



एक कदम स्वच्छता की ओर

पत्रांक: 31/62/36/SBM/16-17

शहरी विकास निदेशालय, उत्तराखण्ड।
31/62, राजपुर रोड,, देहरादून-248001

Email - info.udduk@gmail.com, दूरभाष - 0135-2749541, फ़ैक्स. 0135-2749542

दिनांक: 16/12/2020

सेवा में,

- 1- समस्त नगर आयुक्त,
नगर निगम,
उत्तराखण्ड।
- 2- समस्त अधिशासी अधिकारी,
नगर पालिका परिषद/नगर पंचायत
उत्तराखण्ड।

विषय:- Advisory Note to Operationalize State Septage Management Protocol के सम्बन्ध में।

महोदय,

उपरोक्त विषयक अवगत कराना है कि शहरी विकास विभाग, उत्तराखण्ड द्वारा सेप्टेज मैनेजमेन्ट प्रोटोकाल-2017 का प्रख्यापन किया गया है, जिसके अनुसार प्रदेश के समस्त निकायों द्वारा सेप्टेज मैनेजमेन्ट प्रोटोकाल को अपने-2 निकायों में प्रभावी रूप से क्रियान्वित किया जाना है।

उक्त के सन्दर्भ में NIUA के विशेषज्ञों द्वारा सेप्टेज मैनेजमेन्ट प्रोटोकाल के सफल क्रियान्वन हेतु Advisory Note तैयार कर निकायों को प्रेषित की जा रही है। उक्त Advisory में वर्णित क्रियाकलापों व दायित्वों को निकायों को चरणबद्ध तरीके से समयान्तर्गत पूर्ण किया जाना है, जिससे सेप्टेज मैनेजमेन्ट प्रोटोकाल का संचालन सही ढंग से हो सकें।

अतः Advisory को मूलरूप में इस आशय से प्रेषित की जा रही है कि Advisory में वर्णित समस्त क्रियाकलापों पर समयबद्धता के अनुरूप कार्यवाही करने का कष्ट करें।

संलग्नक: उपरोक्तानुसार।

भवदीय,

(अशोक कुमार पाण्डेय)
अपर निदेशक।

प्रतिलिपि:- सचिव, शहरी विकास विभाग, उत्तराखण्ड शासन को सूचनार्थ प्रेषित।

(अशोक कुमार पाण्डेय)
अपर निदेशक।

Advisory note for Urban Local Bodies for operationalizing ‘Protocol for Septage Management’ notified by Uttarakhand Urban Development Department

Date: 16/12/2020

1. Background

Urban Development Department, Government of Uttarakhand had notified “Protocol for Septage Management ” dated 22nd May 2017. The Protocol provided a regulatory framework for Septage Management across the value chain and also prescribed actions to be taken by various stakeholders.

This advisory note aims to provide step by step directions to Urban Local Bodies (ULBs) in developing and operationalizing effective city-level septage management plan as per the ‘Protocol for Septage Management’. This advisory shall help the ULBs in identifying a viable septage management solution based on the existing sanitation situation and available infrastructure.

2. State Profile

Uttarakhand has an urban population of 3049338 (2011 census) with a total of 91 urban local bodies.

Table 1: Status of Urban Local Bodies in the State

S. No	Category	No of ULBs
1	Nagar Nigam	8
2	Nagar Palika Parishad	41
3	Nagar Panchayat	42
Total		91

Geographically, Uttarakhand can be divided into 5 zones: the Terai, the Doons, the Lesser Himalayas, the Greater Himalaya and the Trans Himalaya. 86% of the state is mountainous. Two major rivers of India i.e. Yamuna and Ganga originate in Uttarakhand. The climatic conditions, geographical and environmental features have a significant variation across the State which will play a major role in the septage management plan of the State.

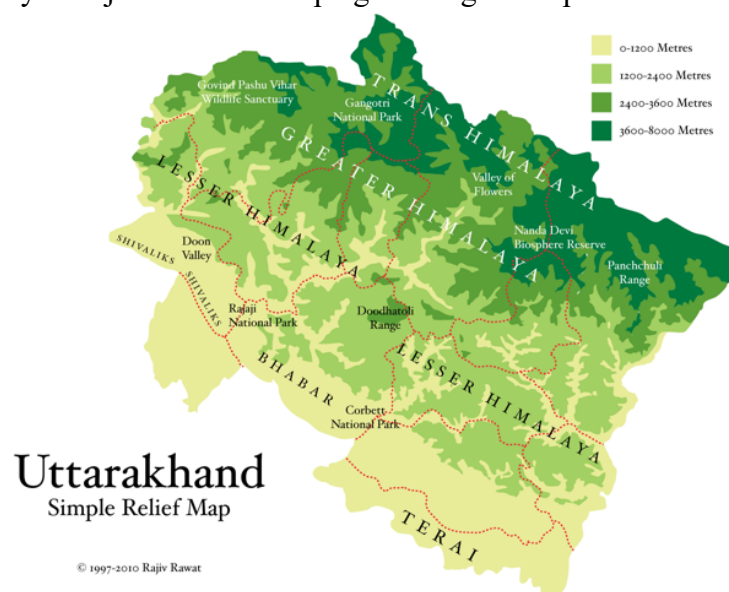


Figure 1: Geographical Profile of Uttarakhand

3. Current Sanitation Scenario

According to the Census 2011, in all the districts of Uttarakhand:

- More than 94% of the households in urban centres have Individual Household Toilet (IHHT). Around 95% of these have flush toilets.
- The dependence on the community toilet (CT) or public toilet (PT) is less than 5%.

Under the Swachh Bharat Mission, 81 cities have achieved ODF status. Whereas, 8 cities have been certified ODF+ and 2 cities ODF++.

As per the Water Supply and Sewerage Byelaws (2008) by Uttarakhand Jal Sansthan, it is mandatory for the toilets to discharge their wastewater either through a sewerage connection or a septic tank.

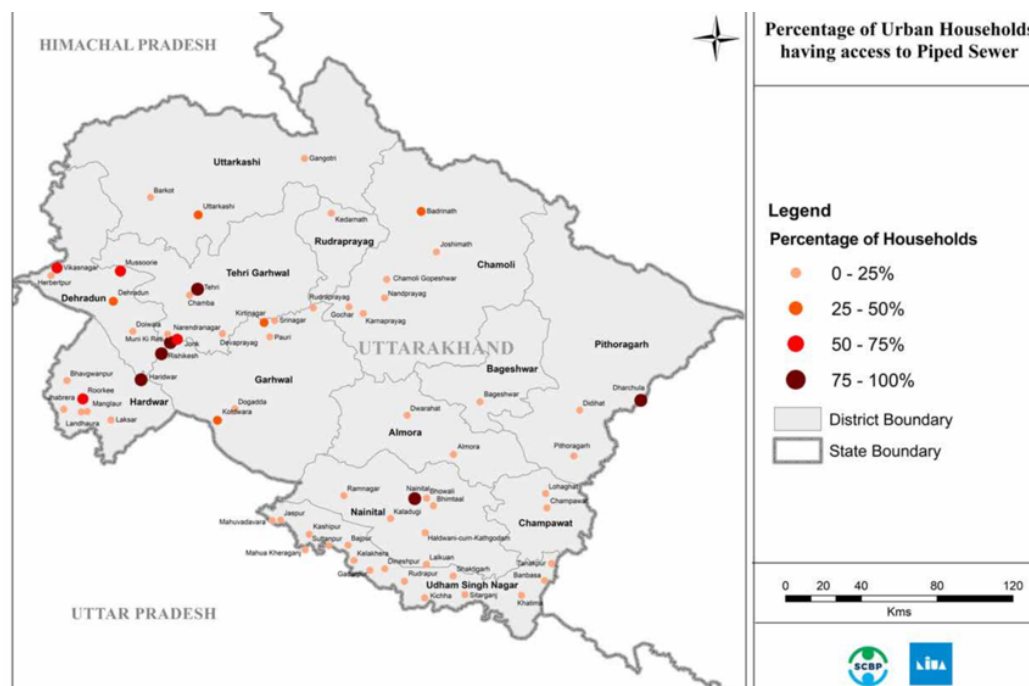


Figure 2: Access to piped sewer in Uttarakhand

Only ten out of the 91 ULBs in the state have more than 50% of the households connected to piped sewer. In order to achieve ODF++ and Water+ certification, all the Urban Local Bodies are required to implement effective Septage Management.

Improper septage management can pollute water bodies and is a public health hazard. As per a study by National Institute of Urban Affairs (2020) for 9 cities in the state of Uttarakhand, the following observations were reported regarding management of septage:

- Majority of the septic tanks do not conform to the design prescribed by Bureau Indian Standard (BIS) code.
- The emptying period of septic tanks is in the range of 5 to 10 years which exceeds the recommended emptying period by BIS code.
- Most cities lack safe septage disposal facilities.

Many urban habitation in the State discharge wastewater i.e. greywater and supernatant from septic tanks in open drain 'nallah' system, which is designed to convey stormwater to the river or any water body. National Mission for Clean Ganga (NMCG) has recognized this problem as a source of river pollution and have initiated interception and treatment of open drains (nullahs) before disposal of wastewater into the river.

Table 2: Status of Treatment Facilities in Uttarakhand (see annexure)

S No	Status of Facility	No. of facilities	No. ULBs served	Treatment Capacity (MLD)	Utilized Capacity (MLD)
1	Operational	61	21	355	226
2	Under Construction	8	5	92	-
3	Proposed	6	3	47	-
	Total	75	29		

4. Operationalizing ‘Protocol for Septage Management’ in Urban Uttarakhand

The ‘Protocol for Septage Management’ provides a framework for effective Septage Management in Uttarakhand. The protocol prescribes the formations of the following committees for effective planning, implementation and monitoring of Septage Management in a city.

- Monitoring Committee to be set-up under the chairmanship of District Magistrate i.e. District Level Septage Monitoring Committee (DSMC).
- Septage Management Cell (SMC) at city-level under the Chairmanship of Municipal Commissioner / SDM

A State-level Septage Management Committee (SSMC) has already been established to help guide ULBs in mainstreaming effective Septage Management. Out of 91 ULBs, 43 ULBs have formed a Septage Management Cell in their respective cities as of November 2020.

After the creation of the respective committees, the Protocol prescribes the following actions to be taken in the cities for effective Septage Management:

1. **Identification of Septic Tanks in the city:**
 - i. Conduct a survey for identification and registration of septic tanks.
 - ii. Develop and regularly update database regarding septic tanks.
 - iii. Provide incentives for improvement of septic tanks.
2. **Developing infrastructure for effective septage management**
 - a. **Regular emptying of septic tanks**
 - i. Ensure regular emptying of septage from septic tank.
 - ii. Ensure storm water or surface water does not enter septic tank
 - b. **Safe emptying and transportation of septage**
 - i. Registration and licensing of private operators involved in desludging / emptying & transportation of septage.
 - ii. Enforcement of ‘Prevention of Manual Scavenger Act, 2013’ by ensuring no manual emptying of septic tank takes place in the state.
 - iii. Ensure availability of appropriate mechanized equipment / vehicle for emptying of septic tanks.
 - iv. Ensure health and safety of staff engaged in emptying and transportation of septage.
 - c. **Treatment and safe disposal / reuse of septage**
 - i. Ensure that the septage emptied from septic tank is treated before safe disposal / reuse.
3. **IEC and capacity building for effective septage management**
 - i. Awareness generation campaign regarding effective septage management targeted towards citizens and stakeholders in the city.
 - ii. Capacity building of city stakeholders which would include training and workshops. City stakeholders would include ULB officials, masons, private operators involved in emptying of septic tanks etc.

Planning for treatment of Septage depending upon the existing city scenario is provided in the next section. A matrix for action to be taken by different agencies is provided in section 6 of this advisory.

5. Planning for treatment of Septage

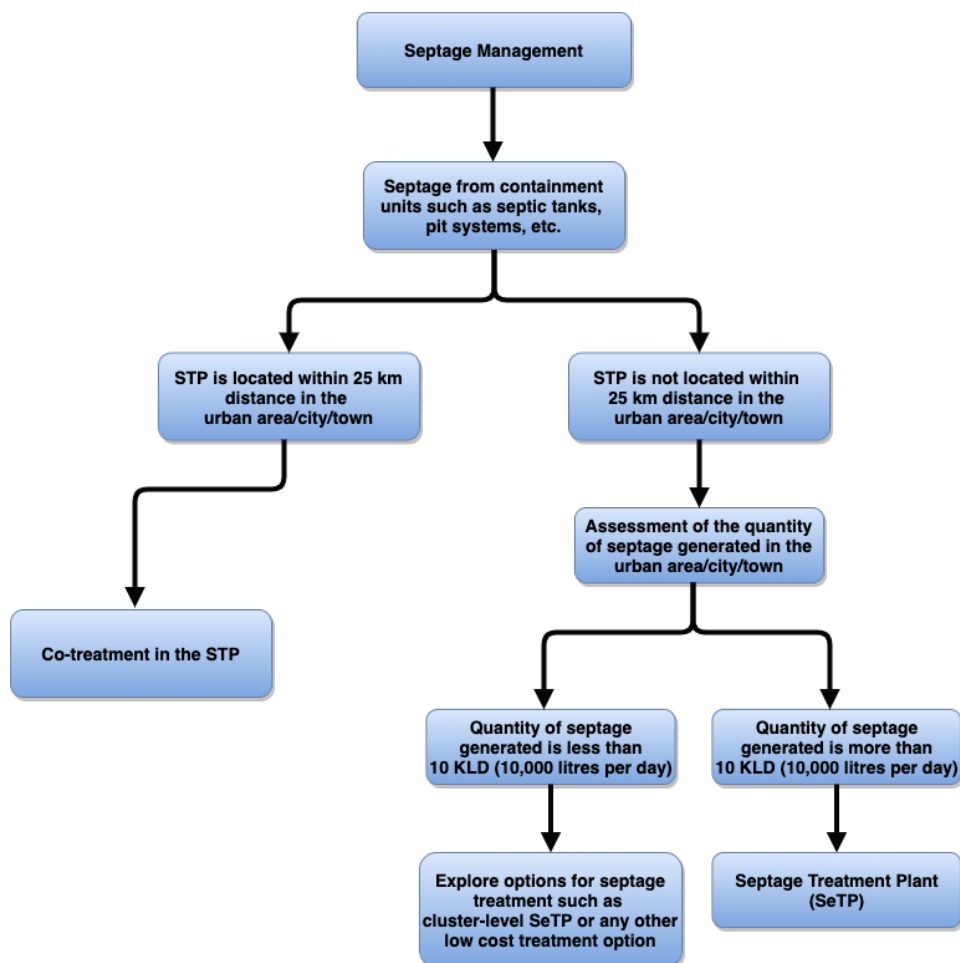
While planning for treatment of Septage in a city, the following should be factors need to be assessed:

- Availability of Existing Sewage Treatment Plant (STP) or Septage Treatment Plant (SeTP)
- The extent of connection of city properties to a sewerage network.
- The type of containment systems / septic tanks prevalent in the city.
- Geographical details like topography, groundwater level in the city.
- Availability of a treatment plant with spare capacity in a neighboring city.

Based on the above criteria, option for treatment of septage can be selected:

- Co-treatment of septage with sewage in an STP –
 - Catering to an individual city
 - Catering to a cluster of cities
- Septage Treatment Plants (SeTP) –
 - Standalone SeTP for a city
 - Catering to a cluster of cities
- Deep Row Entrenchment (DRE) – temporary disposal of septage

It is advisable to go for a standalone SeTP only when Septage Generation is more than 10 KLD. Refer the flowchart below for decision making regarding treatment of septage.



The criteria for selection of the relevant treatment option is given below:

Solution	Conditions
Co-Treatment	STP available within ULB or within 25Km distance and has potential to co-treat septage with sewage
SeTP	STP available in ULB or within 25Km distance does not have potential for co-treatment
	No STP available in 25KM distance and septage generated with in the ULB is equal to or more than 10KLD
	STP's potential (available within the ULB or within 25Km distance) to co-treat septage with sewage is less than the septage generated in the city
Cluster level SeTP	No STP having potential for co-treatment available in 25KM distance and septage generated with in the ULB is less than 10KLD
	STP available within 25KM distance does not have potential for co-treatment
Cluster Level Co-treatment	STP available within 25Km distance has potential to co-treat total septage generated in the ULB
DRE	Until SeTP is on proposal or construction stage, DRE can be done within the SeTP site or any other location close to it.
Decentralized wastewater treatment solutions	ULBs having poor accessibility or steep slopes where emptying is not feasible with desludging vehicles

6. Action to be taken for operationalizing 'Protocol for Septage Management' at ULB level

S. No.	Activity	Department	0 to 1 year	1 year to 5 years	Beyond 5 years
1	Instituting effective Septage Management	DMO	Setting up District Level Septage Monitoring Committee (DSMC)		
		ULB	Setting up ULB Level Septage Management Cell (SMC) Formation of an Appellate Body / Grievance Redressal Mechanism.		
2	Identification of individual septic tanks, bio digesters, community septic tank/ bio digesters	UDD	Issue guidelines to ULBs to prepare Septage Management Bylaws		Updation of the guidelines issued to ULBs for preparing septage management bylaws.
		ULB	1.Assessment of the ULB to identify viable FSSM solution 2.Preparation of Septage Management Bylaws/ Regulations 3.Amending the building bye-laws to include design and approval mechanism for safe on-site sanitation system for new construction 4.Survey and register all households to: a. collect and compile data regarding sanitation systems (individual septic tank, community septic tank, etc) b. Method of disposal of effluent/ septage c. Record location of common septic tanks and its ownership, individual/ institutional/ community bio digesters. d. Include information of new constructed septic tanks/ bio digesters and update data	Issue notices to HHs/ institutions with a deadline where upgradation of containments is required.	Update data bank to include information of the upgraded containments and new constructed septic tanks/ bio digesters.
3	Creation of Infrastructure for treatment of septage				
	a. Collection and transport of septage	ULB	1. Licensing of septage transporters and registration of septage transportation vehicles	1. Renewal of licenses. 2.Installation of GPS tracking device in Septage transportation vehicles.	In case of potential (assessed based on the data created through surveys) prepare a timetable for schedule desludging.
	b. Treatment and disposal of septage	Jal Nigam	1. Prepare DPR and estimates for infrastructure required for treatment (co-treatment, SeTP, etc.) 2. Implementing co-treatment at existing STP and construction of new SeTP. 3. Construction of interim treatment solution like DRE, etc. till SeTP/ Co-treatment is operational.	Ensure commissioning and operationalising of septage treatment facilities.	

S. No.	Activity	Department	0 to 1 year	1 year to 5 years	Beyond 5 years
		UDD	1. Select appropriate FSSM technology solution based on the assessment done by the ULB. 2. Allocate budget based on the DPR and estimates prepared by Jal Nigam.		
		ULB	2. Identification of treatment units/ land to create infrastructure for selected treatment facility		
		Jal Sansthan			Operation and Maintenance of infrastructure created by Jal Nigam
4.	Disposal	Jal Nigam/ Jal Sansthan	Develop standards for reuse of treated water and sludge from treatment units. Develop guidelines and business/ distribution model for end products.	Implement distribution/ business model prepared.	Revise and implement the distribution/ business mechanism for end products based on new infrastructure created, market demand and rates.
		ULB	Assess the demand of end products from treatment units within the ULB like in parks/ horticulture, etc.	If feasible, procure and use end products from treatment units as per demand assessed.	
		SMC		Monitor the distribution/ business activities and revenue generated from treatment units.	
5	Monitoring	SMC	1. Review and approval of Septage Management Bylaws 2. Periodical review of monitoring done by ULB based on the report submitted by ULB. 3. Monitoring of Licencing and registration activities of desludging operators 4. Develop a protocol for monitoring of septage management activities at different levels.	1. Monitoring and review of the survey conducted by ULB 2. Revision of desludging charges based on type of property, volume of septic tank, distance from treatment facility. 3. Revision of licencing/ registration/ renewal fee 4. Revision of penalties charged.	Monitoring/ updation of all FSSM activities through SMC meetings
		ULB	1. Monitoring and enforcement of septage management bylaws/regulations. 2. Submit periodical report of activities and progress to SMC 3. Maintain a MIS based databased for record keeping and other septage management related activities.	Developing a central online portal for record keeping, data management and septage management activities	1. Revision of clusters/ FSSM option based on the new infrastructure created. 2. Analysing potential for schedule desludging based on the data collected during survey. 3. Preparing schedule for desludging for all the properties within ULB boundary
		DMC	It will monitor progress of ULBs through report submitted by SMCs on regular intervals.		

S. No.	Activity	Department	0 to 1 year	1 year to 5 years	Beyond 5 years
6	Information, Education & Communication and Capacity Building	UDD	1. Prepare IEC materials for owners, treatment plant operators, desludging operators, ULBs 2. Empanelment of agencies to support ULBs in IEC activities.	Revision of IEC materials.	
		Jal Nigam/ Jal Sansthan	Prepare protocols/ standard operating procedure for operators at SeTP and Co-treatment units		
		ULB	Conducting IEC activities including distribution of flyers, announcements, awareness campaigns, workshops, trainings with the help of empanelled agencies for different stakeholders including house owners, truck operators, operators at treatment units, etc.		

Annexure: District Wise List of STPs in Uttarakhand (Operational, Under-construction and Proposed)

S. No.	Name of the ULB served	S. No.	Name of the STP	Installed capacity in MLD	Current status	Utilised Capacity (M.L.D.)
1	Dehradun	1	Motharawala 1	20	Operational	20.2175
		2	Indranagar	5	Operational	5.9
		3	Jakhan Doon Vihar	1	Operational	0.325
		4	Salawala	0.71	Operational	0.3875
		5	Vijay Colony	0.42	Operational	0.2825
		6	Motharawala 2	20	Operational	10.9075
		7	Kargi	68	Operational	13
		8	Kolagarh	3	Under-construction	
		9	Raipur	24	Proposed	
		10	Banjarawala	11	Proposed	
2	Mussoorie	11	Kurli	0.9	Operational	0.15
		12	Landhor North	0.8	Operational	0.03
		13	Happy Valley	1.2	Operational	0.02
		14	Landhor South	1.3	Operational	0.17
		15	Bhatta Gaon	3.12	Operational	1.69
3	Haridwar	16	Jagjeetpur 1	18	Operational	18.3
		17	Jagjeetpur 2	27	Operational	25.96775
		18	Sarai 1	18	Operational	18.83425
		19	Sarai 2	14	Operational	10.8175
		20	Jagjeetpur 3	68	Operational	54.225
4	Rishikesh	21	Lakkarghat	26	Operational	11.93625
		22	Tapovan	3.5	Operational	0.6675
5	Swargashram Jaunk	23	Swargashram	3	Operational	2.5885
6	Muni ki reti Dhalwala	24	Chandreshwar Nagar	7.5	Operational	4.45
		25	Chorpani	5	Operational	3.76
7	Devprayag	26	Bah Bazaar	1.4	Operational	0.34
		27	Sangam Bazaar	0.15	Operational	0.142
		28	Shanthi Bazaar	0.075	Operational	0.0135
8	Tehri	29	B. Puram	5	Operational	2.575
9	Uttarakashi	30	Gyanshu	2	Operational	1.6625
10	Gangotri	31	Gangotri	1	Operational	0.19
11	Kirtinagar	32	Kirtinagar I Near DRO bidge	0.05	Operational	0.02525
		33	Kirtinagar II Near Temple	0.01	Operational	0.009
12	Srinagar	34	Srikote I	0.075	Under-construction	

		35	Srikote II	0.05	Under-construction	
		36	Srinagar I	3.5	Operational	1.64575
		37	Srinagar II	1	Operational	0.292
13	Rudraprayag	38	Near Anup Negi memorial public school	0.075	Operational	0.053
		39	Near Rudra complex	0.1	Operational	0.07975
		40	Near bus stand	0.075	Operational	0
		41	Near SBI/Masjid	0.1	Operational	0.016
		42	Near Girder Bridge	0.125	Operational	0.116
		43	Near Belani Road	0.05	Operational	0.0135
14	Karnprayag	44	Near Subash Nagar	0.05	Operational	0.03
		45	Near Karnprayag Sangam	0.1	Operational	0.035
		46	Near Gandhi Nagar	0.05	Operational	0.04625
		47	Near Karn Mandir	0.05	Operational	0.009
		48	Near New Bridge	0.1	Operational	0.04125
15	Badrinath	49	Bamini	0.26	Operational	0.025
		50	Temple	0.01	Operational	0.004
		51	Suspension Bridge	1	Operational	-
16	Chamoli Gopeshwar	52	Near Old Suspension bridge	0.05	Operational	0.0165
		53	Chamoli Ghat	0.76	Operational	0.037
		54	Pokhari band	1.25	Operational	0.0725
		55	Vivekanand colony	1.19	Operational	0.01333
		56	Deendayal Upadhyay Park	1.12	Operational	0.031667
17	Joshimath	57	Near Pokhari Joshimath	1.08	Operational	0.49225
		58	Marwari Joshimath	2.7	Under-construction	
18	Nandprayag	59	Near Forest Nala	0.1	Operational	0.015
		60	In Sangam Marg	0.05	Operational	0.00975
19	Almora	61	Bukh	2	Operational	1.6
20	Nainital	62	Russi Village	10	Operational	6.75
		63	Hari nagar	0.46	Operational	0.3
		64	Krishnapur	0.8	Operational	0.54
21	Pithoragarh	65	Aicholi	5	Operational	3
		66	Nirada ward	1.5	Operational	1
22	Bhimtal	67	Bhimtal	1.25	Operational	0.81
23	Dharachula	68	Near stadium vivekanand ward	1	Proposed	

24	Haldwani	69	Haldwani	28	Under-construction	
25	Ramnagar	70	Ramnagar	7	Under-construction	
		71	Ramnagar 2	1.5	Proposed	
26	Kashipur	72	Kashipur	18	Under-construction	
27	Doiwala	73	Doiwala	10	Proposed	
28	Roorkee	74	Roorkee	33.5	Under-construction	
29	Rudrapur	75	Rudrapur FSTP	0.125	Proposed	