

STORM WATER DRAINAGE

1. Assess the Service Level Gap

The first step is to assess the existing situation and service levels gaps for Storm Water Drainage (AMRUT Guidelines; para 3 & 6). This will also include existing institutional framework for the sector. AMRUT is focused on improvement in service levels. The zone wise data shall be used in identifying the gaps. These zone-wise gaps will be added to arrive at city level service gaps. While assessing service level gap reply following questions not more than word indicated against each question.

- What kind of baseline information is available for storm water drainage system of the city? Detail out the data, information, plans, reports etc related to sector. Is zone wise information available? (75 words)

Here the town has been treated as divided in five zones.

At present the data has been correlated with Census 2011. – Ashokenagar-Kalyangarh Municipality has prepared a Master Plan of Drainage System and CDP , also a DPR for comprehensive drainage scheme under MED, Bikash Bhawan, from which it transpires that the main natural drain/canal Bidyadhari Khal.

- Have you collected data from census other sources? Are you aware of baseline survey data of MoUD? Have you correlated data from these and other sources? (75 words)

Census data has been collected.

We are not aware of baseline survey data of MoUD.

Collected data has been correlated with all available data.

- What is existing service levels for storm water drainage in the city? What is the coverage of drains? What are the no of incidence of sewerage mixing in the drains? How many times water logging incidence happens in the city? Provide comparative information of service levels (in tabulated form) with respect to the service level bench marks prescribed by MoUD and sustainable standards for service levels under the National Mission on Sustainable Habitat (NMSH) in table 1.1

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.1 Status of Storm Water Level service levels

Sr. No.	Indicators	Sustainable standards	Black (Caution for improvement)	Red (Immediate action for improvement)	Present Status
1	Coverage of Storm water drainage network	100%	<75%	<50%	32%
2	Incidence of sewerage mixing in the drains ¹	0%	>25%	>50%	0%
3	Incidence of water logging ² (in nos. per year)	0	>25	>50	15

- What is the gap in these service levels with regard to benchmarks prescribed by MoUD and sustainable standards for service levels under the National Mission on Sustainable Habitat (NMSH)?(75 words)

. Gap in ‘Coverage of Storm water drainage network’ = 68% drains to be constructed.

Gap in ‘Incidence of sewerage mixing in the drains’ = Nil

- Gap in ‘Incidence of water logging (in nos. per year)’ = 15 Nos. to be eliminated

- There are gap of 90 % in coverage of drains and 100% in sewerage mixing in the drains. The individual and community toilets in the city have septic tank and soak pits, the overflow of which goes into the drains as the city does not have sewerage system. Also grey water from the urinals goes directly to the drains. 0% sewerage mixing can be achieved by introducing sewerage system. Incidence of water logging takes place twice in a year (45%) which has to be reduced to 0.

- What are major challenge facing the city in regard to achieving these service level benchmarks?
 - To construct city wide planned drainage network instead of unplanned storm water drains having insufficient sections.
- Identify gaps in capacity in managing the services efficiently and also provide an innovative solution for efficiently managing these services.

1.1 _____

¹ Incidence of sewerage mixing in the drains are ratio of no of households discharging wastewater directly into the drains to the total no of households.

² No of times water logging is reported in a year, at flood prone points in the city

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Gaps:

Unplanned drainage network.

Insufficient sections.

Insufficient gaps between invert of out fall and river at rainy season.

Solutions:

Orientation of drainage network according to level;

Proper design in accordance with rainfall data and peak flow condition.

Installation of lifting stations.

- Brief the ongoing drainage projects in the city. The components included in these projects, how and up to what extent it will support to the drainage system of the city. Weather it address all the issues related to drainage?

**No comprehensive drainage project is going in Habra. In few pockets small drains are being constructed by the private house owners to drain out water from their locality.

Coverage of drains

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- Describe how at present, the storm water of City is drained off? ? How many natural and manmade drains are exists and their coverage with respect to road network?

**At present, the storm water of City is drained off under gravity along both sides of the road.

All existing drains within the city are manmade and covers 315km.

- What is the capacity and condition of these drains? Is sufficient to carry the peak flow of the catchment/water shed?

**The capacity and condition of these drains are insufficient at least 70% cases.

And technically all these drains are also insufficient to carry the peak flow of the catchment/water shed.

- Does city have separate storm water drainage network? If no, provide the information regarding locations of gray water mixes with the existing drains in table 1.2. In case of mixed drainage how it works in peak rainy days?

**No, the city does not have separate storm water drainage network.

Table 1: Detail of Locations where storm water get mixed with sewer

S.No.	Location	Merging with which sewer	Reason
1.	Nil	Nil	

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

- In case of mixed drainage how it works in peak rainy days?

**In case of mixed drainage in peak rainy days water is getting logged due to over flow.

Water Logging

At present, water logging takes place in the low lying areas, small movable pumps are used to lift the water and throw it into the nearby drains. It provides relief from water logging in some areas, but in the critical very low lying areas, even after pumping the area remains water logged for 4-5 days.

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- Presently how the problem of water logging is handled? Is it provides the satisfactory outcome?

**Presently the problem of water logging is removed slowly in long times.

It does not provide the satisfactory outcome.

Provide details of flood points/areas prone to frequent water logging with special focus on Key road intersections, along roads (50 mt length or more) and Locality (affecting 50 HH or more) in the Table 1.2.

Table 1.2: Flood prone points in the city

S.No.	Area	No of points	No of times water logging reported in a year (stagnant water for more than four hours of a depth more than 6”)
1	Banbania	15	15
2	Bhatsala	10	15
3	sramalaxmi	5	15
4	khalpar	6	10
5	Kayadanga	9	10

Chocking of drains

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- Are drainsprone to chocking due to dumping of solid wastes in them? If yes,Provide details of locations prone to chocking of drains due to solid waste in the Table 1.2

**Yes, drains are prone to chocking due to dumping of solid wastes in them.

ASHOKENAGAR – KALYANGARH MUNICIPALITY
P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.2: Detail of Locations prone to chocking of drains due to solid waste

S.No.	Sewer Zone/Ward No	Location	Stretch Length Affected
1	ZONE I – WARD NO.=1,2,&3	KALYANGARH BAZER	1200mtr
2	ZONE II – WARD NO.- 4,5,6,7&8	19 NO. KANKPUL	1km
3	ZONE III – WARD NO.- 9,10,11,16,17&18(P)	P.L. CAMP	1200mtr
4	ZONE IV – WARD NO.- 9,10,11,16,17&18(P)	JANAKALYAN	1100mtr
5	ZONE V – WARD NO.- 18(P),19,20,21 & 22(P)	ASRAFABADH	1400mtr

- How presently the problem is addressed?

**Time to time manual cleaning procedure is obtained by the ULB.

Institutional Framework

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- Define role and responsibilities in terms of O&M, policy planning, funding, service provision in table 1.3. Is it in accordance with the AMRUT guidelines (Clause 8.1)?

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.3: Functions, roles, and responsibilities

Planning and Design	Construction/ Implementation	O&M
<ul style="list-style-type: none"> • To increase the run off and recharging Ground Water: New roads would be constructed beside public open spaces where ever possible. This will enhance recreational and visual amenity, temporary storage infiltration at close to source and water quality. It also aims to minimize the extent of impervious road surfaces. • Planning & Designing should be made to keep more public open space and drainage facilities. • Housing lay out should be compact in nature with high rise buildings to generate more open space. • Identification of location for constructing SWD • Collecting Rain fall data of the locality for the last 5 years. • Finding out the level of water logging in different areas of the ULB and extent of coverage of Storm Water Drainage in the ULB. • Identification of availability of land for new drainage and identification of out fall location. • Execution of Contour Survey or Total Station Survey for slope detection for gravity flow system. 	<ul style="list-style-type: none"> • All formalities for tendering would be completed within a period of 6 months. • Construction/Implementation to be done within specific time period i.e. within 2-3 years including commissioning & trial run. • Sequential presentation of project implementation through bar charts and adhering to it for timely completion of the project. 	<ul style="list-style-type: none"> • The tender will include O&M for 5 years

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

- How city is planning to execute projects?

City is planning to execute the projects engaging professional agency through e-tendering and technical support from Municipal Engineering Directorate under Municipal Affairs Department, Government of West Bengal and other parastatals like Dev. Authorities, Water & Sanitation Authorities.

- Shall the implementation of project be done by Municipal Corporation? If no, whether resolution has been passed by the Municipal Corporation and accordingly, a tripartite Memorandum of Understanding (MoU) between State Government, Municipal Corporation and Parastatal has been signed? Please refer para 8.1 of AMRUT guidelines.

In most cases the projects will be implemented by the concerned municipalities / Municipal Corporations with technical support from Municipal Engineering Directorate under Municipal Affairs Department, Government of West Bengal. In few cases KMDA, other Development Authorities or KMW&SA may implement the project after signing tripartite agreement as per guideline.

2. Bridge the Gap

Once the gap between the existing Service Levels is computed, based on initiatives undertaken in different ongoing programs and projects, objectives will be developed to bridge the gaps to achieve universal coverage. (AMRUT Guidelines; para 6.2 & 6.3, Annexure-2; Table 2.1). Each of the identified objectives will be evolved from the outcome of assessment and meeting the opportunity to bridge the gap.

- List out initiatives undertaken in different ongoing programs and projects to address these gaps. For this provide details of ongoing projects being carried out for sector under different schemes with status and when the existing projects are scheduled to be completed? Provide information in Table 1.4

Table 1.4: Status of Ongoing/ Sanctioned

S. No.	Name of Project	Scheme Name	Cost	Month of Completion	Status (as on 30.09 2015)
1.	Nil		Nil	Nil	Nil

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

- How much the existing system will be able to address the existing gap in storm water drainage system? Will completion of above improve the coverage of network; eliminate the choking of drains and water stagnation problem? If yes, how much. (100 words)

**The existing system is very insufficient to address the existing gap in storm water drainage system.

Completion of the above ongoing project will only enhance the capacity 2% which is too negligible for the present demand to meet national standard.

- Does the city require additional infrastructure to improve the services? What kind of services will be required to fulfill the gap?

**The city requires urgently additional infrastructure to improve the services.

The following services will be required to fulfill the gap -

1. Orientation (including New Construction, Widening and renovation work) of drainage network according to level;
2. Proper design in accordance with rainfall data and peak flow condition.
3. Installation of lifting stations.

- How does the city visualize to take the challenge to rejuvenate the projects by changing their orientation, away from expensive asset replacement programs, to focusing on optimum use of existing assets?

**Serious efforts will be made to accommodate existing serviceable drains with little maintenance if invert level and section of the existing one is got matched with requirement of city wide well designed network.

- Has city conducted assessment of O&M cost of drains and potable pumps? if yes, what is it? Is city planning to reduce it?

**The City has assessment report on O&M cost of drains and potable pumps.

The cost is approximately Rs. 30,00,000.00.

City is planning to reduce it.

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

- Based on assessment of existing infrastructure and ongoing / sanctioned projects, calculate existing gaps and estimated demand by 2021 for Rejuvenation of existing drains, construction of new primary and secondary drains, construction of pump house with pumping machinery, covering of drains. Gaps in Storm water drainage service levels are provided as per Table 1.5.

Table 1.5 . Demand Gap Assessment for Storm Water Drainage Sector

Component	2015			2021	
	Present	Ongoing projects	Total	Demand	Gap
Major Drains (new construction) (in Km)	20	0	0	75	55
Network requirement to provide proper drainage to all identified water stagnant point/ flooding points up to the end discharge point (in Km)	20	0	20	200	180
Network length where households discharging wastewater directly into the drains	0	0	0	0	0
Rejuvenation of existing primary nallahs and primary drains including covering and installation of filter (in km)	8	0	8	80	72

355

- Whether these gaps presented in measurable/ execution able ways considering all the ongoing projects? (75 words)

Yes, these gaps presented are in measurable/ exceptionable ways considering all the ongoing projects.

Objectives

Based on above, objectives will be developed to bridge the gaps to achieve universal coverage.

- To prepare master plan for storm water drainage system for entire city
- To ensure reducing the water logging in the rainy season to maximum one hour.
- To install potable pumping units in decentralized mode
- To ensure interconnection of entire storm water drainage system and with the ultimate aim to connect with the sewerage system.

While developing objectives following question shall be responded so as to arrive at appropriate objective.

- Does each identified objectives will be evolved from the outcome of assessment?
Yes; Each identified objectives will be evolved from the outcome of assessment.
- Does each objective meet the opportunity to bridge the gap?
Yes; Each objective meets the opportunity to bridge the gap.
- Does objectives clearly address all these gaps /solution to all the problems related to stormwaterdrainage of the city?Please provide List out objectives to meet the gap in not more than 150 words.

Yes

List of objectives to meet the gap.

1. Planning and Construction of new Drainage Network;
2. Enhancement of the capacity of existing Drains through minor maintenance.
3. Provision of pumping.
4. Provision of Penstock/ Sluice gate.

3. Examine Alternatives and Estimate Cost

The objective will lead to explore and examine viable alternatives options available to address these gaps.These will include out of box approaches. (AMRUTGuidelines; Para 6.4 & 6.8 & 6.9). This will also include review of smart solutions. The cost estimate with broad source of funding will be explored for each. While identifying the possible activities, also examine the ongoing scheme and its solutions including status of completion, coverage and improvement in O&M. Please provide information on the above responding to (however not limited to) following questions.

- Does all these gaps clearly identified and addressed? (75 words)
Yes
- What are the possible activities and source of funding for meeting out the objectives? (75 words)

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Source of Funding: Central, State Government, ULB, External Assistance, Loan from financial institution, dovetailing MPLAD, MLALAD. Activities: Setting up of necessary infrastructure, awareness generation

- How can the activities be converged with other programme like JICA/ ADB funded/SBM/Smart city mission projects in the city etc.? (i.e. convergence with other schemes)(100 words)

No such city wide scheme is operational.

- What are the options (financial alternatives) of completing the ongoing activities specially on going JnNURM projects? (75 words)

Not applicable.

- What are the lessons learnt during implementation of similar projects? (100 words)
- Preparation of Work Plan to be done realistically and the tendering of activities to be done accordingly, so that work can be completed set by step by step on time.
- O&M should be the part of project implementation.
- Prior identification of land having ownership with the concerned local ULB in order to avoid in delay in execution.
- O&M should be the part of DPR
- Technical person with the sound knowledge to be placed at the implementation level.

- Have you analyzed best practices and innovative solutions in sector? Is any of the practice be replicated in the city?(75 words)

Yes

- What measures may be adopted to recover the O&M costs?(100 words)

From municipal property tax.

- Whether reduction in O&M cost by energy efficient pumps etc be applied?(75 words)

Yes

- Are different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered?(100 words)

No

The alternative activities to meet these activities be defined as per Table 1.6

Table1.6 Alternative Activities To Meet Objectives

4. Citizen Engagement

ULBs will organize and conduct city level citizen consultation and receive feedback on the suggested alternatives and innovations. Each alternative will be discussed with citizens and activities to be taken up will be prioritized to meet the service level gaps. ULB will prioritize these activities and their scaling up based on the available resources. (AMRUT Guidelines; Para 6.6, 6.7 & 7.2). Please explain following questions in not more than 200 words detailing out the needs, aspirations and wishes of the local people.

- Has all stakeholders involved in the consultation?
Yes, all the stakeholders were involved in the consultation.
- Has ward/ zone level consultations held in the city?
Yes, ward/ zone level consultations were held in the city.
- Has alternatives explored are crowd sourced?
Yes, all the alternative have been proposed above are crowd sourced.
- What is feedback on the suggested alternatives and innovations?
Citizen appreciated on the suggested alternatives and innovations.
- Has alternative taken up for discussions are prioritized on the basis of consultations?
Yes, alternative has been taken up for discussions are prioritized on the basis of consultations.
- What methodology adopted for prioritizing the alternatives?
Yes, projects been prioritized based on “more with less” approach.

5. Prioritize Projects

Based on the citizen engagement, ULB will prioritize these activities and their scaling up based on the available resources to meet the respective objectives. While prioritizing projects, please reply following questions in not more than 200 words.

- What are sources of funds?
Sources of funds are Central Government (50% Share), State Government (45% Share) and Ulb (5% Share).
- Has projects been converged with other program and schemes?
There is no such project for convergence.
- Has projects been prioritized based on “more with less” approach?
Yes, projects been prioritized based on “more with less” approach.
- Has the universal coverage approach indicated in AMRUT guidelines followed for prioritization of activities?

Yes, the universal coverage approach has been indicated in AMRUT guidelines followed for prioritization of activities.

6. Conditionality

Describe in not more than 300 words the Conditionality of each project in terms of availability of land, environmental obligation and clearances, required NOC, financial commitment, approval and permission needed to implement the project.

For all the Projects, land will be available with the ULB, power requirement, if necessary, would be available from West Bengal Electricity Distribution Company Limited.. Approval & Permission from State Level Technical Committee/State High Powered Steering Committee will be taken.

7. Resilience

Required approvals will be sought from ULBs and competent authority and resilience factor would be built in to ensure environmentally sustainable storm water drainage scheme. Describe in not more than 300 words regarding resilience built in the proposals.

Adequate measures will be taken to clear the water in case of emergency through potable pumping machinery.

Adequate steps will be taken during structural design considering earth quake, storms, lightning etc. All structures especially current sensitive structures would be constructed above the highest flood level.

8. Financial Plan

Once the activities are finalized and prioritized after consultations, investments both in terms of capital cost and O&M cost has to be estimated. (AMRUT Guidelines; para 6.5) Based on the investment requirements, different sources of finance have to be identified. Financial Plan for the complete life cycle of the prioritized development will be prepared. (AMRUT Guidelines; para 4, 6.6, 6.12, 6.13 & 6.14). The financial plan will include percentage share of different stakeholders (Centre, State and City) including financial convergence with various ongoing projects. While preparing finance plan please reply following questions in not more than 250 words

- How the proposed finance plan is structured for transforming and creating infrastructure projects?

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

As per AMRUT Guideline

- List of individual projects which are being financed by various stakeholders?

Nil

- Has financial plan prepared for identified projects based on financial convergence and consultation with funding partners?

Yes

- Is the proposed financial structure is sustainable? If so then whether project has been categorized based on financial considerations?

Yes

- Have the financial assumptions been listed out?

Yes

- Does financial plan for the complete life cycle of the prioritized development?

Yes

- Does financial plan include percentage share of different stakeholders (Centre, State, ULBs and)

Yes

- Does it include financial convergence with various ongoing projects?

- Does it provide year-wise milestones and outcomes?

Yes

Details in financial plan shall be provided as per Table 1.7,1.8,1.9,1.10 and 1.11. These tables are based on AMRUT guidelines tables 2.1, 2.2,2.3.1,2.3.2, and 2.5.

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.7 MasterPlan of Storm Water Drainage Projects for Mission period

(As per Table 2.1 of AMRUT guidelines)

Sr. No.	Project Name	Priority number	Year in which to be implemented	Year in which proposed to be completed	Estimated Cost (Amount in Rs. Cr)
Rejuvenation of Storm Water Drainage of Ashokenagar-Kalyangarh Municipality					
1	Construction of Major Drains	1	2016-17	2018-19	55.00
2	Construction of Network Drains	2	2016-17	2018-19	54.00
3	Renovation of existing Drain	6	2017-18	2018-19	15.00
5	Construction of Drainage Pumping Station	4	2016-17	2018-19	20.00
6	Procurement of 5 HP potable pumps installed at vehicle	5	2016-17	2017-18	2.00
7	Construction of Pen stock/Sluice gate and out fall structures	7	2016-17	2018-19	2.00
Grand Total					148.00

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.8 Master Service Levels Improvements during Mission Period

(As per Table 2.2 of AMRUT guidelines)

Sr. 2.1 No.	Project Name	Physical Components	Change in Service Levels			Estimated Cost(Amount in Rs. Cr)
			Indicator	Existing (As-Is)	After (To-be)	
1	Rejuvenation of Storm Water Drainage of Ashokenagar-Kalyangarh Municipality	Construction of Major Drains	Coverage of Storm water drainage network	32%	100%	55.00
		Construction of Network Drains		54.00		
		Renovation of existing Drain		15.00		
		Construction of Drainage Pumping Station	Incidence of seweragemixing in the drains	0%	0%	20.00
		Procurement of potable pumps installed at vehicle		Incidence of water logging ³ (in nos. per year)	15	0
		Construction of Pen stock/Sluice gate and out fall structures	2.00			

1.1 _____

³ No of times water logging is reported in a year, at flood prone points in the city

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table1.9 Annual FundSharing Pattern forStorm WaterProjects

(As per Table 2.3.1of AMRUT guidelines)

(Amountin Rs. Cr)

Sr. No.	Name of Project	Total Project Cost	Share				Total
			GOI	State	ULB	Others	
	Rejuvenation of Storm Water Drainage of Ashokenagar-Kalyangarh Municipality						
1	Construction of Major Drains (30 km)	55.00	27.50	24.75	2.75		55.00
2	Construction of Network Drains (29 km)	54.00	27.00	24.30	2.70		54.00
3	Renovation of existing Drain (120 km)	15.00	7.50	6.75	0.75		15.00
5	Construction of Drainage Pumping Station (15 nos.)	20.00	10.00	9.00	1.00		20.00
6	Procurement of 5 HP potable pumps installed at vehicle (3	2.00	1.00	0.90	0.10		2.00
7	Construction of Pen stock/Sluice gate and out fall structures (20 Nos)	2.00	1.00	0.90	0.10		2.00
	Total	148.00	74.00	66.60	7.40		148.00

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

Table 1.10 Annual Fund Sharing Break-up for Storm Water Drainage Projects

(As per Table 2.3.2 of AMRUT Guidelines)

Sr. No.	Project	GoI	State			ULB			Convergence	Others	Total
			14 th FC	Others	Total	14 th FC	Others	Total			
1	Rejuvenation of Storm Water Drainage of Ashokenagar-Kalyangarh Municipality	74.00			66.60			7.40			148.00
2											
3											
4											
5											
	Total	74.00			66.60			7.40			148.00

(Amount in Rs.Cr)

ASHOKENAGAR – KALYANGARH MUNICIPALITY

P.O. & P.S. Ashokenagar , North 24 Parganas ,743222

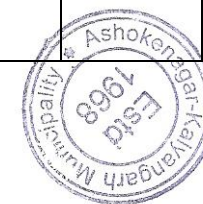
Table 1.11 Year wise Plan for Service Levels Improvements

(As per Table 2.5 of AMRUT guidelines)

Proposed Projects	Project Cost	Indicator	Baseline	Annual Targets (Increment from the Baseline Value)					
				FY 2016		FY 2017	FY 2018	FY 2019	FY 2020
				H1	H2				
Storm Water Drainage									
Rejuvenation of Storm Water Drainage of Ashokenagar-Kalyangarh Municipality	148.00	Coverage of Storm water drainage network	32%		8%	30%	30%	0	0
		Incidence of sewerage mixing in the drains ⁴	0%		20%	10%	0%	0%	0%
		Incidence of water logging ⁵ (in nos. per year)	15		5	5	5	0	0

P. Saman

Prabodh Sarker
Chairman
Ashokenagar-Kalyangarh Municipality



1.1 _____

⁴Incidence of sewerage mixing in the drains are ratio of no of households discharging wastewater directly into the drains to the total no of households.

⁵ No of times water logging is reported in a year, at flood prone points in the city