

EASTERN RAILWAY

WORK STUDY REPORT

ON

REVIEW OF WORKLOAD OF SAFAIWALA
AT HWH COLONY UNDER MEDICAL DEPARTMENT

(STUDY NO.WSER-01/18-19)
(Submitted on 08.05.2018)

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BY
CENTRAL PLANNING ORGANISATION
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TERMS OF REFERENCE

The subject workstudy has been undertaken by the GM's Efficiency Cell of Eastern Railway under the following terms of reference:-

- (i) Evaluate the quantum of work.
- (ii) Examine the deployment of Safaiwala against workload.
- (iii) Assessment of actual requirement of Safaiwalas in consideration with the Yardstick of sanitation staff under Medical Department vide CMO/E.Rly's letter No. MD. 248/0 dated 12.4.79.
- (iv) Assessment for requirement of safaiwalas is done separately for different colonies keeping in view the present system of working.

SUMMARY OF RECOMMENDATION

<i>Sl. No.</i>	<i>Recommendation</i>	<i>Para ref.</i>
1	<i>It is recommended that the actual total requirement of manpower to carry out the entire workload of the unit under CHI/HWH Colony catered departmentally will be 81 posts which would result in surrender of 21 nos. of vacant posts as against the present total sanctioned strength of 102 posts.</i>	3.7

EXECUTIVE SUMMARY

<i>Study Name & No.:</i>	REVIEW OF WORKLOAD OF SAFAIWALA AT HOWRAH COLONY UNDER MEDICAL DEPARTMENT (Study No.WSER- 01/18-19)
<i>Year of conducting the study:</i>	2018 – 19
<i>Terms of reference:</i>	(i) Evaluate the quantum of existing workload. (ii) Examine the deployment of Safaiwala against workload. (iii) Assessment of actual requirement of Safaiwalas. (iv) Assessment for requirement of safaiwalas is done separately for different colonies keeping in view the present system of working.
<i>Methodology:</i>	<ul style="list-style-type: none"> • Collection of data • Discussion with officers and CHI/ HWH Colony. • Study of existing workload and manpower. • Critical analysis of existing workload and assess actual requirement of manpower.
<i>Existing Sanctioned Strength</i>	102
<i>Existing Men on Roll</i>	82
<i>Vacant post</i>	20
<i>Proposed Surrender</i>	21

Justification
Based on assessment as per Yardstick of Sanitation Staff for cleaning activities, study team assesses the actual requirement of Safaiwalas to cater existing workload.

CHAPTER-I

1.0 INTRODUCTION:

- 1.1 **Indian Railways** is an Indian state owned enterprise, owned and operated by the Government of India through the Ministry of Railways. It is one of the world's largest railway networks comprising 115,000 km (71,000 mi) of track over a route of 65,000 km (40,000 mi) and 7,500 stations. Indian Railways is the world's ninth largest commercial or utility employer, by number of employees, with over 1.33 million employees. Indian Railway is not a mere operation. It is an institution. It is an industry. It is a prime mover of India's infrastructure. As of December 2012, it transported over 25 million passengers daily (over 9 billion on an annual basis).
- 1.2 Railways are the most preferred mode of transport for the masses in India, running 11,000 trains every day in which 7000 are passenger trains and handling approximately 1.4 crore passengers per day. One of the commitments of the Railways in its 'Citizen Charter on Passenger Services on Indian Railways' is to provide safe and dependable train services to the passengers and ensure adequate passenger amenities in trains and at Railway station, which includes provision of clean and hygienic surroundings both at Railway stations and in trains.
- 1.3 Sanitation means maintaining a clean environment so that the beneficiaries stay in neat and hygienic environment. Railway Stations, colonies and all work places are to be maintained in a hygienic and clean manner and adequate steps is to be taken at the planning stage itself. Keeping this objective in view, special emphasis is laid on the collection and disposal of refuse, sewage and sullage in a scientific manner. Sanitation services are provided in all the Railway premises including the Railway colonies, Railway stations, circulating areas, Railway Yards, offices, coaches and tracks. Cleanliness of these areas is multidisciplinary approach by various departments of the Railways viz. Medical, Engineering, Operating and Mechanical Department. The Medical Department performs the Sanitation job at Railway colonies and major stations under the supervision of Health Inspectors.
- 1.4 Cleanliness in Railway colonies includes maintaining cleanliness in circulating area of the colonies, roads, colony drains, common latrines/ urinals and sewer inside the colony premises in addition to a proper waste management system. Railway colonies are maintained either departmentally through safaiwalas or through outsourced agencies. Effective manpower management and contract management are therefore, essential. Apart from this, the Railways should have an effective monitoring mechanism in place to ensure quality in cleanliness related activities. Inadequate provision of water supply, washable aprons, drains and sewerage system and ineffective utilization of machines were major handicaps in providing a clean and hygienic environment in Railway premises.

- 1.5 Indian Railway is facing tremendous financial crunch after implementation of 6th Pay Commission. Operating ratio is gradually increasing. Though Indian Railway is not a business organization but to survive, it is always essential to make the organization in profit i.e. operating ratio should be less than 1. Performance Efficiency Index shown in the corporate plan published by the Eastern Railway is given below.

2013-14	:	173.32%
2014-15	:	177.27%
2015-16	:	180.75%
2016-17	:	165.25%
2017-18	:	178.76% (Proposed)

- 1.6 The subject workstudy has been undertaken to review the quality of sanitary services at HWH colony premises under the Medical department keeping in view the financial achievement. This is possible only by maximum utilization of workforce with mechanical devices for cleaning operations. Study team considers the maximum participation of foreign agencies in cleaning process in colonies.
- 1.7 There exists 5 Railway colonies at Howrah. The Chief Health Inspector is nominated for the keeping the railway colonies and surroundings neat and clean.
- 1.8 The subject workstudy was undertaken to review the existing deployment of Safaiwalas vis-à-vis their workload as a regular manner, it is essential to assess the optimum utilization of Safaiwalas to cater the daily workload. The subject study is also undertaken to review consequent upon the outsourcing of sanitation services in colonies by which the quality of cleaning has increased drastically along with remarkable financial savings. Keeping the above ideas into consideration, the study team has given their concentration on the existing pattern of working and existing deployment of Safaiwalas according to their work point.

CHAPTER-II

2.0 EXISTING SCENARIO:

- 2.1 In Eastern India the first ever train ran from Howrah to Hooghly in 15th August 1857. Howrah station is a major and most important station of the Eastern Railway and provides connectivity of Kolkata with rest of India. Divisional headquarter of Howrah division is situated adjacent to Howrah station. Along with this, other Railway establishments situated surrounding to Howrah station are EMU car shed, TRS shed, Diesel shed and a large Coaching depot. These offices and units are responsible for maintenance and supply of locos, EMUs, coaches for smooth running of trains from Howrah station.

For availability of manpower for proper running of these units and divisional offices, 5 Railway Colonies were established at the surroundings adjacent to the Howrah station. These colonies are as under:

- i) Colvin Court colony,
- ii) Golmohar Colony,
- iii) Tindel Bagan Colony,
- iv) Height Mansion Colony and
- v) Telkalghat Colony.

- 2.2 But with the time and development of the sub-urban areas, the Railway colonies of Howrah lost its importance. Mainly after implementation of 6th pay commission, Railway staff find more financially beneficial to stay at sub-urban areas rather than at Railway Quarters. Moreover, most of the Rly. Quarters at HWH colonies are years old and are of very poor condition. Because of these reasons a considerable nos. of Rly. Quarters. at Howrah colonies are lying vacant.

- 2.3 The sanitation work of the Howrah Rly. Colonies are maintained by Medical dept. of HWH division under direct control of ACMS (H & FW)/ HWH and overall control of CMS/ HWH. In colony area, road sweeping, drain cleaning, garbage removing and sweeping of quarter surroundings are designated job of safaiwalas under supervision of Chief Health Inspector (CHI)/ HWH Colony.

- 2.4 It is necessary to maintain the colony surroundings neat and clean round the clock and CHI /HWH Colony is the over all In-charge of all sanitation and cleaning activities of HWH colonies. Total 1 post of CHI is deployed for catering the existing workload. On-Roll and Sanctioned Position of CHI at HWH Colony is tabulated as under:

S. No.	Designation	Pay Scale & Pay Band (As per 6 th PC)		Staff Strength		
				Sanctioned Strength	On-Roll	Vacancy
1	Chief Health Inspector (CHI)	Rs. 9300-34800/-	GP-4600/-	1	1	0
Total				1	1	0

- 2.5 The present Sanctioned Strength and On-roll position of safaiwalas under CHI/HWH Colony deputed for catering the workload of cleaning activities at Howrah Colony area are given in table below:

S. No.	Designation	Pay Scale & Pay Band	Bill Unit No.	Staff Strength		
				Sanctioned Strength	On-Roll	Vacancy
1	Safaiwala	Rs. 5200-20200/- PB-1	0202-361	102	82	20
Total				102	82	20

- 2.6 As stated earlier, there are 5 colonies under jurisdiction of CHI/ HWH Colony. Sanitation workload of 4 colonies are catered departmentally, Only cleaning activities of 1 colony i.e Colvin court is outsourced to external agencies. Other than 4 colonies, sanitation workload of RPF Barrack, GRP barrack, a part of HWH Orthopedic Hospital, Signal workshop (MSW) [only roads and drains], RRI and 4 cabins, etc are catered by department safaiwalas. The total workload of Colony area and other places under CHI/ HWH colony are tabulated as under:

S. No.	Workpoints	Area/Length	Workload Catered By
1.	Colvin Court Colony		
i)	Roads	3485 Sq mtrs. (37512 Sq ft)	Private agency
ii)	Drains	735 mtrs. (2411 ft)	
iii)	Circulating Area	44550 Sq mts. (479532 Sq ft)	
iv)	Nos. of Staircases	06 Nos. (4 storeid building)	
v)	Common Lavatories/ Urinals	10 Nos.	
2.	Golmohar Railway Colony		
i)	Roads	5807.74 Sq mtrs. (62514 Sq ft)	Departmental staff
ii)	Drains	3962.97 mtrs. (13002 ft)	
iii)	Circulating Area	71280 Sq mtrs. (767251 Sq ft)	
iv)	Nos. of Staircases	1 no. (2 storied building)	
		30 nos. (3 storied building)	
		10 nos. (4 storied building)	
v)	Common Lavatories/ Urinals	<u>Common Latrines</u> – 16 Nos. in colony & 10 nos. in Rly. Institute	
		<u>Common Urinals</u> – 4 Nos. in colony & 8 nos. in Rly. Institute	
3.	Tindal Bagan Colony		
i)	Roads	3576 Sq mtrs. (38492 Sq ft)	Departmental staff
ii)	Drains	1767 mtrs. (5797 ft)	
iii)	Circulating Area	20720 Sq mtrs. (223028 Sq ft)	
iv)	Nos. of Staircases	17 nos. (3 storied building)	
		07 nos. (4 storied building)	
v)	Common Lavatories/ Urinals	<u>Common Latrines</u> – 104 Nos.	
		<u>Common Urinals</u> – 80 Nos.	

S. No.	Workpoints	Area/Length	Workload Catered By
4.	Telkalghat & Height Mansion		
i)	Roads	2458 Sq mtrs. (26458 Sq ft)	Departmental staff
ii)	Drains	1090.5 mtrs. (3578 ft)	
iii)	Circulating Area	14777 Sq mtrs. (159058 Sq ft)	
iv)	Nos. of Staircases	11 nos. (3 storied building) 04 nos. (4 storied building)	
v)	Common Lavatories/ Urinals	Nil	
5.	Orthopedic Hospital, Howrah		
i)	Roads	1813.15 Sq mtrs. (19517 Sq ft)	Departmental staff
ii)	Drains	317.60 mtrs. (1042 ft)	
iii)	Circulating Area	1638 Sq mtrs. (17631 Sq ft)	
iv)	Nos. of Staircases	03 Nos (3 storey building)	
v)	Common Lavatories/ Urinals	22 Nos.	
6.	Signal Workshop (MSW), HWH		
i)	Roads	2000 Sq mtrs. (approximately based on physical observation) (21528 Sq ft)	Departmental staff
ii)	Drains	1000 mtrs. (approximately based on physical observation) (3280 ft)	
iii)	Circulating Area	1000 Sq mtrs. (approximately based on physical observation) (10764 Sq ft)	
iv)	Common Lavatories/ Urinals	Common Latrines – 22 Nos.	
		Common Urinals – 11 Nos.	
7.	RPF Barrack, GRP Barrack, RRI & other cabins, AEN office, CHI office, church road and other places under jurisdiction of CHI/ HWH Colony		
7.1	RPF Barrack		
i)	Roads	292.50 Sq mtrs. (3143 Sq ft)	Departmental staff
ii)	Drains	234 mtrs. (768 ft)	
iii)	Circulating Area	6396 Sq mtrs. (68846 Sq ft)	
iv)	Common Lavatories/ Urinals	Common Latrines – 24 Nos. in RPF Barrack/ Golmohor colony & 18 nos. in RPF Barrack/ Tandel bagan colony	
		Common Urinals – 7 nos. in RPF Barrack/ Tandel bagan colony	
7.2	GRF Barrack		
i)	Roads	426 Sq mtrs. (4585 Sq ft)	Departmental staff
ii)	Drains	150 mtrs. (492 ft)	
iii)	Circulating Area	5280 Sq mtrs. (56833 Sq ft)	
iv)	Common Lavatories/ Urinals	Common Latrines – 12 Nos.	
		Common Urinals – 11 Nos.	

S. No.	Workpoints	Area/Length	Workload Catered By
7.3	<i>CHI office, church road and RRI Cabins</i>		
i)	Church Road and office compound of CHI/ HWH Colony	1000 Sq mtrs. (approximately as per estimation based on physical observation) (10764 Sq ft)	Departmental staff
ii)	Drains	200 mtrs. (approximately as per estimation based on physical observation) (656 ft)	
iii)	Common Lavatories/ Urinals	20 Nos. (approximately as per estimation)	

2.7 The working hours of Departmental Safaiwalas is 6:00 hrs. to 14:00 hrs from Monday to Saturday for catering the workload of Departmental Safaiwalas at HWH colony area under CHI (as shown in above table).

2.7.1 At Colony area, departmental safaiwalas are deployed to cater the workload of sweeping of roads and concourse area and cleaning of colony drains, common latrines/ urinals and disposal of garbage. The whole workload of Colony area are catered by departmental safaiwalas except Colvin court colony which is outsourced to private agency. Other than this, garbage disposal from designated area to vat are also outsourced to external agency.

2.8 In present system of working, total 82 nos. of Safaiwalas under CHI/HWH Colony are deployed at colony and other area in the working period from 6:00 hrs to 14:00 hrs. The work point – wise deployment of Safaiwalas is given below:

Sl. No.	Area	Activity	Deployment	
			Activity-wise	Total
1.	Golmohor Colony	Road sweeping	15	22
		Compound sweeping		
		Drain cleaning		
		Stair case cleaning	03	
		Common Toilet washing	01	
		Sports complex cleaning	02	
		Rly.Institutue cleaning	01	
2.	Tindelbagan Colony	Road sweeping	11	16
		Compound sweeping		
		Drain cleaning		
		Stair case cleaning	01	
		Common Toilet washing	02	
		Garbage dispose to vat	02	

Sl. No.	Area	Activity	Deployment	
			Activity-wise	Total
3.	Telkalghat & Height Mansion Colony	Road sweeping	10	13
		Compound sweeping		
		Drain cleaning		
		Stair case cleaning	01	
		Garbage dispose to vat	02	
4.	Orthopedic Hospital, HWH	Road sweeping	02	08
		Compound sweeping		
		Drain cleaning		
		Administrative building	05	
		Common Toilet washing	01	
5.	Signal Workshop (MSW), HWH	Road sweeping	04	07
		Compound sweeping		
		Drain cleaning		
		Common Toilet washing	02	
		Garbage dispose to vat	01	
6.	RPF Barrack, GRP Barrack, RRI Cabin and other 4 cabins	Road sweeping	06	09
		Compound sweeping		
		Drain cleaning		
		Common Toilet washing	02	
		Garbage dispose to vat	01	
7.	CHI Office, AEN office & other offices and church road	Road sweeping	02	03
		Compound sweeping		
		Drain cleaning		
		Common Toilet washing	01	
8.	Spraying of insecticides		02	02
9.	Attention of blockage of drains, septic tanks		02	02
GRAND TOTAL			82	

2.9 The mechanized machines under CHI/HWH Colony are tabulated as under:

S.No.	Description of Machine	No. of Machines
1	Fogger Machine	02
2	Marut Spray Machine	02

2.10 Out of the five colonies under CHI/HWH Colony, Medical Department has outsourced sanitation work of one colony i.e Colvin Court colony to private agencies. In addition, garbage disposal work from colony area to designated vat has also been outsourced. The two (2) contractual works prevailing at present under CHI/HWH Colony are shown as under:

S. No	Contractual Works
1.	Conservancy cleaning work of Colvin court, Cambridge terrace & church road etc. of HWH Colony for a period of three years
2.	Conservancy Lorry contract work for removal of garbage from HWH colony area for a period of three years

2.11 The details of the above mentioned contractual works under CHI/ HWH colony executed by Medical Department of Howrah Division are as under:

2.11.1

Details of Contract :	<i>Conservancy cleaning work of Colvin court, Cambridge terrace & church road etc. of HWH Colony for a period of three years (ANNEXURE I)</i>
Agreement No. :	<i>H/San/CC/HC Dtd. 26/08/16</i>
Place of Work :	<i>Colvin court, Cambridge terrace & church road</i>
Contractor Name :	<i>M/s S.S. Singh, 22, Rameshwar Malia Lane, Howrah-711101</i>
Duration of Contract :	<i>Three years (except Sunday) [939 days]</i>
Rate :	<i>Rs 23,70,975/-</i>

2.11.2

Details of Contract :	<i>Conservancy Lorry contract work for removal of garbage from HWH colony area for a period of three years (ANNEXURE II)</i>
Agreement No. :	<i>H/San/Consv./HC/13 dtd. 01/10/2015</i>
Place of Work :	<i>HWH Colony area</i>
Contractor Name :	<i>Arpan Enterprise, 38, Muchipara, P.O. Kunchrapara, Dist-24 Parg(N)</i>
Duration of Contract :	<i>Three years (except Sunday) [939 days]</i>
Rate :	<i>Rs 22,81,770/-</i>

CHAPTER-III

3.0 CRITICAL ANALYSIS

The study team has critically analyzed the present workload and effective deployment of Safaiwala as per present system of working keeping in view the existing infrastructural set up.

- 3.1 While reviewing the subject study, the study team has critically examined and analyzed the all possible ways to optimize the Safaiwalas. The study team has given full stress on the following points to improve the quality of cleaning as well as rationalized the deployment of Safaiwalas working under CHI/HWH Colony.

- (1) Assessment of present workload of Safaiwalas.
- (2) Critically examine the point-wise deployment of Safaiwala against present workload.
- (3) Assessment of actual requirement of Safaiwalas under CHI/HWH Colony in consideration with the Yardstick of sanitation staff under Medical Department vide CMO/E.Rly's letter No. MD. 248/0 dated 12.4.79 (*ANNEXURE III*) based on non-mechanical system.
- (4) Assessment for requirement of safaiwalas is done separately for different colonies keeping in view the present system of working.

The study team has given full attention on the above points to calculate the revised requirement of Safaiwalas considering the actual workload.

- 3.2 Study team has adopted the formula of Yardstick given in Annexure-III to assess the actual requirement of Safaiwalas in their different workpoints based on the present workload catered by departmental safaiwalas (*tabulated in table under para 2.6*). The study team also feels that there is necessity for revision of yardstick as it is framed in the year 1979 and now the circumstances have been totally changed regarding sanitation cleaning jobs due to introduction of modern mechanical devices.

- 3.3 During analysis of workload of HWH Colony and other areas under jurisdiction of CHI/ HWH Colony, presently catered by departmental Safaiwalas, it is observed that, there is no Yardstick for several activities catered by departmental safaiwalas. So, for such activities, study team assess the manpower requirement by analysis based on physical observations.

Also, during conducting the study, the details of cleaning areas / length of drains/ nos. of latrines/urinals, etc. for each and every point under jurisdiction of CHI/ HWH Colony is not provided by the concerned department. In such instances, study team has estimated the workload based on physical observation for assessment of manpower requirement.

- 3.4 It can be seen from the previous chapter that safaiwalas under CHI/ HWH Colony are deployed for catering different types of cleaning activities such as sweeping of roads/staircases/surrounding areas, cleaning of drains, cleaning of latrines/ urinals, etc at different areas. So, on scrutiny, it is felt by the study team that maximum utilization of manpower is achieved when activity-wise assessment is done for different areas. It was already discussed in earlier chapter that areas under jurisdiction of CHI/HWH Colony presently cleaned by departmental safaiwalas includes 4 colonies, HWH orthopedic hospital, MSW, GRP Barrack, RPF Barrack, RRI cabin and other cabins, etc.

So, based on Yard Stick of sanitation staff under Medical Department vide CMO/E.Rly's letter No. MD. 248/0 dated 12.4.79, study team assess the actual requirement of safaiwalas separately for different colonies, HWH orthopedic hospital, Signal Workshop, HWH and rest of areas in ongoing paragraphs keeping in view the existing deployment.

3.4.1 **BARE REQUIREMENT OF SAFAIWALAS TO CATER EXISTING WORKLOAD OF DEPARTMENTAL SAFAIWALAS AT GOLMOHAR RLY. COLONY UNDER CHI/HWH COLONY AS PER YARD STICK AND ASSESSMENT BASED ON PHYSICAL OBSERVATION**

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required	
Golmohar Railway Colony							
1	Road Areas - 62514 Sqft	Manual Sweeping	Once daily	62514 _ Sqft	For sweeping colony roads 70000 Sqft. of road only- one safaiwala in 8 hourly shift	$\frac{62514}{70000} = 0.89$	21.2
		Collection of Garbage from sweeping of road area of colony and deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min.(160000 Sqft in 8 hrs shift)	$\frac{62514}{160000} = 0.39$	
2	Circulating area of colony - 767251 Sqft	Manual Sweeping	Once daily	767251 _ Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	$\frac{767251}{60000} = 12.78$	
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min.(160000 Sqft in 8 hrs shift)	$\frac{767251}{160000} = 4.79$	
3	<u>Sweeping of staircases</u> a) 01 no. staircase (2 storied building) b) 30 nos. staircases (3 storied building) c) 10 nos. staircases (4 storied building)	Sweeping of staircases	Once daily	No. of staircases in 2 storied building - 01 no.	a) For sweeping of of one staircases for a 2 storied building a safaiwala will take 28 minutes. (sweeping of 34.28 staircases in 8 hr shift in 2 storied building)	<u>For 2 storied building</u> $\frac{1}{34.28} = 0.03$	
				No. of staircases in 3 & 4 storied building = 30 + 10 = 40 nos.	b) For sweeping of one staircases for a 4 storied building a safaiwala will take 28 minutes. (sweeping of 17.14 staircases in 8 hr shift in 4 storied building)	<u>For 3 & 4 storied building</u> $\frac{40}{17.14} = 2.33$	
4	Drains - 13002 Rft	Drain cleaning	Once daily	13002 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)	$\frac{13002}{6857} = 1.89$	5.27
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5 min. (3840 Rft in 8 hr shift)	$\frac{13002}{3840} = 3.38$	
5	<u>Cleaning of Laterines/ Urinals</u> a) 16 nos. latrines and 4 nos. urinals b) 10 Nos. Common Lavatory and 8 nos. urinal in Rly. Institute.	Cleaning of Latrine and Urinals	Once daily	Total = 16 + 4 + 10 + 8 = 38 nos. (<i>Latrines and Urinals</i>)	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	$\frac{38}{48} = 0.79$	0.79
6	Sports complex and Rly. Institute cleaning	Cleaning of Sports complex and Rly. Institute	--	--	--	2 (As per assessment based on physical observation & present workload)	2
TOTAL						29.26 ≈ 30	

3.4.3

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required
Telkalghat and Height Mansion Colony						
1	Road Areas - 26458 Sqft	Manual Sweeping	Once daily	26458 Sqft	For sweeping colony roads 70000 Sqft. of road only- one safaiwala in 8 hourly shift	26458 = 0.37 70000
		Collection of Garbage from sweeping of road area of colony and deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	26458 = 0.16 160000
2	Circulating area of colony - 159058 Sqft	Manual Sweeping	Once daily	159058 Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	159058 = 2.64 60000
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	159058 = 0.99 160000
3	Sweeping of staircases a) 11 nos. staircases (3 storied building) b) 04 nos. staircases (4 storied building)	Sweeping of staircases	Once daily	--	a) For sweeping of of one staircases for a 2 storied building a safaiwala will take 28 minutes. (sweeping of 34.28 staircases in 8 hr shift in 2 storied building)	--
				Total staircases = 11 + 4 = 15 nos. (3 and 4 storied building)	b) For sweeping of one staircases for a 4 storied building a safaiwala will take 28 minutes. (sweeping of 17.14 staircases in 8 hr shift in 4 storied building)	15 = 0.87 17.14
4	Drains - 3578 Rft	Drain cleanING	Once daily	3578 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)	3578 = 0.52 6857
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5 min. (3840 Rft in 8 hr shift)	3578 = 0.93 3840
5	Cleaning of Laterines/ Urinals	Cleaning of Latrine and Urinals	Once daily	Nos. of Common Latrine and Urinals - NIL	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	---
TOTAL						6.45 ≈ 7

3.4.4

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required		
Orthopedic Hospital								
1	Road Areas - 19517 Sqft	Manual Sweeping	Once daily	19517 Sqft	For sweeping colony roads 70000 Sqft. of road only- one safaiwala in 8 hourly shift	19517 = 0.28 70000	0.8	
		Collection of Garbage from sweeping of road area of colony and deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	19517 = 0.12 160000		
2	Circulating area - 17631 Sqft	Manual Sweeping		17631 Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	17631 = 0.29 60000		17631 = 0.11 160000
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)			
3	Sweeping and cleaning of administrative buiding and staircases	Sweeping and moping of CMS chamber and corridor, OPD and corridor, X-ray room and labs, staircases, etc	Once daily	--	(a) For sweeping the offices, 25 minutes per safaiwala per 1000 Sqft (19200 Sft in 8 hrs) (b) For swabing - 3.75 minutes per Safaiwala per 1000 Sft (12800 Sft in 8 hrs) (c) For sweeping of of one staircases for a 2 storied building a safaiwala will take 28 minutes. (sweeping of 34.28 staircases in 8 hr shift in 2 storied building) (d) For sweeping of one staircases for a 4 storied building a safaiwala will take 28 minutes. (sweeping of 17.14 staircases in 8 hr shift in 4 storied building)	3 (As per assessment based on physical observation & present deployment)	3	
4	Drains - 1042 Rft	Drain cleaning	Once daily	1042 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)	1042 = 0.15 6857	0.42	
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5 min. (3840 Rft in 8 hr shift)	1042 = 0.27 3840		
5	Cleanina of Laterines/ Urinals	Cleaning of Latrine and Urinals	Once daily	Nos. of Common Latrines and Urinals - 22 nos	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	22 = 0.46 48	0.46	
TOTAL						4.68 ≈ 5		

3.4.6 **BARE REQUIREMENT OF SAFAIWALAS TO CATER EXISTING WORKLOAD OF DEPARTMENTAL SAFAIWALAS AT RPF BARRACK, GRP BARRACK, RRI & OTHER CABINS, AEN OFFICE, CHI OFFICE, CHURCH ROAD AND OTHER PLACES UNDER CHI/HWH COLONY AS PER YARD STICK AND ASSESSMENT BASED ON PHYSICAL OBSERVATION**

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required
Sweeping of Roads, Circulating Areas, Office compounds, etc.						
	RPF Barrack					
1	Road Areas - 3143 Sqft	Manual Sweeping	Once daily	3143 Sqft	For sweeping colony roads 70000 Sqft. of road only- one safaiwala in 8 hourly shift	$\frac{3143}{70000} = 0.04$
		Collection of Garbage from sweeping of road area of colony and deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	$\frac{3143}{160000} = 0.02$
2	Circulating area - 68846 Sqft	Manual Sweeping	Once daily	68846 Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	$\frac{68846}{60000} = 1.14$
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	$\frac{68846}{160000} = 0.43$
	GRP Barrack					
3	Road Areas - 4585 Sqft	Manual Sweeping	Once daily	4585 Sqft	For sweeping colony roads 70000 Sqft. of road only- one safaiwala in 8 hourly shift	$\frac{4585}{70000} = 0.06$
		Collection of Garbage from sweeping of road area of colony and deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	$\frac{4585}{160000} = 0.03$
4	Circulating area - 56833 Sqft	Manual Sweeping	Once daily	56833 Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	$\frac{56833}{60000} = 0.94$
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	$\frac{56833}{160000} = 0.36$
	CHI office compound and church road					
5	CHI office compound and church road - 10764 Sqft (approx) [** as per estimation]	Manual Sweeping	Once daily	10764 Sqft	For cleaning the surroundings of houses and road - 60000 Sqft per safaiwala per shift	$\frac{10764}{60000} = 0.18$
		Collection of Garbage from sweeping of circulating area of colony & deposited in dustbins			Garbage collected from sweeping of 10000 Sqft of road surroundings can be removed and deposited in dustbins per 30 min. (160000 Sqft in 8 hrs shift)	$\frac{10764}{160000} = 0.06$
Sub-Total						3.26
C/F						3.26

3.26

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required	
B/F						3.26	
Cleaning of drains							
RPF Barrack						0.77	
6	Drains - 768 Rft	Drain clean	Once daily	768 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)		$\frac{768}{6857} = 0.11$
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5		$\frac{768}{3840} = 0.2$
GRP Barrack							
7	Drains - 492 Rft	Drain clean	Once daily	492 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)		$\frac{492}{6857} = 0.07$
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5		$\frac{492}{3840} = 0.13$
CHI office compound and church road							
8	Drains - 656 Rft approx [** as per estimation]	Drain clean	Once daily	656 Rft	For cleaning small house drain- One Safaiwala will take 7 min. per 100 Rft. (6857 Rft in 8 hr shift)		$\frac{656}{6857} = 0.09$
		Removal and disposal of accumulated slit			For removal and disposal of accumulated slit from 100 Rft length of drain a sweeper will take 12.5 min. (3840 Rft in 8 hr shift)		$\frac{656}{3840} = 0.17$
Sub-Total							4.03
C/F						4.03	

0.77

Sl. No.	Areas of Working (approx) [shown in para 2.6]	Activities	Frequency of cleaning	Total Volume of Work in Sqft	Present Yard Stick	Total Manpower required
B/F						4.03
Cleanning of Urinals and Latrines						
	RPF Barrack					
9	<u>Cleaning of Laterines/ Urinals</u> a) 24 nos. latrines at RPF Barrack/ Golmohor Colony b) 18 Nos. Lavatory and 7 nos. urinal in RPF Barrack/ Tandelbagan	Cleaning of Latrine and Urinals	Once daily	Total = 24 + 18 + 7 = 49 nos. <i>(Latrine and Urinals)</i>	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	$\frac{49}{48} = \mathbf{1.03}$
	GRP Barrack					
10	<u>Cleaning of Laterines/ Urinals</u> 12 nos. latrines and 11 nos. urinals	Cleaning of Latrine and Urinals	Once daily	Total = 12 + 11 = 23 nos. <i>(Latrine and Urinals)</i>	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	$\frac{23}{48} = \mathbf{0.48}$
	CHI office and RRI cabins					
11	<u>CHI office and RRI cabins</u> 20 nos. latrines and urinals (approx) [** as per estimation]	Cleaning of Latrine and Urinals	Once daily	Total = 20 nos. <i>(Latrines and Urinals)</i>	a) For cleaning one service latrine a Safaiwala will take 10 minutes (cleaning of 48 latrines/ urinals in 8 hr. shift) b) For cleaning one community latrine with 10 seats a Safaiwala will take 15 min.	$\frac{20}{48} = \mathbf{0.41}$
12	Sweeping and Cleaning of RRI Cabin and 4 other cabins		Once daily	--	--	Study team on assessment felt that 1 safaiwala is sufficient to cater the existing workload of RRI Cabin and 4 other cabins cleaning
13	Sweeping and Cleaning of AEN office, HWH and other offices		Once daily	--	--	Study team on assessment felt that 1 safaiwalas are sufficient to cater the existing workload of AEN oficce, HWH and other offices cleaning
14	Sweeping and cleaning of CHI / HWH Colony office and other misc. work at office		Once daily	--	--	Study team on assessment felt that 1 safaiwala is sufficient to cater the workload of cleaning of CHI / HWH Colony office and other misc. work
15	<u>Spraying of Insecticides</u>		Once a week	--	--	Based on present deployment
16	<u>Attention of blockage of drains, septic tanks and sanitary latrines</u>		As and when required	--	A Special gang of 2 Safaiwalas should be formed to attend blockage of underground drains, Septic tanks and Sanitary Latrines	2
Sub-Total						12.95
TOTAL						12.95 ≈ 13

- 3.5 From tables under para 3.4.1 to 3.4.6, the workpoint-wise bare requirement of safaiwalas is assessed in above tables. So, the total bare requirement of safaiwalas as per Yardstick and assessment based on Physical Observation is tabulated as under:

S. No.	Description of Workload	Assessed Bare Requirement	Reference para
1	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at Golmohar Colony as per Yardstick and assessment based on Physical observation</i>	30	3.4.1
2	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at Tindel Bagan Colony as per Yardstick and assessment based on Physical observation</i>	14	3.4.2
3	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at Telkalghat & Height Mansion Colony as per Yardstick and assessment based on Physical observation</i>	7	3.5.3
4	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at Orthopedic Hospital, HWH as per Yardstick and assessment based on Physical observation</i>	5	3.4.4
5	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at MSW, HWH as per Yardstick and assessment based on Physical observation</i>	3	3.4.5
6	<i>Bare requirement of Safaiwalas to cater existing workload of Departmental Safaiwalas at RPF & GRP Barrack, RRI & other cabins, AEN and other offices, CHI office and other misc. areas as per Yardstick and assessment based on Physical observation</i>	13	3.4.6
Total		72	

It can be viewed from the above table that **bare requirement** of Safaiwalas is **72** to carry out cleaning work at HWH colonies and other areas under jurisdiction of CHI/ HWH Colony in accordance to the **existing workload catered by departmental Safaiwalas**. The Actual Requirement of Safaiwalas is calculated as under:

Bare Requirement	72
LR (Leave Reserve) as 12.5%	72 X 12.5% = 9
Actual Requirement	81

So, the **actual requirement** of Safaiwala to carry out existing cleaning work catered by Departmental Safaiwalas at Colonies and other areas under jurisdiction of CHI/ HWH Colony is calculated as **81**.

- 3.6 It is observed from the above table under para 3.5 that, the total revised requirement of safaiwalas under CHI/HWH Colony is calculated as **81**. It may be mentioned here that there are 82 nos. (as on 08.02.18) of safaiwalas working in unit under CHI/HWH Colony (i.e. total MOR=82) as against the total sanctioned strength of 102 posts, as evident from para 2.5 which indicates that presently, there is a clear vacancy of $(102 - 82) = 20$ posts in the above unit. On scrutiny, it is assessed by the study team that 81 nos. of safaiwalas are needed to tackle the existing workload which has neatly been analysed in the foregoing paragraphs of the Critical Analysis chapter. Hence, $(102 - 81) = 21$ nos. of posts are found to be excess to the present Sanctioned Strength.

3.7 **Recommendation:** -

It is recommended that the actual total requirement of manpower to carry out the entire workload of the unit under CHI/HWH Colony catered departmentally will be 81 posts which would result in surrender of 21 nos. of posts as against the present total sanctioned strength of 102 posts. The actual total requirement of manpower has been revised by the study team on the basis of assessment & analysis made in the foregoing paragraphs.

CHAPTER-IV**4.0 FINANCIAL APPRAISAL:**

- 4.1 As per recommendation made in Para 3.7, the total surplus posts works out to **21 posts**.

A statement showing the total annual financial savings on account of surrender of **21** posts is furnished below.

Category & Scale of Pay (Rs.)		Grade Pay (Rs.)	Mean pay (in Rs)	Mean Pay (as per 7th PC) = 2.57 X Mean Pay (as per 6th PC)	D.A (5%) (in Rs)	Total (in Rs)	No. of posts Recommended for Surrender	Monthly savings of total staff (in Rs)	Annual savings. (in lakhs Rs)
(as per 6th Pay Commission)				(as per 7th Pay Commission)					
Safaiwalas	5200-20200/-	1800/-	14500/-	37265/-	1863/-	39128/-	21	821688/-	98.60
TOTAL							21		98.60

Thus, the annual financial savings works out to **Rs. 98.60 lakhs**.