helmets, earmuffs, etc. should be provided to the workers. For vibration control damped tools must be used and the number of hours that a worker uses them must be limited.	Complied: It was noted that the workers engaged in construction activities are exposed to occupational health and safety hazards and risks, for which proper measures are being taken. A work permit system is implemented for all works related to working at heights (typically when working over 2m and above). All works related to working at heights are undertaken only during the daytime when sufficient sunlight is available. All excavation activities are conducted under supervision of the site supervisor. Proper signage is provided at site of excavated areas. The year wise distributed list of personal protective measures for workers has been submitted to RO, Ranchi.
Steps to avoid disturbance during construction		
i	Disposal of muck including excavated material during construction phase should not create any adverse effects on the neighboring communities and disposed off taking the necessary precautions for general safety and health aspects.	Being complied: At the project site it was observed that a soil stratum at site constitutes of sandy soil and no material is found during excavation. All water seeps down the ground and no stagnation of water is there. Project site falls in plain area where excavation material generated is a very less. All surplus excavated earth is stored within the site and used for site leveling and green belt development, as can be seen from photo no.18. Since there is no stagnation of water, no muck is generated was observed in the project sites. All excavation has been done in the campus within the boundary wall.
ii	Diesel generator sets during construction phase should have acoustic enclosure and should conform to E(P) Rules prescribed for air and noise emission standards.	Complied: The DG sets used by construction agency have inbuilt acoustic enclosure as per norms and conform to E(P) rules. Rubber padding provided for vibration control. Regular maintenance repair of equipment has been

		shown by project proponent during the project monitoring period. The DG stack emission data tested by global testing and research laboratory which was found within limit.
iii	Vehicles / equipment deployed during construction phase should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peaking hours.	Complied: It was noted that downwash of trucks (especially tyres) is being done prior to departure from site to reduce the mud and dirt carryout. Vehicles employed in construction are in good condition. Pollution under control (PUC) certificates are kept in record and also submitted to RO, Ranchi. Restriction on use of equipment generating high noise during night time as stated by project proponent.
iv	Regular supervision of the above and other measures should be in place all through the construction phase so as to avoid disturbance to the surroundings.	Being complied: Regular supervision of the above and other measures has been taken, so that proposed site construction has not created any disturbance to the surroundings.
v	Adequate sprinkler arrangement shall be provided. Care should be taken to keep all material storages adequately covered and contained so that they are not exposed to winds.	Partially complied: It was observed that heaps of sand, earth etc., is normally covered and also, sprinkling of water has been resorted on the sand stored in open. Wet suppression is being applied to at least 80 percent of disturbed surface areas on a daily basis especially during dry and windy days. Downwash of trucks (especially tyres) is being done prior to departure from site to reduce the mud and dirt carryout. During material handling the material is being dropped from a low height in order to reduce any fugitive dust emissions. Haul trucks keep covered with suitable covering material like tarpaulin sheets to prevent fugitive emissions during transportation of construction materials. Site barricading is done to prevent dust of construction and demolition site to spread from the site, as can be seen from photos no.27-30. The sand dumps should have uniform levels and also more number of fixed water sprinklers points at the sand dumping areas to minimize dust pollution during windy periods.
vi	Loading and unloading operations should not be carried out in open areas.	Partially complied: At the project site working area barricaded from all sides. Stacking of materials is also done within barricaded area. It is thus ensured that no loading and unloading of material is done in open area, as can be seen from photos no 27-30. The height of the hessian cloth barricade should be increased in the academic building site to shield from dust blowing from sand dump area.

vii	Use of Ready-Mix concrete is recommended for this project.	Partially complied: Ready-Mix concrete (RMC) is being used at the project site. As can be seen from photos no. 22 & 23. Concrete from the plant is transported through TMs to work site. More greenery should be developed in the available surrounding area of the Ready-Mix concrete plant.
viii	Adequate measures to be adopted to avoid wastage of water for curing of concrete structures.	Being complied: To reduce the water demand during construction phase curing of RCC is done by wrapping with hessian cloth, ponding of water on horizontal surface. There is no wastage of water in curing. Wet coverings with hessian clothes are extensively used for curing. The coverings are kept continuously moist so that a film of water remains on the concrete surface throughout the curing period.
ix	Promotion of use of cleaner fuel and fuel quality improvement should be done. Excessive energy consumption and fuel usage should be avoided.	Being complied: LPG is used by labourers for cooking food. High speed Diesel is used in DG sets and vehicles. Excessive energy consumption and fuel usage was avoided.
x	Accumulation/stagnation of water should be avoided to ensure vector control.	Complied: Soil strata are sandy and all water seeps down the ground. There is no accumulation of water in the work area. There is no natural water body.
Selection of materials for better energy efficiency		
i	Use of energy efficient construction materials should be ensured to achieve the desired thermal comfort.	Complied : Double glazed glass unit (DGUs) have been used. Fly ash brick wall on external face is provided for thermal insulation. Puff insulation has been provided over roof and light colour heat resistance terrace tiles with SRI>78% has been provided over roof.
ii	Fly Ash is to be used for construction as per Notification No. S.O. 769(E) dated 14.09.1999 amended vide Notification No. S.O. 979 (E) dated 27.8.2003 and S.O. 2804 (E) dated 03.11.2009 of the Ministry of Environment & Forests, Govt. of India.	Complied : Portland Pozzolana Cement (PPC) which contains fly ash is used in the work. Fly ash bricks have been used in masonry. As can be seen from photo no. 33

iii	Construction technologies that require less material and possess high strength should be adopted. Materials with low embodied energy and high strength should be used preferably.	Complied : Construction is done with RCC framed structure technology which is suitable in the seismic zone.
iv	Use of energy efficient lighting systems e.g. High Pressure Sodium Vapour (HPSV) Lamps, LED etc. should be promoted. Solar energy should be used for outdoor lighting. Out of total 169 nos. outdoor lighting, at least 25 % of external lighting will be based on solar power, as proposed, Solar water heating will also be introduced in building requiring hot water.	Being complied : Energy efficient lighting systems like HPSV lamps and LEDs have been used all over external lighting system. The campus has Grid connected 1MW _p (1000 kw _p) solar PV plant giving power to non-essential supply of various buildings, compliance at least 25% of external lighting from Solar PV is not necessary. (This is required in case of standalone solar PV Systems, as per the PPT). Maximum utilization of natural light LED in common areas. Use of solar lights in street and landscaping has been done. Appropriate design to reduce heat gain and loss, roof-top thermal insulation has been done.
v	Passive solar cooling to be incorporated in building design. Buildings should be oriented for ensuring natural ventilation and day lighting.	Complied : Building orientation has been done considering sun path. Shading devices have been used in Design. Passive design maximizes the use of 'natural' sources of heating, cooling and ventilation to create comfortable conditions inside buildings. It harnesses environmental conditions such as solar radiation, cool night air and air pressure differences to drive the internal environment. Project proponent stated that passive measures do not involve mechanical or electrical systems.
vi	Proper insulation of roof should be provided to achieve desired thermal comfort. Use of light coloured, reflective roofs having an SRI (solar reflectance index) of 50 % or more should be incorporated.	Complied : For thermal comfort puff insulation has been provided over roof and light color heat resistance terrace tiles with SRI>78% has been provided over roof.
vii	Adequate open space, greenery and water bodies to be provided as per rules.	Being complied : Existing Green Area (Trees, Shrubs and Grass) is 65,263 Sqm with projected total of 1,30,398 Sqm out of 20,23,436.5 Sqm land area.
viii	Restrict the use of glazed surface as per National Building Code 2005.	Being complied : Limited glazing has been used. Glazing is on northern side.
Water Body Conservation		
i	The water bodies, if any, should not be lined and the embankments should not be cemented. The water bodies are to be kept in natural conditions without disturbing the ecological habitat.	Complied: It was noted that there is no natural water body within the project site. At present as natural soil of the site is of sandy pervious nature, water doesn't retain on the ground surface. It was observed that there was dry pond keep for future water body, as can be seen from

		photos no. 34.
Plantation Proposed		
i	The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. Plantation should be done in consultation of the Department of Forests, Govt. of Bihar.	Partially complied : Project proponent reported that comprehensive plantation drive in the campus has been undertaken by the forest department, Danapur, Bihar. 10,000 Nos. plantations have been done in the year 2016 including one-year maintenance. Project proponent also ensures that Forest department help will be taken for further plantation of selected species. It was observed that plantation work is underprogres in the remaining area of the campus, as can be seen from photo no 5. The avenue plantation activity should be carried out both side of the entrance road and other area of the campus. Project proponent should submit the year wise plantation data along with planted species and covered area to RO, Ranchi.
Water supply		
i	Water requirement during construction phase shall be met from municipal supply. Ground water should not be abstracted without prior permission of the competent authority as per the Central Ground Water Board.	Complied : Water for construction is obtained from water tankers available in the market and treated water from nearby the STPs. Permission of Central Ground water authority to extract 1500 KLD of water for its use as specified under Letter No 21-4(129)-CGWA/MER/2012-4839 copy of which has been submitted to RO, Ranchi.
Sewage Treatment Plant		
i	As per the proposal submitted by the proponent waste water shall be treated in STP.	Complied: Wastewater is treated in 3 Nos. STPs of 120 KLD each based on FLUIDIZED AEROBIC BED REACTOR (FAB TECHNOLOGY), Technology. It was also observed that a newly constructed sewage treatment plant along with old STP plants, as can be seen from photos no. 14 to17.
Rain Water Harvesting Scheme		
i	The proponent must collect rainwater from roof-top catchments and reuse for various purposes after necessary cleaning. Water bodies should be created and used for storing rain water. Adequate retention time and storage provisions should be provided for harvesting rainwater.	Partially Complied : Rain from the Roof of the building is collected and discharged in to surface rainwater channel network at ground level, filtered and finally discharged to groundwater discharging pits constructed as per specifications given in National Building Code. However, rain water harvesting practice and recycling system of collected rain water is yet to be implemented.

	exit from the project area should conform to the norms & standards of competent authority for traffic management. Bell mouth type arrangement should be made at the entry & exit. Proper traffic management plan should be adopted in consultation with Traffic authorities.	from project area has been designed as per norms and standard. Bell mouth type arrangement has been made at Entry and Exit of the campus. Project proponent stated that traffic authorities will be consulted, if and when requirement is felt.
Others:		
i	Efficient management of indoor air quality must be ensured for health and safety of the users.	Being complied: All air conditioned areas have provision of fresh air duct for improved air quality. Indoor air quality test have been performed and report has been submitted to RO, Ranchi, which was found within the prescribe limit.
ii	Adequate measures to be adopted for water conservation during construction and operation stage. Use of efficient irrigation equipment, evaporative cooling unit in air-conditioning system etc should be considered.	Being complied: To reduce the water demand during construction Curing of RCC is done by wrapping with hessian cloth, ponding of water on horizontal surface. There is no wastage of water in curing. Wet coverings with hessian clothes are extensively used for curing. The coverings are kept continuously moist so that a film of water remains on the concrete surface throughout the curing period. Drip irrigation system and sprinklers have been adopted to minimize use of water in irrigation. VRV System of Air conditioning which do not require water has been used in the campus. Dual plumbing has been installed to segregate the fresh water use with supply of recycled water for non-potable water requirements such as flushing, horticulture, etc.
iii	Provisions should be kept for the integration of solar water heating system.	Complied: Solar hot water systems is fully functional in girls hostel, as can be seen from photo no. 4
I. Operation Phase		
Water Supply		
i	Water requirement during operation phase shall be met from municipal supply. Ground water should not be abstracted without prior permission of the competent authority.	Being complied: The source of water supply during operational phase is mainly ground water. Central ground water authority has granted for withdrawal of 1500 KLD underground water vide letter No 21-4(129)-CGWA/MER/2012-4839 copy of which has been attached. Regular water sprinkling have also been by water tankers in RMC and dusty area as can be seen from photo. no. 24.

	exit from the project area should conform to the norms & standards of competent authority for traffic management. Bell mouth type arrangement should be made at the entry & exit. Proper traffic management plan should be adopted in consultation with Traffic authorities.	from project area has been designed as per norms and standard. Bell mouth type arrangement has been made at Entry and Exit of the campus. Project proponent stated that traffic authorities will be consulted, if and when requirement is felt.
Others:		
i	Efficient management of indoor air quality must be ensured for health and safety of the users.	Being complied: All air conditioned areas have provision of fresh air duct for improved air quality. Indoor air quality test have been performed and report has been submitted to RO, Ranchi, which was found within the prescribe limit.
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ii	As proposed, low flow appurtenances shall be used in the buildings. Water meters conforming to ISO standards should be installed in the buildings to monitor the daily water consumption. Use of water efficient devices/fixtures and appliances should be promoted. Installation of dual flushing system should be considered to conserve water.	Partially complied: Aerators and low flow appurtenances are used in all buildings. Water meter will be installed shortly. Use of water efficient devices/fixtures and appliances is being promoted. Dual flushing cisterns have been provided in all buildings. The water meters have not been installed in the building and the daily water consumption is not being monitored.
iii	The proponent practice rainwater harvesting on regular basis.	Partially complied: Rainwater harvesting practice is done on regular basis. All buildings are having ground water recharge system. Harvesting pits are periodically cleaned to keep functioning. The campus is zero Liquid Discharge. <i>Rain water harvesting practice and of recycling system of collected rain water is yet to be implemented, as in mentioned i (Rain Water Harvesting Scheme)</i>
Sewage Treatment Plant		
i	As per the proposal submitted by the proponent wastewater shall be treated in STP. Treated sewage should conform to E(P) Rules. Treatment Plants should be monitored on a regular basis. Reuse of treated wastewater should be carried out as proposed.	Complied: Wastewater is being treated in STPs. Treated sewage has BOD < 10 MG/L & COD < 100 MG/L & conform to E(P) rules. Quality of treated water is tested and monitored regularly. Treated water is being used for horticulture and flushing purpose. As can be seen from photo no. 13 to 17.
Emission from Diesel Generator Set		
i	The stack height and emissions from D.G. sets should conform to the norms of Central Pollution Control Board. The certification of space design for DG sets should be done by competent authority.	Complied: Stack height and emissions from D.G. sets conform to the norms of Central Pollution Control Board, as can be seen from photo no. 32. Stack emission test report has been submitted to RO, Ranchi which was found within the limit. As per the project proponent certification of space standard of DG sets are not required as all DG sets are of 500 KVA capacity with inbuilt acoustic enclosure and kept in a space with terrace and no surrounding walls on three sides (i/c radiator side).
Ensure Energy Efficiency		
i	Use of energy efficient electrical systems should be promoted. High efficiency lamps with electronic ballasts should be used.	Complied: Energy efficient lighting systems (LED type) has been used all over external lighting system. Solar water heating system has been provided in Girls Hostel. As can be seen from photos no. 3 to 6.
ii	Energy efficient Motors and properly rated Transformers should be installed. Manufacturer's certificate to this effect shall	Complied: Energy efficient Motors (IE2 class) and properly rated transformers installed. Manufacturer's Certificate has been received and

	be obtained and kept on record. Backup power supply be based on cleaner fuel.	is kept in record and also a copy was submitted to RO Ranchi. DG Sets run on High speed Diesel oil.
iii	The project proponent should resort to solar energy at least for street lighting/indoor lighting and water heating.	Complied: The campus has Grid connected 1MW _p (1000 kw _p) solar PV Plant giving power to Non-essential supply of various buildings and is better than standalone solar PV Systems used for street lighting. Solar water heating system has been provided in Girls Hostel, as can be seen from photos no 2 to 6.
iv	Energy audits should be conducted on a regular basis.	Complied: An internal audit energy report has been submitted to RO, Ranchi.
Transport Management		
i	Use of public mode of transportation should be promoted. Use of the least polluting type of transportation should be promoted. Adequate parking space should be provided as per norms.	Complied: To promote public mode of transport, Bus services at regular interval plies from IIT campus to Patna city in collaboration with BSTC. Inside the campus, bus plies point to point within the campus. Bicycle is common mode of transport in the campus.
ii	Pathways should be covered or shadowed by tree canopy as far as practicable. Transport system should be such that traffic will be calm in neighborhoods. Traffic within the project site should be restricted by regulation. Adequate vertical and horizontal clearances of overhead electric power and telecommunication lines should be provided.	Complied : Extensive tree plantation is being carried out and give shadows has been done along pathways. Traffic is mostly pedestrians and cyclists. Traffic presently is much lower than design traffic capacity of roads. All LT Cables are laid underground. No overhead electric cables are there in the campus.
Solid Waste Management		
i	The proponent should abide by the Municipal Solid Wastes (Management and Handling) Rules, 2000. The proponent must develop the Solid Waste Management and Disposal Scheme ensuring storage and segregation of biodegradable and non-biodegradable wastes. The solid waste is to be disposed off in consultation with municipal authority.	Complied : Solid waste management plan is followed in consultation with the Municipal Authority. A signed copy of Solid Waste Management and Disposal Scheme ensuring storage and segregation of biodegradable and non-biodegradable wastes has been submitted to RO, Ranchi
ii	The proponent should provide different coloured bins for different categories of waste and ensure complete segregation of biodegradable and non-biodegradable wastes. The solid waste from different collection and storage bins should be finally collected at transfer stations. Further segregation will be done at transfer stations to collect recyclables such as plastic, polythene, glass, metals, textiles, rubbers, leathers, paper etc. Separate compartments shall be provided for each type	Complied : All habitable buildings are provided with colored dustbins of different categories to ensure efficient segregation and further processed as can be seen from photo no. 7

	of recyclables.	
iii	Spent oil from DG sets should be stored in HDPE drums in isolated covered facility and disposed off as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008. Spent oil from DG Sets should be disposed off through registered recyclers only.	Complied: Spent lube oil from DG Sets are handed over to authorized agency engaged for AMC of DG Set for further disposal.
iv	Various types of electrical and electronic wastes generated in the buildings, which includes PC, Xerox machine components etc. should be collected separately for transportation to the authorized recyclers approved by the State/Central Pollution Control Boards. There should also be provision for storage of these wastes in the building before transportation. The e-waste collected should be processed by authorized recycling unit. The proponent should abide by e-waste (Management & Handling) Rules, 2011.	Being Complied: This is a new campus. Electronic waste generated is negligible so far. Some outdated electronic equipments were disposed off through buy back system of purchase.
Others		
i	The implementation of Environmental Management Plan should be carried out, as proposed. Regular monitoring should be carried out during construction and operation phases.	Complied. Regular monitoring of EMP is being carried out. Environment Management committee has been formed for the purpose. Which are mentioned here, 1. PIC-landscape----- Chairman 2. Associate Head----- Member 3. Dr. Subrata Hait (civil)-----Member 4. Executive Engineer (RZ)..... Member
ii	The project proponent should provide guidelines to the users to ensure conservation of energy and water. In house environmental awareness campaigns should be carried out at regular intervals to ensure environmental protection.	Being complied : To encourage conservation of energy and water, poster campaigning are undertaken in the campus. Various social media tools are used to spread awareness for environment.
iii	Firefighting systems should be designed in compliance with the WBFS and NBC norms. Preventive measures should be adopted for Risk & Disaster Management as per the provisions of the National Building Code 2005.	Complied: All fire fighting system has been designed as per NBC 2016. In this regards a copy of disaster management plan has been submitted to RO, Ranchi.

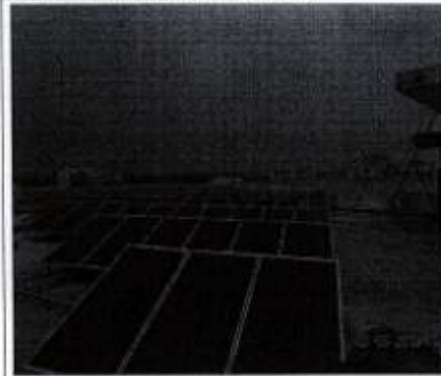
iv	As a measure of precaution against accidents, Disaster Management Plan should be prepared. Good housekeeping practices and preventive measures should be adopted to prevent spread of diseases/vectors from the laboratory areas to the neighboring habitation areas.	Complied: Disaster Management Plan is in place. There is a team of staff to supervise the work of outsourced housekeeping agencies. The discharge from laboratories is negligible and stored in a container and to be disposed through authorized agencies.
v	Environmental Management Information System shall be maintained properly.	This condition is complied with
Part – B General Conditions		
1	The environmental safeguards contained in the EMP Report should be implemented in letter and spirit.	Complied : Safeguards contemplated in the EMP Report are implemented in letter and spirit.
2	All the labourers to be engaged for construction works should be screened for health and adequately treated before issue of work permits. Provision should be made for the supply of kerosene or cooking gas to the labourers during construction phase.	Complied : Laborers engaged during construction have regular health checkup has been done at wing of IIT, Panta Hospital, where staff nurse is available for first-aid. As can be seen from photos no. 21. In this regards some health checkup report of workers has been submitted to Ro, Ranchi. Cooking single gas has been provided to labours for making food.
3	In case of any violation of the conditions laid down in this Environmental Clearance, Section 16 of the Environment (Protection) Act, 1986, will be applicable. In case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEAC, West Bengal.	Agreed Upon
4	The State Expert Appraisal Committee, Bihar reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.	Agreed Upon
5	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives.	Being complied: At the project site it was observed that there was no storage of diesel in the campus. Diesel brought from dealers is directly filled up in fuel tank of DG sets. So project proponent stated that approval of chief controller of explosives is not necessary.
6	These stipulations would be enforced among others under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment	Complied : On this condition a copy of CTE No. P/T (NOC)-1881/12 dated 13.4.12 has been submitted to RO, Ranchi.

	(Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 2006 including the amendments and clarification circulars.	
7	The Project Proponent should inform the public that the project has been accorded environmental clearance by SEIAA & the copies of clearance letters are available with the State Pollution Control Board and may also be seen on SEIAA website (www.seiaabihar.org). This should be advertised within 7 days from this date of issue of the clearance letter, at least 2 local papers for wide circulation.	Complied: Environmental clearance status has been published in 2 Newspapers. Which are as, 1. Times of India (Published date 15.11.12) 2. Probhat khabar (Published date 15.11.12)

Some photographs of the project site during project monitoring period (Dated 03.05.2019)



1. Photo of Administrative zone



2&3. Photo of solar plant over the roof of completed building



3.



4. Photo of solar hot system over the roof of girls hostel



5. Photo of under progress plantation activity



6. Photo of solar light in the street and landscaping



7. Photo of different colour dustbin



8. Photo of avenue plantation site, not yet started



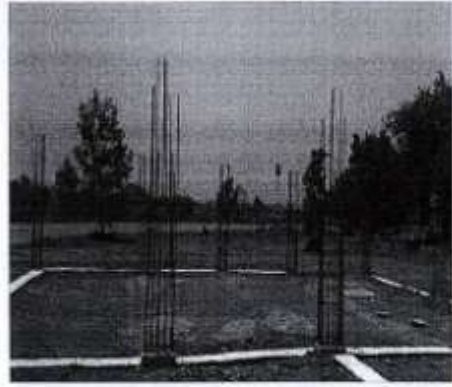
9&10. Photo of chemical waste collection place



10.



11. Photo of biodegradable and non biodegradable segregation and storage place



12. Photo of under construction biodegradable and non biodegradable segregation and storage place



13. Photo of STP pipe line



14-16. Photos of STP



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17. Photo of newly constructed treated sewage collection points



18. Photo of newly building construction area



19. Photo of IIT traffic point



20. Photo of low land leveling area



21. Photo of IIT patra Hospital



22&23. Photo of RMC plant



17. Photo of newly constructed treated sewage collection points



18. Photo of newly building construction area



19. Photo of IIT traffic point



20. Photo of low land leveling area



21. Photo of IIT gamma Hospital



22&23. Photo of RMC plant



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24. Photo of water sprinkling at RMC point



25. Photo of male worker toilet in the building constructed area

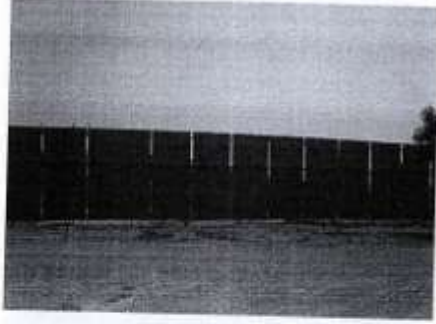
26. Photo of female worker toilet building constructed area



27-30. Photo of hessian cloth barrier at RMC plant to protect the dust in the

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nearby area



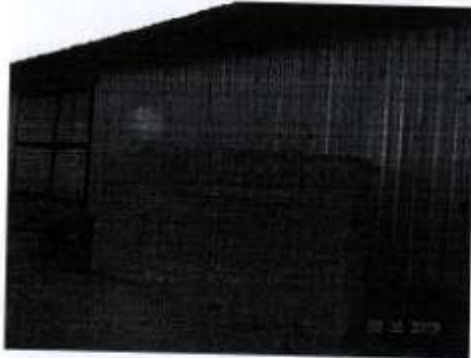
29.

30. Photo of hessian cloth covered the sand dumping area



31. Photo of water treatment plant

32. Photo of stake of DG set



33. Photo of fly ash truck

34. Photo of dry pond keep for water body

Summary of the report

Site inspection of the project has been carried out on 03.05.2019. Following observations were made during the site inspection that needs special attention :

A. Following conditions found to be partially complied:

A (I) Specific Conditions:

Steps to avoid disturbance during construction

(Condition no. v): The sand dumps should have uniform levels and also more number of fixed water sprinklers points at the sand dumping areas to minimize dust pollution during windy periods.

(Condition no. vi): The height of the hessian cloth barricade should be increased in the academic building site to shield from dust blowing from sand dump area.

(Condition no. vii): More greenery should be developed in the available surrounding area of the Ready-Mix concrete plant.

Plantation Proposed

(Condition no. i): The avenue plantation activity should be carried out both side of the entrance road and other area of the campus. Project proponent should submit the year wise plantation data along with planted species and covered area to RO, Ranchi.

Rain Water Harvesting Scheme

(Condition no. i): Rain water harvesting practice and recycling system of collected rain water is yet to be implemented.

Water Supply

(Condition no. ii): The water meters have not been installed in the building and the daily water consumption is not being monitored.


29/05/19
Dr. Hemen Hazarika
Scientist "D"