

1.0 **Afforestation** –514759 Nos. plantation done involving NGOs & Railway staff on encroached land/low lying land and vacant space.

2.0 **Mini Garden developed** – Mini Garden developed at Pandabeshwer, Waria Gang Hut and ZRTC Bhuli,

3.0 Vertical garden with fountain at Jasidih:

i) Vertical garden with fountain was completed and commissioned at Jasidih station circulating area in connection with beatification of station and circulating area.



ii) 2nd Vertical Garden and Extension/beautification of old circulating area have been done by demolishing old structures and shifting offices.



4.0 **Construction of Mini Forest** - 11 Nos mini forests were provided over Asansol Division (Asansol, Kumardhubi, Sitarampur, Dubrajpur, Panchra, Chinpai, Andal etc.)



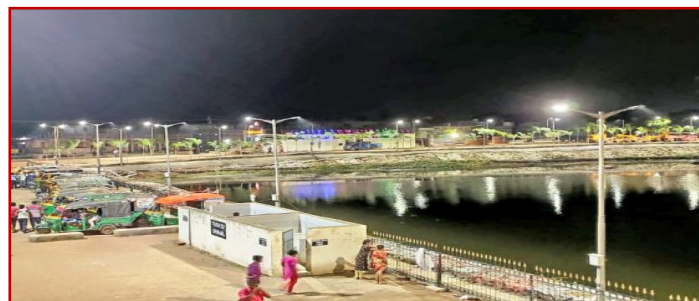
- 5.0 Provision of Mini Nursery near Railway Track** – 03 Nos mini nursery were provided at Panagarh, Asansol and Madhupur



- 6.0 Provision of water bodies, ponds & reservoir all over the division: 19 Nos** New Ponds were developed at Asansol, Sitarampur, Andal, Mugma, Galsi, Panagarh, Vidyasagar, between Khana – Ishanchandi station, between Paraj – Mankar - Panagarh station and other stations over Asansol division .



- 7.0 Beautification of pond and surrounding area at Jasidih station:** A huge Pond and it's surrounding area at Jasidih has been beautified. Paving of banks and green patch has been provided all around the pond. The water body has also been cleaned.



8.0 Roof Water Harvesting at Hospital/Stations/Offices/Colonies:

i) **Roof Top RWH –09 Nos. i.e. 4881m²area covered.**

Asansol DMO Hospital, Waria Gang Hut, Panagarh at Quarters, Andal Health unit, Bhuli at Hostels and Giridih station building.

ii) **RWH through Artificially Created Surface Water Bodies -**

- a) Artificially created surface Water Bodies - **43 nos. provided.**
- b) Water bodies under Pisciculture – **17 Nos. provided.**

9.0 Construction Of Roads By Released Sleepers At Colonies, Level Crossings, Goods Shed & Station Platforms

- **Panagarh-** 10,000 Nos scrap PSC sleeper were used for connecting road from LC No.102 approach to LC No.103 (length of 900m X width 6.25m).



- Approach road surface of LC gate No.21/Spl. between **Siuri – Sainthia** was constructed with the use of scrap PSC sleepers to avoid frequent damages due to plying of heavy vehicles.
- Low cost PF surfaces were provided at newly constructed **Sirsa Nunthar** and **Dhanpatdih** halt by using of scrap PSC sleepers.



- 50m pathway was provided at **Panagarh** Gang hut by using scrap PSC sleepers.

- 5.00 Km pathway using 10,000 Nos scrap PSC sleepers was constructed at **Andal Receiving yard**.
 - Asansol nursery - 60M pathway was provided at Mini Nursery at Asansol dock siding by using scrap PSC sleepers.
 - Construction PF surface of Mathurapur, Paraj and Ishanchandi is in progress by using scrap PSC sleepers.
- iii) Boundary wall at Durgapur was constructed by using scrap PSC sleepers.



10.0 Provision of new Toilet complex at

Jasidih: A mega Toilet Complex of 1500 Sq Feet equipped with premium fittings has been constructed in new parking area and brought to passenger service at Jasidih station.



11.0 Boundary Wall Constructed – 5620 RM

12.0 New drain Constructed – 3088 M

13.0 Pipe line provided - 7618 M

14.0 Road Constructed –22755 Sq.m.

15.0 Water Audit: Water audit was done at Asansol, Durgapur, Andal, Jasidih, Baidyanathdham, Deoghar, Basukinath, Madhupur

16.0 Solar powered Rolling-in Hut at Hirapur Yard: New Rolling-in hut has been made at Hirapur Yard. LED lights used in this Rolling-in hut are powered from batteries, charged by Solar panels.



- 17.0 Lean Six Sigma and IMS Certification of Depots, Yards & Sick-lines:** All yards at Andal (UP Yard, WDD Yard, Empty Yard & DSEY) and all Sick lines at Andal (Up Sick line, Down Sick Line & DSEY Sick Line) are covered under IMS Certification. IMS Certification ISO 9001 for Quality, ISO 14001 for Environment (EMS) and ISO 18001 for Occupational Health & Safety (OHSAS) have been implemented. IMS Certification has already been implemented for Coaching Complex/ASN (New and Old) and ROH Depot/BOXN/Andal since July-17 for 03 years. BOXN ROH DEPOT, Andal has been certified with the LEAN SIX SIGMA Certification. Further, BOXN ROH DEPOT has been **Certified with 5-S on 27.02.2020**.



- 18.0 Provision of E-Rickshaw, Electric Scooter, Mobile Work Centre & Bi-cycles for Man and Material movement in Yard:** Battery operated E-Rickshaw, Electric Scooter, Mobile Work Centre & Bi-cycles have been provided for Man and Material movement in Yard. The Electric Scooters and Bi-cycles have been modified suitably to carry lighter repairing materials. These items were inaugurated on 10.01.2020 during GM Annual Inspection.

- 19.0 Solar Pipe Lights for Day Light Harvesting at BOXN ROH Depot/UDL:** 14 Nos Solar pipe lights are being installed in main working area i.e. CNC machine room and ROH zone. This certainly improves illumination level by more than three times without using a single unit of electricity. It results in total saving of 8.4 unit/day of electricity. This modern state of the art day light harvesting system allows entering sun lights after filtering the harsh UV rays. This system is pocket friendly and healthy.



Day Light Harvesting:

- 19.1 ELS/ASN has commissioned **solar pipe lights** as a part of **Day light harvesting**. This is the **1st time in Eastern Railway "Day Light Harvesting"** has been introduced. Roof of pneumatic section & machine section have been installed with the same. A huge difference in illumination during day time has been noticed in the areas where the said light has already been commissioned. The same has not only increased illumination level in working place but also reduced energy consumption.

Fitment:

Total 16 nos. solar pipe lights have been installed on the roof of one portion of the shed in 04 rows each row contains 04 lights.

Difference / After effect :

A huge improvement in illumination level during day time has been observed in the areas where the said light has been commissioned even after switching off of the existing lights as 16 nos. 150 Watt LED Lights had to be switched on in the said area previously but after installation of the same the said lights are no longer required during day time.



Commissioning of solar pipe lights / Day Light Harvesting



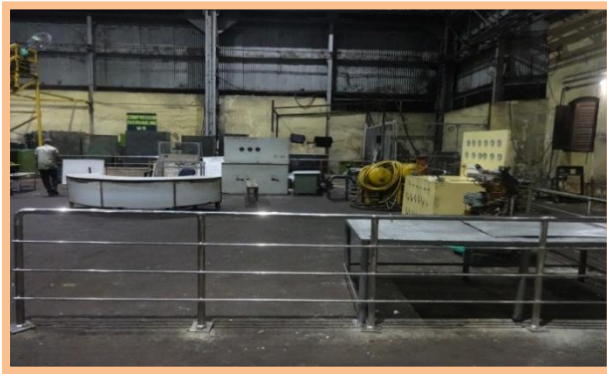
Day light harvesting



Auxiliary park before fitment of solar pipe lighting. Illumination=80 Lux.



Auxiliary park after fitment of solar pipe lighting. Illumination=320 Lux.



M-5 section before fitment of solar pipe lighting. Illumination=80 Lux.



M-5 section after fitment of solar pipe lighting. Illumination=320 Lux.

Concept:

Day light harvesting is the practice of use of windows, various openings, rooftops of workplace and reflective surfaces during the day in order to use natural light in the workplaces and provide effective internal lighting with maximum visual comfort eliminating unwanted element of natural light like heat and harmful radiations with considerable reduction in consumption of energy. These things not only save energy but

are also beneficial for human health. Natural dynamic light helps to maintain hormonal balance and provides the benefits of vitamin D in human body which in a result enhances productivity. The entire system is totally maintenance free with longevity is almost twenty years.

Benefit:

- i) Improved illumination from 80 Lux to 320 Lux.
- ii) Illumination level meets standard of lighting as per BEE standards.
- iii) Energy saving – 28.8 KWH / Day i.e. a total saving of 10512 KWH / Yr.
- iv) Soothing working environment due to presence of natural light & generated freshness & finally improves quality of preventive maintenance.
- v) No warm feeling,
- vi) The installation is maintenance free.
- vii) Long life span of approximately 15 Yrs.
- viii) High coverage area.
- ix) Overall energy saving of 1.57 lakh KWH in 15 Yrs.

A few photographs of Day Light Harvesting





Napkin dispensing machine :

20.0 Napkin dispensing machine has been commissioned at both the sheds i.e. ELS/ASN & MEMU shed.



Diesel shed Andal did following activities for sustainability of environment during year 2019-20.

- 21 Diesel Shed Andal got IMS CERTIFICATION, which include ISO:14001 (ENVIRONMENT MANAGEMENT SYSTEM), in the month of July 2019.
- 22 .Water bodies were developed.
- 23 . A massive plantation drive was organized on 2nd October 2019.
- 24 . Small gardens on empty land near working place were developed.
- 25 . A special plantation drive was organized from Superannuating (Retiring) Personnel.
- 26 . Water harvesting system has been started.
- 27 17 nos. energy audit was done at Asansol Rly. station, DRM office building/ASN, DMO Hospital/ASN, Electric Loco shed/ASN, Filter House/ASN, DGR Rly. station, Diesel shed/UDL, BOXN Depot/UDL, UP sick line/UDL, DSEY/UDL & JSME, MDP, UDL, DGHR, BSKH, RNG, BDME railway stations.
- 28 Certification of Environmental Management System(EMS) which address to ISO-14001 for 09 nos. railway stations viz ASN, RNG, UDL, DGR, MDP, JSME, BDME, BSKH & DGHR has been achieved. ISO certification 9001 & 45001 for Asansol station has also been achieved.
29. As a part of quality certification process, ELS/ASN has been certified with Integrated Management System (IMS) which includes (ISO 9001-2015 – Quality Management System, ISO 14001:2015 – Environment management system & ISO 45001:2018 – Occupational Health & Safety management system) in Oct'19.



IMS certification of ELS/ASN

30. *Six Sigma certificate presentation in presence of respected GM/ER*
As a part of workplace Management process / quality certification process, ELS/ASN has been certified with the prestigious 5S Certificate. ELS/ASN has successfully achieved and implemented the standard of 5S in its workplace.



Presentation of 5S certificate



A massive plantation was organised on 2nd October 2019.



Developing a waterbody



Developing small gardens on empty land near working place



Started a special plantation drive from Superannuating (Retiring) Personnel
