Gangtok Smart City Development Limited

(GSCDL)

DETAILED PROJECT REPORT

Nov 2018

of

IMPROVEMENT OF FOOTPATH IN GANGTOK

Project Development & Management Consultant

Grant Thornton India LLP

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ABBREVIATIONS

ABD	: Area Based Development
CC	: Cement Concrete
DPR	: Detailed Project Report
DWC	: Double Wall Corrugated
EHD	: Extra Heavy Duty
FAR	: Feasibility Assessment Report
FOB	: Foot-over-Bridge
G.I.	: Galvanized Iron
GSCDL	: Gangtok Smart city Development Limited
GST	: Goods and Services Tax
HD	: High Duty
HDPE	: High Density Polyethylene
ID/ OD	: Internal Diameter/ Outer Diameter
IRC	: Indian Road Congress
LD	: Low Duty
MD	: Medium Duty
MS	: Mild Steel
PCC	: Plain Cement Concrete
RCC	: Reinforced Cement Concrete
SAR	: Situational Assessment Report
SCP	: Smart City Project
SOR	: Schedule of Rates
SS	: Stainless Steel
T&P	: Tools and Plants
W.C	: Water Charges

1 Introduction

Sikkim is a prominent environmental conscious state in India. It has been pioneering in many environmental and social development schemes and policies to make sure that this small hilly state is able to protect its natural resources and environment. The economy of Sikkim is highly dependent upon tourism industry and thus the environment becomes such a paramount for the state. The tourist visiting the state of Gangtok are attracted due to its unique climate and thus the residents of state understand that how important it is for them to protect their livelihood.

The Smart City Proposal (SCP) of Gangtok city which mandates the improvement of existing footpath which has been drafted keeping the aspirations of pedestrians on priority. Footpath as pedestrian facility is itself a very effective environmental friendly approach which reduces traffic congestion, increases safety for pedestrians, improves accessibility, encourages walking as a mode of transport and proves to be improving health and fitness.

1.1. Overview

The Primary objective of this Situation Analysis Report is to understand and analyze the existing scenario of footpath and also evaluate in terms for functionality and feasibility for the Proposal of Footpath as one of the Modules under Mobility. Retrofitting here refers to the addition of new technology or features to older or existing system to add (a component or accessory) to something that did not have it when established and its smart application to provide a Walkability improvement plan and services for the public health, safety and general welfare.

1.2. Background

Among these, developing Smart Cities is a flagship initiative of the central government to engage in technology adoption as a part of its governance strategy to ensure economic growth, improve the quality of life of a wider range of people and enable development of local areas with strong potential for adaptation.

The intent of the Smart City Mission at Gangtok is not only to cater to the needs of its ever expanding urban population, but also to augment the existing core infrastructure of the city, help the city to expand its economic base, enhance the fiscal capacity of the city, create infrastructure in the city which will enable it to leverage its growth and capacity building in enhancing the quality of life of its people.
For the purpose of seamless operation of the Smart Cities Mission, a Project Management Consultant has been employed to play a crucial role in the transition of projects from the conceptualization stage to implementation stage.

1.3. Gangtok Smart City

The Smart City Proposal of Gangtok contains various modules in Area Based Development (ABD) and 2 modules in Pan City development. While each module of the Project will be broadly pursued in under distinct phases independently, it is planned in a manner such that that all the modules converge together to ensure holistic development of Gangtok Smart City. There are three distinct phases essential to the smooth implementation of the project. They are Project Inception, Preliminary/ Detailed Design & Development of Project Report and Project Implementation & overall supervision. Under ABD, Mobility is one of the 4 modules correlates the improvement of transportation related infrastructures which can enhance the city's accessibility and connectivity. Under the mobility module, Retrofitting of Footpath is one of the

elements addresses the importance of pedestrian walking space throughout the city for the creating a healthy and sustainable environment.

The concept of smart city itself shall promote eco-friendly transportation like walking and cycling, to create a safe and pollution free environment. The primary objective of the providing dedicated walking space shall enable an uninterrupted access to the pedestrian of different categories, throughout the Gangtok Municipal area. The footpath network shall be linked with proper traffic calming measures such as road crossing and foot over bridges or sky walks with related safety bollards, traffic signage's, traffic signals, street lights and street furniture's.

2 About Footpath

2.1. Introduction about Walking Space

Walking is fundamental to urban life. It is a healthy and pollution-free form of agility and recreation. Pedestrian trips account for a quarter to a third of all trips in many Indian cities. However, the poor quality of pedestrian infrastructure sends a message that pedestrians are not welcome in the urban environment.

A footpath (also pedestrian way, walking trail, nature trail) is a type of thoroughfare that is intended for use only by pedestrians and not the other forms of traffic such as motorized vehicles or cycles. They can be found in a wide variety of places, from the center of cities, to farmland, to narrow mountain ridges. Urban footpaths are usually paved, may have steps, and can be called alleys, lanes, steps, etc.

Fortunately, street design practice in India is beginning to recognize the integral role of walking in any sustainable transport system. Increasingly, engineers and planners are emphasizing the need to design “complete streets” that make walking safe, comfortable, and convenient. Reflecting this changing outlook, the Indian Road Congress’ (IRC). First Revision of the Guidelines for Pedestrian Facilities represents a significant departure from traditional traffic engineering practice, which focused on maximizing personal motor vehicle speeds at the expense of other street users. The Guidelines emphasize the need to design streets for all users and activities, including the social and economic activities that make Indian streets so vibrant.

As explained in the guide: “Developing a pedestrian environment means more than laying down a footpath or installing a signal. A truly viable pedestrian system takes into account both the big picture and small details from how a city is formed and built to what materials are under our feet”.[1]

Footpaths form an integral part of any urban settlement. An ideal footpath should be demarcated from the carriage way, to promote safe and accessible space to all the age groups without any restrictions and without any impediments. Additionally, the footpath must be accessible from any part of the road, through a combination of pedestrian encouragement measure such as pedestrian crossing and table top crossing.

Well-connected footpaths/ sidewalks have been one of the major building blocks of a strong pedestrian network in urban design. All trips, at least in part involve walking. Walking is a mode that everybody knows how to use.

A person making a trip by bus walks to the bus stop and then after alighting the bus walks to their final destination. Even a person using a car has to walk to his destination after parking his vehicle in the parking lot. Hence, creating a good walking infrastructure is a must as it benefits everybody.

2.2. Pedestrian and Pedestrian Facility

A pedestrian is defined as a person making a trip on foot or on a wheel chair. Pedestrian trip can be for various purposes such as commuting to work, connecting to a different mode of travel, walking for leisure, walking to shop, walking a dog and others.
Pedestrian facilities can consist of various components such as:

- Footpath/ Sidewalk

[1] (IRC:103-2012, 2.3)

- Pedestrian crossing (crosswalk)
  - ✓ At-grade crosswalk
  - ✓ Grade separated crosswalk
- Subways
- Humped subways
- Foot Over Bridges (FOB)
- Street corners
- Median refuge
- Pedestrian-only-streets.

2.3. Footpath and its aspects

Footpath is a dedicated walking space encompassing the smart elements exclusively for the pedestrians, which promotes walking. The footpath network should be continuous and connected with intersections, foot over bridges, free from all the obstructions and provide smooth and safe movement for pedestrians. The salient features of smart footpath comprise of, ramps, tactile surfaced tiles, safety bollards, smart street lights and other street furniture.

"*If you design communities for automobiles, you get more automobiles. If you design them for people, you get walkable and livable communities*." ~ Parris Glendening

Although walking is such a fundamental and important mode of travel, pedestrians have been largely ignored in planning transportation systems in our cities, where personal vehicles have become a dominant mode of mobility. Livable communities are those, where the pedestrians come at the top of the pyramid, followed by cyclists and users of public transportation. The rest of the modes of travel are placed much below on the ladder of livability.

Figure 2: Pyramid of Livability

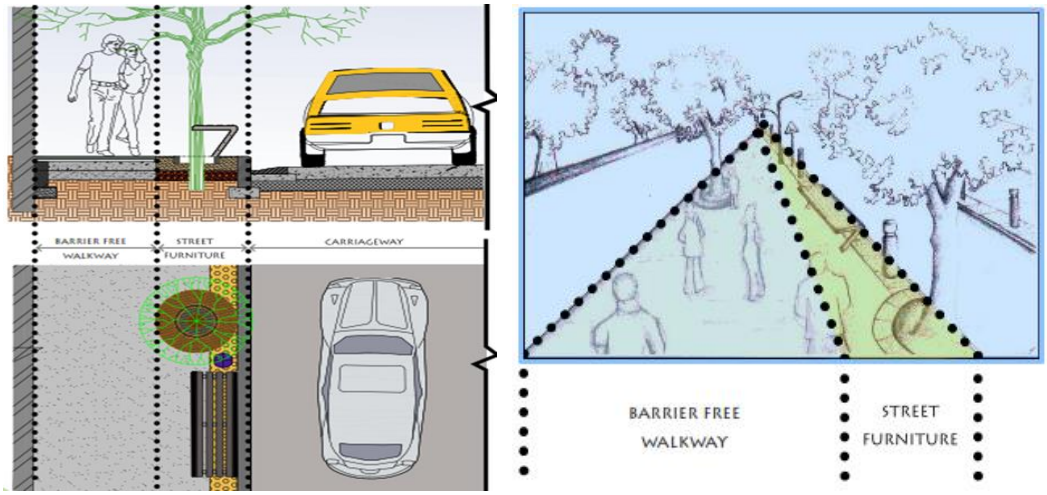


Figure 1: Plan, Section and Elevation of Footpath

2.4. Understanding the pedestrian groups

Before planning and designing any pedestrian facilities, it is important to understand the different groups of pedestrians and their specific needs. Pedestrians can be classified on the basis of their capabilities to use pedestrian facilities as:

- Children
- Elderly people
- Disabled people
- The Rest/Others

Children use pedestrian facilities to commute to school and to access recreational cities either accompanied by adults or by themselves. Children tend to be impulsive in making crossing decisions. Young children, due to their low height are likely to be less noticed by speeding motorists as compared to adults.

Elderly people noticeably travel as pedestrians in higher proportions than other groups of people. Elderly people are generally slow to react, walk at a slower pace compared to other groups; visual acuity can be compromised and may have decreased stability to walk. Some elders may also use assistance for walking (such as handholding, walk stick, etc.)

Disabled people can be people with different restricted abilities such as visually impaired, walking disabilities (people on wheel chairs or crutches), etc. Disabled people as any others, having their “right to movement”, should be able to use any pedestrian facility.

The rest comprise of average adults whose ability to walk safely is not compromised. Such people have an average walking speed of 4 ft. /sec (or 1.22 m/s or 4 km/hr.) and are expected to exercise safe judgment when walking on pedestrian facilities. While this group of people forms the majority of the pedestrians, the needs of every other group of people should always be carefully considered in the planning and design of all pedestrian facilities.

2.5. Safety of Pedestrian Facility

Pedestrian facilities should be perceived to be safe for use by pedestrians of all types including disabled, women, children and elderly people. Pedestrian facilities should be designed to also reduce the conflict between pedestrians and vehicles.

The following should be considered from safety point of view: -

- Footpath should be well lit with direct lighting on footpath.
- Footpath should have an even surface free from obstacles that could create any safety concern for elderly people.
- When footpaths (or ramps) have a gradient unsafe for elderly people to walk, then handrails should be provided at such locations.
- Tactile pavement should be provided at all locations on a pedestrian facility where there is a potential safety concern for visually impaired pedestrians (such as just before a ramp that leads to pedestrian crossing, around an obstruction, before the stairs to a subway access).
- Access to footpaths and medians should be provided to only pedestrians. Railings and bollards should be used to restrict access for motorists.

2.6. Comfort of Pedestrian Facility

Pedestrians use their own power to move and are more exposed to any adverse environmental conditions compared to motorists. As such pedestrian facility should be designed to provide as much comfort as possible to all pedestrians. Comfort will be a value addition to pedestrians and encourage people to walk rather than using other modes of travel. Some specific aspects that enhance the comfort of pedestrians are listed here.

- Footpath should be wide enough for pedestrians to walk without feeling too congested.
- Footpath gradient if provided should be comfortable for elderly and disabled people to maneuver.
- Trees should be planted along the footpath to provide shelter to the pedestrians without obstructing free pedestrian movement.
- An offset should be provided between building line adjacent to a footpath and the clear walking space along the footpath for the comfort of pedestrians.
- Benches should be provided at frequent intervals for elderly people to rest enroute their journey.
- Elevators should be provided at FOBs and Subways for the comfort of elderly and disabled people.

3 Need of the Project

3.1. Need of the project

- To promote Non-Motorized Transport
- To promote sustainable urban transportation
- To increase the health condition by the way of encouraging walking
- To reduce the fuel consumption
- To decrease air pollution.
- Footpath shall be provided, to promote walking as well as to provide safe and accessible sidewalk to all the age groups without any restrictions and without any impediments with innovative design interventions.
- All the existing footpath developed in Gangtok within last 15 years at different intervals. It is observed from the site surveys; many aspects of standard footpath provision have not been followed. As a major tourist destination, it is necessary to build the footpath with accepted standards.
- Increase the safety of pedestrian.
- Improve the facilities for pedestrian (Accessibility Improvement)
- May help to increase walking as a mode of transport (environmental benefits and reduced traffic congestion)

3.2. Challenges

- Narrow road width.
- Topographical constraints.
- Blockage of existing footpath, during landslide.
- Shifting of the utilities
- Private ownership of the Land.
- Obstructions on Footpaths/ Sidewalks (Utility devices, occupied by hawkers and other construction materials)
- Discontinuous and Disjointed Routes
- Non-existent Footpaths/ Sidewalks in some communities
- Motorists using the pedestrian right-of-way
- Footpaths/ Sidewalks used for parking
- Lack of maintenance of footpaths (Uneven surfaces, broken pavements, dug up footpaths)
- Difficulty in crossing streets
- Unsafe Grade separated crossings like subways and foot over bridges
- Footpaths/ Sidewalks used to dump trash and used by people to relieve themselves
- Lack of ideal infrastructure for handicapped pedestrians
- Increasing Road Accidents due to unsafe pedestrian infrastructure
- Lack of personal safety due to poor design and lighting
- No Demarcation of Right of way, building line for smooth and continuous design of footpath.
- Encroachment by side by users.
- Existing unplanned underground and above ground utilities.
- Deploying the skilled labour for laying the tactile tiles.
- **Non-feasibility of laying tactile tiles**: It is mandatory to provide tactile tiles to facilitate movement for visually impaired persons as per IRC:103-2012. As per quoted IRC code, minimum width required for the footpath is 1.80 Mtr^2

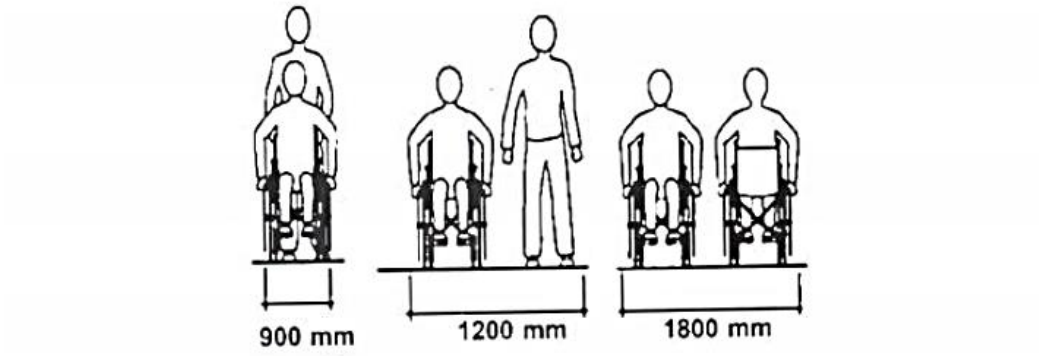


Figure 3: Minimum width of a clear footpath[2]

However, as per site condition and site visit held dated- 11 Sep 2018 to 13 Sep 2018 it is observed that the existing average width of footpath is 1.4 to 1.6 Mtr, which is not uniform throughout the stretch. This is the work of renovation of existing footpath only, so it is not possible to increase the width of footpath as per standards, which requires various data like pedestrian count, land use pattern etc. to finalize the flow of pedestrian. As instructed by the Client, utility duct is also needed to be accommodated along the footpath. The chamber for the same needs to located in the space/width provided for the footpath. The approximate centre to centre spacing of utility chamber may be 20 meter considering the curves, sometimes that may be 5 meters on the curves, vertical and horizontal alignment in hilly areas. Given below is the specification at zebra-crossing as per above mentioned IS Code.

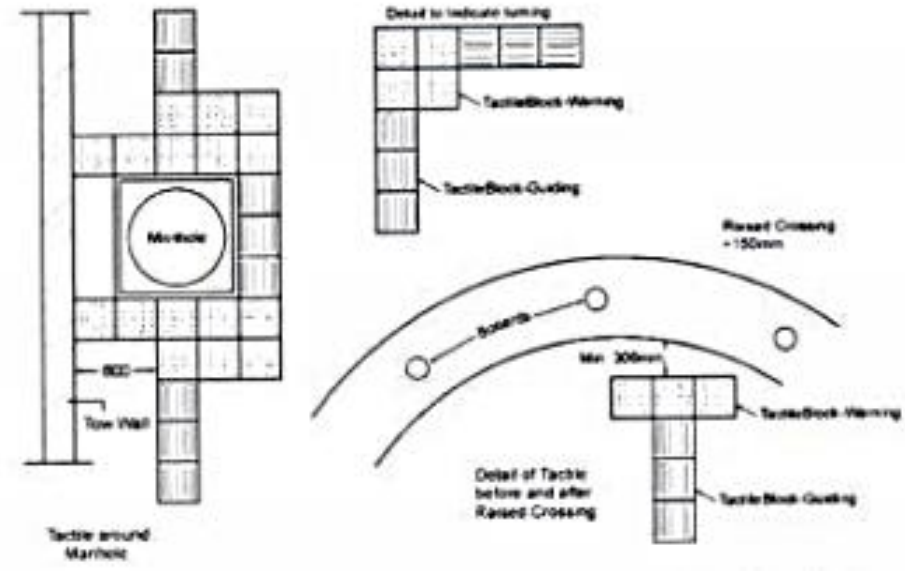


Figure 4: Tactile layout for Manhole and Raised Crossing[3]

Secondly, as the proposed renovation is passing through highly commercial as well as residential areas with variable existing footpath width, it is not possible to imply IRC specified standards for Zebra crossing, taxi stand. To implement standards at such locations minimum 1.80 Mtr width of footpath is required to accommodate tactile tile and slopping ramp.

[2] IRC:103-2012, Fig. 2 Page No 8.

[3] IRC:103-2012, Fig. 19, Page No 20

Given below is the diagram for reference-

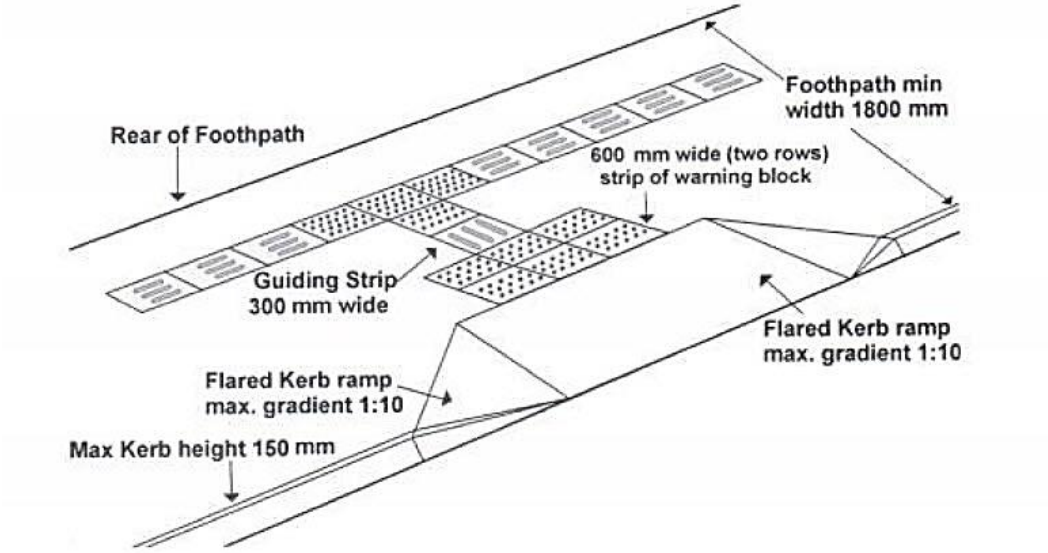
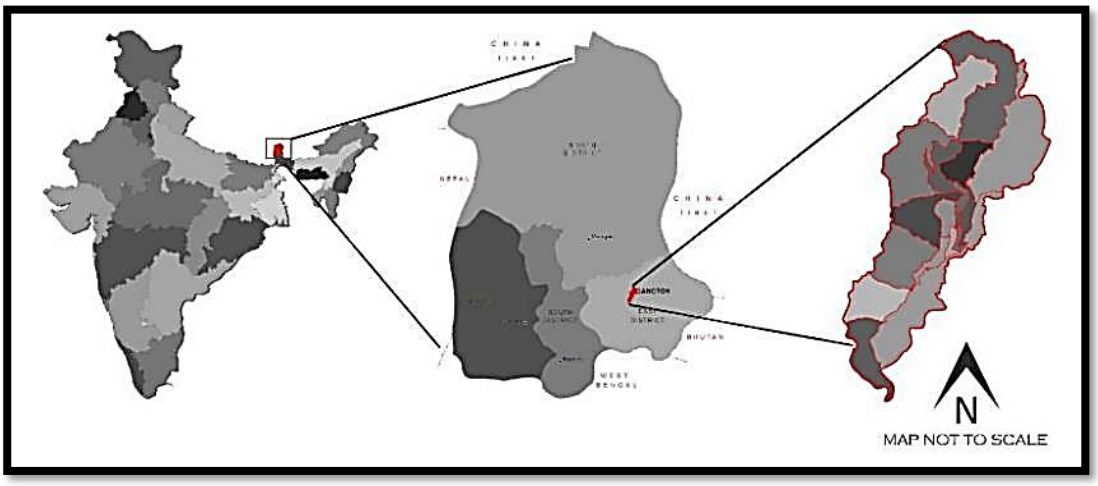


Figure 5: Kerb Ramp with Flared sides and Tactile Pavers[4]

Therefore, taking into account the existing site condition, laying of tactile tiles is not found to be feasible.

[4] IRC:103-2012, Fig. 19, Page No 20.

4 Location and Profile of Study Area



Map 1: Location map of Gangtok

Gangtok, capital of Sikkim, is located in the East District of the state. The population in Gangtok is 1,00,286[5] with a population density of 53 pph. The total area under Gangtok Municipal Corporation is about 19 Sq. Km. and constitutes of 17 municipal Wards. The Literacy rate of the male population is about 85.3%, while that of female population is about 78.7%. The nearest airport and nearest railway station connecting to the city is at Bagdogra (125 Kms) and New Jalpaiguri (113 Kms) respectively.

Located in the eastern Himalayan range, Gangtok offers a unique charm to the tourists from all parts of the country and as well as from overseas. It experiences a mild temperate climate throughout the year. Gangtok, was participating for the first time in the third round of Smart City Mission which was started in the year 2015. It is second city from the state of Sikkim to be in the Smart City Mission, first being Namchi which has already selected.

4.1. Existing footpath in Gangtok

Picture 1: Existing footpath (Photos taken during survey: August 2018)

[5] (Census:2011)

Footpath along the Gangtok highway NH-10 Stretches from Vajra Baluwakhani to Ranipool Bridge.

The total length of the footpath is approximately 12 km and wide average of 1.5 m. The condition of the footpath has been deteriorating due to weather condition, maintenance issues and encroachment problems. The need of improving this footpath was considered in Mobility module of Smart City Proposal of Gangtok under Smart city mission.

4.2. Field Survey

A detailed topographical survey was conducted by the survey team at the existing Footpath stretch from Vajra to Ranipool. The survey sheet is annexed in *Section 8.3*. The Surveyed data comprises of Length Width, Utilities, Railings, Surface condition, accessibility, existing developments, street elements, and physical features including trees and planters for the preparation of situational analysis report.

Picture 2: Field survey being carried out by GSCDL Team (Photo: Aug 2018)

4.3. Identification of issues

Picture 3: Damaged footpath (Photo: Aug 2018)

Picture 7: Settled footpath (Photo: Aug 2018)

Picture 6: Utility pipes on footpath (Photo: Aug 2018)

Picture 5: Misuse of footpath (Photo: Aug 2018)

Picture 4: Discontinuity in footpath (Photo: Aug 2018)

Picture 8: Electric and telephone boxes obstructing footpath (Photo: Aug 2018)

As per the survey, it was found that almost 48% of the footpath Is damaged due to various conditions as weathering, vandalism, encroachment and maintenance issues.

Therefor there is a need to improve its condition for the safe and hassle free pedestrian mobility.

4.4. Need for improvement

- **Railing**: Improvement of Railing with a better design and adaptable function
- **Stairs improvement**: Improvement of Stairs at different intervals for easy passage.
- **Maintain level of footpath**: Maintaining the level of Footpath as per standards to facilitate cross-drainage flow to avoid flooding during monsoons.
- **Paver block**: Installation of paver block replacing the current tiles. Providing and laying 60mm thick factory made cement concrete interlocking paver block.
- **Kerb stone**: Placing of Kerb stone at various strategic location
- **Utility shifting**: Some of the Utilities at various locations need to be shifted.
    - Raising/ lowering of existing Rectangular chambers, CC circular manholes
    - Shifting of 15 mm, 20 mm and 25 mm dia. G.I. water supply pipelines.
    - Removal of existing MS, SS or Concrete bollards
    - Re-fixing of Electric/ Telephone poles

- Shifting of electric/ telephone boxes, signages
- Shifting of electric/ telephone or TV cables

- **Bollards**: Providing and fixing new MS, SS or concrete bollards.
- **Street furniture**: Providing and fixing wooden or SS furniture, benches, sitting arrangements
- **Excavation**: Excavation is needed throughout the footpath to lay the utility duct piping system.
- **Maintain continuity**: A sense of Continuity to be maintained along the footpath
- **Signage**: Proper signage to be installed as per IRC code
- **Ramp**: Ramps to be introduced for better accessibility to all differently abled personnel
- **Uniformity**: Uniformity in design to maintain the continuity

Picture 9: Columns of Foot-over-bridge obstructing footpath (Photo: Aug 2018

- **Strong policy**: Strong policy to maintain a strict traffic rules and regulation to maintain the footpath of all encroachment
- **Utility ducting system**: Installation of Utility Ducting Pipe underneath footpath.

4.5. Standards for pedestrian walkway facilities:

All footpaths need to have three zones: the frontage zone, the pedestrian zone, and the furniture zone. Each of these zones plays an important role in a well-functioning footpath.

- **Zones:**

i. Residential zone

ii. Commercial zone

iii. High Intensity Commercial Zone

- **Minimum widths**

The width of the footpath should vary as per the adjacent land use. For residential areas the clear width should be at least 1.8 m, and for commercial areas, at least 2.5 m.

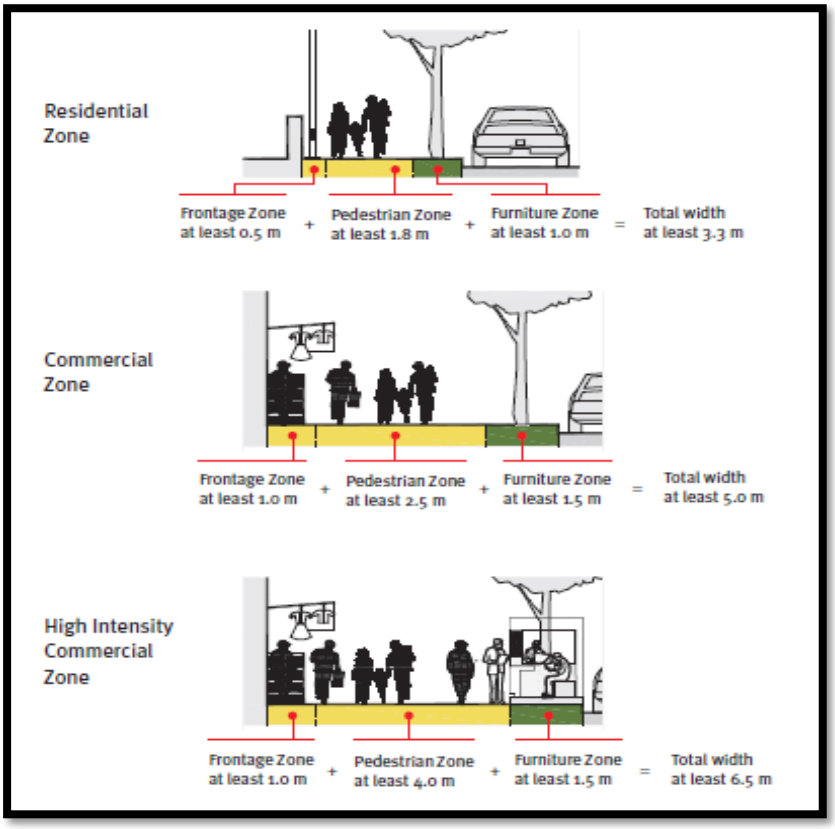


Figure 6: Zones of Side-walkway

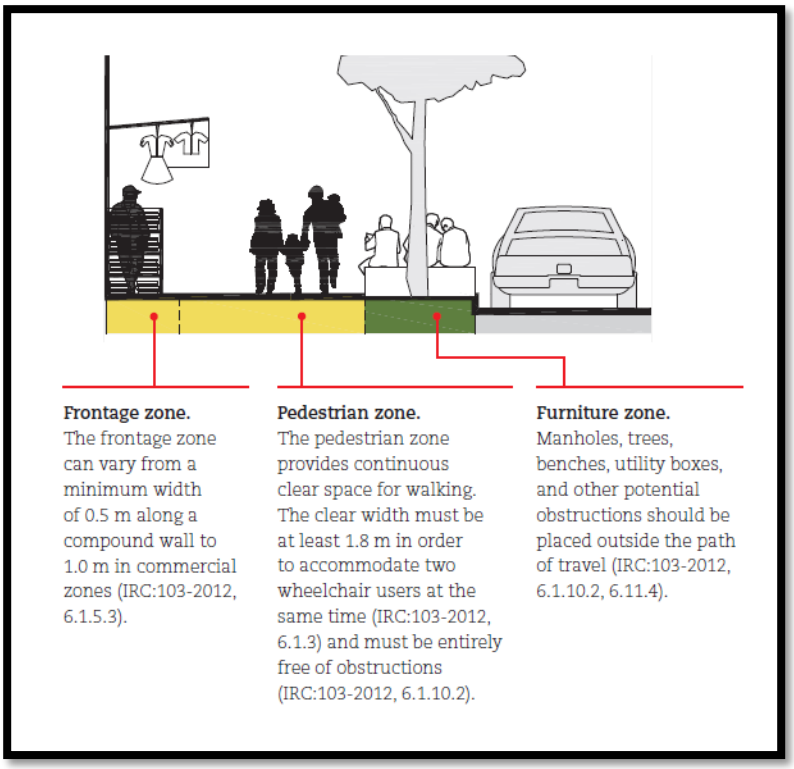


Figure 7: Different zones

5 Approach and Methodology

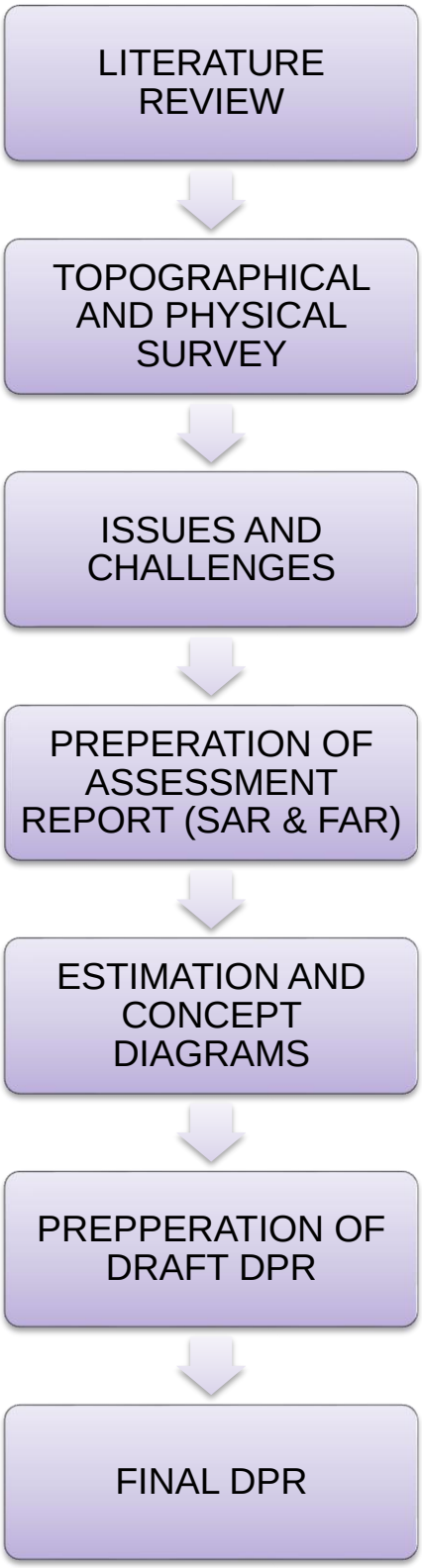


Figure 8: Flow chart of Methodology

6 General Arrangement & Concepts to Improve Pedestrian Facility

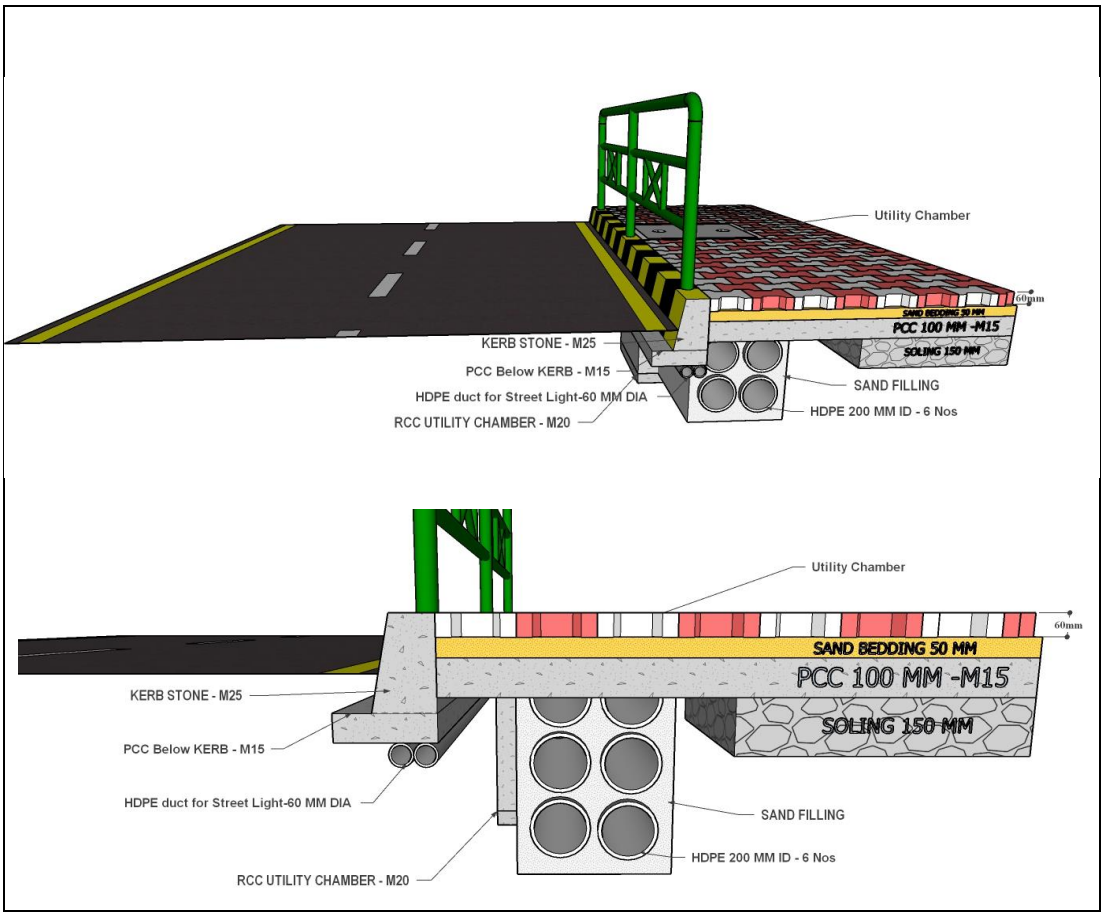


Figure 9: Cross-section of proposed footpath

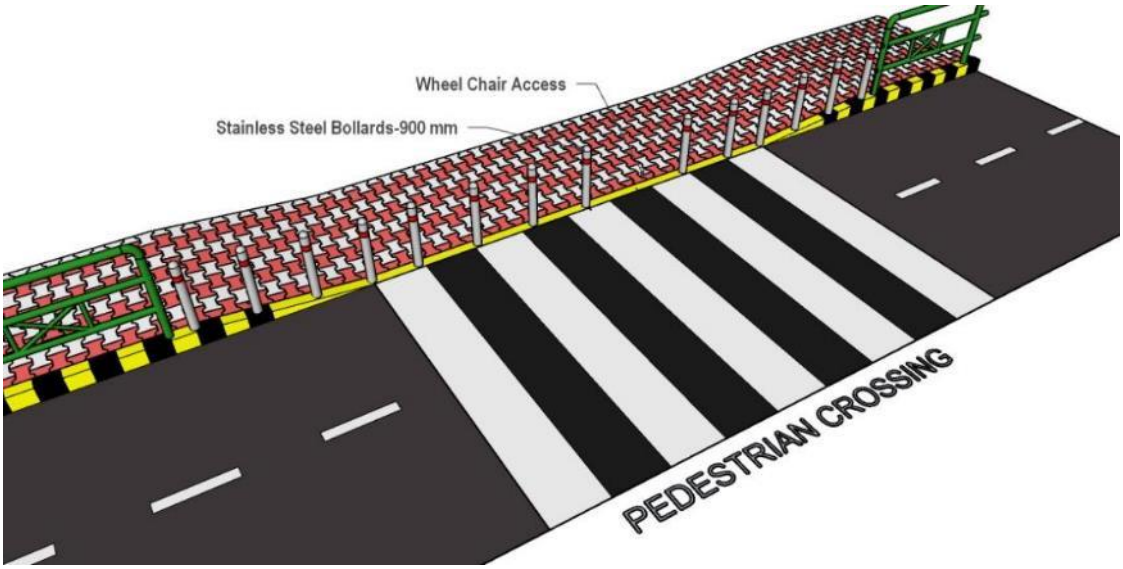


Figure 10: General arrangement at Pedestrian crossing

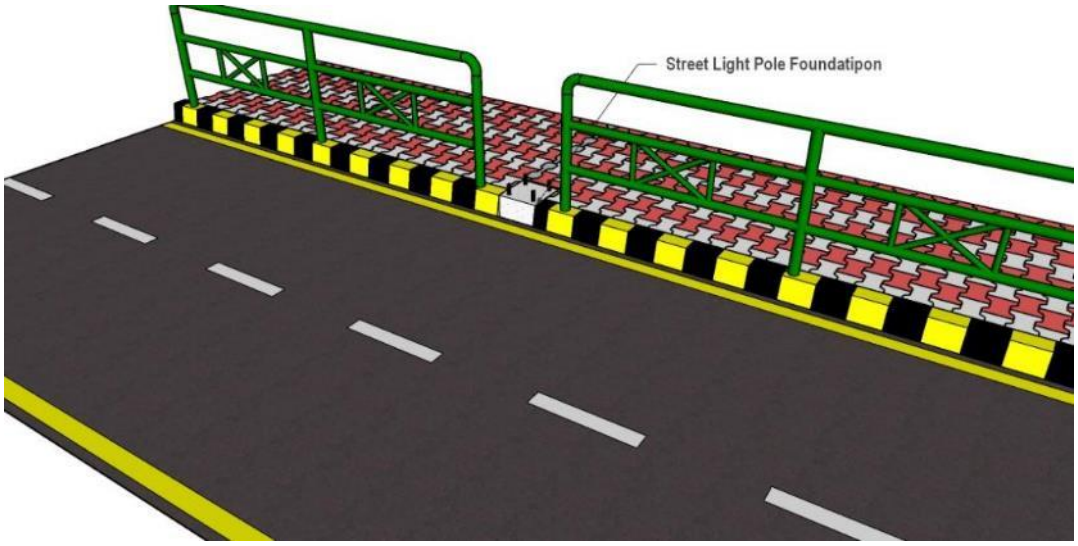


Figure 11: Street light pole arrangement on footpath

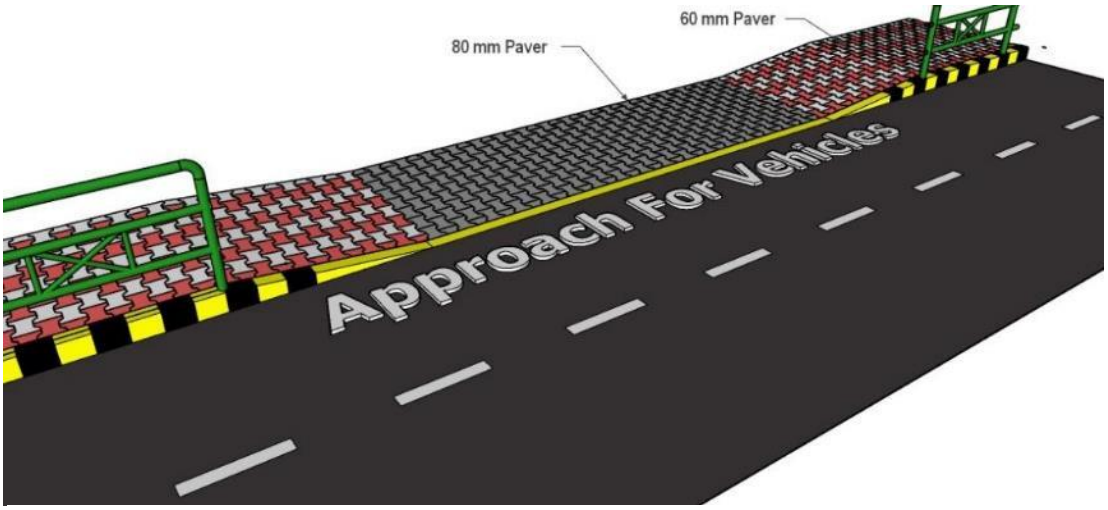


Figure 12: Paver block arrangement at Vehicular crossings

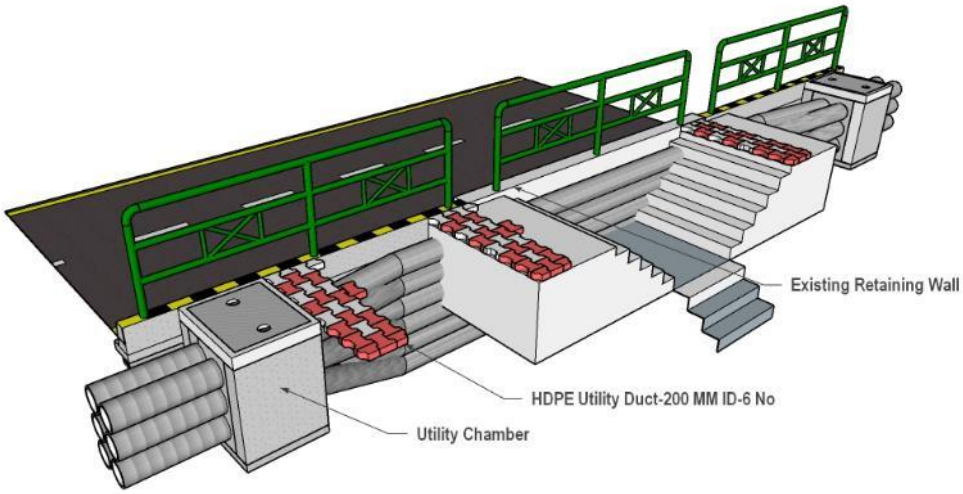


Figure 13: Utility chamber details

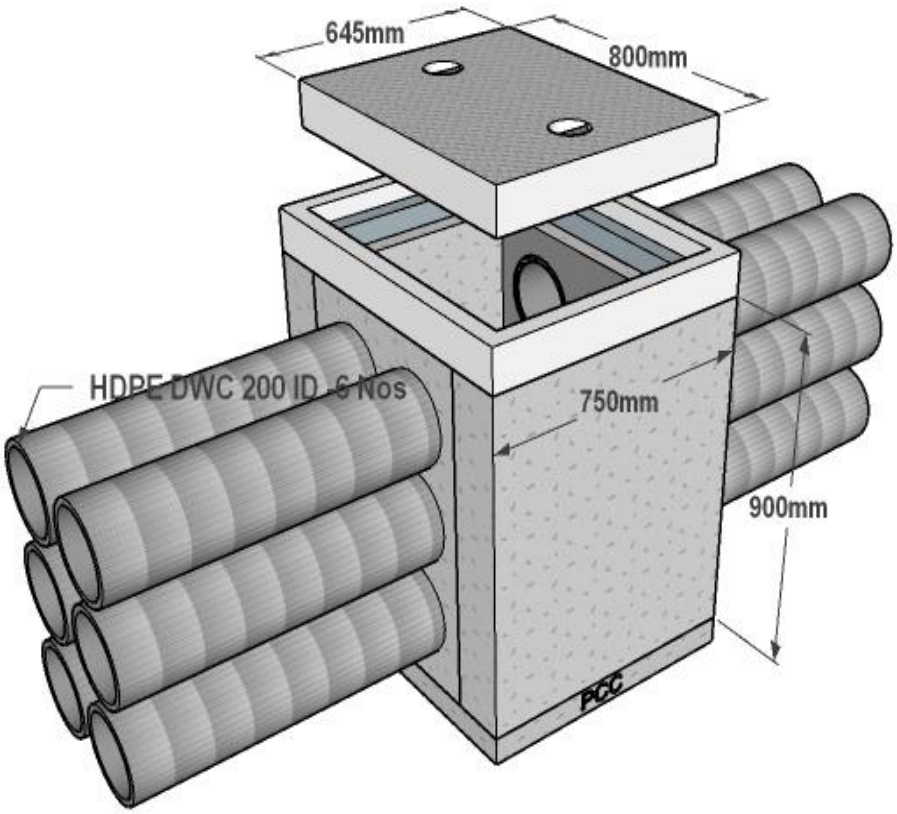


Figure 14: Utility duct chamber details

7 Project Cost

7.1. Total Project Cost

The total Project cost has been worked out as per SOR 2012, taking escalation at the rate of 7.5% per annum for a period of six years, from 2012 to 2018, i.e., an escalation of 7.5% x 6 = 45% over the rates during the year 2012. The rates of Non-scheduled items are worked taking into consideration prevailing market rates and from quotations received from various suppliers/ agencies. The rate analyses of the Non-Scheduled items are annexed in *Section 8.1* and the corresponding quotations are annexed in *Section 8.2*. The table below shows the project cost: -

Table 1: Total Project Cost

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
	SOR Items					
1	2.1/P-1/SOR Page-7	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	Sqm	5.66	18143.70	102,602.62
2	2.1/P-1/SOR Page-74	Cutting of Trees, including Cutting of Trunks, Branches and Removal (Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all lifts and up to a				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		lead of 50 mtrs and earth filling in the depression/ pit.)				
		(i) Girth from 300 mm to 600 mm each	each	211.93	2.00	423.86
		(ii) Girth from 600 mm to 900 mm each	each	322.94	4.00	1,291.78
		(iii) Girth from 900 mm to 1800 mm each	each	713.17	4.00	2,852.67
		(iv) Girth above 1800 mm	each	1426.34		-
3	2.4/P-1/SOR Page-75	Dismantling of Structures (Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 metres). Payment shall be made to the contractor as per actual quantity executed.				-
	(i)	Lime /Cement Concrete				-
	I	Manual Means				-
	A	Lime Concrete, cement concrete grade M-10 and below				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
	B	Cement Concrete Grade M-15 & M-20				-
	C	Pre-stressed / Reinforced cement concrete grade M-20 & above				-
	II	By Mechanical Means				-
	A	Cement Concrete Grade M-15 & M-20	Cum	612.38		-
						-
	ii	Dismantling Brick / Tile work				-
	B	In cement mortar	Cum	342.93		-
						-
4	SOR 2012, I.N. 2.7 Page 76	Dismantling MS Railing (Dismantling guard rails by manual/mechanical means and stacking of dismantled material at proper position as directed by engineer-in-charge with all lifts and up to a lead of 1000 metres, stacking serviceable materials and unserviceable materials separately.) Payment shall be made to the contractor as per actual quantity executed.	Metre	83.35	12928.50	1,077,538.76
5	SOR 2012, I.N. 2.8 Page 76	Dismantling Kerb Stone (Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and up to a	Metre	17.49	1200.00	20,984.40

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		lead of 1000 metre) Payment shall be made to the contractor as per actual quantity executed.				
6	SOR 2012, I.N. 2.14 Page 77	Removal of Telephone / Electric Poles and Lines (Removal of telephone / Electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and up to a lead of 1000 metres and stacking the serviceable and unserviceable material separately) Payment shall be made to the contractor as per actual quantity executed.	Each	183.70	500.00	91,850.25
7	SOR 2012, I.N. 3.1 a Page 77	Excavation in soil in hilly area by mechanical means including cutting and trimming of side slopes and disposing of excavated earth with all lifts and lead upto 1000 meters. Payment shall be made to the contractor as per actual quantity executed.	Cum	145.26	200.00	29,052.20
8	SOR 2012, I.N. 3.2 a Page 77	Excavation in soil in hilly area by manual means including cutting and trimming of side slopes and disposing of excavated earth with all lifts and lead upto 50 meters.	Cum	220.85	15469.32	3,416,391.28

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
9	SOR 2012, I.N. 3.3 a Page 78	Excavation in hilly area in ordinary rock not requiring blasting by mechanical means including cutting and trimming of slopes and disposal of cut material with all lift and lead upto 1000 meters. Payment shall be made to the contractor as per actual quantity executed.	Cum	221.79	200.00	44,358.40
10	SOR 2012, I.N. 3.2 a Page 78	Excavation in hilly area in ordinary rock not requiring blasting by Manual means including cutting and trimming of slopes and disposal of cut material with all lift and lead upto 50 meters. Payment shall be made to the contractor as per actual quantity executed.	Cum	390.02	4670.19	1,821,471.54
11	SOR 2012, I.N. 3.10 Page 79	Scarifying Existing Granular Surface to a Depth of 50 mm by Manual Means (Scarifying the existing granular road surface to a depth of 50 mm and disposal of scarified material within all lifts and leads upto 1000 metres.) Payment shall be made to the contractor as per actual quantity executed.	Sqm	27.80	250.00	6,949.13
12	SOR 2012, I.N. 3.15 Page 80	Compacting Original Ground				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
	Case I	Compacting original ground supporting subgrade (Loosening of the ground upto a level of 500 mm below the subgrade level, watered, graded and compacted in layers to meet requirement of table 300-2 for subgrade construction.)	Cum	97.88	2128.86	208,362.25
13	SOR 2012, I.N. 4.19 Page 86	Stone Soiling for road works: Providing & laying hand packed stone soling of specified thickness with clean hard selected stones including hammer dressing of stone for laying as per required level and camber including packing with broken stones obtained from hammer dressing to fill the voids to give uniform surface as directed by the Engineer-in-Charge all complete but excluding carriage and consolidation using:				-
	A	Manual means	Cum	812.41	1197.48	972,843.35
	B	carriage	Cum	673.61	1197.48	806,639.73
14	SOR 2012, I.N. 4.20 Page 86	Filling for road works Filling by supplying filling materials from outside in road works, in layers not exceeding 20 cm in depth excluding carriage of materials and including	Cum	212.74	350.00	74,460.40

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		consolidation of each layer by ramming, watering etc. all complete by manual/mechanical means.				
15	SOR 2012, I.N. 5.2 Page 9	Filling with available excavated earth in trenches, plinth and side of foundation in building works with layers not exceeding 20cm in depth including consolidation of each layer by ramming, watering etc., all complete.	Cum	99.24	500.00	49,619.00
16	SOR 2012, I.N. 12.3 Page 114	Sand Filling in Foundation Trenches as per Drawing & Technical Specification	Cum	1003.88	1471.45	1,477,152.44
17	SOR 2012, I.N. 12.8 Page 113	Plain/Reinforced cement concrete in sub-structure complete as per drawing and technical specifications				-
	A	PCC Grade M15	Cum	6749.01	2261.91	15,265,685.39
	B	PCC Grade M20	Cum	7778.28	226.19	1,759,380.17
	D	PCC Grade M25				-
		Case I: Using concrete mixer	Cum	8540.17	29.70	253,642.95
18	SOR 2012, I.N. 18.2 Page 34	Supplying, bending and placing in position tor-steel reinforcement in all R.C.C works including cost of binding wires, all complete.	Quintal	9756.04	161.89	1,579,375.15

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
19	SOR 2012, I.N. 14.2 Page 133	Providing, fixing & removing form work for casting R.C.C items as indicated below: with locally available timber)				-
	14.2.3	Wall	Sqm	551.36	191.40	105,530.78
20	SOR 2012, I.N. 8.1 Page 11	Providing and Laying in position specified grade of reinforced cement concrete excluding the cost of form work, finishing and reinforcements.				-
	8.1.1	1:1:2 Mix (1cement, 2 coarse sand 2 graded stone aggregate 20mm and down nominal gauge)	Cum	10543.02	30.80	324,725.09
	8.1.2	1:1.5:3 Mix (1cement, 1.5 coarse sand 3 graded stone aggregate 20mm and down nominal gauge)	Cum	7968.72	107.81	859,115.83
21	SOR 2012, I.N. 14.11 Page 138	Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification	Cum	49717.15		-
22	SOR 2012, I.N. 13.1 Page 130	Brick masonry work in 1:3 in sub-structure complete excluding pointing and plastering, as per drawing and technical specifications	Cum	10123.54	200.00	2,024,707.50

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
23	SOR 2012, I.N. 13.2 Page 131	Pointing with cement mortar (1:3) on brick work in substructure as per Technical specifications	Sqm	72.63	2447.53	177,765.03
24	SOR 2012, I.N. 9.3 Page 12	Providing and Laying 20 mm thick cement plaster of specified mix in single coat including finishing even and smooth and curing etc. all complete.				-
	9.3.2	1:4 mix.	Sqm	241.58	100.00	24,158.45
25	SOR 2012, I.N. 8.1 Page 96	Cast in Situ Cement Concrete M20 kerb (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408)				-
	A	Using Concrete Mixer	Metre	381.55	1000.00	381,553.00
	B	Using Concrete Batching and Mixing Plant	Metre	386.02		-
26	SOR 2012, I.N. 8.8 Page 97	Painting Two Coats on New Concrete Surfaces: (Painting two coats after filling the surface with	Sqm	195.17	4475.45	873,472.80

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		synthetic enamel paint in all shades on new plastered concrete surfaces) As directed by Engineer-in-Charge.				
27	SOR 2012, I.N. 11.32 Page 19	Providing and Laying Chequeres tiles in on flooring over 12mm thick cement plaster (1cement, 3coarsed sand) 1:3 bare and jointed with white cement slurry.	Sqm	1240.61	111.38	138,172.44
28	SOR 2012, I.N. 16.21 Page 144	Repair of steel Railing (Repair of steel railing to bring it to the original shape)	Metre	446.54	2585.70	1,154,623.65
29	SOR 2012, I.N. 22.1.2 Page 38	PRIMER: Providing and applying priming coat with ready mixed Red oxide, Zinc chromate primer on steel / galvanized Iron steel works including preparation of the surface complete.	Sqm	47.43	14559.95	690,571.04
30	SOR 2012, I.N. 8.9 Page 97	Painting on Steel Surfaces (Providing and applying two coats of ready mix paint of approved brand on steel surface after thorough cleaning of surface to give an even shade)	Sqm	81.30	14559.95	1,183,745.58
31	8.4/p-96/SOR	Retro- reflectorized Traffic signs (Providing and fixing of retro- reflectorized cautionary, mandatory and informatory sign as per IRC				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		:67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminum sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing)				
		90 cm equilateral triangle	each	8407.20	5.00	2,036.01
		60 cm equilateral triangle	each	5144.12	15.00	77,161.82
		60 cm circular	each	7280.26	12.00	87,363.14
		80 mm x 60 mm rectangular	each	10593.80	25.00	264,845.04
		60 cm x 45 cm rectangular	each	7061.60	15.00	105,924.02
		60 cm x 60 cm square	each	8575.40	15.00	128,631.02
		90 cm high octagon	each	13823.24		-
32	SOR 2012, I.N. 8.27 Page 101	Street Lighting (Providing and erecting street light mounted on a steel circular hollow pole of standard specifications for street lighting, 9 m high spaced 40 m apart, 1.8 m overhang on one side if fixed on the footpath, fitted with sodium vapour lamp and fixed firmly in				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		concrete foundation.) including design of foundations and required drawings.				
	(ii)	For fixing in Footpath	Each	82265.84	404.00	33,235,398.15
33	SOR 2012, I.N. 16.19 Page 144	Repair of crash barrier (Repair of concrete crash barrier with cement concrete of M-30 grade by cutting and trimming the damaged portion to a regular shape, cleaning the area to be repaired thoroughly, applying cement concrete after erection of proper form work.)	Metre	1277.10	24.00	30,650.45
34	SOR 2012, I.N. 23.3 Page 42	Providing, Fitting and fixing GI pipe of medium class, (excluding trenching, refilling, compacting and the cost of fittings) all complete				-
	23.3.1	15 mm dia G I pipe	Rmt	219.25	900.00	197,329.05
	23.3.2	20mm dia G I pipe	Rmt	278.33	900.00	250,494.75
	23.3.3	25mm dia G I pipe	Rmt	416.66	900.00	374,991.75
		Extra 20 % for cost of fittings				164,563.11
35	SOR 2012, I.N. 25 Page 48	**HEAD LOAD AND CARRIAGES:**				-
		Stock materials:				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
	25.1	Head load for a distance beyond 30 m and within 100m distance.	qtls	7.84	7196.80	56,455.27
	25.3	Head load for a distance beyond 100 m for every additional 1000m	qtls	106.92		-
		Non-Stock materials:				-
	25.2	**Head load for a distance beyond 30 m and within 100 m distance**	Cum	185.56	385.44	71,520.14
	25.4	Head load for a distance beyond 100 m for every additional 1000m	Cum	1886.91		-
		Loading and Unloading:				-
	25.5	Stone Boulder/Stone aggregates/Sand/Kanker/Moorum	Cum	126.15	2849.88	359,512.73
	25.6	Boulders by Manual Means	Cum	159.18		-
	25.7	Cement or Steel by Manual Means and Stacking.	MT	222.69	7196.80	1,602,661.83
	25.8	**Cost of Haulage Excluding Loading and Unloading:**				-
	25.8.1	Surfaced Road	MT/ Km	8.08	1205081.01	9,732,836.75
	25.8.2	Un-surfaced Graveled Road	MT/ Km	10.09		-
	25.8.3	Katcha Track and Track in River Bed/ Nallah Bed	MT/ Km	12.64		-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
36	SOR 2012, Basic rate Page 48	Providing Labour/Helper as directed.	Day	290.00	2000.00	580,000.00
		Total for SOR Items (I)	I			84,363,444
		Add GST @10% on (I)				8,436,344
		SOR Items amount (A)	**A**			**92,799,788**
	Non-SOR Items					
37		Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb	Cum	9587.00	1150.05	11,025,529.35

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		stone shall be approved by Engineer-in-charge).				
38		Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification	Kg	128.00	41119.37	5,263,279.34
39		Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	Sqm	73.00	16615.73	1,212,948.44
40		Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost).	Sqm	650.00	7047.65	4,580,972.01

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
41		Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	Sqm	801.00	15881.51	12,721,086.40
42		Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc., of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.				
		80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.	Sqm	908.00	1400.93	1,272,046.71
43		Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :				-
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5	Each	2408.00	7.00	16,856.00
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10	Each	3752.00	52.00	195,104.00
		Rectangular manhole 120x90 cm with circular cover 560 mm dia of grade HD - 20	Each			-
		Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35	Each	282.00	8.00	2,256.00
44		Providing & Fixing in position 100 mm dia SS Bollards (SS-304 grade) 1100 mm high, round top, mirror/matte finish of required shape	Each	3849.00	300.30	1,155,854.70

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		including M.S. holdfast welded at the bottom of the bollard. including necessary excavation for the same in bitumen/ concrete pavement/cast in situ kerbstone at specified spacing. As directed complete				
45		Erection of metallic pole of following length in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required.				-
		Above 8.0 metre and upto 11.0 metre	No.	5404.00	550.00	2,972,200.00
46		Providing and fixing in position pre-cast R.C.C. utility chamber cover and frame of required shape and approved quality				-
		M D - 10				-
		Rectangular shape 600x450 mm internal dimensions	No.	2220.00	605.00	1,343,100.00
47		Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. direct in ground				-

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		as per drawing including excavation and refilling the trench but excluding sand cushioning and protective covering etc. , complete as required.				
		63 mm dia (OD-63 mm & ID-51 mm nominal)	Metre	178.00	29700.00	5,286,600.00
		238 mm dia (OD-238 mm & ID-200 mm nominal)	Metre	413.00	79832.28	32,970,731.64
48		Shifting of Existing electric box, including coordination with respective department, shutting supply to avoid accident, excavation, shifting cables as required, foundation for new location, dismantling of existing structure, transportation of excavated material etc. under the supervision of representative of respective department complete as directed by Engineer-in-Charge. Payment against this item will be made as per actual rate analysis at the time of execution.	LS	2000000.00	1.00	2,000,000.00
49		Shifting of Existing Telephone box, including coordination with respective department, excavation, shifting cables as required, foundation for new location, dismantling of	LS	2000000.00	1.00	2,000,000.00

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		existing structure, transportation of excavated material etc. under the supervision of representative of respective department, complete as directed by Engineer-in-Charge. Payment against this item will be made as per actual rate analysis at the time of execution.				
50		Providing and fixing wooden or SS furniture, benches, sitting arrangements. Payment of this item will be as per actual rate analysis as per site condition at the time of execution. Contractor has to get approved all items, furniture from the authority before installing.	LS	100000.00	1.00	100,000.00
51		Shifting of 15 mm, 20 mm and 25 mm dia G.I. water supply pipelines complete with G.I. fittings including trenching and refilling etc.:				
		15 mm dia nominal bore	Metre	71.00	840.00	59,640.00
		20 mm dia nominal bore	Metre	71.00	840.00	59,640.00
		25 mm dia nominal bore	Metre	76.00	840.00	63,840.00
		Total for Non-SOR Items	II			84,301,685

Sr. No.	Ref. SOR-2012/ Rate analysis	Particulars	Unit	Rate (in INR)	Quantity	Amount (in INR)
		Add GST @ 12% on (II)				10,116,202
		Non-SOR Items Amount (B)	**B**			**94,417,887**
		TOTAL for all Items	C = A + B			**187,217,675**
		Add Contingency @3% on C				5,616,530.25
		Grand Total Cost for all Items (incl. all taxes)	**(in INR)**			***192,834,205***

8 Annexures

8.1. Rate Analysis of Non-SOR Items based on Quotations/ Market rates

8.1.1. Kerb Stones

NS Item no. 37	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Details of cost 100 metre i.e.						
For 100 m, quantity in Cum	6.15	Cum				
1 Pc of size - 410(H) x 300(L)approx x 150(W) mm						
No. of pcs. In 100 m =	333					
Precast C.C. Kerb stone M - 25		No.	334		139.00	46,426.00
Mortar 1:3 for fixing joints = 334x1x0.15 x .41x0.005 =		Cum	0.102705			
Rate as per Item Number 3.8 of SH: Mortars		Cum	0.102705		6,090.00	625.47
Cement mortar 1:3 (1 cement : 3 coarse sand).						
(0.357 cum. of cement = 0.51 tonne) Cement required for cement mortar is 35.70% required for cement mortar is 26.80%						
Portland Cement		Tonne	0.51	6,510.00	4593.03	4593.03
Carriage of Cement		Tonne	0.51	73.74	102.01	52.03
Coarse sand (zone III)		Cum	1.07	350.00	484.19	518.08
Carriage of Coarse sand		Cum	1.07	127.97	177.03	189.43
LABOUR				-	-	
For measuring, carrying, depositing and mixing-				-	-	
Beldar		day	0.75	300.00	415.02	311.27
Bhisti		day	0.7	407.00	488.35	341.84
Hire and running charges of mechanical mixer		LS	26.91	1.73	2.09	55.86

NS Item no. 37	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).						
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
	Sundries		LS	13.52	1.73	2.08	28.06
Cost of 1.00 cum							6143.61
						Say	6090.00
Labour for fixing of kerb stones							
Mason (brick layer) 1st class			day	2.5	300.00	415.02	1037.55
Mason (brick layer) 2nd class			day	2.5	275.00	380.44	951.09
	Beldar		day	2.5	300.00	415.02	1037.55
	Coolie		day	1.65	300.00	415.02	684.78
	Sub total					B	50,762.44
Add1% W.C on		B					508.02
						C	51,270.07
Add 15% Contractor Profit on **C**							7,690.51
	Cost for	6.15	Cum				58,960.58
	Cost for	1	Cum				**9,587.09**
	Cost for 1 Cum					**Say**	**9,587.00**

8.1.2. MS Railing

NS Item no.	**38**	**Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification**					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Details of cost for 1 MS Rail of railing 3 m length consisting of following parts:							
M.S. tube 60 mm nominal bore (medium)		6.6	m				
M.S. tube 50 mm nominal bore (medium)		6	m				
M.S. tube 30 mm nominal bore (medium)		3.6	m				
Total		16.2	m				

NS Item no.	38	Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Material							
M.S. tube 60 mm nominal bore (medium) = 6.6 m @ 6.61 kg/m		43.6	Kg				
M.S. tube 50 mm nominal bore (medium) = 6 m @ 3.68 kg/m		22.1	Kg				
M.S. tube 30 mm nominal bore (medium) = 3.6 m @ 3.2 kg/m		11.5	Kg				
		77.2	Kg				
Add wastage @ 5% =		3.86	Kg				
Total =			Kg	81.0873		100.00	8,108.73
Mild steel tubes hot finished welded type			kilogram	0			
Carriage of Steel			tonne	0.081087		0.05	0.00
Welding by electric plant			cm	76		2.40	182.38
(joints of hand rail)							
19x4x1.00 = 76cm							
Material, Carriage & Welding charges							8,291.11
Labour							
Labour for cutting assembling & erection							
Blacksmith 1st class			day	0.24	300.00	415.02	99.60
Beldar			day	0.9	300.00	415.02	373.52
Welder			day	0.12	300.00	415.02	49.80
Sundries			LS	12.48	1.73	2.08	25.91
						B	548.83
Sub Total				A+B			8,839.94
Add1% W.C on **(A+B)**							88.40
						C	8,928.34
Sub Total							9,016.74
Add 15% Contractor Profit on **C**							1,352.51

NS Item no.	38	Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Cost for		81.1	kg				10,369.26
Cost for		1	kg				127.88
Cost for 1 kg						Say	128.00

8.1.3. Removing existing paver blocks

NS Item no. 39	**Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.**					
	Description	**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
	Details of cost for 10.00 sqm					
	Labour					
	Labour Charges					
	Beldar	day	1	300.00	415.02	415.02
	Coolie	day	0.5	200.00	415.02	207.51
	Sundries	L.S	2.7	1.73	2.08	5.60
					A	628.13
	Add1% W.C on **A**					6.28
	Sub Total				B	634.42
	Add 15% Contractor Profit on **C**					95.16
	Cost of 10 Sqm					729.58
	Cost of Sqm					72.96
	Cost of Sqm				Say	73.00

8.1.4. Laying old paver block

NS Item no.	40	Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost).					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
Details of cost for 10.00 sqm							
Material							
Interlocking C.C. paver block (30 mm thick, M-30)			sqm	10		410.00	4100
Bedding layer - 50mm thick							
Coarse sand =10x0.050=0.50 cum			cum	0.5	400.00	553.36	276.68
Carriage of Coarse sand			cum	0.5	127.97	177.03	88.52
Fine sand			cum	0.15	400	553.36	83.00
Carriage of fine sand			cum	0.15	127.97	177.03	26.56
					A		4574.76
Labour Charges							
Mason (brick layer) 1st class			day	0.5	300.00	415.02	207.51
Mason (brick layer) 2nd class			day	0.5	275.00	380.44	190.22
	Beldar		day	415.02	415.02	418.80	418.8
	Coolie		day	415.02	207.51	418.80	209.4
						B	1,020.26
	Sub Total			A+B			5,595.01
Add1% W.C on **(A+B)**							56.09
	Sub Total					5,650.96	5,664.72
Add 15% Contractor Profit on **C**							849.71
	Cost of 10 Sqm						6,498.61
	Cost of Sqm	1					649.86
						Say	650.00

8.1.6. Laying Pre-Cast Paver block (60 mm thick)

NS Item no.	41	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.					
Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**	
Details of cost for 10.00 sqm							
Material							
Interlocking C.C. paver block (60 mm thick, M-30)		sqm	10		540.00	5400	
Bedding layer - 50mm thick							
Coarse sand =10x0.050=0.50 cum		cum	0.5	400.00	553.36	276.68	
Carriage of Coarse sand		cum	0.5	127.97	177.03	88.52	
Fine sand		cum	0.15	400	553.36	83.00	
Carriage of fine sand		cum	0.15	127.97	177.03	26.56	
				A		5874.76	
Labour							
Mason (brick layer) 1st class		day	0.5	300.00	415.02	207.51	
Mason (brick layer) 2nd class		day	0.5	275.00	380.44	190.22	
	Beldar	day	1	300.00	415.02	415.02	
	Coolie	day	0.5	200.00	415.02	207.51	
				B	1,020.26	1,029.55	
	Sub Total		A+B			6,895.01	
Add1% W.C on **(A+B)**						69.09	
	Sub Total				c	6,963.96	
Add 15% Contractor Profit on **C**						1,046.66	
	Cost of 10 Sqm					8,008.56	
	Cost of 1 Sqm					800.86	
					Say	801.00	

8.1.7. Laying Pre-Cast Paver block (80 mm thick)

NS Item no.	**42**	**Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc., of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.**
		80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.

Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
Details of cost for 10.00 sqm						
Material						
Coloured inter locking C.C. paver Block		sqm	10		635.07	6350.7
	Fine sand	cum	0.5	400	553.36	276.68
Carriage of Fine sand (1 part badarpur sand : 2 parts jamuna sand)		cum	0.65	127.97	178.65	177.03
				A		6742.45
Labour						
Mason (brick layer) 1st class		day	0.5	300.00	415.02	207.51
Mason (brick layer) 2nd class		day	0.5	275.00	380.44	190.22
	Beldar	day	1	300.00	415.02	415.02
	Coolie	day	0.5	200.00	415.02	207.51
	Sundries	LS	25	1.73	2.08	51.89
					B	1,072.15
	Sub Total		A+B			7,814.60
Add1% W.C on **(A+B)**						78.15
	Sub Total				c	7,892.75
Add 15% Contractor Profit on **C**						1,183.91
Cost of 10 Sqm						9,076.66
Cost of Sqm						907.67
					Say	908.00

8.1.8. Raising manholes (90x80 cm)

NS Item no.	**43**	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**				
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5				
Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Details of cost for one manhole						
Dismantling of R.C.C slab of 1:2:4 (1 cement : 2 coarse sand : 4 aggregate stone 20 mm nominal size) = 1.36x1.26x0.15 = 0.257 cum						
Less cover with frame portion 0.85x0.70x0.15 =(-) 0.089 cum Net qty=0.168 cum Say 0.17 cum						
15.3	Rate as per item no. 15.3 of SH : Dismantling and demolishing	Cum	0.17		1,641.00	278.97
Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.						
Detail of cost for 1 cum						
	Labour					
	Beldar	day	2.65	300.00	415.02	1099.80
	Coolie	day	0.72	300.00	415.02	298.81
	Sundries	LS	7.02	1.73	2.08	14.57
	Sub Total				B	1,413.19
Add1% W.C on **(B)**						14.13
	Sub Total				C	1,427.32
Add 15% Contractor Profit on **C**						214.10
Cost for	1	Cum				1,641.42
					Say	1,641.00
Removal of R.C.C cover and frame		L.S.	7.15	1.73	2.08	14.84
Removal of R.C.C work 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) For raised slab = 1.36x1.26x0.15 = 0.257 cum Less portion cover with frame = 0.85x0.70x0.15 =(-) 0.089 cum Net qty = 0.168 cum Say 0.17 cum						
Rate as per item no. 5.3 of SH: RCC work		cum	0.17		10,994.00	1868.98
Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases						

NS Item no.	43	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5

Description	Unit	Quantity	Base Rate SOR 2012	Escalated rate 2018/ Market rate	Amount
above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) : 3 graded stone aggregate 20 mm nominal size).					
Details of cost for 1 cum.					
MATERIAL					
Stone Aggregate (Single size) : 20 mm nominal size	cum	0.57	1,100.00	1,521.74	867.39
Stone Aggregate (Single size) : 10 mm nominal size	cum	0.28	300.00	415.02	116.21
Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	127.97	177.03	150.48
Coarse sand (zone III)	cum	0.425	350.00	484.19	205.78
Carriage of Coarse sand	cum	0.425	127.97	177.03	75.24
Portland Cement (0.2833 cum)	Tonne	0.4	6,510.00	9,005.93	3602.37
Carriage of Cement	Tonne	0.4	737.40	1,020.12	408.05
Labour					
Mason (average)	day	0.24	300.00	415.02	99.60
Beldar	day	2.75	300.00	418.80	1151.70
Bhisti	day	0.9	300.00	418.80	376.92
Hire charges of Concrete Mixer 0.25 to 0.40 cum with hooper	day	0.8	960.00	1,328.06	1062.45
Vibrator (Needle type 40mm)	day	0.8	500.00	691.70	553.36
Sundries	LS	14.3	2.08	29.68	29.85
Extra labour for lifting material upto floor V level: Coolie (2.5x0.75=1.88)					
Coolie/ Helper	Day	1.88	300.00	415.02	780.24
Sub Total				D	9,465.68
Add1% W.C on **(D)**					94.66
Sub Total				E	9,560.33
Add 15% Contractor Profit on E					1,434.05
Cost for 1	Cum				10,994.38
				Say	10,994.00
Form work = 0.90x0.80 = 0.72 sqm Less cover = 0.60x0.45 =(-) 0.27 sqm Net qty = 0.45 sqm					
Rate as per item no 5.9.3 of SH : RCC work	Sqm	0.45		465.00	209.25
Suspended floors, roofs, landings, balconies and access platform					

NS Item no.	43	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :				
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5				
Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Detail of cost for a room 4.50x3 = 13.50 sqm, height 3.5 m						
Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost 1. Plates (size 0.75 x 0.60) Angle 40x40x5mm 2x0.75 = 1.50 m 2x0.60 = 1.20 m= 2.70 m @ 3.00 kg/m = 8.1 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55kg/sqm = 5.65kg Weight of one plate = 13.75kg Add for wastage @ 5% = 0.69 kg Total = 14.44kg Total weight of all plates = 5x6x14.44= 433.2 kg. Qty taken for cost using once =433.2x0.85/40 = 9.2055 kg						
Rate as per item no.10.1 S.H. steel work		Kg	9.2055		92.00	846.91
Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.						
Details of cost for one quintal						
	MATERIAL					
Steel = 1.00q Add wastage @ 5% = 0.05q			Total = 1.05q			
Structurals such as tees,angles channels and R.S. joists		quintal	1.05	4935	6,827.08	7168.43
Carriage of Steel		tonne	0.105	154.32	213.48	22.42
Labour						
Fitter (grade 1)		day	0.5	300.00	415.02	207.51
Blacksmith 2nd class		day	0.75	300.00	415.02	311.27
Beldar		LS	1	1.73	2.08	2.08
Priming Coat						
Rate as per Item Number 13.50.3 of SH:Finishing		sqm	3		37.32	111.96
With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works						
Detail of cost for 10 sqm						
	MATERIAL					

NS Item no.	43	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5

Description	Unit	Quantity	Base Rate SOR 2012	Escalated rate 2018/ Market rate	Amount
Red oxide Zinc chromate primer	Litre	0.54	132.00	182.61	98.61
Carriage	L.S.	0.52	1.73	2.08	1.08
LABOUR					
Painter	Day	0.24	300.00	415.02	99.60
Coolie/ Helper	Day	0.24	300.00	415.02	99.60
Brushes, sand paper including sundries	L.S	10.79	1.73	2.08	22.40
Sub Total				F	321.30
Add1% W.C on **(F)**					3.21
Sub Total				G	324.51
Add 15% Contractor Profit on G					48.68
Cost for 10	Sqm				373.18
Cost for 1	Sqm				37.32
Sundries	L.S	20.67	1.73	2.08	42.91
Total =					7866.56
Add 1 % Water charges on all except (a) i.e. on					
7938.03 minus	112.95				77.55
				Total =	7944.11
Add 15 % Contractor's profit and overheads on all except (a) i.e. on					
8016.28 minus	112.95				1,174.82
Cost of 1 quintal					9118.93
Cost of 1 Kg.					91.19
				Say	92.00
Adjustable span ESO+SI (2.35-3.40)	each	0.1063	1,550.00	1,859.79	197.70
Qty taken for cost using once =					
5x0.85/40=0.1063					
Adjustable telescopic prop 3 m (2.02-3.75 m)	each	0.1275	1,000.00	1,199.87	152.98
Qty taken for cost using once =					
6x0.85/40=0.1275					
4. Assembly nut & bolts etc.	L.S.	22.1	1.73	2.08	45.87
Qty taken for cost using once					
1040x0.85/40=22.10					

NS Item no.	43	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :					
		Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5					
Description			Unit	Quantity	Base Rate SOR 2012	Escalated rate 2018/ Market rate	Amount
Carriage			L.S.	130	1.73	2.08	269.85
	LABOUR						
	Fitter (grade 1)		day	3	300.00	415.02	1,245.06
	Beldar		day	6	300.00	415.02	2,490.12
	Shuttering oil		LS	78	1.73	2.08	161.91
Sundries, paper tap etc.			LS	49.7	1.73	2.08	103.17
	TOTAL						5,513.57
Add 1 % Water charges on all except (b) i.e. on							
5,562.10		minus	856.11				46.67
	TOTAL						5,560.23
Add 15 % Contractor's profit and overheads on all except (b) i.e. on							
5,609.16		minus	856.11				707.00
Cost for 13.50 sqm.							6,267.23
Cost per sqm.							464.24
						Say	465.00
	Sundries		L.S	13.52	1.73	2.09	28.06
	TOTAL						2,400.11
Add 1 % Water charges on all except (highlighted green portion items) i.e. on							
2,421.70		minus	2378.55				0.43
TOTAL							2,400.54
Add 15 % Contractor's profit and overheads on all except (highlighted green portion items) i.e. on							
2,422.13		minus	2378.55				6.50
	Cost for 1 no.						2,428.67
						Say	2,408.00

8.1.9. Raising manholes (120x90 cm)

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**						
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Details of cost for one manhole								
Details of cost for one manhole Dismantling of R.C.C slab of 1:2:4 (1 cement : 2 coarse sand : 4 aggregate stone 20 mm nominal size) 1.66x1.36x0.15 = 0.339 cum Less for R.C.C cover with frame 3.14/4x(0.80)²x0.15 =(-) 0.075 cum Net qty 0.264 cum Say 0.26 cum								
15.3		**Rate as per item no. 15.3 of SH : Dismantling and demolishing**		Cum	0.26		1641.00	426.66
Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.								
Detail of cost for 1 cum								
		Labour						
		Beldar		day	2.65	**300.00**	415.02	1099.80
		Coolie		day	0.72	**300.00**	415.02	298.81
		Sundries		LS	7.02	**1.73**	2.08	14.57
		Sub Total					B	**1,413.19**
Add1% W.C on **(B)**								14.13
		Sub Total					C	1,427.32
Add 15% Contractor Profit on **C**								214.10
		Cost for	1	Cum				1,641.42
							Say	**1,641.00**
Removal of R.C.C cover and frame				L.S.	7.15	1.73	2.08	14.84
Removal of R.C.C cover and frame R.C.C work 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) 1.66x1.36x0.15 = 0.339 cum Less portion cover with frame = 3.14/4x0.80x0.80x0.15=(-) 0.075 cum Net qty= 0.264 cum Say 0.26 cum								

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**					
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Rate as per item no. 5.3 of SH : RCC work			cum	0.26		10994.00	2858.44
Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) : 3 graded stone aggregate 20 mm nominal size)							
Details of cost for 1 cum.							
		MATERIAL					
Stone Aggregate (Single size) : 20 mm nominal size			cum	0.57	1,100.00	1,521.74	867.39
Stone Aggregate (Single size) : 10 mm nominal size			cum	0.28	300.00	415.02	116.21
Carriage of Stone aggregate below 40 mm nominal size			cum	0.85	127.97	177.03	150.48
Coarse sand (zone III)			cum	0.425	350.00	484.19	205.78
Carriage of Coarse sand			cum	0.425	127.97	177.03	75.24
Portland Cement (0.2833 cum)			Tonne	0.4	6,510.00	9005.93	3602.37
Carriage of Cement			Tonne	0.4	737.40	1020.12	408.05
Labour							
Mason (average)			day	0.24	**300.00**	415.02	99.60
		Beldar	day	2.75	**300.00**	415.02	1141.31
		Bhisti	day	0.9	**300.00**	415.02	373.52
Hire charges of Concrete Mixer 0.25 to 0.40 cum with hooper			day	0.8	**960.00**	1328.06	1062.45
Vibrator(Needle type 40mm)			day	0.8	**500.00**	691.70	553.36
		Sundries	LS	14.3	**1.73**	2.08	29.68
Extra labour for lifting material upto floor V level: Coolie (2.5x0.75=1.88)							
Coolie/ Helper			Day	1.88	**300.00**	415.02	780.24
		Sub Total				D	**9465.68**
Add1% W.C on **(D)**							94.66
		Sub Total				E	9560.33
Add 15% Contractor Profit on E							1434.05

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**						
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
		Cost for	1	Cum				10994.38
							Say	**10994.00**
Form work = 1.2x0.90 = 1.08 sqm Less cover = 3.14/4x(0.50)² =(-)0.196 sqm Net qty= 0.884 sqm Say .88 sqm								
Rate as per item no 5.9.3 of SH : RCC work				Sqm	0.88		465.00	409.20
Suspended floors, roofs, landings, balconies and access platform								
Detail of cost for a room 4.50x3 = 13.50 sqm, height 3.5 m								
Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost 1. Plates (size 0.75 x 0.60) Angle 40x40x5mm 2x0.75 = 1.50 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.1 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55kg/sqm = 5.65kg Weight of one plate = 13.75kg Add for wastage @ 5% = 0.69 kg Total = 14.44kg Total weight of all plates = 5x6x14.44 = 433.2 kg. Qty taken for cost using once =433.2x0.85/40 = 9.2055 kg								
Rate as per item no.10.1 S.H. steel work				Kg	9.2055		92.00	846.91
Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.								
Details of cost for one quintal								

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**					
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
		MATERIAL					
Steel = 1.00q Add wastage @ 5% = 0.05q Total = 1.05q							
Structurals such as tees,angles channels and R.S. joists			quintal	1.05	4935	6,827.08	7168.43
Carriage of Steel			tonne	0.105	154.32	213.48	22.42
		Labour					
Fitter (grade 1)			day	0.5	300.00	415.02	207.51
Blacksmith 2nd class			day	0.75	300.00	415.02	311.27
		Beldar	LS	1	1.73	2.08	2.08
Priming Coat							
Rate as per Item Number 13.50.3 of SH:Finishing			sqm	3		**37.32**	111.96
With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works							
Detail of cost for 10 sqm							
		MATERIAL					
Red oxide Zinc chromate primer			Litre	0.54	132.00	182.61	98.61
		Carriage	L.S.	0.52	1.73	2.08	1.08
		LABOUR			-	-	
		Painter	Day	0.24	300.00	415.02	99.60
Coolie/ Helper			Day	0.24	300.00	415.02	99.60
Brushes,sand paper including sundries			L.S	10.79	1.73	2.08	22.40
	Sub Total					F	**321.30**
Add1% W.C on **(F)**							3.21
	Sub Total					G	324.51
Add 15% Contractor Profit		on G					48.68
		Cost for 10	Sqm				373.18
		Cost for 1	Sqm				37.32
	Sundries		L.S	20.67	1.73	2.08	42.91
		Total =					7866.56
Add 1 % Water charges on all except (a) i.e. on							
		7938.03	minus	112.95			77.55
		Total =					7944.11

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**						
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Add 15 % Contractor's profit and overheads on all except (a) i.e. on								
		8016.28	minus	112.95				1174.82
Cost of 1qunital								9118.93
Cost of 1 Kg.								91.19
							Say	92.00
Adjustable span ESO+SI (2.35-3.40)				each	0.1063	**1,550.00**	1859.79	197.70
Qty taken for cost using once =5x0.85/40 = 0.1063								
Adjustable telescopic prop 3 m (2.02-3.75 m)				each	0.1275	**1,000.00**	**1199.87**	152.98
Qty taken for cost using once =6x0.85/40 = 0.1275								
4. Assembly nut & bolts etc.				L.S.	22.1	**1.73**	**2.08**	45.87
Qty taken for cost using once =1040x0.85/40 = 22.10								
		Carriage		L.S.	130	**1.73**	**2.08**	269.85
		LABOUR						
Fitter (grade 1)				day	3	**300.00**	**415.02**	1,245.06
		Beldar		day	6	**300.00**	**415.02**	2490.12
Shuttering oil				LS	78	**1.73**	**2.08**	161.91
Sundries, paper tap etc.				LS	49.7	**1.73**	**2.08**	103.17
		TOTAL						5,513.57
Add 1 % Water charges on all except (b) i.e. on								
		5,562.10	minus	856.11				46.67
		TOTAL						5,560.23
Add 15 % Contractor's profit and overheads on all except (b) i.e. on								
		5,609.16	minus	856.11				707.00
Cost for 13.50 sqm.								6,267.23
Cost per sqm.								464.24
							Say	**465.00**
		Sundries		L.S	16.64	1.73	2.08	34.54
		TOTAL						3,743.68

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**						
		Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Add 1 % Water charges on all except (highlighted green portion items) i.e. on								
		3,777.38	minus	3727.72				0.49
		TOTAL						3,744.18
Add 15 % Contractor's profit and overheads on all except (highlighted green portion items) i.e. on								
		3,777.88	minus	3727.72				7.48
Cost for 1 no.								3,751.66
							Say	**3,752.00**

8.1.10. RA_Raising MH (Circular)

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**					
		Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Details of cost for one manhole							
Dismantling of C.C slab of 1:2:4 (1 cement : 2 coarse sand : 4 aggregate stone 20 mm nominal size) = 3.14/4x(0.985)²x0.15 = 0.114 cum							
Less cover =3.14/4x(0.90)²x0.15=(-) 0.095 cum Net qty= 0.019 cum Say 0.02 cum							
15.3	**Rate as per item no. 15.3 of SH : Dismantling and demolishing**		Cum	0.02		1,641.00	32.82
Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.							
Detail of cost for 1 cum							
		Labour					
		Beldar	day	2.65	**300.00**	415.02	1099.80
		Coolie	day	0.72	**300.00**	415.02	298.81
		Sundries	LS	7.02	**1.73**	2.08	14.57
		Sub Total				B	1,413.19
Add1% W.C on **(B)**							14.13
		Sub Total			**1,427.32**	C	1,427.32
Add 15% Contractor Profit on **C**							214.10
		Cost for 1	Cum		**1,641.42**		1,641.42
						Say	1,641.00
Removal of R.C.C cover and frame			L.S.	8.06	1.73	2.08	16.73
Removal of R.C.C cover and frame C.C work 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) 3.14/4x(0.985)²x0.15 = 0.114 cum Less portion cover with frame= 3.14/4x(0.90)²x0.15 =(-) 0.095 cum							

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**					
		Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35					
Description			**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
Net qty= 0.019 cum Say 0.02 cum Net qty = 0.168 cum Say 0.17 cum							
Rate as per item no. 4.2.3 of SH : RCC work			cum	0.02		9,031.00	180.62
1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)							
Details of cost for 1 cum.							
		MATERIAL					
Stone Aggregate (Single size) : 20 mm nominal size			cum	0.67	1,100.00	1,521.74	1019.57
Stone Aggregate (Single size) : 10 mm nominal size			cum	0.22	300.00	415.02	91.30
Carriage of Stone aggregate below 40 mm nominal size			cum	0.89	127.97	177.03	157.56
Coarse sand (zone III)			cum	0.445	350.00	484.19	215.46
Carriage of Coarse sand			cum	0.445	127.97	177.03	78.78
Portland Cement (0.2833 cum)			Tonne	0.32	6,510.00	9,005.93	2881.90
Carriage of Cement			Tonne	0.32	737.40	1,020.12	326.44
		Labour					
		Beldar	day	0.9	**300.00**	415.02	373.52
		Coolie/ Helper	day	2.66	**300.00**	415.02	1103.95
		Bhisti	day	0.7	**300.00**	415.02	290.51
Mason (1st class)			day	0.06	**300.00**	418.80	25.13
Mason 2nd class)			day	0.06	**275.00**	383.90	23.03
Hire charges of Concrete Mixer 0.25 to 0.40 cum with hooper			day	0.07	**960.00**	1,340.16	93.81
Vibrator(Needle type 40mm)			day	0.07	**500.00**	698.00	48.86
		Scaffolding	LS	114.4	**1.73**	2.08	237.47
		Sundries	LS	14.3	**1.73**	2.08	29.68
Extra labour for lifting material upto floor V level: Coolie (2.5x0.75=1.88)							
Coolie/ Helper			Day	1.88	**300.00**	415.02	780.24
		Sub Total				D	**7,775.50**
Add1% W.C on **(D)**							77.75
		Sub Total				E	7,853.25
Add 15% Contractor Profit on E							1,177.99
		Cost for 1	Cum				9,031.24
						Say	**9,031.00**
		Sundries	L.S	20.28	1.73	2.08	42.10

NS Item no.	43	**Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :**						
		Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018/ Market rate**	**Amount**
		Total =						272.27
Add 1 % Water charges on all except (a) i.e. on								
		274.52	minus	215.36				0.59
		Total =						272.86
Add 15 % Contractor's profit and overheads on all except (a) i.e. on								
		275.11	minus	215.36				8.91
Cost of 1 cum								281.77
							Say	**282.00**

8.1.11. RA_SS Bollards

NS Item no.	44	**Providing & Fixing in position 100 mm dia SS Bollards (SS-304 grade) 1100 mm high, round top, mirror/matte finish of required shape including M.S. holdfast welded at the bottom of the bollard. including necessary excavation for the same in bitumen/ concrete pavement/cast in situ kerbstone at specified spacing. As directed complete**						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Details of Cost for one bollard						
		Material						
		SS Bollard 100 mm dia (Grade SS 304) (Unit wt.- 8000 kg/cum)		Kg	5.41587		483.050847	2616.14
							(Rate excl. 18% GST)	
		Cartage @ 15%						392.42
		Total						3008.56
		MS Holdfast	Nos.	4				
		Carriage		L.S		1.73	2.08	0.00
		Total						3012.57
		Add 10% for fixing charges and labour						301.26
		Total						3313.83
		Add 1 % Water charges						33.14
		Sub Total					**c**	**3346.97**
		Add 15 % Contractor's profit and overheads						502.05
		Cost for one bollard						**3849.01**
							Say	**3,849.00**

8.1.12. RA_Pole

NS Item no.	45	**Erection of metallic pole of following length in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required.**						
		Above 8.0 metre and upto 11.0 metre Details of cost for one No						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Mason, Grade 2		day	0.33		612.00	201.96
		Lineman		day	0.33		673.00	222.09
		Khallasi		day	3.66		553.00	2023.98
		Total						2448.03
		Add 15 % Contractor's profit and overheads						367.20
		Sub total						2815.23
		Excavation including refilling as required		Cum	1.06		546.00	578.76
SOR-2012, I.N. 7.1.5, Pg-10		Cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)		Cum	0.38	3,821.97	5,287.31	2009.18
		Cost for one no.						5403.17
							Say	**5,404.00**

8.1.13. RA_RCC utility chamber cover & frame

NS Item no.	46	**Providing and fixing in position pre-cast R.C.C. utility chamber cover and frame of required shape and approved quality**					
		M D - 10					
		Rectangular shape 600x450 mm internal dimensions					
Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**	
Detail of cost for 1 no.							
MATERIAL:							
Rectangular shape 600x450 mm precast R.C.C. utility chamber cover with frame - M.D. - 10		each	1		1650	1650	
Carriage of cover		L.S	6.76	1.73	2.08	14.03	
Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 grade stone aggregate 20 mm nominal size) 1.00x0.85x0.15 = 0.1275 cum Less cover with frame 0.85x0.70x0.15 = (-) 0.0893 cum= 0.0382 cum Say 0.04 cum							
Rate as per item no. 4.1.3 of SH : Concrete Work		Cum	0.04		5,966.00	238.64	
1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)							
Details of cost for 1 cum. MATERIAL							
Stone Aggregate (Single size) : 20 mm nominal size required for cement mortar is 26.80%		Cum	0.067	900.00	1,245.06	83.42	
Stone Aggregate (Single size) : 10 mm nominal size		Cum	0.22	1,100.00	1,521.74	334.78	
Carriage of Stone aggregate below 40 mm nominal size		Cum	0.89	73.74	102.01	90.79	
Coarse sand (zone III)		Cum	0.445	350.00	484.19	215.46	
Carriage of Coarse sand		Cum	0.445	127.97	177.03	78.78	
Portland Cement (0.2225 cum)		Tonne	0.32	6,510.00	9,005.93	2881.90	
Carriage of Cement		Tonne	0.32	737.40	1,020.12	326.44	
LABOUR							
Mason (average)		day	0.1			41.50	

NS Item no.	46	**Providing and fixing in position pre-cast R.C.C. utility chamber cover and frame of required shape and approved quality**						
		M D - 10						
		Rectangular shape 600x450 mm internal dimensions						
Description				**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
Beldar				day	0.63			261.4
Bhisti				day	0.7			290.5
Hire charges of Concrete Mixer 0.25 to 0.40 cum with hooper				day	0.7	1,213.44	1,328.06	929.64
Vibrator(Needle type 40mm)				day	0.7	632.00	691.70	484.19
		Sundries		LS	14.3	1.73	2.08	29.85
Cost of One no.								5965.15
							Say	5966.00
Carriage for RCC Cover with frame				LS	6.76	1.73	2.08	14.03
		Sundries		LS	13.52	1.73	2.08	28.06
		Total						1944.77
Add 1 % Water charges on all except A i.e. on								
		1947.25	minus	240.80	i.e.	1706.45		17.06
		Sub Total					**c**	**1961.83**
Add 15 % Contractor's profit and overheads on all except A i.e. on								
		1964.31	minus	240.80	i.e.	1723.51		258.48
		Cost for 1 no.						**2220.31**
							Say	**2,220.00**

8.1.14. RA_DWC HDPE Pipe (50 mm ID)

NS Item no.	47	**Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc.direct in ground as per drawing including excavation and refilling the trench but excluding sand cushioning and protective covering etc. , complete as required.**						
		63 mm dia (OD-63 mm & ID-50 mm nominal)						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Details of cost for 50 meter						
		MATERIAL						
		63 mm dia (OD) DWC HDPE Pipe		Metre	52.5		52.8	2772
		= 50 + 2.5 (Wastage @ 5%) = 52.5 m						
		63 mm dia (OD) DWC HDPE Pipe Coupler=		Each	2		16.00	32.00
		Total cost of materials						2804.00
		Cartage @ 1 %						28.04
		LABOUR						
		Khallasi		day	1		553.00	553.00
		TOTAL						3385.04
		Add 15 % Contractor's profit and overheads						**507.76**
		Excavation i/c refilling etc. as required		Cum	9.19		546.00	5017.74
		Cost for 50 meter						**8910.54**
		Rate per meter						**178.21**
							Say	**178.00**

8.1.15. RA_DWC HDPE Pipe (200 mm ID)

NS Item no.	47	**Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc.direct in ground as per drawing including excavation and refilling the trench but excluding sand cushioning and protective covering etc. , complete as required.**						
		238 mm dia (OD-238 mm & ID-200 mm nominal)						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Details of cost for 50 meter						
		MATERIAL						
		238 mm dia (OD) DWC HDPE Pipe		Metre	52.5		242	12705
		50 + 2.5 (Wastage @ 5%) = 52.5 m						
		238 mm dia (OD) DWC HDPE Pipe Coupler=		Each	2		100.00	200.00
		Total cost of materials						12905.00
		Cartage @ 1 %						129.05
		LABOUR						
		Khallasi		day	1		553.00	553.00
		TOTAL						13587.05
		Add 15 % Contractor's profit and overheads						**2038.06**
		Excavation i/c refilling etc. as required		Cum	9.19		546.00	5017.74
		Cost for 50 meter						**20642.85**
		Rate per meter						**412.86**
							Say	**413.00**

8.1.16. RA_Shifting Water Pipelines (15 mm dia)

NS Item no.	51	**Shifting of 15 mm, 20 mm and 25 mm dia G.I. water supply pipelines complete with G.I. fittings including trenching and refilling etc.:**						
		15 mm dia nominal bore						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Detail of cost for 10 metre						
		Carriage of G.I. pipes below 100 mm dia		Tonne	0.01255	92.24	110.68	1.39
		White lead, hemp, oil etc.		LS	5.33	1.73	2.08	11.07
		Labour						
		Fitter (grade 1)		day	0.08	299.00	415.02	33.2016
		Beldar (i/c for Trenching and refilling etc)		day	0.82	300.00	415.02	340.3164
		Coolie		day	0.66	200.00	415.02	273.91
							A	**614.23**
		Add1% W.C on **A**						6.14
		Sub Total					**B**	**620.37**
		Add 15% Contractor Profit on B						93.06
		Cost of 10 Metres						713.43
		Cost of 1 Metres						**71.34**
							Say	**71.00**

8.1.17. RA_Shifting Water Pipelines (20 mm dia)

NS Item no.	51	**Shifting of 15 mm, 20 mm and 25 mm dia G.I. water supply pipelines complete with G.I. fittings including trenching and refilling etc.:**						
		20 mm dia nominal bore						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Detail of cost for 10 metre						
		Carriage of G.I. pipes below 100 mm dia		Tonne	0.01622	92.24	110.68	1.80
		White lead, hemp, oil etc.		LS	5.33	1.73	2.08	11.07
		Labour						
		Fitter (grade 1)		day	0.08	299.00	415.02	33.2016
		Beldar (i/c for Trenching and refilling etc)		day	0.82	300.00	415.02	340.3164
		Coolie		day	0.66	200.00	415.02	273.91
							A	**614.23**
		Add1% W.C on **A**						6.14
		Sub Total					**B**	**620.37**
		Add 15% Contractor Profit on B						93.06
		Cost of 10 Metres						713.43
		Cost of 1 Metres						**71.34**
							Say	**71.00**

8.1.18. RA_Shifting Water Pipelines (25 mm dia)

NS Item no.	51	**Shifting of 15 mm, 20 mm and 25 mm dia G.I. water supply pipelines complete with G.I. fittings including trenching and refilling etc.:**						
		25 mm dia nominal bore						
		Description		**Unit**	**Quantity**	**Base Rate SOR 2012**	**Escalated rate 2018**	**Amount**
		Detail of cost for 10 metre						
		Carriage of G.I. pipes below 100 mm dia		Tonne	0.02509	92.24	110.68	2.79
		White lead, hemp, oil etc.		LS	6.76	1.73	2.08	14.04
		Labour						
		Fitter (grade 1)		day	0.12	299.00	415.02	49.8024
		Beldar (i/c for Trenching and refilling etc)		day	0.91	300.00	415.02	377.6682
		Coolie		day	0.66	200.00	415.02	273.91
							A	**651.58**
		Add1% W.C on **A**						6.52
		Sub Total					**B**	**658.10**
		Add 15% Contractor Profit on B						98.71
		Cost of 10 Metres						756.81
		Cost of 1 Metres						**75.68**
							Say	**76.00**

8.2. Quotations for Non-SOR Items from suppliers

8.2.1. M/s. Antique Heating Elements

ANTIQUE HEATING ELEMENTS

Manufacturer of Industrial Heaters

To Date: 18.09.2018

M/s.- Gangtok Smart City Limited (GSCDL)
Gangtok, Sikkim, India

Offer Reference: AHE Bollards Sep 18_235

Kind Attn: Mr. Himanshu

Mob: + (91) – 9702473803

+ (91) – 9702473806

Sub: Quotation for ***Bollards & Railing.***

This has reference to your above mentioned requirement for Bollards. We are pleased to quote our sample offer as below.

S. No	Items	Unit	Net Amount
1.	SS Bollard with GST, Freight and Loading Unloading	Kg	570 INR/Kg
2.	SS Bollard Factory Price	Kg	460INR/Kg
3.	MS Bollard with GST, Freight and loading Unloading	Kg	160 INR/Kg
4.	MS Bollard Factory Price	Kg	100INR/Kg
5.	SS Railing with GST, Freight and Loading Unloading	Kg	570 INR/Kg
6.	SS Railing Factory Price	Kg	460INR/Kg
7.	MS Railing with GST, Freight and loading Unloading	Kg	160 INR/Kg
8.	MS Railing Factory Price	Kg	100INR/Kg

Plot no. 242-243, Gali no. 4, Rajendra Nagar Industrial Area, Mohan Nagar, Ghaziabad – 201001
E-mail: antiqueheatingelements@gmail.com; Mob: +91 9718227171 PH: 0120 - 6493660

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ANTIQUE HEATING ELEMENTS

Manufacturer of Industrial Heaters

NOTE: HSN CODE 39179

Quotation is valid for 15 days.

TERMS & CONDITIONS:-

Prices	:	Ex-Ghaziabad
GST Tax	:	18% GST applicable
P & F	:	2% Extra
Freight	:	Extra as actual
Payment	:	75% Advance, 25% against delivery.
Delivery	:	5-7 days against received the payment & P.O

We hope you will find our offer most competitive and look forward to receive your valued

For
Antique Heating Elements
Abhay Pratap Singh
Mob No: 9718227171, 8527750929
Ph.: 0120-6493660
Factory Add. – Plot no.242, Rajendranagar Industrial Area,
Mohannagar, Ghaziabad (U.P)-201001, India
Web: www.antiqueheatingelements.com

We Value Relationship

Plot no. 242-243, Gali no. 4, Rajendra Nagar Industrial Area, Mohan Nagar, Ghaziabad – 201001
E-mail: antiqueheatingelements@gmail.com; Mob: +91 9718227171 PH: 0120 - 6493660

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8.2.2. M/s. Garg Minerals & Precast Industries

Mob. 94340-31711
e-mail : gargm27@yahoo.com
website : gargtiles.com

GARG MINERALS & PRECAST INDUSTRIES

VAT No. 19821593041
CST No. 19821593235

An ISO 9001:2008 Certified Company ❖ S.S.I. Regd. Unit
Mfrs of :- Interlocking Pavers Blocks, Concrete Tiles,
Soap Stone Powder, Dolomite & Limestone Powder, HDPE Bags.

8 NO. JOGIJHORA, P. O. ETHELBARI, DIST. ALIPURDUAR (W.B.) PIN - 735 204

Ref No. GMPI/54/18-19 **Date** 25th Sep 2018

To,
The Gangtok Smart City Development Limited (GSCDL),
Gangtok,
Sikkim

Dear Sir,

We are manufacturer and supplier of Inter-locking Precast Paver Block Of IS: 15658:2006, PCC tiles Cement Concrete chequered tiles of IS: 13801:1993, Mosaic/ Terazzo Tiles as per IS 1237:1980, Unreinforced Cable Protection Cover (Class HPV type 2 with peak) as per IS 5820:1970, Hollow blocks, Solid blocks, Flyash bricks, Kerbstone and other concrete products.

Manufacturing Process: Interlocking Paver Blocks and Concrete Tiles are manufactured using the latest Hydraulic and Vibro compaction technique, accurately designed moulds, appropriate reinforcement and concrete of M25 and above. These are very durable and of very high strength.

Raw Materials: We use the finest crusher stone chips rather than river bed stones. All aggregates are digitally weighed and used proportionately as per mixed designed desired.

Production capacity: The production capacity is 8000 Inter – locking Paver Blocks per day and spread over 3 bighas of land employing more than 100 workers, which can be increased if the order is big.

Financial capacity: The capacity is sound enough to execute any other however big it may be within specified time.
We have already supplied the Inter – locking Paver Blocks though contractors to GE Binnaguri, Salugara Sevoke Station, Baghdogra, Gangtok, Bhutan, S.S.B., Indian Oil Corporation, Larsen & Tubro Ltd and other various department.

DEALS IN :- HIRING OF HEAVY EARTH MOVING EQUIPMENTS.

Now, we would like to quote the rates below for the products manufactured by using latest compaction techniques.

1	Interlocking Paver Blocks - (Coloured) of various designs - Attached Catalogue.	80 mm 710 /- per Sqmtr	60 mm 540 /- per Sqmtr
2	Cement concrete Chequered tiles	25 mm 334 /- per Sqmtr	30 mm 410 /- per Sqmtr
3	Kerb Stone	300 x 300 x100 mm 76 /- per piece	
4	RCC Bench Note : Fitting charge would be extra.	Without hand rest 4500 /- per set	With hand rest 5100 /- per set
5	Electric Cable Cover	450 x 230 x 65 mm peak 62 /- per piece	
6	Manhole Cover	OP: 600 x 600 3300 /-	

We have shortlisted few of our products and quoted. Please refer our catalogue attached and let us know so that we can quote accordingly.

- The above rates are delivery at Gangtok.
- GST 18% extra would be applicable.
- Unloading will be done ad borne at your cost.
- Above rates are for full load of trucks only.

Thanks and Regards,

Madan Agarwal
94340-31711

8.2.3. M/s. G.K. Precast

G. K. Precast

MANUFACTURER OF : INTERLOCKING PAVER BLOCK (POLISHED & NON POLISHED), DESIGNER TILES, R.C.P.C. & S.F.R.C. MANHOLE COVER WITH FRAME, GRATING, KERB STONE, GRC AND ALL PRECAST PRODUCTS.

(AN ISO 9001:2015 & ISO 14001:2015 CERTIFIED COMPANY)

Dated: 13th September 2018
Ref No: GKP/080/18-19

To
Gangtok Smart City Development LTD
(GSCDL)
Kind attention : **Mr. Himanshu Kanani**

Subject : Quotation for Paver Block , Checker Tiles and all related misc landscaping items.

Dear Sir,
According to discussion held with you we are giving our best possible offer as follows. We manufacture all variants of hard scaping items including concrete lamp post and all kinds of paver blocks, Tiles , Designer GRC Products and Stamp Concrete for foot paths and all exterior areas.

Description of work	Rate (Rs.)
1. Grass Paver Block – 400*400 - 60 mm – (WO Reinforcement).	Rs 55/ Sq ft.
2. HDPE Grass Paver Block – 500*500*40	Rs 49/ Sq ft
3. Rock stone – 25mm .	Rs 42/ Sq Ft
4. Coble Stone – 60Mm	Rs 64 / Sq ft
5. Kerb Stone – 600*300*100	Rs 150 / Pc
6. Paver Block – 40Mm (M20 Grade Concrete)	Rs 46 / Sq ft
7. Paver Block – 60Mm (M30 Grade Concrete)	Rs 49/ Sq ft
8. Paver Block – 80Mm (M35-M40 Grade Concrete)	Rs 59 / Sq ft
9. Paver Block – 80Mm (M50 Grade Concrete)	Rs 89 / Sqft
10. Checker tiles – 15mm (Average Quality)	Rs 29/ Sq ft
11. Checker tiles – 25mm (Best Quality)	Rs38/ Sq Ft
12. Heat Proof Tiles – 20 Mm	Rs 55/ Sq Ft
13. Stamp Concrete – (Labour and Treatment Charges only)	Rs 52/ Sq ft
14. GRC – (Manufacturing and Fixing)	Rs 455 / Sq ft

Commercial Terms:
- GST @18%extra as per Govt. Rule.
- Validity of Quotation 30 days.
- Ex factory pricing only.
- Loading in our scope and unloading in your scope.

Thanking you most
With best regards
For G.K.Precast

Subrata Ghosh
(Authorised Signatory)

Factory & Registered Office : Vill - Ayeshpur, P.O.- Narayanpur, Birohi, Nadia
Correspondence Office : AL-37, Sector - II (Near 8 No. Tank) Salt Lake, Kolkata - 700 091
Mob.: 98316 21484, Telefax : (033) 2359 8872 E-mail : subrataghosh46@yahoo.co.in

G. K. Precast

MANUFACTURER OF : INTERLOCKING PAVER BLOCK (POLISHED & NON POLISHED), DESIGNER TILES, R.C.P.C. & S.F.R.C. MANHOLE COVER WITH FRAME, GRATING, KERB STONE, GRC AND ALL PRECAST PRODUCTS.

(AN ISO 9001:2015 & ISO 14001:2015 CERTIFIED COMPANY)

Dated: 28th September 2018 **Ref No: GKP/080C/18-19**

To
Gangtok Smart City Development LTD
(GSCDL)
Kind attention : Mr. Himanshu Kanani

Subject : Quotation for Trench Cable Box with reinforcement and cover for .6 x .6 and .6 x .45 with 20 MT and above Capacity.

Dear Mr Kanani,

According to discussion held with you we are giving our best possible offer as follows.

- Per inside cable box of .60m by .60m and height of 1 mt will cost Rs 4950.
- Per cover of this non perforated box of .60m by .60m will cost Rs 1800.
- Total cost per unit of the above mentioned material is Rs 6750.

- Per inside cable box of .60m by .45m and height of 1 mt will cost Rs 4250.
- Per cover of this non perforated box of .60m by .45m will cost Rs 1650.
- Total cost per unit of the above mentioned material is Rs 5900.

Commercial Terms:

- GST @18%extra as per Govt. Rule.
- Validity of Quotation 30 days.
- Ex factory pricing only.
- Loading in our scope and unloading and transport will be in your scope.
- Payment term 30 % advance and rest at dispatch of respective qty.

Thanking you most
With best regards
For G.K.Precast

S. Ghosh

Buzz : 9831621484

Factory & Registered Office : Vill - Ayeshpur, P.O.- Narayanpur, Birohi, Nadia
Correspondence Office : AL-37, Sector - II (Near 8 No. Tank) Salt Lake, Kolkata - 700 091
Mob.: 98316 21484, Telefax : (033) 2359 8872 E-mail : subrataghosh46@yahoo.co.in

8.2.4. M/s. Keshav Kripa Polyplast (LLP)

QUOTATION REF # KKP/QT/14930/2018-19/**114**

Firm: **Gangtok Smart City Development LTD (GSCDL)**
Name: **Shri Himanshu**
Contact: **+91 9702473803**
Email: **himanshu26283@gmail.com**
Location: **Gangtok, Sikkim**

Keshav Kripa Polyplast (LLP)
Manufacturer of HDPE DWC Pipes

PREPARED BY: Anand Hurgat — DATE: 27-SEP-2018
REFERENCE- Trade India Mail Dtd 25.09.2018 — VALID THRU: 26-OCT-2018

We assure you that we will supply you best quality Pipe HDPE DWC PIPE as per **IS 14930/16205**

Quality Notes:

1. Keshav Kripa assures you to provide you with the **BEST QUALITY** with its **GERMAN PROFILE OF THE CORRUGATION**.
2. We have high speed production line that ensures **ON-TIME DELIVERY** to our esteemed customers

SR. NO.	DESCRIPTION	UOM	RATE PER UOM
1.	DWC HDPE PIPE **OD 40/ ID 32 MM**	Mtr	33.00
2.	DWC HDPE PIPE **OD 50/ ID 38 MM**	Mtr	38.50
3.	DWC HDPE PIPE **OD 63/ ID 50 MM**	Mtr	52.80
4.	DWC HDPE PIPE **OD 75/ ID 61 MM**	Mtr	60.50
5.	DWC HDPE PIPE **OD 90/ ID 76 MM**	Mtr	77.00
6	DWC HDPE PIPE **OD 110/ ID 93 MM**	Mtr	99.00
6.	DWC HDPE PIPE **OD 120/ ID 103.5 MM**	Mtr	110.00
7.	DWC HDPE PIPE **OD 160/ ID 136 MM**	Mtr	137.50
8.	DWC HDPE PIPE **OD 200/ ID 170 MM**	Mtr	214.50
9.	DWC HDPE PIPE **OD 230/ ID 200 MM**	Mtr	242.00
10.	DWC HDPE PIPE **OD 250/ ID 217 MM**	Mtr	302.50
11.	DWC HDPE PIPE **OD 315/ ID 271 MM**	Mtr	466.40

Supply Terms:

1. **Duties & taxes – GST @ 18% Extra**
2. Loading and Transit Insurance Inclusive.
3. Every 6 meter of pipe includes one **online coupler** with one **EPDM** sealing ring is included for size above 100 MM.
4. Timely Delivery.
5. Payment – Advance/As per mutual understanding.
6. **Freight –Extra as Actual (See Annexure 1)**
7. Pipe will come in TELESCOPIC MODE
8. Subject to Kishangarh Jurisdiction

Thanking you and assuring you our best services and full co-operation always.
Seller GSTIN: 08AAPFK8630B1Z9
Bank Name: Oriental Bank of Commerce
Branch: Madanganj-Kishangarh-Ajmer-Rajasthan
Account No : 06994015003522
IFSC Code: ORBC0100699

Thanking You

KeshavKripa Polyplast LLP

Regd. Office: C/o Swastik Enterprises, Balaji Ki Bagichi, Roopangarh Road, Madanganj Kishangarh, Dist. Ajmer, Rajasthan, India. PIN- 305801
Plant: Keshav Kripa Polyplast LLP, Village- TIKAWADA, Kishangarh, Rajasthan, India.
Contact: +91-9414011386/+91-9414414652/+91-9610345000/+91-9448116851
Email: keshavkripa2016@gmail.com / info@keshavkripa.com

Annexure 1

Freight – Freight from Kishangarh to Gangtok per Lorry is **Rs 70,000/- (Approximately)**

Material which can be carried Per Lorry is as follows

S.N.	PIPE SIZE	Meter per Lorry
1.	OD 40/32	12000
2.	OD 50/38	10000
3.	OD 63/50	10000
4.	OD 75/61	4800
5.	OD 90/76	4200
6.	OD 110/93	3000
7.	OD 120/103.5	3000
8.	OD 160/136	1320
9.	OD 200/170	900
10.	OD 230/200	780
11.	OD 250/217	480
12.	OD 315/271	360

***Pipe Having Size OD 40/32, 50/38, 63/50, 75/61 will come in 200 Meters Coil & Rest will come in 6 Meters Length each.**

8.3. Survey data during Field Survey

(conducted during August 2018)

GANGTOK SMART CITY DEVELOPMENT LIMITED

SURVEY CONDUCTED DURING AUG' 2018

NAME OF WORK :- IMPROVEMENT OF EXISTING FOOTHPATH FROM VAJRA BALUWAKHANI TO RANIPOOL BAZAAR

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			From	To					WC	LP	EB	EC	EP	TB	TP	SP	Signage	Tree	MH
Vajra	10.00	10.00	0	10	1.875	18.750		7											
	10.00	20.00	10	20	1.450	14.500		7											
Stairs	4.60	24.60	20	30	1.700	7.820		No Railing											
Gate	6.40	31.00	30	40	1.840	11.776		No Railing											
	10.00	41.00	40	50	2.150	21.500		2											
Electorate Office & Parking	4.00	45.00	40	50		0.000		No Railing											
Electorate Office & Parking	10.00	55.00	50	60		0.000		No Railing											
Stairs	2.80	57.80	50	60	1.700	4.760		No Railing											
	6.40	64.20	60	70	1.700	10.880		1											
Gate of Vajra Cinema	3.70	67.90	60	70	1.700	6.290		2											
			70	80															
	20.00	87.90	80	90	1.700	34.000		14											
	9.40	97.30	90	100	1.600	15.040		4											
Car Parking Gate	8.20	105.50	100	110		0.000		No Railing											
			110	120															
	20.00	125.50	120	130	1.725	34.500		10					1						
	10.00	135.50	130	140	1.700	17.000		2											
Hotel Tarun	11.80	147.30	140	150		0.000		No Railing											
			150	160															
	20.00	167.30	160	170	1.583	31.667		13					1						
	9.00	176.30	170	180	1.450	13.050		6											
Gate of Norbu Yagsang	6.00	182.30	180	190		0.000		No Railing											
Malancha	3.00	185.30	180	190	1.600	4.800		No Railing											
	3.30	188.60	180	190	1.600	5.280		1											
	9.50	198.10	190	200	1.600	15.200		2											
Hotel Sonali Gate	3.50	201.60	200	210		0.000		No Railing											
			210	220															
	17.90	219.50	220	230	1.525	27.298		7											
	7.30	226.80	220	230	0.800	5.840		1											
Hotel New Green	3.60	230.40	230	240	1.600	5.760		5											
	11.80	242.20	240	250	1.600	18.880		4											
Tsolamu Guest House	5.50	247.70	240	250	1.500	8.250		No Railing											
	3.00	250.70	250	260	1.500	4.500													
Gate	4.00	254.70	250	260	1.500	6.000		No Railing											
	6.20	260.90	260	270	1.500	9.300		2											
Gate	3.60	264.50	260	270	1.500	5.400		No Railing											
	3.00	267.50	260	270	1.500	4.500		1											
Gate	6.70	274.20	270	280	1.500	10.050		2											
	4.90	279.10	270	280	1.500	7.350		1											

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
Gate Dr.Bh	4.30	283.40	280	290		0.000		No Railing											
	10.60	294.00	290	300	1.600	16.960		4											
	3.20	297.20	290	300	3.000	9.600		1											
	3.00	300.20	300	310	1.500	4.500		1											
	3.50	303.70	300	310	1.600	5.600		1											
	4.80	308.50	300	310	1.600	7.680		2											
Gate Hotel Sunshine	3.70	312.20	310	320	1.500	5.550		1											
	3.70	315.90	310	320	1.500	5.550		3											
			320	330															
Hotel Sunshine to Hotel Madhuri	17.80	333.70	330	340	1.450	25.810		2											
	6.90	340.60	340	350	1.550	10.695		2											
Jojo T & T	2.80	343.40	340	350	1.600	4.480		1											
	6.30	349.70	340	350		0.000		No Railing											
Mamilan	4.00	353.70	350	360	1.300	5.200		1											
	3.00	356.70	350	360		0.000		No Railing											
Mamilan	4.10	360.80	360	370		0.000		No Railing											
			370	380															
	22.90	383.70	380	390	1.200	27.480		7											
Hotel Kaveri	4.00	387.70	380	390		0.000		No Railing											
	4.90	392.60	390	400	1.300	6.370		2											
House Gate	6.30	398.90	390	400	1.400	8.820		No Railing											
			400	410															
			410	420															
	30.00	428.90	420	430	1.550	46.500		18	1										
			430	440															
			440	450															
	30.00	458.90	450	460	1.500	45.000		18											
			460	470															
	11.70	470.60	470	480	1.550	18.135		No Railing											
Road to Sikkim Museum & Forest High Court	9.50	480.10	480	490		0.000	Road	No Railing											
			490	500															
			500	510															
	30.00	510.10	510	520	1.600	48.000		13					1						1
			520	530															
			530	540															
	30.00	540.10	540	550	1.500	45.000		18											
			550	560															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			560	570															
	30.00	570.10	570	580	1.800	54.000		12											
			580	590															
			590	600															
	30.00	600.10	600	610	1.525	45.750		17											
Denzong Regency	8.30	608.40	600	610		0.000		No Railing					2						
			610	620															
			620	630															
	30.00	638.40	630	640	2.425	72.750		9											
			640	650															
			650	660															
	30.00	668.40	660	670	1.700	51.000		8											
			670	680															
			680	690															
	25.10	693.50	690	700	1.450	36.395		8					1						
			700	710															
	21.80	715.30	710	720	0.800	17.440		No Railing											
Gate Nirman Bhavan	8.20	723.50	720	730		0.000		No Railing											
			730	740															
			740	750															
	30.00	753.50	750	760	1.350	40.500		10									1		
			760	770															
			770	780															
	29.80	783.30	780	790	1.550	46.190		8				1							
Traffic Parking	15.60	798.90	790	800		0.000	Zero Point	No Railing											
Gate of DHH	7.60	806.50	800	810		0.000		No Railing							2		1		
Gate of Handloom	3.70	810.20	810	820		0.000		No Railing					1						1
			820	830															
			830	840															
	30.00	840.20	840	850	2.033	61.000		18											
			850	860															
			860	870															
	30.00	870.20	870	880	1.700	51.000		18											
			880	890															
Golden Joining Location	29.00	899.20	890	900	2.067	59.933		7											

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
	6.40	905.60	900	910	2.400	15.360		2			1						2		
			910	920															
			920	930															
	26.00	931.60	930	940	1.650	42.900		8											
	13.70	945.30	940	950	1.700	23.290		6											
Shop	6.20	951.50	950	960		0.000		No Railing											
			960	970															
	22.80	974.30	970	980	1.500	34.200		17	4										2
Hotel Ma Sukhim	5.30	979.60	970	980		0.000		No Railing											
	2.50	982.10	980	990	1.400	3.500		No Railing											
	4.40	986.50	980	990	1.550	6.820		No Railing			1								
			990	1000															
	14.60	1001.10	1000	1010	1.550	22.630		5											
	4.40	1005.50	1000	1010	1.550	6.820		2											
			1010	1020															
			1020	1030															
	30.00	1035.50	1030	1040	1.883	56.500	Cantilever	23											
			1040	1050															
			1050	1060															
	30.00	1065.50	1060	1070	1.950	58.500	Cantilever	17											
	4.30	1069.80	1060	1070	1.850	7.955		2											
Resort Gate	7.80	1077.60	1070	1080	1.500	11.700		No Railing											
			1080	1090															
			1090	1100															
	30.00	1107.60	1100	1110	1.750	52.500		19					1						
			1110	1120															
			1120	1130															
	30.00	1137.60	1130	1140	1.867	56.000		19			1								
			1140	1150															
			1150	1160															
	30.00	1167.60	1160	1170	1.900	57.000	P Work In Pr	18											
			1170	1180															
			1180	1190															
	30.00	1197.60	1190	1200	1.700	51.000		19											
	8.50	1206.10	1200	1210	1.700	14.450		4											
Secreteriat or Manan Bhavaan	9.50	1215.60	1210	1220		0.000		No Railing											
			1220	1230															
			1230	1240															
Traffic Post	30.00	1245.60	1240	1250	2.350	70.500	Traffic Post	19											
			1250	1260															
			1260	1270															
	30.00	1275.60	1270	1280	2.067	62.000		18											
			1280	1290															
			1290	1300															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	30.00	1305.60	1300	1310	1.900	57.000		18					1		1				
			1310	1320															
			1320	1330															
	30.00	1335.60	1330	1340	1.900	57.000		18		1							1		
	10.60	1346.20	1340	1350	1.800	19.080		6									1		
			1350	1360															
Sadar Police Station Road	18.50	1364.70	1360	1370		0.000	Access	No Railing											
			1370	1380															
			1380	1390															
Thomas Catholic Church	30.00	1394.70	1390	1400	1.650	49.500		19					2						
			1400	1410															
			1410	1420															
St. Thomas Church Entrance	30.00	1424.70	1420	1430	1.600	48.000	Access	18					1						
			1430	1440															
			1440	1450															
	30.00	1454.70	1450	1460	1.650	49.500	Cantilever	17											
			1460	1470															
	23.00	1477.70	1470	1480	1.600	36.800		13					1						
Shop Entrance	2.00	1479.70	1470	1480	1.600	3.200		No Railing											
	6.90	1486.60	1480	1490	1.700	11.730		4											
Shop Entrance	2.50	1489.10	1480	1490	1.600	4.000		No Railing											
	2.60	1491.70	1490	1500		0.000		2											
Hotel Venus	2.00	1493.70	1490	1500	1.600	3.200		No Railing											
	3.60	1497.30	1490	1500		0.000		3											
Hotel Top	1.50	1498.80	1490	1500	1.500	2.250		No Railing											
	4.00	1502.80	1500	1510		0.000		3											
Mukul Enterprises	2.80	1505.60	1500	1510	1.700	4.760	Steps	No Railing											
	5.40	1511.00	1510	1520	1.600	8.640		4											
Drishyam	1.50	1512.50	1510	1520	1.900	2.850		No Railing											
	0.90	1513.40	1510	1520		0.000		No Railing											
SISCO BANK ATM	1.20	1514.60	1510	1520	2.000	2.400		No Railing											
	2.70	1517.30	1510	1520		0.000		2											
New Vinayak Medical Store	2.00	1519.30	1510	1520		0.000	Access	No Railing											
Sisco BANK	1.80	1521.10	1520	1530	1.900	3.420		No Railing											
	2.90	1524.00	1520	1530	1.700	4.930		2			1								
			1530	1540															
	18.00	1542.00	1540	1550	1.600	28.800		8											
	3.10	1545.10	1540	1550	1.600	4.960		1											
	7.00	1552.10	1550	1560	3.100	21.700													
Sikkim Emergency Fire Station	3.40	1555.50	1550	1560	1.800	6.120		No Railing											

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	9.00	1564.50	1560	1570	1.775	15.975		8											
Sikkim Emergency Fire Station	3.00	1567.50	1560	1570	1.700	5.100		No Railing											
	4.70	1572.20	1570	1580	1.700	7.990		4											
Sikkim Power Dept	2.50	1574.70	1570	1580	1.900	4.750	Access	No Railing											
			1580	1590															
			1590	1600															
	30.00	1604.70	1600	1610	1.833	55.000		16											
State Bank Of Sikkim H.O.	11.30	1616.00	1610	1620	2.500	28.250		5											
FOB						0.000													
Hospital Dara	12.40	1628.40	1620	1630		0.000		No Railing											
Hospital Entrance	10.30	1638.70	1630	1640		0.000	Access	No Railing		1					1	1			
Steps	10.20	1648.90	1640	1650	2.300	23.460	8 Steps	3											
			1650	1660															
Hospital Acess	11.60	1660.50	1660	1670		0.000	ospital Acce	No Railing							1	1			
			1670	1680															
			1680	1690															
	30.00	1690.50	1690	1700	2.000	60.000		10											
Steel Bridge	15.60	1706.10	1700	1710	1.600	24.960	el Bridge (3r	5					1				1		
			1710	1720															
	23.00	1729.10	1720	1730	3.250	74.750		12	2										
			1730	1740															
	17.30	1746.40	1740	1750	1.650	28.545		6											
	1.25	1747.65	1740	1750	1.500	1.875		No Railing	1										
			1750	1760															
			1760	1770															
	30.00	1777.65	1770	1780	1.550	46.500		14	1		1		1						
			1780	1790															
	17.00	1794.65	1790	1800	1.700	28.900		8	1			1							
FOB						0.000													
Shops	9.00	1803.65	1800	1810		0.000	Below FOB	No Railing			1								
	4.40	1808.05	1800	1810	1.700	7.480	Utility	2	1		1								
	3.10	1811.15	1810	1820		0.000		No Railing											
	8.70	1819.85	1810	1820	1.950	16.965	Utility	3			1								
Shops	9.00	1828.85	1820	1830		0.000		1											
	3.00	1831.85	1830	1840	2.400	7.200	3 Steps	1											
Church	3.50	1835.35	1830	1840		0.000	Access	No Railing											
			1840	1850															
			1850	1860															
Police Headquarters	30.00	1865.35	1860	1870	1.850	55.500		9											
	14.40	1879.75	1870	1880	1.850	26.640		4					1						
			1880	1890															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
To Police Headquarters	11.40	1891.15	1890	1900		0.000	Access	No Railing											
			1900	1910															
			1910	1920															
	30.00	1921.15	1920	1930	2.650	79.500	rtial Cantilev	18											
	10.30	1931.45	1930	1940	2.250	23.175	3 steps	9					1				1		
			1940	1950															
			1950	1960															
Hungry Jack	37.70	1969.15	1960	1970		0.000	Taxi Stand	No Railing											
			1970	1980															
			1980	1990															
Dominos	23.80	1992.95	1990	2000	1.750	41.650		8											
Bandhan Bank	7.10	2000.05	2000	2010	1.550	11.005	Access	No Railing											
	12.70	2012.75	2010	2020	1.700	21.590		5					1						
IDBI ATM	2.20	2014.95	2010	2020		0.000	Access	No Railing											
	14.60	2029.55	2020	2030	1.600	23.360		5											
Puja Medical Gate	4.00	2033.55	2030	2040	1.800	7.200	Access	No Railing											
	14.50	2048.05	2040	2050	2.225	32.263		4											
			2050	2060															
			2060	2070															
			2070	2080															
			2080	2090															
			2090	2100															
			2100	2110															
			2110	2120															
			2120	2130															
FOB	90.00	2138.05	2130	2140		0.000		No Railing											
FOB Steps						0.000		No Railing											
FoothOver Stair	6.50	2144.55	2140	2150		0.000		No Railing					2						
			2150	2160															
			2160	2170															
			2170	2180															
			2180	2190															
Sikkim State Commission For Women Acess	53.90	2198.45	2190	2200		0.000	Access	No Railing					2						
			2200	2210															
	20.20	2218.65	2210	2220	1.575	31.815	2 Steps	6											
			2220	2230															
Central Hotel Gate / Park Residency	11.90	2230.55	2230	2240	1.600	19.040		No Railing					1						
Park Inn	14.40	2244.95	2240	2250	1.750	25.200		No Railing											
Biba	8.40	2253.35	2250	2260	1.700	14.280		No Railing					1						
			2260	2270															
Bansal Hardware	25.00	2278.35	2270	2280	1.675	41.875		No Railing											1

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			2280	2290																
			2290	2300																
Hotel Priyadarshini	30.00	2308.35	2300	2310	1.625	48.750		No Railing												1
			2300	2310																
			2310	2320																
			2320	2330																
	30.00	2338.35	2330	2340	1.675	50.250		15					2							1
			2340	2350																
			2350	2360																
	30.00	2368.35	2360	2370	1.650	49.500		18					2							
			2370	2380																
			2380	2390																
Puma	30.00	2398.35	2390	2400	1.800	54.000	Cantilever	No Railing					2							
	7.00	2405.35	2400	2410	1.800	12.600		2												
Hotel Greedale	12.30	2417.65	2410	2420		0.000	Access	No Railing												
			2420	2430																
	13.70	2431.35	2430	2440	1.900	26.030		7					3							
Hotel Highway	7.00	2438.35	2430	2440	1.550	10.850		No Railing												
	11.60	2449.95	2440	2450	1.800	20.880		3												
Golden Star	4.50	2454.45	2450	2460		0.000		No Railing												
	12.60	2467.05	2460	2470	1.575	19.845		5												
Sikkim Continental Gate	6.60	2473.65	2470	2480		0.000		No Railing												
			2480	2490																
	20.20	2493.85	2490	2500	1.675	33.835		9					4							
Max Gate	12.00	2505.85	2500	2510	1.700	20.400		No Railing												
			2510	2520																
	18.40	2524.25	2520	2530	1.650	30.360		6												
Parking Gate	6.30	2530.55	2530	2540	1.600	10.080	Access	No Railing												
			2540	2550																
			2550	2560																
	30.00	2560.55	2560	2570	1.850	55.500	Cantilever	No Railing												
	9.00	2569.55	2560	2570	1.550	13.950		6					2							
Reebok / Pepe Jeans	6.10	2575.65	2570	2580	1.700	10.370		No Railing												
	10.00	2585.65	2580	2590	1.570	15.700		6												
Raymonds	4.40	2590.05	2590	2600	1.550	6.820		No Railing												
	7.10	2597.15	2590	2600	1.400	9.940		3												
UCB Gate	4.70	2601.85	2600	2610	1.400	6.580		No Railing												
	14.80	2616.65	2610	2620	1.450	21.460		5												1
Allen Solly	8.00	2624.65	2620	2630	1.500	12.000		No Railing												
			2630	2640																
	20.60	2645.25	2640	2650	1.575	32.445		10												
			2650	2660																
	18.90	2664.15	2660	2670	1.575	29.768		6												
			2670	2680																
	22.80	2686.95	2680	2690	1.570	35.796		10												
Hotel Saranya Gate	5.50	2692.45	2690	2700	1.600	8.800		No Railing					1							
			2700	2710																

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			2710	2720		0.000														
	30.00	2722.45	2720	2730	1.683	50.500		12												
Hotel Reviera	3.50	2725.95	2720	2730	1.600	5.600		No Railing												
	6.00	2731.95	2730	2740	1.450	8.700		3												
Chunki Enterprises	4.00	2735.95	2730	2740	1.475	5.900		No Railing												
			2740	2750																
			2750	2760																
	26.65	2762.60	2760	2770	1.725	45.971		No Railing					2							
Sukham Lodge	5.90	2768.50	2760	2770	1.550	9.145		No Railing												
			2770	2780																
	20.10	2788.60	2780	2790	1.700	34.170		19					3							
Hill Top Lodge	8.20	2796.80	2790	2800	1.600	13.120		No Railing												
			2800	2810																
			2810	2820																
Apsara Lodge	30.40	2827.20	2820	2830	1.617	49.147		12					1							
Chalisa Enterprises	5.70	2832.90	2830	2840	1.650	9.405		No Railing												
			2840	2850																
			2850	2860																
Hotel Dharmistha	30.00	2862.90	2860	2870	1.575	47.250		13					2							2
Hotel Dharmistha	6.40	2869.30	2860	2870	1.550	9.920		No Railing												
	3.00	2872.30	2870	2880	1.550	4.650		2												
	11.90	2884.20	2880	2890	1.550	18.445		2												
Hotel Deorali	12.40	2896.60	2890	2900	1.600	19.840		No Railing												
	12.50	2909.10	2900	2910	1.550	19.375		6					1							
			2910	2920																
	17.20	2926.30	2920	2930	1.500	25.800		No Railing					1							
			2930	2940																
Hotel Kanchan View	15.10	2941.40	2940	2950	1.400	21.140		3												
	9.40	2950.80	2950	2960	1.500	14.100		3					1							
Naina Electronics Gate	8.20	2959.00	2950	2960	1.500	12.300		No Railing												
	9.00	2968.00	2960	2970	1.700	15.300		1												
			2970	2980																
			2980	2990																
Maylong hills	29.00	2997.00	2990	3000	1.650	47.850		6					2							
	3.00	3000.00	3000	3010	1.500	4.500		No Railing												
			3010	3020																
			3020	3030																
	30.00	3030.00	3030	3030	1.700	51.000		8					1							
	5.20	3035.20	3030	3040	1.300	6.760		No Railing												
To Race	8.40	3043.60	3040	3050	1.600	13.440	Access	No Railing												
			3050	3060																
			3060	3070																
	30.00	3073.60	3070	3080	1.600	48.000		10					2							
			3080	3090																
			3090	3100																
	30.00	3103.60	3100	3110	1.600	48.000		8					1							
	14.70	3118.30	3110	3120	1.525	22.418		5					1							
	4.20	3122.50	3120	3130	1.600	6.720		No Railing												
			3130	3140																

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	21.20	3143.70	3140	3150	1.600	33.920		9					3						
			3150	3160															
Shikhar Lodge	25.20	3168.90	3160	3170	1.565	39.438		5											
	2.50	3171.40	3170	3180	1.200	3.000		No Railing											
			3180	3190															
Hotel Sonarton	25.00	3196.40	3190	3200	1.600	40.000		5					2				1		
			3200	3210															
Hotel Jojo	18.00	3214.40	3210	3220	1.300	23.400	Elevated FP	3					2						
			3220	3230															
			3230	3240															
City Style Tailor	30.00	3244.40	3240	3250	1.650	49.500		5											
			3250	3260															
			3260	3270															
	30.00	3274.40	3270	3280	1.625	48.750		No Railing					2						
			3280	3290															
			3290	3300															
Invent Sys Comp	30.00	3304.40	3300	3310	1.550	46.500		5					1						
			3310	3320															
			3320	3330															
	30.00	3334.40	3330	3340	1.700	51.000		8					2						
			3340	3350															
Kaalos	16.50	3350.90	3350	3360	1.425	23.513		4											
FOB						0.000													
Samsung	4.50	3355.40	3350	3360		0.000		No Railing											
			3360	3370															
	19.00	3374.40	3370	3380		0.000		No Railing											
			3380	3390															
			3390	3400															
New Castle	30.00	3404.40	3400	3410	1.650	49.500		15											
			3410	3420															
			3420	3430															
	34.60	3439.00	3430	3440	1.567	54.207		16					3				1		
			3440	3450															
Forest Secreteriat	18.30	3457.30	3450	3460		0.000		4											
			3460	3470															
			3470	3480															
	30.00	3487.30	3480	3490	1.850	55.500		6					4					1	
			3490	3500															
	21.00	3508.30	3500	3510	1.900	39.900		16					1						
Sikkim Trading Corp	7.00	3515.30	3510	3520	1.800	12.600		No Railing											
	13.40	3528.70	3520	3530	1.800	24.120		8											
Gate	6.10	3534.80	3530	3540		0.000	Access	No Railing											
	7.60	3542.40	3540	3550	1.800	13.680		6											
			3550	3560															
			3560	3570															

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Opposite Side	30.00	3572.40	3570	3580		0.000	Opposite Sid	No Railing											2
			3580	3590															
			3590	3600															
	30.00	3602.40	3600	3610		0.000		No Railing											
			3610	3620															
			3620	3630															
	30.00	3632.40	3630	3640		0.000		No Railing											
			3640	3650															
			3650	3660															
	30.00	3662.40	3660	3670		0.000		No Railing											
			3670	3680															
	21.00	3683.40	3680	3690		0.000		No Railing											
			3690	3700															
Ganju Lama Dwar	17.50	3700.90	3700	3710		0.000		No Railing											
			3710	3720															
			3720	3730															
Gurudwara	36.00	3736.90	3730	3740		0.000		No Railing											
			3740	3750															
			3750	3760															
	29.00	3765.90	3760	3770	1.500	43.500		16					2						
Gurudwara Gate	6.30	3772.20	3770	3780		0.000		No Railing					1						
			3780	3790															
			3790	3800															
	30.00	3802.20	3800	3810	1.500	45.000		18											
			3810	3820															
	23.60	3825.80	3820	3830	1.550	36.580		14											
			3830	3840															
	21.00	3846.80	3840	3850		0.000		No Railing					1				1		
			3850	3860															
			3860	3870															
	30.00	3876.80	3870	3880	1.575	47.250		18											
			3880	3890															
			3890	3900															
	26.60	3903.40	3900	3910	1.525	40.565		16											
	9.10	3912.50	3910	3920	1.500	13.650		No Railing											
	4.00	3916.50	3910	3920	1.650	6.600		No Railing											
			3920	3930															
	21.00	3937.50	3930	3940	1.650	34.650		6											
GMC	11.00	3948.50	3940	3950		0.000	Access	No Railing											
			3950	3960															
			3960	3970															
	30.00	3978.50	3970	3980	1.600	48.000		18											
			3980	3990															
			3990	4000															
	30.00	4008.50	4000	4010	1.600	48.000		18											

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Sikkim State Lotteries	6.50	4015.00	4010	4020	1.500	9.750		No Railing											
			4020	4030															
			4030	4040															
	30.00	4045.00	4040	4050	1.550	46.500		9											
			4050	4060															
			4060	4070															
	30.00	4075.00	4070	4080	1.600	48.000		15											
			4080	4090															
			4090	4100															
	32.00	4107.00	4100	4110	1.575	50.400		No Railing											1
Vetenary Anti Rabies Hospital	10.40	4117.40	4110	4120		0.000		No Railing											
			4120	4130															
			4130	4140															
	30.00	4147.40	4140	4150	1.500	45.000		18											
			4150	4160															
	16.00	4163.40	4160	4170	1.575	25.200		8											
	7.00	4170.40	4170	4180		0.000	Access	No Railing											
			4180	4190															
			4190	4200															
	30.00	4200.40	4200	4210	1.500	45.000		17											
			4210	4220															
			4220	4230															
	30.00	4230.40	4230	4240	1.500	45.000		17											
			4240	4250															
			4250	4260															
	30.00	4260.40	4260	4270	1.600	48.000		19											
			4270	4280															
			4280	4290															
	30.00	4290.40	4290	4300	1.550	46.500		18											
			4300	4310															
			4310	4320															
	30.00	4320.40	4320	4330	1.700	51.000		18											
	6.30	4326.70	4320	4330	1.650	10.395		No Railing											
Indira Junction	12.80	4339.50	4330	4340	6.650	85.120	thpath Land	11											
	4.50	4344.00	4340	4350		0.000	thpath Landing												
	12.30	4356.30	4350	4360		0.000	thpath Landing												
			4360	4370															
			4370	4380															
			4380	4390															
	36.00	4392.30	4390	4400	1.775	63.900		10											
Sonamla	9.80	4402.10	4400	4410	1.650	16.170		No Railing											
			4410	4420															
Godrej Thomas Digital	18.80	4420.90	4420	4430	1.400	26.320		No Railing											
			4430	4440															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			4440	4450															
	30.00	4450.90	4450	4460	1.600	48.000	Cantilever	19											
	12.50	4463.40	4460	4470	1.600	20.000		8					3						2
			4470	4480															
			4480	4490															
	28.00	4491.40	4490	4500		0.000		14											
			4500	4510															
	24.70	4516.10	4510	4520	1.500	37.050		No Railing											
Nilkamal	7.70	4523.80	4520	4530	1.500	11.550		No Railing											
	9.60	4533.40	4530	4540	1.600	15.360		6											
Gangtok Retreat	16.20	4549.60	4540	4550	1.600	25.920		No Railing											10
	6.60	4556.20	4550	4560	1.550	10.230		3											
Rajkamal	6.00	4562.20	4560	4570	1.550	9.300		No Railing											
	8.10	4570.30	4570	4580	1.550	12.555		6					1						
CEAT	8.00	4578.30	4570	4580		0.000		No Railing											
			4580	4590															
BM Medical Acess	18.60	4596.90	4590	4600	1.500	27.900		No Railing											
			4600	4610															
			4610	4620															
	29.00	4625.90	4620	4630	1.600	46.400		20					3				1		1
	10.80	4636.70	4630	4640		0.000		No Railing											
			4640	4650															
			4650	4660															
	26.30	4663.00	4660	4670	1.600	42.080		14											
LG	7.30	4670.30	4670	4680	1.450	10.585		No Railing											
Tax Consultancy	10.70	4681.00	4680	4690	1.450	15.515		No Railing											
Interio	11.80	4692.80	4690	4700	1.550	18.290		No Railing											
			4700	4710															
	24.30	4717.10	4710	4720	1.575	38.273		8		1			1				1		
			4720	4730															
			4730	4740															
Saywan Digital	30.00	4747.10	4740	4750	1.600	48.000		4			1		1						
			4750	4760															
			4760	4770															
DN Sapkota	30.00	4777.10	4770	4780	1.500	45.000		4	1				2						1
			4780	4790															
The Simko Residency	14.20	4791.30	4790	4800	1.600	22.720		4					1						
WestSide	12.20	4803.50	4800	4810		0.000		No Railing											
			4810	4820															
			4820	4830															
			4830	4840															
Joybells School	39.40	4842.90	4840	4850	1.525	60.085		18					1						
School Gate	11.20	4854.10	4850	4860	1.700	19.040		No Railing											
	6.70	4860.80	4860	4870	1.550	10.385		2					1				1		
			4870	4880															
Samsung ValuePlus	20.20	4881.00	4880	4890	1.600	32.320		No Railing											
Touchwood	8.30	4889.30	4880	4890	1.550	12.865		3					1						

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
	5.30	4894.60	4890	4900		0.000		No Railing											
			4900	4910															
	24.80	4919.40	4910	4920	1.500	37.200		8					1						
	4.80	4924.20	4920	4930		0.000	Acess	No Railing											
			4930	4940															
			4940	4950															
	30.00	4954.20	4950	4960	1.650	49.500		16					1						
			4960	4970															
	17.20	4971.40	4970	4980	1.400	24.080		No Railing											
	9.70	4981.10	4980	4990		0.000		No Railing											
Khangree Petrol Pump	14.60	4995.70	4990	5000	1.550	22.630		10											
	9.00	5004.70	5000	5010		0.000		No Railing											
			5010	5020															
			5020	5030															
	25.30	5030.00	5030	5030	1.550	39.215		14											
	5.00	5035.00	5030	5040	1.700	8.500		No Railing											
	23.70	5058.70	5050	5060	1.550	36.735		14					1						2
TB Hospital	1.90	5060.60	5060	5070	1.550	2.945		No Railing											
	12.20	5072.80	5070	5080	1.500	18.300		9											
Fedex	12.80	5085.60	5080	5090	1.400	17.920		No Railing											
			5090	5100															
			5100	5110															
	25.90	5111.50	5110	5120	1.700	44.030		9					1				1		
To Sokaythang	13.00	5124.50	5120	5130		0.000	Road	No Railing											
			5130	5140															
	18.20	5142.70	5140	5150	1.550	28.210		5					1				1		
Indusland Bank	3.50	5146.20	5140	5150		0.000		1											
			5150	5160															
			5160	5170															
	26.80	5173.00	5170	5180	1.600	42.880		7											
Bakers Café	12.20	5185.20	5180	5190	1.900	23.180		4					1				1		2
	5.50	5190.70	5190	5200		0.000		No Railing											2
			5200	5210															
Tashi Tagoy	26.80	5217.50	5210	5220	1.600	42.880		8	1										
	2.30	5219.80	5210	5220	1.650	3.795		8					1						
			5220	5230															
			5230	5240															
Angel Broking	30.00	5249.80	5240	5250	1.700	51.000		7	1				1						
			5250	5260															
			5260	5270															
	30.00	5279.80	5270	5280	1.650	49.500		8	3				1						
			5280	5290															
			5290	5300															
	30.00	5309.80	5300	5310	1.500	45.000		8					2						1
			5310	5320															
			5320	5330															
	21.10	5330.90	5330	5340	1.500	31.650		5											
			5340	5350															
			5350	5360															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	30.00	5360.90	5360	5370	1.500	45.000		7											
			5370	5380															
	27.00	5387.90	5380	5390	1.650	44.550		13			1		1						2
			5390	5400															
			5400	5410															
	25.30	5413.20	5410	5420	1.550	39.215		9					1						
	5.80	5419.00	5410	5420		0.000		No Railing											
			5420	5430															
			5430	5440															
Esses Mart	30.00	5449.00	5440	5450	1.600	48.000		9					1				1		
	6.00	5455.00	5450	5460	1.600	9.600		1											
	9.00	5464.00	5460	5470		0.000		No Railing											
			5470	5480															
			5480	5490															
	28.00	5492.00	5490	5500	1.600	44.800		8					1						
	4.20	5496.20	5490	5500		0.000		No Railing											
	13.20	5509.40	5500	5510	1.550	20.460		8											1
			5510	5520															
Manipal Comp	14.20	5523.60	5520	5530	1.600	22.720		No Railing											
			5530	5540															
	18.50	5542.10	5540	5550	1.550	28.675		7											
Paruiy of Jalsa	7.30	5549.40	5540	5550	1.500	10.950		No Railing											
			5550	5560															
			5560	5570															
	22.60	5572.00	5570	5580	1.650	37.290		8						1					2
	17.00	5589.00	5580	5590		0.000	Utility	No Railing											
	10.80	5599.80	5590	5600	1.600	17.280		2											
			5600	5610															
Tadong Police Station Gate	10.40	5610.20	5610	5620	1.500	15.600		No Railing											
			5620	5630															
			5630	5640															
New Look Saloon	30.00	5640.20	5640	5650	1.600	48.000		13											
	3.70	5643.90	5640	5650	1.300	4.810		No Railing											
	7.30	5651.20	5650	5660		0.000	Access	No Railing											
			5660	5670															
			5670	5680															
	30.00	5681.20	5680	5690	1.975	59.250		18					1						
			5690	5700															
			5700	5710															
	30.00	5711.20	5710	5720	1.875	56.250		18					1						
			5720	5730															
			5730	5740															
	30.00	5741.20	5740	5750	1.900	57.000		18									1		
	13.00	5754.20	5750	5760	1.800	23.400		7											
Sikkim Govnt College	15.00	5769.20	5760	5770		0.000	Access	No Railing											
			5770	5780															
			5780	5790															
			5790	5800															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	31.00	5800.20	5800	5810	1.625	50.375	Utility	17											2
	4.00	5804.20	5800	5810		0.000		No Railing											
			5810	5820															
			5820	5830															
	30.00	5834.20	5830	5840	1.450	43.500		11			1		1				1		
			5840	5850															
			5850	5860															
	30.00	5864.20	5860	5870	1.605	48.150		11					1						2
			5870	5880															
			5880	5890															
Nazim Sweets	30.00	5894.20	5890	5900	1.550	46.500		6					1						
			5900	5910															
			5910	5920															
	30.00	5924.20	5920	5930	1.450	43.500		13					1						
			5930	5940															
			5940	5950															
Postikk	30.00	5954.20	5950	5960	1.475	44.250		10					1						
			5960	5970															
			5970	5980															
	34.40	5988.60	5980	5990	1.350	46.440		8					1						
	8.60	5997.20	5990	6000		0.000		No Railing	1										
			6000	6010															
			6010	6020															
	30.00	6027.20	6020	6030	1.600	48.000	avy Settlem	19			1		1						2
			6030	6040															
			6040	6050															
	30.00	6057.20	6050	6060	1.450	43.500	Utility	12					1						
			6060	6070															
	19.00	6076.20	6070	6080	1.600	30.400	avy Water L	9			1		1				1		1
Sikkim Milk	10.80	6087.00	6080	6090		0.000	avy Water L	No Railing	1										
			6090	6100															
	15.70	6102.70	6100	6110	1.300	20.410		5	1				1						
	14.80	6117.50	6110	6120	1.400	20.720	ebra Crossing, Utility												
			6120	6130															
	12.70	6130.20	6130	6140	1.350	17.145		No Railing											
FOB						0.000													
	19.70	6149.90	6140	6150	1.500	29.550		6											
Kanchan Bhog	8.00	6157.90	6150	6160		0.000		6											
			6160	6170															
			6170	6180															
			6180	6190															
	33.90	6191.80	6190	6200	1.500	50.850		14					1						
			6200	6210															
			6210	6220															
	30.00	6221.80	6220	6230	1.450	43.500		9					2				1		
	12.80	6234.60	6230	6240	1.600	20.480		4											
			6240	6250															
			6250	6260															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
			6260	6270		0.000	Access	No Railing											
SRM University	37.50	6272.10	6270	6280															
			6280	6290															
			6290	6300		0.000	Access	No Railing											
Honda	32.60	6304.70	6300	6310															
			6310	6320															
			6320	6330	1.550	41.850		14											
	27.00	6331.70	6330	6340		0.000		No Railing											
Renault	15.80	6347.50	6340	6350															
			6350	6360															
			6360	6370	1.500	45.000		18			1								
	30.00	6377.50	6370	6380															
			6380	6390	1.200	20.760		11											
	17.30	6394.80	6390	6400		0.000		No Railing											
Software Tech Park Gate	4.10	6398.90	6390	6400															
			6400	6410															
			6410	6420	1.250	37.500		18											
	30.00	6428.90	6420	6430															
			6430	6440	1.500	45.000		20											1
			6440	6450															
	30.00	6458.90	6450	6460															
			6460	6470															
			6470	6480	1.500	45.000		18											
	30.00	6488.90	6480	6490															
			6490	6500	1.400	26.880		19											
	19.20	6508.10	6500	6510		0.000	Access	No Railing											
NCC Gate	8.00	6516.10	6510	6520															
			6520	6530															
			6530	6540	1.500	45.000		9	1				1						
	30.00	6546.10	6540	6550															
			6550	6560															
			6560	6570	1.500	45.000		12	1										
Denzong Delight	30.00	6576.10	6570	6580															
			6580	6590															
			6590	6600	1.700	51.000		12					1						
Toyota	30.00	6606.10	6600	6610		0.000	Steps	No Railing											
	2.50	6608.60	6600	6610															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
			6610	6620															
			6620	6630	1.550	46.500		16					4						
	30.00	6638.60	6630	6640															
			6640	6650	1.600	23.200		8											
Tourism & Civil Aviation	14.50	6653.10	6650	6660		0.000		No Railing											
	7.20	6660.30	6660	6670															
			6670	6680															
			6680	6690	1.500	45.000		19											
	30.00	6690.30	6690	6700															
			6700	6710															
			6710	6720	1.600	48.000		18											
	30.00	6720.30	6720	6730	1.500	21.975		No Railing			1		1				1		
	14.65	6734.95	6730	6740	1.500	7.800	16 steps	No Railing											
	5.20	6740.15	6740	6750	1.100	5.500		No Railing											
	5.00	6745.15	6740	6750		0.000		No Railing											
Kasturi Grand Hotel	14.00	6759.15	6750	6760															
			6760	6780		0.000		No Railing		1					1				
	11.10	6770.25	6770	6780															
			6780	6790															
			6790	6800	1.600	48.000		16		1					1				
	30.00	6800.25	6800	6810															
			6810	6820															
			6820	6830	1.575	47.250	o Paver 3 m	10											2
	30.00	6830.25	6830	6840															
			6840	6850															
			6850	6860	1.600	48.000	teld Foothp	18					1				1		
	30.00	6860.25	6860	6870															
			6870	6880	1.625	37.375		19		1									
	23.00	6883.25	6880	6890		0.000		No Railing											
BOI	6.80	6890.05	6890	6900															
			6900	6910	1.550	32.705		No Railing		1									
	21.10	6911.15	6910	6920		0.000		No Railing											
Mount Zion Kids School	11.30	6922.45	6920	6930	1.550	19.685		8		1									
	12.70	6935.15	6930	6940															
			6940	6950		0.000		No Railing											
	15.00	6950.15	6950	6960															
			6960	6970															
			6970	6980	1.800	54.000		17		1									1
	30.00	6980.15	6980	6990															
			6990	7000															
			7000	7010	1.600	48.000		6		1									
	30.00	7010.15	7010	7020															
			7020	7030															
			7030	7040	1.650	49.500		7		1	1								
	30.00	7040.15	7040	7050															
			7050	7060															
			7060	7070	1.625	48.750		4		1									1
	30.00	7070.15	7070	7080	1.700	35.870		6		1									
			7080	7090															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
	21.10	7091.25	7090	7100		0.000		No Railing											
Office Of DIG	12.60	7103.85	7100	7110															
			7110	7120															
			7120	7130	1.575	47.250	Access	11		1			2						
	30.00	7133.85	7130	7140															
			7140	7150															
			7150	7160	1.700	53.210		12		1									
	31.30	7165.15	7160	7170		0.000		No Railing											
	5.75	7170.90	7170	7180															
			7180	7190	1.600	32.400		16											
	20.25	7191.15	7190	7200		0.000		No Railing											
Denzong Hyundai	9.90	7201.05	7200	7210	1.600	18.080		5		1									
	11.30	7212.35	7210	7220	1.600	15.040		No Railing											
Vinayak Mission Sikkim University	9.40	7221.75	7220	7230															
			7230	7240	1.650	41.580		7		1									
	25.20	7246.95	7240	7250		0.000		No Railing											
Sikkim State Co-Op Bank HO Tadong	4.80	7251.75	7250	7260															
			7260	7270															
			7270	7280	1.650	49.500		14		1							1		1
	30.00	7281.75	7280	7290															
			7290	7300															
			7300	7310	1.600	48.000		10							2				1
	30.00	7311.75	7310	7320															
			7320	7330															
			7330	7340	1.550	46.500		13		1	1						1		
	30.00	7341.75	7340	7350															
			7350	7360															
			7360	7370	1.500	45.000		10		1									
	30.00	7371.75	7370	7380															
			7380	7390	1.500	29.250		7		1	1				1				
	19.50	7391.25	7390	7400															
			7400	7410															
			7410	7420															
			7420	7430		0.000		No Railing							2				
Indian Oil	39.00	7430.25	7430	7440		0.000		No Railing											
Gate	6.00	7436.25	7430	7440															
			7440	7450															
			7450	7460	1.575	47.250		11	3						1				2
	30.00	7466.25	7460	7470		0.000		No Railing	2										
	5.00	7471.25	7470	7480		0.000		No Railing											
Gate	5.30	7476.55	7470	7480															
			7480	7490															
			7490	7500	1.575	47.250	Half Cantileve	20	1						3				
	30.00	7506.55	7500	7510															
			7510	7520	1.575	36.383		7											
	23.10	7529.65	7520	7530		0.000		No Railing											
Yaseen Portico	7.00	7536.65	7530	7540	1.700	12.410		3		1							1		

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
	7.30	7543.95	7540	7550		0.000		No Railing											
Hotel La Mansion	9.50	7553.45	7550	7560															
			7560	7570															
			7570	7580	1.600	48.000	Cantilever	11		1		1			2				
	30.00	7583.45	7580	7590															
			7590	7600															
			7600	7610	1.525	45.750		15		1	1				1				
	30.00	7613.45	7610	7620															
			7620	7630															
			7630	7640	1.600	48.000		7	2	1				1					
	30.00	7643.45	7640	7650															
			7650	7660															
			7660	7670	1.600	48.000		9		1			1						
	30.00	7673.45	7670	7680															
			7680	7690															
			7690	7700	1.650	49.500		14		1					1				
	30.00	7703.45	7700	7710															
			7710	7720															
			7720	7730	1.500	40.500		10		1							1	1	
Simsar Hotel	27.00	7730.45	7730	7740		0.000		No Railing						2					
Simsar Hotel	5.00	7735.45	7730	7740															
			7740	7750															
			7750	7760	1.500	45.000	Cantilever	18	5	1		1							
	30.00	7765.45	7760	7770															
			7770	7780															
			7780	7790	1.575	47.250		20							1				
	30.00	7795.45	7790	7800															
			7800	7810															
			7810	7820	1.575	47.250		18							2				
	30.00	7825.45	7820	7830															
			7830	7840															
			7840	7850															
			7850	7860	1.450	43.500		11		1				1	1		1		
	30.00	7855.45	7850	7860															
			7860	7870															
			7870	7880	1.525	45.750		13		1					1		2		
	30.00	7885.45	7880	7890															
			7890	7900															
			7900	7910	1.675	50.250		12		1					2				
	30.00	7915.45	7910	7920															
			7920	7930	1.550	20.615		2							1				
	13.30	7928.75	7920	7930		0.000	Access	No Railing											
Passage to SMC	6.70	7935.45	7930	7940	1.785	17.850		6		1					1				
	10.00	7945.45	7940	7950															
			7950	7960		0.000		No Railing											
Opp SMC	17.00	7962.45	7960	7970															
			7970	7980															
			7980	7990	1.600	48.000		18		1					3		1		
	30.00	7992.45	7990	8000															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			8000	8010															
			8010	8020	1.550	46.500		17		1					1				
	30.00	8022.45	8020	8030		0.000		No Railing						2	2				
Saraswati Temple	6.70	8029.15	8020	8030	1.600	9.600		5										1	
	6.00	8035.15	8030	8040															
			8040	8050	1.600	33.600		16											
	21.00	8056.15	8050	8060															
			8060	8070															
			8070	8080	1.550	39.060		18	3									1	
	25.20	8081.35	8080	8090	1.400	7.000	16 Stairs	3											
Stairs	5.00	8086.35	8080	8090		0.000	Oppsite Side												
Zebra Crossing						0.000		No Railing							1				
bridgestone	11.00	8097.35	8090	8100	1.500	24.750		10											
			8100	8110															
	16.50	8113.85	8110	8120		0.000		No Railing											
Shops	14.00	8127.85	8120	8130															
			8130	8140															
			8140	8150	1.410	42.300		8		1				2	1				
	30.00	8157.85	8150	8160															
			8160	8170	1.450	26.970		8						2					
	18.60	8176.45	8170	8180	1.500	5.250		No Railing											
	3.50	8179.95	8170	8180															
			8180	8190	1.600	16.160		6		1							1		
	10.10	8190.05	8190	8200		0.000		No Railing											
IGNOU	7.40	8197.45	8190	8200															
			8200	8210															
			8210	8220	1.600	48.000		17		1					2				
	30.00	8227.45	8220	8230	1.600	11.200		1											
	7.00	8234.45	8230	8240		0.000		No Railing											
Organic Corner	8.20	8242.65	8240	8250															
			8250	8260	1.600	28.480		4		1					3				
	17.80	8260.45	8260	8270	1.550	6.200		3											
	4.00	8264.45	8260	8270		0.000		No Railing											
Barad Sadan	9.70	8274.15	8270	8280															
			8280	8290															
			8290	8300	1.733	52.000		12	1	1									
	30.00	8304.15	8300	8310															
			8310	8320															
			8320	8330	1.600	48.000		20		1					1				
	30.00	8334.15	8330	8340															
			8340	8350	1.600	40.800		15		1					1				
	25.50	8359.65	8350	8360		0.000		No Railing											
Private Road	4.30	8363.95	8360	8370															
			8370	8380															
			8380	8390	1.500	45.000	Waiting Shed	15											2
	30.00	8393.95	8390	8400															
			8400	8410															
			8410	8420	1.550	46.500		15		1					2				
	30.00	8423.95	8420	8430															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			8430	8440															
			8440	8450	1.350	40.500	Cantilever	17		1									2
	30.00	8453.95	8450	8460															
			8460	8470															
			8470	8480	1.600	49.920		9	2	1					1				
	31.20	8485.15	8480	8490		0.000		No Railing											
St Paul Church	4.60	8489.75	8480	8490															
			8490	8500	1.600	24.480		5		1					1				
	15.30	8505.05	8500	8510		0.000		No Railing											
Rocklave Academy	10.40	8515.45	8510	8520															
			8520	8530															
			8530	8540	1.500	45.000		6		1									
	30.00	8545.45	8540	8550															
			8550	8560															
			8560	8570	1.650	49.500	tled Foothp	11				1							1
	30.00	8575.45	8570	8580															
			8580	8590															
			8590	8600	1.650	44.385		18		1					1				
	26.90	8602.35	8600	8610		0.000		No Railing											
Satyam Interio	15.00	8617.35	8610	8620															
			8620	8630															
			8630	8640	1.550	46.500		13		1				1	1				1
	30.00	8647.35	8640	8650															
			8650	8660															
			8660	8670	1.650	49.500		15		1									
	30.00	8677.35	8670	8680															
			8680	8690															
			8690	8700	1.700	39.270		14											
	23.10	8700.45	8700	8710		0.000		No Railing											
	7.00	8707.45	8700	8710															
			8710	8720															
			8720	8730	1.350	40.500		7		1					1		1		
	30.00	8737.45	8730	8740															
			8740	8750															
			8750	8760	1.450	36.830		5		1				1	1		1		1
	25.40	8762.85	8760	8770		0.000	rivate House	No Railing											
Indira-Krishna Nivas	5.50	8768.35	8760	8770	1.500	9.000		2		1									
	6.00	8774.35	8770	8780		0.000		No Railing											
Mahindra	9.00	8783.35	8780	8790	1.650	49.500		11		1									
			8790	8800															
			8800	8810															
	30.00	8813.35	8810	8820															
			8820	8830															
			8830	8840	1.650	28.710		6											
	17.40	8830.75	8830	8840															
			8840	8850															
			8850	8860															
			8860	8870															
			8870	8880															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
			8880	8890															
			8890	8900															
			8900	8910															
			8910	8920															
			8920	8930															
			8930	8940															
			8940	8950															
			8950	8960															
			8960	8970															
			8970	8980		0.000	ning Wall 6.2 mtr						6		2				
Holy Cross School	155.50	8986.25	8980	8990															
			8990	9000															
			9000	9010	1.550	46.500		20	5	2					1				
	30.00	9016.25	9010	9020															
			9020	9030	1.550	24.335		11											
	15.70	9031.95	9030	9040		0.000		No Railing											
Private Gate	5.10	9037.05	9030	9040															
			9040	9050															
			9050	9060	1.550	46.500		10		1									
	30.00	9067.05	9060	9070															
			9070	9080															
			9080	9090	1.625	48.750		8		1									
	30.00	9097.05	9090	9100															
			9100	9110															
			9110	9120	1.250	37.500		6		2					1				
	30.00	9127.05	9120	9130															
			9130	9140															
			9140	9150															
			9150	9160	1.400	47.600		10											
Red Valley School	34.00	9161.05	9160	9170		0.000		No Railing											
Café of Red Valley	4.00	9165.05	9160	9170															
			9170	9180															
			9180	9190	1.600	48.000		7		1					1		1		
	30.00	9195.05	9190	9200															
			9200	9210	1.400	18.760		4		1							1		
	13.40	9208.45	9200	9210															
			9210	9220		0.000		No Railing											
	17.70	9226.15	9220	9230															
			9230	9240															
			9240	9250	1.600	48.000		14		1					3				
	30.00	9256.15	9250	9260	1.600	15.200		4											
	9.50	9265.65	9260	9270		0.000	Access	No Railing											
Gate of Damber Singh College	10.20	9275.85	9270	9280															
			9280	9290															
			9290	9300	1.500	45.000		15		1									
	30.00	9305.85	9300	9310															
			9310	9320															
			9320	9330	1.600	48.000		5		1					1				

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	30.00	9335.85	9330	9340															
			9340	9350															
			9350	9360	1.600	44.480		6		2				1	1				1
	27.80	9363.65	9360	9370		0.000		No Railing		1				1					
Shops	8.00	9371.65	9370	9380															
			9380	9390															
			9390	9400	1.600	48.000		11		1					1				
	30.00	9401.65	9400	9410															
			9410	9420															
			9420	9430	1.525	45.750		20		1					1				
	30.00	9431.65	9430	9440															
			9440	9450															
			9450	9460	1.550	33.170		8							1				
	21.40	9453.05	9450	9460															
			9460	9470		0.000		2											
	19.80	9472.85	9470	9480															
			9480	9490															
			9490	9500	1.775	53.250		19		1					1				
	30.00	9502.85	9500	9510															
			9510	9520															
			9520	9530	1.700	51.000		15		1									
	30.00	9532.85	9530	9540															
			9540	9550															
			9550	9560	1.775	53.250		18							2			1	
	30.00	9562.85	9560	9570															
			9570	9580	1.700	24.480		6											
Dept Of History	14.40	9577.25	9570	9580															
			9580	9590		0.000		No Railing											
SMU Gate Dept Of History	11.20	9588.45	9580	9590															
			9590	9600															
			9600	9610															
			9610	9620	1.575	47.250		16		1				1					
	30.00	9618.45	9610	9620	1.500	12.000		4		1							1		
	8.00	9626.45	9620	9630		0.000	Access	No Railing											
Gate	7.00	9633.45	9630	9640															
			9640	9650															
			9650	9660	1.600	48.000		17		1									
	30.00	9663.45	9660	9670															
			9670	9680															
			9680	9690	1.600	33.920		14		1									
	21.20	9684.65	9680	9690		0.000	Access	No Railing											
HP Oil Gate	7.65	9692.30	9690	9700	1.600	15.520		No Railing											
	9.70	9702.00	9700	9710															
			9710	9720		0.000	Access	No Railing											
HP & Private Property Gate	20.00	9722.00	9720	9730															
			9730	9740															
			9740	9750	1.650	49.500	ever, Transf	19									1		

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	30.00	9752.00	9750	9760															
			9760	9770															
			9770	9780	1.650	49.500		20		1					1				
	30.00	9782.00	9780	9790	1.700	28.050	Cantilever	15		1					1		1		
	16.50	9798.50	9790	9800															
			9800	9810															
			9810	9820		0.000	Cantilever	10											
Opp Sikkim University & Ravi Health Centre	28.00	9826.50	9820	9830															
			9830	9840															
			9840	9850	1.650	49.500		20		1									
	30.00	9856.50	9850	9860															
			9860	9870															
			9870	9880	1.650	49.500	Access	18		1					1				
Life is Short	30.00	9886.50	9880	9890															
			9890	9900															
			9900	9910	1.575	47.250	Cantilever	20							1				
	30.00	9916.50	9910	9920															
			9920	9930															
			9930	9940	1.625	48.750		18											
	30.00	9946.50	9940	9950															
			9950	9960															
			9960	9970	1.575	47.250		19		1							1		
	30.00	9976.50	9970	9980															
			9980	9990															
			9990	10000	1.625	48.750		20		1					2			1	
	30.00	10006.50	10000	10010															
			10010	10020															
			10020	10030	1.475	44.250		18		1			1		1				
	30.00	10036.50	10030	10040															
			10040	10050															
			10050	10060	1.575	47.250	Vaiting Shelt	18		1					1				
	30.00	10066.50	10060	10070															
			10070	10080															
			10080	10090	1.725	51.750		19		1									
	30.00	10096.50	10090	10100															
			10100	10110															
			10110	10120	1.675	50.250		18		1					1				
	30.00	10126.50	10120	10130															
			10120	10130															
			10130	10140	1.675	50.250		20		1								1	
			10140	10150															
	30.00	10156.50	10150	10160															
			10160	10170															
			10170	10180	1.575	47.250	Cantilever	22							1				
	30.00	10186.50	10180	10190															
			10190	10200															
			10200	10210	1.625	48.750		24		1					1		1		
	30.00	10216.50	10210	10220															

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
			10220	10230															
			10230	10240	1.600	48.000		20							1				
	30.00	10246.50	10240	10250															
			10250	10260															
			10260	10270	1.575	47.250		18		1					1				
	30.00	10276.50	10270	10280	1.575	13.388		5											
	8.50	10285.00	10280	10290															
			10290	10300		0.000	rete Crash B	No Railing		1			1		1				
Road	24.00	10309.00	10300	10310															
			10310	10320															
			10320	10330	1.625	48.750		19		1					1		1		
	30.00	10339.00	10330	10340															
			10340	10350															
			10350	10360	1.625	48.750		18		1					1				
	30.00	10369.00	10360	10370															
			10370	10380															
			10380	10390	1.550	41.540		17											
	26.80	10395.80	10390	10400		0.000		No Railing											
Range Village Resort	8.30	10404.10	10400	10410															
			10410	10420															
			10420	10430	1.525	45.750		22		1					1		1		
	30.00	10434.10	10430	10440															
			10440	10450															
			10450	10560	1.525	45.750		18											
	30.00	10464.10	10460	10470															
			10470	10480	1.525	32.330		13		1									
	21.20	10485.30	10480	10490		0.000		No Railing											
Sikkim University Dept of Economics	9.60	10494.90	10490	10500															
			10500	10510															
			10510	10520	1.500	45.000	Cantilever	17							1				
	30.00	10524.90	10520	10530															
			10530	10540															
			10540	10550	1.525	45.750		18					1		2				
	30.00	10554.90	10550	10560															
			10560	10570															
			10570	10580	1.575	47.250		8		1			1						
	30.00	10584.90	10580	10590															
			10590	10600															
			10600	10610	1.650	49.500		20											
	30.00	10614.90	10610	10620															
			10620	10630															
			10630	10640	1.675	50.250		19		1					1				
	30.00	10644.90	10640	10650															
			10650	10660															
			10660	10670	1.700	51.000		18											
	30.00	10674.90	10670	10680															
			10680	10690															
			10690	10700	1.675	50.250	Cantilever	18		1									

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
	30.00	10704.90	10700	10710															
			10710	10720															
			10720	10730	1.600	48.000		18							1				
	30.00	10734.90	10730	10740															
			10740	10750															
			10750	10760	1.625	48.750		18		1									
	30.00	10764.90	10760	10770															
			10770	10780															
			10780	10790	1.575	47.250		19		1					1				
	30.00	10794.90	10790	10800															
			10800	10810															
			10810	10820	1.625	48.750		14											
	30.00	10824.90	10820	10830															
			10830	10840	1.550	25.575		10							1				
	16.50	10841.40	10840	10850		0.000	nly Foothpa	No Railing											
	7.00	10848.40	10840	10850															
			10850	10860															
			10860	10870	1.425	42.750		17							1		2		
	30.00	10878.40	10870	10880															
			10880	10890															
			10890	10900	1.425	42.750		20		1					1			1	
	30.00	10908.40	10900	10910															
			10910	10920															
			10920	10930															
			10930	10940	1.425	50.588	Cantilever	22											
	35.50	10943.90	10940	10950															
			10950	10960															
			10960	10970		0.000	avy Settleme	19		1					1		1		
	30.00	10973.90	10970	10980	1.675	20.435	avy Settleme	12											
	12.20	10986.10	10980	10990															
			10990	11000															
			11000	11010	1.575	47.250		18		2			1	1	1				
	30.00	11016.10	11010	11020															
			11020	11030	1.575	29.925		8									1		
	19.00	11035.10	11030	11040															
			11040	11050	1.575	25.200		No Railing											
Forest Checkpost	16.00	11051.10	11050	11060															
			11060	11070															
			11070	11080	1.575	47.250		No Railing		1					1		1		
	30.00	11081.10	11080	11090	1.500	19.500		8		1					1		2		
	13.00	11094.10	11090	11100	0.850	0.935	Steps	No Railing											
	1.10	11095.20	11090	11100		0.000	Road	No Railing											
Mayfair	13.60	11108.80	11100	11110															
			11110	11120															
			11120	11130	1.625	48.750	ed FP, Canti	22									1		
	30.00	11138.80	11130	11140	1.600	13.920		6		1	1				1		1		
	8.70	11147.50	11140	11150															
			11150	11160															
			11160	11170		0.000		No Railing											

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
Essar Petrol Pump	30.00	11177.50	11170	11180															
			11180	11190		0.000	Discontinuity	No Railing							2		2		
	13.60	11191.10	11190	11200															
			11200	11210															
			11210	11220	1.500	45.000		19		1					1		1		
	30.00	11221.10	11220	11230															
			11230	11240															
			11240	11250	1.525	45.750		19		1					1				
	30.00	11251.10	11250	11260	1.550	24.800		10							1				
	16.00	11267.10	11260	11270		0.000	Access	No Railing											
Resort Under Construction	7.00	11274.10	11270	11280															
			11280	11290															
			11290	11300	1.525	45.750		18		1					3				
	30.00	11304.10	11300	11310	1.575	15.435		5											
	9.80	11313.90	11310	11320															
			11320	11330															
			11330	11340	1.500	45.000	Cantilever	20		1			2		3				
	30.00	11343.90	11340	11350															
			11350	11360															
			11360	11370	1.350	40.500	Cantilever	18		1					2				
	30.00	11373.90	11370	11380	1.550	16.585	pthpath Sett	9											
	10.70	11384.60	11380	11390															
			11390	11400	1.525	25.925		13		1					1				
	17.00	11401.60	11400	11410															
			11410	11420															
			11420	11430	1.425	42.750	Cantilever	19		1					1				
	30.00	11431.60	11430	11440															
			11440	11450															
			11450	11460	1.525	45.750		19		1									
	30.00	11461.60	11460	11470															
			11470	11480															
			11480	11490	1.483	44.500		20		2					3		1		
	30.00	11491.60	11490	11500															
			11500	11510															
			11510	11520	1.425	42.750	pthpath Sett	17					1		1				
	30.00	11521.60	11520	11530															
			11530	11540															
			11540	11550	1.525	45.750	6.4 Mtr FP	19		1					2				
	30.00	11551.60	11550	11560															
			11560	11570															
			11570	11580	1.525	45.750		20	4	1		5			1				
	30.00	11581.60	11580	11590															
			11590	11600															
			11600	11610	1.525	45.750		14		1			1		1				
	30.00	11611.60	11610	11620		0.000	Access	No Railing									1		
Stairs	1.90	11613.50	11610	11620															
			11620	11630															
			11630	11640	1.950	58.500		8					1		1				

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY (WC : Water Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes)										
	30.00	11643.50	11640	11650															
			11650	11660															
			11660	11670	1.625	48.750		9		1					2				
	30.00	11673.50	11670	11680															
			11680	11690															
			11690	11700	1.625	46.800	FOB Starts	5							1		1		
Ranipool PO	28.80	11702.30	11700	11710	1.625	19.825	umns & FOB	No Railing						2			1		
	12.20	11714.50	11710	11720	1.625	24.700		No Railing											1
	15.20	11729.70	11720	11730	1.700	13.600	Gate	No Railing											
Ranipool PS	8.00	11737.70	11730	11740															
			11740	11750															
			11750	11760	1.783	53.500	ng Hanumanji Temple			1									
	30.00	11767.70	11760	11770	7.200	0.000	FOB Starts	New Railing											
Recreation Park		11767.70	11760	11770		0.000		New Railing											
Opposite Side FP		11767.70	11760	11770		0.000	xis Bank ATM	New Railing							1				1
State Bank Of Sikkim Ranipool	11.00	11778.70	11770	11780															
			11780	11790															
			11790	11800	1.650	49.500	FOB Starts	No Railing	5					1					
	30.00	11808.70	11800	11810															
			11810	11820															
			11820	11830	1.725	51.750		No Railing		1			1		1				
	30.00	11838.70	11830	11840															
			11840	11850															
			11850	11860	1.550	46.500		7	20	2					4				1
	30.00	11868.70	11860	11870															
			11870	11880															
			11880	11890	1.750	52.500		2		1					1				
	30.00	11898.70	11890	11900															
			11900	11910															
			11910	11920	1.675	50.250		4	5	1					1		1	1	
	30.00	11928.70	11920	11930															
			11930	11940															
			11940	11950	1.525	45.750		2		1					3			1	
	30.00	11958.70	11950	11960															
			11960	11970															
			11970	11980	1.500	38.100		2	2	1					1		2		1
	25.40	11984.10	11980	11990	1.500	11.550		No Railing											
	7.70	11991.80	11990	12000															
			12000	12010															
			12010	12020	1.650	49.500		6		1	1				2				
	30.00	12021.80	12020	12030															
			12030	12040															
			12040	12050	1.617	48.500		9		2					4		1		
	30.00	12051.80	12050	12060															
			12060	12070															
			12070	12080	1.450	43.500		11		1					1				
	30.00	12081.80	12080	12090	1.650	23.100		3		1							1		
	14.00	12095.80	12090	12100			Road												

Location Landmark	LENGTH (M)	Chainages	CHAINAGE		Avg Width	Area	Remark	Railings (Nos)	UTILITY Connection, LP : Light Pole, EB : Electric Box, EC : Electric Cable, EP : Electric Pole, TB : Telephone Box, TP : Telephone Pole, SP : Signal Pole, Signage : Sign Boards, Tree : Tree in FP, MH : Manholes) (WC : Water										
Road	8.20	12104.00	12100	12110																
Ranipool Bridge Starts																				
		12104.00			**1.634**	**16615.732**		**4408.0**	**82.0**	**133.0**	**21.0**	**10.0**	**155.0**	**20.0**	**145.0**	**2.0**	**65.0**	**10.0**	**67.0**