

# Initial Environmental Examination

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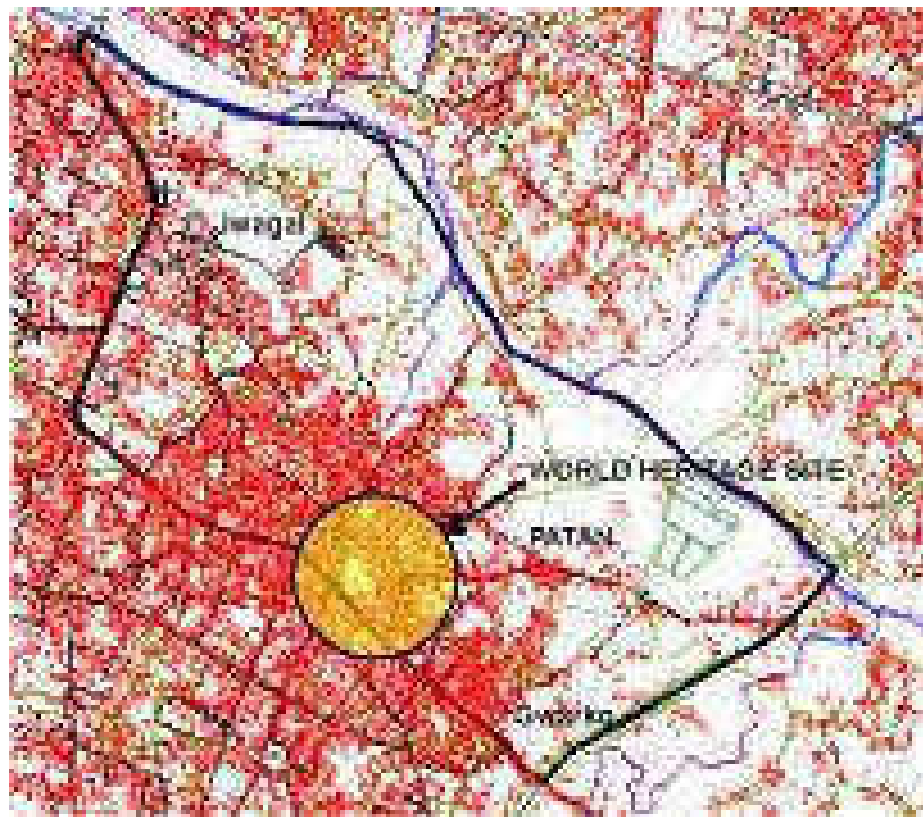
## NEP: Kathmandu Valley Wastewater Management Project – Dhobighat (PART C)

Package No: KUKL/WW/TP-03

Prepared by the Project Implementation Directorate, Kathmandu Upatyaka Khanepani Limited, Ministry of Water Supply, Government of Nepal for the Asian Development Bank.

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LOCATION PLAN: Patan Darbar Square



Kiran Bhattarai <kiran.bhattarai@gmail.com>

## Heritage Sites

Shrestha, Nipuna <s.nipuna@unesco.org>

Fri, Mar 5, 2010 at 2:41 PM

To: Kiran Bhattarai <kiran.bhattarai@gmail.com>

Cc: info@doa.gov.np, "LIN Chih-Hung, Roland" <r.lin@unesco.org>, "Plathe, Axel" <A.Plathe@unesco.org>

Dear Kiran sir,

Thank you very much for your email informing the KUKL plan for the years 2012-2016 about laying out pipelines within the durbar square areas of Patan and Hanuman Dhoka which are included inside the Kathmandu Valley World Heritage Site (KVVHS).

As for the concern for UNESCO, I would like to let you know that the Department of Archaeology (DoA), under the Ministry of Federal Affairs, Constituent Assembly, Parliamentary Affairs and Culture, is the state party to the 1972 convention concerning the protection of the World Cultural and Natural Heritage. So, it is very important that KUKL make necessary coordination with the DoA from initial planning to implementation process. The ancient monument preservation act for the Protected Monument Zones (PMZ) would be the basis for your activities within the PMZ. The site offices of DoA at each Monument Zone would also be able to help you for site-level coordination.

As you are also conducting environmental assessment, it seems that the project is a large-scale one, and the critical part for your consideration would be to protect the site and its heritage value, specially the Outstanding Universal Value, for which these monument zones have been inscribed within the KVVHS, from any adverse effects that may be caused by the project implementation. I am copying this email to the Department of Archaeology for their necessary information.

I hope the above will be of help for you.

Regards

Nipuna

**From:** Pant, Tap Raj

**Sent:** Monday, March 01, 2010 11:44 AM **To:** Kiran Bhattarai **Cc:** Shrestha, Nipuna **Subject:** RE: Heritage Sites

Dear Bhattarai sir

<https://mail.google.com/mail/?ui=2&ik=89b1bf7a85&view=pt&q=UNESCO&search=...> 4/28/2010

Thanks for your e-mail. I am forwarding this e-mail to our colleague (copied here) responsible for culture unit to respond you. Now she is on mission and hope she will answer back to you once she is back in the office on Wednesday, 3 March 2010.

Regards

Tap Raj Pant

**From:** Kiran Bhattarai <mailto:kiran.bhattaraica@gmail.com> **Sent:** Monday, March 01, 2010 11:39 AM **To:** Pant, Tap Raj **Subject:** Heritage Sites

Dear Tap Raj Pantaji

It was nice meeting you. KUKL (Kathmandu Upatayka Khanepani Limited) will be laying drinking water pipelines and sewers in the Darbar Squares of Patan and Hanumandhoka in the years 2012 to 2016. As we are conducting an environmental assessment of the project, we would be grateful if there are any UNESCO guidelines to be followed during the construction works in the Heritage Sites.

Thanks once again. Best Regards Kiran Bhattarai

## **Appendix 9: Focus Group Discussions, Stakeholders Consultations/ Workshops and Meetings**

### **Consultations/ Focus Group Discussion with the stakeholders of proposed Gokarna wastewater treatment plant**

#### **Consultation/ Focus Group Discussion for the Proposed Rehabilitation, laying of new sewer pipeline in Khasi Bazaar, Ward no 5, Kirtipur Municipality**

**Venue:** Community building, Khasi bazaar, ward no 5, near police post

**No. of participants:** .....

##### **Issues/ discussion**

- The main sewer passes through this area. Due to the small size of the sewer, waste water always overflows in this area due to clogging of solid wastes.
- About 400 meter of a larger diameter sewer is required to be laid so as to solve the overflow problem.
- People are paying 50% tariff for sewerage, on the total drinking water tariff to KUKL, People are ready to pay more if the sewerage system is improved.
- The local people have objected to the connection of a small diameter sewer in the upper side of *Toga! Tote*.
- The existing road should be as rehabilitated to its original state after the replacement of bigger sewer.
- People are now using the old septic tanks because of the frequent overflow of wastewater from the sewer which was constructed in 2054 BS (1997).
- Stormwater pipes and sewers should be separated.
- If stormwater pipes are separated, the stormwater could be used for irrigation purposes by collecting it in the 3 existing ponds in this area which are now almost empty.
- There is also lack of space for solid waste disposal. People dispose their households waste into the streets or in the open places of the municipality though most of the people have compost bins (only for organics). The non-organic waste is disposed on the streets.

#### **Consultation/ Focus Group Discussion for the Proposed Rehabilitation, laying of new sewerage pipeline in Sikucha, Panga, Ward no 10, Kirtipur Municipality**

**Venue:** Sikucha, Panga, ward no 10, Kirtipur Municipality

**No. of participants:** 10

**Date:** 16 July 2012

##### **Issues/ discussion**

- Panga covers ward no 9, 10 , 11, 12 wards of the Municipality
- Almost all the ethnic /caste are Newars except Chetrri in Karki gaun.
- Kirtipur has one Municipality consisting of 19 wards and 8 VDCs
- There is no problem of sewerage pipe but the problem of outlet. At the moment all the discharge have been collected in 2 septic tanks constructed by PLAN International (INGO) about 15 years ago. The sewerage pipeline come from Bhatkepati. Na gau has been also connected from that pipeline.
- The sewerage pipeline can be connected to Sundarighat for treatment
- East belt of Panga area is most problematic, severe problem of clogging and overflow of waste water found in that areas.
- Community would fully support the project if implemented. If any grievances/ issues rose

during the construction, the community will solve it.

- Regarding the tariff, each household is spending about Rs. 12, 000 per year for the management of wastewater. If the tariff increased by the government, people will accept it and ready to pay if constructed properly and covered all problematic areas.
- There should be separate storm water drainage and sewerage pipeline. This will solve the problem clogging and overflow from the sewerage pipeline.
- The sewerage problematic areas identified by the project do not cover all the areas so it should be update. Some problem areas are missing.
- There is already formation of one joint committee of 4 political party to look different problems of the area and to solve them. So there will be no problem of coordination in this area.

### **Consultation with the stakeholders at Shantinagar (New settlement)**

**Venue: Dirghayu Tole, Shantinagar**

**No. of participants: 10 Date: 18 July**

#### **2012 Issues/ discussion:**

- Formed a *Tole Sudhar Samittee* (Community Improvement Committee) for the development of community. Dirghayu Tole is a new settlement
- They have initiated to construct the sewerage pipeline.
- The settlement adjoining the squatters area which is located in the west bank of Bagmati River
- All the squatters are settled here almost 10 years ago and discharge their residential waste directly into the river
- The Dirghayu Tole (settlement) has about 680 households including squatters in the area
- Bagmati High Powered Committee (project) has constructed sewerage pipeline of about 36 "diameter in the west side of Bagmati River (interceptors?) recently (about 4 months ago) but has not functioned yet.
- The existing sewerage pipeline is very small. It could not cope with the increased population.
- The committee strongly demanded that the government should look these new areas and manage the sewerage and drainage system immediately.

## FGD in Panga, Kirtipur

### Minutes of Focus Group Discussion on identification of project intervention areas

A Focus Group Discussion (FGD) was held with an objective of involving key stakeholders and receiving their input in identification and prioritization of the project intervention areas in relation to the sewerage network improvement.

Date: 26<sup>th</sup> April 2012 (Thursday)

Time: 11:00 - 14:00

Venue: Falcha/SAP Nepal, Babarmahal,

S.N	Name	Designation	Institution
1	Krishna Bhola Maharjan	Engineer	Kirtipur Municipality
2	Rudra Prasad Adhikari	Civil Engineer	Lalitpur SubMetropolitan City
3	Prabin Shrestha	Arch. Infrastructure Planner/PWD	"
4	Narayan Kumar B.C.	Sr. Finance Officer	KVWSMB
5	Shree Krishna Nyaichyai	Civil Engineer	Bhaktapur Municipality
6	Satya Narayan Sah	Sr. Engineer	Madhyapur Thimi Municipality
7	Sudan Raj Panthee	Deputy Project Director	KUKL/PID
8	Richard H. Pope	Vice General Manager	KUKL
9	Shekhar Adhikari	Deputy Manager	KUKL
10	Noor Kumar Tamrakar	DTL	PPTA
11	Himesh A. Vaidya	Sr. Engineer	PID/KUKL
12	Carlo Pandolfi	GIS Expert	PPTA
13	Darryl Jackson	Wastewater Engineer	PPTA
14	Raja Ram Pote Shrestha	Wastewater Engineer	"
15	Susheela Chand	Office Manager	"
16	Abadh Kishor Mishra	Project Director	PID/KUKL
17	Chandra Lal Nakarmi	Manager	KUKL

Deputy Project Director of KUKL/PID Mr. Sudan Raj Panthee opened the FGD with brief introduction of the programme. It was followed by brief introduction of all the participants. Wastewater Engineer (Int.) Mr. Darryl Jackson made a power point presentation and briefed on the background and scope of PPTA and the selection criteria for identification of project intervention areas. Wastewater Engineer (Nat.) Mr. Raja Ram Pote Shrestha recalled the meeting with all five municipalities in respective municipality before the FGD and requested to make a presentation on problematic areas based on maps and tables provided to them by PPTA team earlier. He informed that the identified areas from this FGD will be considered for further detail analysis and will be screened through technical and other criteria for inclusion in project development. He also facilitated the FGD.

**A. Lalitpur Municipality:**

Mr. Prabin Shrestha and Mr. Rudra Prasad Adhikari joined the discussion with elaboration on geographical structure of municipality. The city has been surrounded by Kodku Khola (east), Bagmati (north) and Nakhu (west). They informed that the municipality can be divided into several catchment areas and wastewater management plan has to be prepared for each of the catchment considering decentralization of wastewater disposal.. All these sewers have been converted into combined sewer although some of them (IDA sewers) have been designed as sanitary sewer and old sewers have been designed as storm water sewer. They informed that old Rana period sewers and new sewers constructed after year 2000 are still functional but sewers constructed under IDA project are mostly clogged and non-functional. The overflow of sewage is common in many places in core area after a spell of heavy rain. The main problematic flooding areas are Kumaripati, Mahapal, Kusunti and near Patan Campus..The main cause of flooding is due to inadequate size of main collector sewer but in some cases the inlet and outlet sewers are of appropriate size but the intermediate sewer are of inadequate size. . Some existing sewers are under the houses e.g. in Kumbheshwar area making it difficult to rehabilitate or to maintain. Mr Prabin Shrestha suggested that diversion of some sewage coming to core area of town (Mahapal area) to west side of town would relieve the load on existing sewer at Mahapal and municipality is working towards making such diversion.

The major problematic areas are as follows:

S.N.	Area	Ward No.
<b>Flooding Area</b>		
1	Mahapal	18, 22
2	Patan Campus	21, 10
3	Kumaripati	5, 19
4	Kusunti Dole	13
5	Satdobato - Gwarko	
6	Bakungol - Kopundol	1
7	ICIMOD - Hattiban	15
<b>Clogging Area</b>		
1	Na Tole - Gabahal	
2	Mangal Bazar - Sankhmul	

In Kumaripati area, the municipality tried to divert sewage load to other existing sewer lines but the downstream people protested this fearing overflow in their area.

They also suggested the necessity of construction of Interceptor sewer along Nakhu River to protect it from pollution as it is important from religious point of view. They also commented on the activities of ongoing water supply DNI project in Kusunti area and suggested that the water supply lines should be installed at both sides of road which are wide.

**B. KUKL:**

Er.Shekhar Adhikari, Chief of Sewerage Operation Department (SOD)/KUKL highlighted the role played by SOD in managing wastewater in the valley. He raised



the necessity of south collector in Bhaktapur and informed that other problematic areas in the Bhaktapur are Byasi to Kamal Vinayak and Bhaktapur Industrial Area.

Mr. Carlo Pandolfi briefed the meeting about asset condition assessment survey and the preparation of GIS of sewerage network which the PPTA is preparing to carry out. He informed that the survey work will start by the end of May 2012 and requested for the cooperation of municipalities and KUKL in conducting this survey.

Mr. Darryl Jackson concluded the FGD and informed that the suggestions will be considered to identify and prioritize areas for intervention. He thanked all the participants for positive feedback and informed that similar interaction will be conducted in future to finalise the areas.

### **Minutes of Meeting on Coordination on Wastewater Sector**

A meeting was organized with an objective of coordinating activities of different stakeholders working on wastewater management sector in Kathmandu Valley.

Date: 22<sup>nd</sup> June 2012 (Friday)

Time: 15:00 - 16:00

Venue: Meeting Hall, Ministry of Urban Development (MoUD), Singh Durbar,

Kathmandu Presence:

S.N.	Name	Designation	Institution
1	Mr. Tana Gautam	Secretary	MoUD
2	Mr. Gajendra Thakur	Project Manager	HPCIDBC
3	Mr. Abadh Kishore Mishra	Project Director	PID
4	Mr. Anil Bhadra Khanal	Deputy Project Director	,,
5	Mr. Sanjeev Bikram Rana	,,	,,
6	Mr. Himesh A. Vaidya	Eng. Section Chief	,,
7	Mr. Prayag Lal Joshi	Chairman	KUKL
8	Mr. Kiran Amatya	General Manager	,,
9	Mr. Narayan B. Bhattarai	Division Chief	Kathmandu Metropolitan City
10	Mr. Narayan Kumar B.C.	Sr. Finance Officer	KVWSMB
11	Mr. Hannu Pelkonen	Team Leader	PPTA Team
12	Mr. Noor Kumar Tamrakar	DTL	,,
13	Mr. Raja Ram Pote Shrestha	Wastewater Engineer	,,

Mr. Tana Gautam, Secretary of MoUD chaired meeting and initiated it briefing on the objective of organizing this coordination meeting. He requested an active participation to make the meeting success. Thereafter, Mr. Abadh Kishore Mishra, PID Director elaborated the agendas of the meeting.

Mr. Noor Kumar Tamrakar made a power point presentation and briefed on the background and scope of the PPTA. He also informed the expected outputs of the project and requested the participants to express their opinion on the several coordination issues like scope of work, design parameters, ongoing & planned programmes of different stakeholders, coordination mechanism etc. The presentation was then followed by discussion.

**Major Issues Discussed:**

1. Several agencies like KUKL/PID, High Powered Committee for Integrated Development of Bagmati Civilization (HPCIDBC), Municipalities are working on wastewater sector in Kathmandu valley. There are some other stakeholders like Kathmandu Valley Development Authority (KVDA), Department of Roads (DoR), Department of Survey, Town Development Fund (TDF) and some other agencies working in this sector and their activities should be coordinated to have better results.
2. The design parameters used by various agencies are different and there must be common understanding to apply uniform design guidelines to sewer network improvement work.
3. HPCIDBC intends to be river basin management organization. It is not interested to operate Guhyeswari WWTP and if KVWSMB comes with suitable proposal, it is ready to handover. The issue of wastewater tariff collection in Guhyeswari WWTP area has also been discussed.
4. The HPCIDBC is planning to lay Interceptors along banks of all nine rivers in the valley. It is expected that the contract will awarded to lay Interceptor upto Balkhu within three months. The necessity of coordination of these activities with PPTA team was discussed.
5. There are several sewer network problems in the valley and KUKL alone cannot improve the whole situation. The proposed ADB project is an opportunity, which will not come again and again. Considering this, the fund should be utilized not only for WWTP and Interceptor construction but also for neighborhood network improvement. But before that, asset condition survey should be carried out to propose improvement projects. Implementation should be realistic and not very ambitious.

**Decisions:**

1. It was agreed to form two committees on coordination issues. One Coordination Committee will be formed to oversee all coordination issues, which will be headed by MoUD. Another will be technical coordination committee, where KUKL/PID, HPCIDBC, KVDA, Municipalities and both ADB PPTA will represent. The meeting will be conducted at least once in a month.
2. There will be uniform design guidelines on sewerage works carried out by various agencies, which will be proposed by technical committee.

The Chairperson of the meeting thanked all the participants for fruitful discussion and informed that the suggestions will be considered to improve the working modalities of different agencies.

**Summary of Proceedings****Consultative Stakeholders Workshop on Interim Report****Background:**

The consulting team (FCG in association with TMC and ERM) is working under PPTA 7936 funded by Japanese Fund for Poverty Reduction and executed by the Asian Development Bank to prepare a project for wastewater service improvement in Kathmandu Valley for a project grant from Asian Development Bank and other development partners.

The proposed wastewater service improvement investment has focussed on: a) neighbourhood sewer rehabilitation, improvement and expansion; b) construction of new interceptor and collector sewers to convey sewage from neighbourhood network to WWTPs; c) Modernisation, expansion and construction of new WWTPs to treat sewage before discharge into river system and d) institutional development and capacity-building programs for efficient and effective management of wastewater sector. The consultants have prepared an interim report on the project feasibility study and Project Implementation Directorate (PID)/KUKL has organised a consultative stakeholder's workshop.

**Objectives:**

The objectives of the meeting are to discuss and obtain a broad consensus on the range of necessary improvement works on wastewater management of Kathmandu Valley and to develop investment programs for ADB financial assistance for a period of 2013-18.

**Time:** 09:00am - 16:25 pm

**Date:** 14<sup>th</sup> August 2012 (Tuesday)

**Venue:** Hotel Everest, New Baneshwor, Kathmandu, Nepal

## **PROGRAMME**

9:00 - 9:30 AM : Registration and Tea

9:30 – 9:45AM : Informal Opening Session

9:30 AM : Call on Dignitaries to Dais by the MC/Moderator

: Welcome Remarks Mr. Abadh Kishore Mishra, Project Director, PID

: Opening Remarks Mr. Kenichi Yokoyama, Country Director, ADB

: Opening Remarks Mr. Tana Gautam, Secretary MoUD

9:45 – 10:05 AM : Presentation on Project Overview, components and implementation by Mr.

Hannu Pelkonen, Team Leader, PPTA

10:05 – 10:25 AM : Presentation on Existing Wastewater Management in KV Mr. Tirtha Raj Poudel

Manager, Sewerage Operation Department, KUKL

10:25 – 10:40 AM : Discussion

10:40 – 11:05 AM : Refreshment (Light)

11:05 – 11:35 AM : Presentation on Sewer Network by Mr. Raja Ram Pote Shrestha, Wastewater Expert, PPTA, including: issues related to combined/separate sewers operation and maintenance of sewerage network issue of synchronization and/or double excavation of water pipeline networks and sewerage networks;

11:30 – 11:45 PM : Discussion Session  
11:45 – 12:15 AM : Presentation on Wastewater Treatment Plants and related Issues, Sludge Management and Energy Generation by Mr. Ari Niemela, Wastewater Treatment Plant Expert, PPTA, including: comparative analysis of various wastewater treatment technologies and the Recommendations applicability of and recommendations for decentralized wastewater treatment systems (DEWATS) in KV.

12:15 – 12:30 PM : Discussion Session

12:30 – 12:45 PM : Institutional and Capacity Building Issues, by Mr. Rajendra Giri, Institutional Expert, including: suggestions for proper institutional structure and capacity building of institutions responsible for O&M of wastewater systems in KV; demarcation of role and responsibilities among various institutions involved in wastewater management in KV

12:45 – 1:00 PM : Discussion

1:00 – 2:00 PM : Lunch

2:00 – 2:25 PM : GIS Development on Sewerage and Water Supply Infrastructure in KUKL, by Mr. Carlo Pandolfi, GIS Expert, including recommendations to develop sewerage GIS and the action plan by the CBP team to develop such GIS;

2:25 – 2:40 PM : Discussion

2:40 – 3:00 PM : Resettlement, Gender and Social issues, by Ms. Gita Adhikari, Social Development Specialist, including important concerns and recommendations to make the project more inclusive focusing on social and gender aspects and ensuring community participation

3:00 – 4:00 PM : Main Discussion Session, opening by Mr. Noor Tamrakar, DTL, including O&M and sustainability of wastewater management with special emphasis on availability of personnel, uninterrupted power and O&M budget – key issues

4:00 – 4:10 PM : Conclude/Remarks on Discussion, by Mr. Noor Tamrakar, DTL

4:10 – 4:25 PM : Closing Remark by Mr. Prayag Lal Joshi, Chairperson, KUKL

## **Meeting Proceedings:**

The Workshop was conducted in two sessions namely Opening Session and Technical Session.

### **A. Opening Session:**

**Mr. Abadh Kishore Mishra, Project Director of Project Implementation Directorate (PID)** made first welcome remarks. He welcomed all the participants and briefed about the background of KVMWP. He

informed the activities carried out by PPTA and the objectives of the present workshop. He emphasized on the improvement of waste water network, upgrading of existing wastewater treatment plants and construction of new plants. He expressed his view that the water supply and sewerage system will be more effective in the Valley after the completion of Melamchi Water Supply Project by the end of 2015. He requested all invitees to actively participate in the discussion.

**Mr. Kenichi Yokoyama, Country Director of Asian Development Bank (ADB)** highlighted the role of this PPTA to improve urban environment of Kathmandu Valley and asked to coordinate with other similar projects especially with another ADB funded Bagmati River Basin Improvement Project. He emphasized two key issues which should be considered seriously by the government. There is a need to enhance project readiness for smooth implementation of the project. The disbursement rate is less than 9 % out of 25% targeted in most of the on-going ADBs projects. So it needs to expedite and implement the projects without any delay. Second issue is related with operation and maintenance of wastewater management system including sewerage network and WWTP. He asked to consider an uninterrupted power supply as a key challenge in implementing the proposed project. He asked to complete PPTA works resolving all pending issues by taking advanced actions in coordination with KUKL, HPCIDBC, PID, DSC and other agencies. He also requested the strong commitment of the government for successful completion of this project.

**Mr. Tana Gautam, Secretary, Ministry of Urban Development (MoUD)** informed that the Government of Nepal has considered this project very seriously. He informed that the KVVMP is the priority project for Kathmandu Valley and expected that the project will contribute to government policy of providing sanitation to all by 2017. He highlighted the present status of waste water and emphasized the need to treat the waste water before discharging into the river. He lauded the role of ADB in implementation of projects on water and sanitation. He concluded his remarks asking all participants to contribute from their sides to make the project a successful.

Speaking from the Chair, **Mr. Prayag Lal Joshi, Chairman, KUKL** mentioned that the sewerage and drainage are the complicated issues in the valley. He requested to consider some critical issues like land availability for WWTP, social problems and synchronization of sewerage works with DNI activities. There are multiple actors involved in this sector which had made the system more complicated. There is no coordination between and among them and the work has been done haphazardly. He closed the opening session requesting all for active participation and contribution in the discussion.

## **B. Technical Session: Interim Report Findings Presentation**

**Mr. Hannu Pelkonen, Team Leader of PPTA** made first presentation and elaborated on the overall Project overview, components, scope and magnitude of the project and implementation. He also introduced the objective and the development of the interim report, prepared by the PPTA and submitted to MoUD, KUKL, PID and ADB.

Thereafter, **Mr. Tirtha Raj Poudel, Manager of Sewerage Operation Department, KUKL** made presentation on Existing Wastewater Management in Kathmandu Valley. He briefed about the existing wastewater management system of Kathmandu and role of KUKL in managing it

**Mr. Raja Ram Pote Shrestha, Wastewater Expert of PPTA** presented on Sewer Network, Interceptors and Related Issues. He briefed the existing condition on network informing that the actual condition is not known. He highlighted some key issues in managing sewer network like issues related to combined/separate system, O & M of sewerage network and issue of synchronization and/or double excavation of water pipeline networks and sewerage networks. He then presented proposed projects on network and interceptors with justification and limitation. He raised some major coordination issues which are very important for successful implementation of the proposed project.

**Mr. Ari Niemela, Wastewater Treatment Plant Expert of PPTA** made presentation on Wastewater Treatment Plants and related Issues, Sludge Management and Energy Generation. He briefed on the existing wastewater treatment system in the valley and informed the operational condition of existing WWTPs. He elaborated the proposed WWTP projects with comparative analysis of various wastewater treatment technologies and the recommendations. He also discussed on applicability of and recommendations for decentralized wastewater treatment systems (DEWATS) in KV.

**Mr. Rajendra Giri, Institutional Development Expert of PPTA** presented on Institutional and Capacity

Building Issues. He elaborated on existing institutional issues in KUKL on wastewater sector and roles played by various agencies in this sector. He suggested a list of manpower and capacity building activities required to implement and sustain this project.

**Mr. Carlo Pandolfi, GIS Expert of PPTA** made presentation on GIS Development on Sewerage and Water Supply Infrastructure in KUKL. He briefed the current situation and ongoing activities of KUKL in relation to GIS. He presented on proposed structure and recommendations of the PPTA team to develop sewerage GIS and action plan to be taken by CBP team to develop such GIS.

**Mr. Sushil Babu Aryal, Social Safeguard Specialist of PPTA** presented on Resettlement Issues. He briefed about the potential resettlement issues in project implementation and proposed some mitigation measures.

**Ms. Gita Adhikari, Social Development Specialist of PPTA** made presentation on Gender and Social Issues. She informed the findings of the FGD and other consultation meetings with the community people. She highlighted some important concerns and recommendations to make the project more inclusive focusing on social and gender aspects to ensure community participation.

**Mr. Noor Tamrakar, Deputy Team Leader of PPTA** presented on Operation and Maintenance of Sewerage System. He elaborated on the existing O & M issues in this sector in KUKL with due consideration of financial issues. He highlighted key issues on O&M and sustainability of wastewater management with special emphasis on availability of personnel, uninterrupted power and O&M budget.

### **C. Discussion:**

The presentation has been followed by floor discussion, where the following remarks/issues were raised.

#### **Mr. Prayag Lal Joshi, Chairman, KUKL**

He commented on the involvement of multiple agencies in the construction of sewerage and drainage system without proper design. This has created a serious problem in the functioning of the system. Such haphazard system of construction should be discouraged.

#### **Ms. Laxmi Sharma, Project Officer, ADB/NRM**

She raised the issue on the involvement of different organization in the construction of drainage and sewerage system. Since, KUKL has been given the mandate for the management of sewerage, why permission is given to different organizations to connect the storm water into sewerage system. She also raised the issues of quality work and insufficient manpower for the project implementation. She requested to have better coordination with the Department of Urban Development and Building for implementation of provision of construction of septic tank while issuing building permit for new house construction.

#### **Mr. Gajendra K. Thakur, Project Manager, HPCIDBC**

Mr. Thakur mentioned the deterioration of water quality in the river due to the approval of new house plan/construction by the Municipality without mandatory construction of Septic Tank. Prior to 2050 BS (1993), one could not construct a new house without constructing Septic Tank. After 1993, the Municipality did not administer strict rule of compulsory construction of Septic Tank. People started to discharge wastewater from their house directly into the river. He also requested to mention expenditure done by HOCIDBC in managing wastewater system, which is about NRs. 30 million per year.

#### **Mr. Ganesh Thapalia, Kathmandu Metropolitan City**

Mr. Thapalia defended the existence of the policy of compulsory construction of Septic tank when one seeks approval of housing plan from Kathmandu Metro. He argued that there is a problem in the upstream of river. The river is being polluted from the upstream. Further, he mentioned the problem of sludge management in Kathmandu Metro. He asked the audience where to dispose the sludge which comes from the Septic tank. The present coordination problems with different organization involved in waste water sector has made the wastewater management in the valley more difficult. He requested that Kathmandu Metro should be informed about the project activities and the assistance required from the Metro to solve the problem. He also requested all to cooperate in the awareness programs launched by Kathmandu Metro for cleaning the rivers of Kathmandu Valley.

#### **Mr. Satya Narayan Shah, Engineer, Madhyapur Thimi Municipality**

Mr. Shah opined that the centralized system of wastewater treatment will not be practical in Nepal. He gave the example of the failure of Bhaktapur Wastewater Treatment Project constructed in 1970s. He recommended decentralized wastewater management system through local community based small treatment plant. He informed that the Municipality used to have only on-site sanitation system in the past, which later on polluted dug wells. As a result they now emphasized on sewerage system.

He suggested the need of good relationship between KUKL and Municipality in solving the problem. He also raised the issue of tariff on the sewerage. The Municipality does not have any taxation system on the sewerage management. For the effectiveness of Septic tank, sufficient water should be available which we do not have.

**Mr. Mahesh Bdr. Basnet, Chairman, HPCIDBC**

Mr. Basnet opined that the pollution of river increased dramatically after the starting of PPP model program for laying of sewer by Municipalities which discharged raw sewage directly into the river. If small WWTP had been constructed, the present problem would not have come. He attributed deteriorating river water quality on not following the rule and regulations of the government. He requested the concerned organization/authority to implement the restriction or prohibition of discharging waste water into the river. He also commented on the recent amendment of reducing right of way in Dhobikhola bank corridor from 12 meter to 9 meter. He pointed out that the PPP model started by Municipality encouraged people to lay sewer and drain lines haphazardly.

**Mr. Tirtha Raj Poudel, Manager, KUKL**

Mr. Poudel opined that there may a need to dig the same road many times unless proper coordination of DNI works and Sewerage network construction is done. He asked for synchronization of DNI activities and proposed network improvement works. He commented on proposed laying of interceptor sewers on both side of the *Tukucha* River since there is no space to construct. Mr. Poudel also stressed on the importance of land acquisition for the proposed Wastewater Treatment Plant at Khokana. He urged implementation of different rules and regulations to manage wastewater system in the valley.

**Mr. Richard Popes, Vice General Manager, KUKL**

Mr. Popes expressed the view that since there is not much space for locating WWTPs and not much expertise in design and management of wastewater treatment plant and so Kathmandu should have centralized system of WWTP and not isolated many treatment plants. Every treatment plant will be different based on quality of raw sewage and has to be designed differently. So having centralized WWTP simplifies both the design and the operation and maintenance of the plant. He emphasized that the interceptor sewers should be designed at right level and proper technology should be adopted for laying it.

**Mr. Rammani Bhattarai, Executive Officer, Bhaktapur Municipality**

Mr. Bhattarai requested the workshop organizer to conduct such workshop on government holidays, so that everybody can participate whole day in the workshop.

The Workshop was concluded with closing remarks by **Mr. Prayag Lal Joshi, Chairman of KUKL**. He summed up the discussion and presented his views on the proposed project. Mr. Joshi opined that the project has covered everything but left out some policy aspects in planning, formulation of laws, regulations, organizations responsibility, and enforcement mechanism for separate system (i.e. storm water and sewerage). He suggested the consultant to look on the decentralized wastewater treatment system in the valley. He requested the consultant to recommend some specific training programs to the KUKL staff. He further requested to recommend scientific tariff structures and collection procedure for the sewerage.

At the end, he thanked all the experts for presenting different technical papers and the participants in actively participating in the discussions and providing very useful inputs.

**Meeting at Lalitpur Metropolitan City office.**

Meeting at Lalitpur Municipality on 6 February 2018. The meeting was chaired by Mayor of Lalitpur Metropolitan City, Mr. Chiribabu Maharjan. PID presented about ongoing project status and proposed core area sewerage planning.

**Meeting at Siddhartha Cottage.**

Meeting was carried out on 6 January 2018 at Siddhartha Cottage. The meeting was chaired by Mr. Biraj Bista, State Minister, Ministry of Science and Technology. PID presented about the ongoing projects and also focussing about the TP-02 Dhobighhat.

**Meeting at Lalitpur Metropolitan City Ward – 4.**

Meeting at Lalitpur Metropolitan City ward number 4 was held on 16 March 2018. The meeting was chaired by Mr. Narayan K.C., Chairman, Ward-4. PID presented about the ongoing projects and also focussing about the TP-02 Dhobighhat.

**Interaction meeting with Women's group at Lalitpur District.**

Interaction meeting was conducted with women's group of Lalitpur District on 17 April 2018. The meeting was organized to disseminate the project information.

Attendance of the meetings carried during 2018 are presented as follows;

Feb-6

उपस्थिति

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क्र.स.	नाम थर	संघ संस्था	इमेल/फोन नं.	हस्ताक्षर
२२	सुरेश महर्पा	१५१ नं. २६.	MHZ Suram १२३	Suram
२६	सुभाष महर्पा	१५१ नं. ११	१८५१५१३५३	Suram
२७	निर्मल रत्न शर्मा	अध्यक्ष १६ वडा	१८५००५१०३८	---
२८	विष्णु शर्मा शर्मा	का. नि. SWMTSC	१८५१०४२६५९	Sharma
२९	विष्णु शर्मा	Nepal Engineers Association	१८५१० - २६९६१	Sharma
३०	संजित विष्णु शर्मा	का. नि. वि. वि. वि.	१८५१०६९५५६	Sharma
३१	दीपक शर्मा शर्मा	३६. का. नि.	१८६००५८८२०	Sharma
३२	नन्दलाल शर्मा	सि. डि. ई. सी. पी. वि.	१८५११७५६०	Sharma
३३	गोपबन्धु	DSC-04/PID	१८५१२७३०५०	Sharma
३४	सुबल शर्मा शर्मा	ADB/POTA	१८५१०३९२९८	Sharma
३५	विष्णु शर्मा शर्मा	DPD/PID	१८५१०८२६६६	Sharma
३६	सुरज शर्मा	PNC/PID	१८५१०८१२२२	Sharma
३७	सुभाष शर्मा शर्मा	PID/ADB	१८५१०५५५४८	Sharma
३८	विष्णु शर्मा शर्मा	KLKL	१८५११६६०६१	Sharma
३९	विष्णु शर्मा शर्मा	PID	१८५११२६२५५	Sharma
४०	अनिल शर्मा शर्मा	खोजी तथा खोजी तथा	१८५१२२९०५६	Sharma
४१	Uday Hong Kong	PCR Consultant	१८०८२६९०१८	Sharma
४२	Bharat Maharjan	DSC-04, PID	१८५१५०५५६६	Sharma
४३	राज शर्मा	वडा नं. - ३, ल. गु. नं. १	१८५११५४८६	Sharma
४४	सुभाष शर्मा शर्मा	न. ड. का. ल.	१८५१०५९९३२	Sharma
४५	विष्णु शर्मा शर्मा	का. नि. वि. वि. वि.	१८५१०९२९५८	Sharma
४६	सुभाष शर्मा	बाइलरी स्टेशन	१८५११८०१२३	Sharma
४७	नारायण के. सी.	अध्यक्ष - ४ १५	१८५१००९४०३	Sharma
४८	विष्णु शर्मा शर्मा	वा. नं. १५, वि. वि. वि.	१८५१३५५२०६	Sharma
४९	विष्णु शर्मा शर्मा	जेलियर/आ. वि. वि.	१८५१९९२९४६	Sharma
५०	संजित शर्मा शर्मा	वि. वि. वि. PID/EA	१८५१२६६२६६	Sharma
५१	विष्णु शर्मा शर्मा	SARBAN/EA	१८५११२२३४५	Sharma
५२	गोपबन्धु शर्मा	गदि. वि. वि. वि. वि.	१८५१०९२९४३	Sharma
५३	Pushpa Karki	Envt. Expert	१८५११८५००५	Sharma
५४	गोपबन्धु शर्मा	CSC/PID	१८०८६८९९२५	Sharma
५५	गोपबन्धु शर्मा	CAE/CASSC	१८५१२४२४८	Sharma

क्र.स.	नाम धर	संघ/संस्था	इमेल/फोन नं.	हस्ताक्षर
२६	रमेश देवप	CASSC	9861168029	Somesh



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क्र.सं. नाम पद फ़ोन नं. एड्रेस  
८१. विवेक शर्मा १८५१०९५५९२ ~~वि. २०~~

८२. ~~राम राज बाल~~ ९८२९०६९९६७ ~~वि. २०~~

८३. ~~पतिता शर्मा~~ ~~पतिता~~

८४. ~~पार्वती खन्ना~~

८५. ~~रुपा खन्ना~~

८६. तुलसा डाडाभगा ९८५१६१३२८२ ~~वि. २०~~

८७. प्रमोद नारायण

८८. मिर्लिता शर्मा ९८५१०६३८७७ ~~वि. २०~~

८९. गीता थापा ९८६००५९०१५ ~~वि. २०~~

९०. अलकनन्दा खन्ना ९८०८१४४५०० ~~वि. २०~~

९१. विनू वल्लभ ~~वि. २०~~

९२. कुन्दन बस्नेत ९८५१८५२३१७ ~~वि. २०~~

९३. नरेंद्र पटेल ९८५१३६१८०९ ~~वि. २०~~

९४. रमलका महराज ९८८९९३९९६० ~~वि. २०~~

९५. शर्मिला ~~वि. २०~~

९६. तुलसा विजय ~~वि. २०~~

९७. नारायण लाल भवाले ९२५३३३३३३३ ~~वि. २०~~

९८. ~~सुलका खन्ना~~ ~~वि. २०~~

९९. ~~राम-मल्ल थापा~~ ~~वि. २०~~

१००. ~~पुष्पा खन्ना~~ ~~वि. २०~~

१०१. ~~वि. २०~~

१०२. ~~वि. २०~~

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१०९. ~~वि. २०~~

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११३. ~~वि. २०~~

११४. ~~वि. २०~~

११५. ~~वि. २०~~



क्र.सं.	नाम	पद	नि.सं.	ए.नं.
907	Tajmaladhurana		98411658323	12
106	Ram Prati Khedka		9851045289	12
108	Ginson Kefle		9851190651	12
909	ल. ल. ल. ल. ल. ल.			
990	Ram Narayan chandhary		9851069111	
999	A. SHOL		9841713515	12
992	वि. वि. वि. वि. वि. वि.	CASSC	9851025787	12
993	राजेश कुमार पण्डित		9851069910	12
	Jhans, Hong Kong		9808269516	12
994	गो. वि. वि. वि. वि. वि.		9841278890	12
995	इ. स. गिता रजनी कोडरना	PID	9841267267	12
996	इ. भ. र. व. क. ल. वि. वि.	CSSC	9808689924	12
997	वि. वि. वि. वि. वि. वि.	LSMC		12
998	वि. वि. वि. वि. वि. वि.	DSC-04		12
999	सु. वि. वि. वि. वि. वि.	KVM/PID		12
920	गो. वि. वि. वि. वि. वि.	DSC-4		12
921	परमेश्वर वि. वि. वि.			12
122	P. K. Mainali		9851063849	12
925	Anita Sympal			12

### अन्तरक्रियात्मक कार्यक्रम का मुद्दा

1. जोहर पार पुराण केन्द्र को मुख्य भाग  
मरको अन्तरक्रियात्मक निर्माण लिखित  
मुद्दाहक जनसंख्या का रूपमा उद्देश्य का
2. पुराण केन्द्र निर्माण पुराण केन्द्र  
निराकरण इतिहास
3. पुराण केन्द्र को निर्माण मन्त्रिक

सुगिश्लितता इन् पत्तै ।

३. सुशासन केन्द्रको नीतिगत वातावरणमा  
स्वच्छता कार्यक्रम इन् पत्तै ।





Attendance of the meeting at Lalitpur Metropolitan City Ward – 4 on March 16 2018.

आज मिति २०७४ साल चैत्र २ गते शुक्रवारको दिन ललितपुर महानगरपालिका वडा नं. ४ क अध्यक्ष श्री नारायण के सी ज्यूको अध्यक्षतामा आयोजना कायन्त्वित निर्देशनालय काठमाडौं र खनिजानी लिमिटेड अन्तर्गत काठमाण्डौ उपत्यका फाहर पानी व्यवस्थापन आयोजनाको ललितपुर महानगरपालिका वडा नं. ४, धोवीघाटमा निर्माण गरने फाहर पानी प्रशोधन केन्द्र सम्बन्धी छल देहाय बमोजिमका महानुभाव पदाधिकारीज्यूहरूको उपस्थितिमा निम्न अनुसारको निर्णय गरियो ।

उपस्थिति

क्र.सं.	नाम र पद	सघ/संस्था	इमेल/फोन नं.	हस्ता
१.	मा. पम्फा भन्जाल	प्रतिनिधि सभा सदस्य		
२.	मा. जीवन खड्का	प्रदेशसभा सदस्य	९२५११५०८३९	
३.	श्री विराज विष्ट	पूर्व राज्यमन्त्री	९८०१०२०६५५	
४.	श्री तिरेश प्रसाद खत्री	आ.नि.आ.का.नि.		
५.	श्री हा.महेश भट्टराइ	महाप्रबन्धक, केयूकेल		
६.	श्री नारायण के सी	वडा अध्यक्ष ४	९८५९००९५०३	
७.	राजेश्वर श्रेष्ठ	MPD/KWCL		
८.	रमेश्वर श्रेष्ठ	MPD/SC04		
९.	रमेश्वर श्रेष्ठ	अध्यक्ष, डोडेल विकास समिति	९८५०८३६२१	
१०.	नन्दी थापा	सि.स.स.स.स.	९८५१५१०५५	
११.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१६१२८२	
१२.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१६५८३२३	
१३.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१२५९२३५	
१४.	सुवासिना श्रेष्ठ	MPD-04	९८५१६६८९९२५	
१५.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१३६५३६८	
१६.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१७९७२१२	
१७.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१९३५६६०	
१८.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५११३१२४६	
१९.	सुवासिना श्रेष्ठ	सि.स.स.स.स.		
२०.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५३३२३९५५	
२१.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१२२४६०५	
२२.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१२५५५२२	
२३.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१२१८२१८	
२४.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१५५९८१८	
२५.	सुवासिना श्रेष्ठ	सि.स.स.स.स.	९८५१७७०६१२	

Attendance of the meeting held on 17 April 2018 with women's group of Lalitpur District.

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Photographs of interaction meetings

<b>Siddhartha Cottage, 6 January 2018</b>	<b>Venue: Siddhartha Cottage, Dhobighat.</b>
	
<b>Public Hearing at Shikhar Hoter, Dhobighat</b>	<b>Briefing by PM-PID,during PH at Shikhar Hoter, Dhobighat</b>
	
<b>Presentation by PM on PH at Shikhar Hoter, Dhobighat</b>	<b>Public Hearing at Shikhar Hoter, Dhobighat</b>
<b>Interaction Programme at Lalitpur Metropolitan Office, on 6 February 2018</b>	<b>Venue: Lalitpur Municipality office hall.</b>
	
<b>Briefing by PM-PID,at Interaction meeting at Shikhar</b>	<b>Participants from Municipality including Pampha Bhusal,</b>



Hoter, Dhobighat	Member; House of Representative.
 <p>A photograph showing the Mayor of Lalitpur Metropolitan, a man in a dark jacket, seated at a long wooden table. Behind him is a large screen displaying text in Nepali and English about a wastewater treatment plant. The text on the screen includes 'ललितपुर महानगरपालिकाको Core Area को ढल प्णाली तथा घाँसीघाट फोहर पानी प्रशोधन केन्द्र (Wastewater Treatment Plant) सम्बन्धि ललितपुर महानगरपालिका र आयोजना कार्यान्वयन निर्देशनालयको संयुक्त छलफल कार्यक्रम'.</p>	 <p>A photograph showing four men seated at a long wooden table, each with a microphone and a water bottle. They appear to be delivering a welcome speech during a meeting.</p>
Mayor of Lalitpur Metropolitan during the meeting	Participants from PID and PD delivering welcome speech
<b>Interaction Programme with Lalitpur Ward 4 on 16 March 2018</b>	
 <p>A photograph showing a man in a dark suit standing and speaking to a group of people seated at long tables covered with blue and red cloths. A presentation screen is visible in the background.</p>	 <p>A photograph showing a group of people, including men and women, seated at long tables covered with blue and red cloths. A man in a light-colored shirt is standing and speaking to them.</p>
Briefing by PM-PID, at Interaction meeting	Locals participating in interaction programme
 <p>A photograph showing a group of people, including men and women, seated at long tables covered with blue and red cloths. They are engaged in a discussion or listening to a speaker.</p>	 <p>A photograph showing five men seated at a long table covered with a blue and white cloth. They are engaged in a discussion or listening to a speaker.</p>
Locals participating in interaction programme	Participants from PID Office during the meeting.

## Appendix 10: IFC/EBRD | Guidance on Workers' Accommodation

### Sanitary and toilet facilities

It is essential to allow workers to maintain a good standard of personal hygiene but also to prevent contamination and the spread of diseases which result from inadequate sanitary facilities. Sanitary and toilet facilities will always include all of the following: toilets, urinals, washbasins and showers. Sanitary and toilet facilities should be kept in a clean and fully working condition. Facilities should also be constructed of materials that are easily cleanable and ensure privacy. Sanitary and toilet facilities are never shared between male and female residents, except in family accommodation. Where necessary, specific additional sanitary facilities are provided for women.

#### Benchmarks

1. Sanitary and toilet facilities are constructed of materials that are easily cleanable.
2. Sanitary and toilet facilities are cleaned frequently and kept in working condition.
3. Sanitary and toilet facilities are designed to provide workers with adequate privacy, including ceiling to floor partitions and lockable doors.
4. Sanitary and toilet facilities are not shared between men and women, except in family accommodation.

### Toilet facilities

Toilet arrangements are essential to avoid any contamination and prevent the spread of infectious disease.

#### Benchmarks

1. An adequate number of toilets is provided to workers. Standards range from 1 unit to 15 persons to 1 unit per 6 persons. For urinals, usual standards are 1 unit to 15 persons.
2. Toilet facilities are conveniently located and easily accessible. Standards range from 30 to 60 metres from rooms/dormitories. Toilet rooms shall be located so as to be accessible without any individual passing through any sleeping room. In addition, all toilet rooms should be well-lit, have good ventilation or external windows, have sufficient hand wash basins and be conveniently located. Toilets and other sanitary facilities should be ("must be" in cold climates) in the same building as rooms and dormitories.

### Showers/bathrooms and other sanitary facilities

Hand wash basins and showers should be provided in conjunction with rooms/dormitories. These facilities must be kept in good working condition and cleaned frequently. The flooring for shower facilities should be of hard washable materials, damp-proof and properly drained. Adequate space must be provided for hanging, drying and airing clothes. Suitable light, ventilation and soap should be provided. Lastly, hand washing, shower and other sanitary facilities should be located within a reasonable distance from other facilities and from sleeping facilities in particular.

#### Benchmarks

1. Shower/bathroom flooring is made of anti-slip hard washable materials.
2. An adequate number of handwash facilities is provided to workers. Standards range from 1 unit to each 15 persons to 1 unit per 6 workers. Handwash facilities should consist of a tap and a basin, soap and hygienic means of drying hands.
3. An adequate number of shower/bathroom facilities is provided to workers. Standards range from 1 unit to 15 persons to 1 unit per 6 persons.
4. Showers/bathrooms are conveniently located.

**5. Shower/bathroom facilities are provided with an adequate supply of cold and hot running water.**

**Source:**

[http://www1.ifc.org/wps/wcm/connect/9839db00488557d1bdfcff6a6515bb18/workers accomoda  
tion.pdf?MOD=AJPERES](http://www1.ifc.org/wps/wcm/connect/9839db00488557d1bdfcff6a6515bb18/workers_accomodation.pdf?MOD=AJPERES)

## **Appendix 11: Traffic Management Planning (TMP)**

### **A. Principles for TMP around the Sewer Construction Sites**

**1. One of the prime objectives of this TMP is to ensure the safety of all the road users along the work zone, and to address the following issues:**

- (i) the safety of pedestrians, bicyclists, and motorists travelling through the construction zone;**
- (ii) protection of work crews from hazards associated with moving traffic;**
- (iii) mitigation of the adverse impact on road capacity and delays to the road users;**
- (iv) maintenance of access to adjoining properties; and**
- (v) addressing issues that may delay the project.**

### **B. Operating Policies for TMP**

**2. Figure A12.1 illustrates the operating policy for TMP of the sewer works.**

### **C. Analyse the impact due to street closure**

**3. Apart from the capacity analysis, a final decision to close a particular street and divert the traffic should involve the following steps:**

- (i) approval from the ward office or community to use the local streets as detours;**
- (ii) consultation with businesses, community members, traffic police, Department of Roads, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;**
- (iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;**
- (iv) determining if additional traffic control or temporary improvements are needed along the detour route;**
- (v) considering how access will be provided to the worksite;**
- (vi) contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and**
- (vii) developing a notification program to the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.**

**4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the detour street or public opposition, the full closure can be restricted to weekends with the construction commencing on Friday night and ending on Sunday morning prior to the morning peak period.**

### **D. Public awareness and notifications**

**5. As per discussions in the previous sections, there will be travel delays during the constructions, as is the case with most construction projects, albeit on a reduced scale if utilities and traffic management are properly coordinated. There are additional grounds for travel delays in the area, as most of the streets lack sufficient capacity to accommodate additional traffic from diverted traffic as a result of street closures to accommodate the works.**

**Figure A12.2: Policy Steps for the TMP**

Steps	Review	Review construction schedule and methods
1.	Traffic Re-Circulation	Identify initial traffic recirculation and control policy
2.	Traffic Diversion	Identify routes for traffic diversions.
3.	Full Road Closures	Begin community consultation for consensus.
4.	Temporary Parking	Identify temporary parking (on and off-street)- Discuss with ward, owner, community for use
5.	Police Coordination	Coordinate with the Traffic Police to enforce traffic and diversions
6.	Install Control Devices	Install traffic control device (traffic cones, signs, lightings, etc).
7.	UMC Sub-committee	Coordinate with the UMC sub-committee to reconcile with the future plans of utility agencies
8.	Awareness	Conduct campaigns, publicity, and notify public about street closure
9.	Public Redress	Develop a mechanism to address public grievances disruptions (traffic, utilities, and diversions.

6. The awareness campaign and the prior notification for the public will be a continuous activity which the project will carry out to compensate for the above delays and minimize public claims as result of these problems. These activities will take place sufficiently in advance of the time when the roadblocks or traffic diversions take place at the particular streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the roadblocks and traffic diversion through print, TV, and radio media. In addition, the project, in collaboration with the utility management coordinator, will also seek the assistance of the ward office, local clubs, and others to post the public notice regarding street closure and traffic diversions in the future.

7. The utility management coordinator will also conduct an awareness campaign to educate the public about the following issues:

- (i) traffic control devices in place at the work zones (signs, traffic cones, barriers, etc.);
- (ii) defensive driving behaviour along the work zones; and
- (iii) reduced speeds enforced at the work zones and traffic diversions.

8. It may be necessary to employ a road safety education specialist to design an appropriate program for road safety, and to conduct the awareness programs.

9. The campaign will cater to all types of target groups i.e. children, adults, and drivers.

10. Therefore, these campaigns will be conducted in schools, civic centres and community centres. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the KUKL Project Directorate, Office of both the contractor and consultant, and the contractor's site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

- (i) explain why the brochure was prepared, along with a brief description of the project;
- (ii) advise the public to expect the unexpected;
- (iii) educate the public about the various traffic control devices and safety measures adopted at the work zones;
- (iv) educate the public about the safe road user behaviour to emulate at the work zones;



- (v) tell the public how to stay informed or where to inquire about road safety issues at the work zones (website, name, telephone, mobile number of the contact person; and SMS service or traffic information on FM radio, e.g. Ujyalo FM Station); and
- (vi) indicate the office hours of relevant offices.

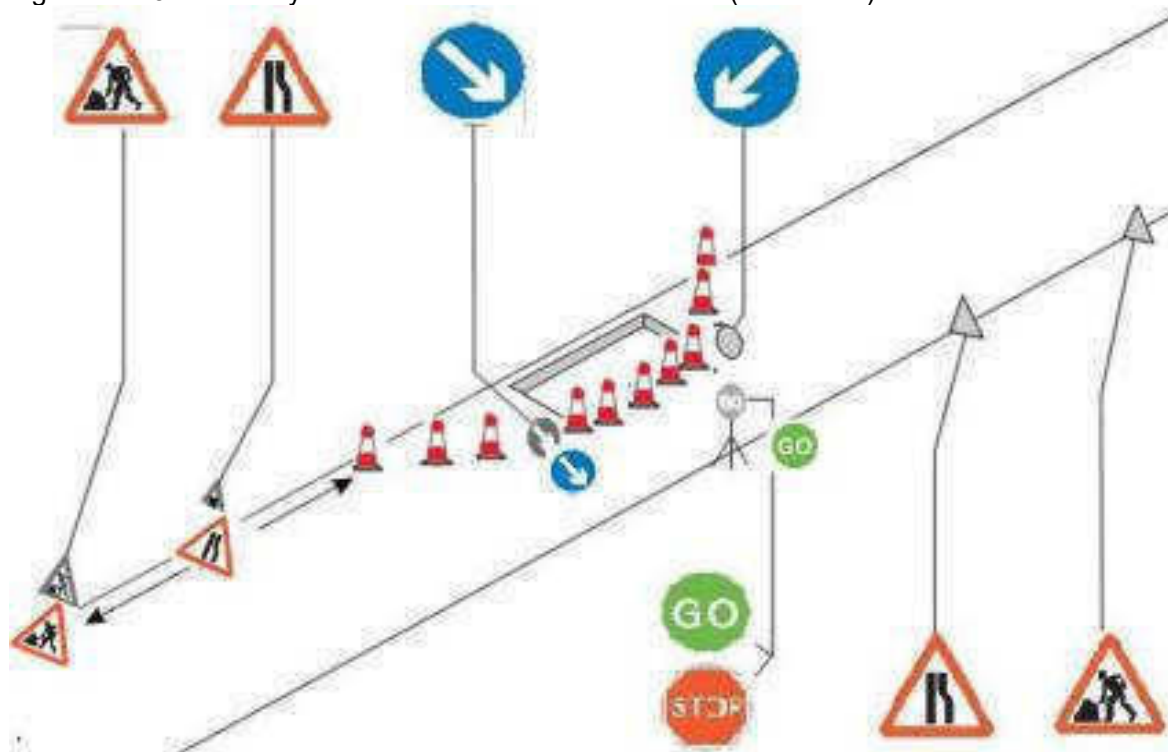
**E. Install traffic control devices at the work zones and traffic diversion routes**

**11.** The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is a key to achieve the above objective, it is important to install good traffic signs at the work zones.

**12.** Procedures for installing traffic control devices at any work zone vary, depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place both at both minor streets and major streets. As such, the traffic volume and road geometry vary, with the latter requiring more elaborate settings. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary "STOP" and "GO"). The work will closely follow the guidelines outlined in the DOR Traffic Sign Manual 1997 (which includes DOR 1996 document "Safety at Roadwork") and other literature available in this respect.

**13.** Figure A12.3 illustrates a typical set-up for installing traffic control devices at the work zone of the area.

Figure A12.3: Basic Layout for Delineation of a Work Zone (small area)



Source: DOR Traffic Sign Manual; Volume I; August 1997; Kathmandu, Nepal.

**14.** The work zone should take into consideration the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30-cm clearance between the traffic and the

temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones. Figure 5 clarifies that the "ROAD NARROWS" warning-sign is only necessary at the works zones where high traffic speeds are likely during the off-peak hours and at night. All the temporary traffic signs should be reflectorized, especially for the works to be conducted during nighttimes, as per the DOR Traffic Sign Manual 1997.

15. All the traffic diversions should be properly delineated through proper "DIVERSION AHEAD" and "ROADWORK AHEAD" signs as indicated in Figure A12.4. In addition, the "B46" temporary warning sign for sharp bends used at the temporary diversion should be in place after the start of the taper of the traffic cones. Flashing beacons should be installed at the entry to the work zone and traffic diversion for night construction, or if backfilling of the sewer trench does not take place after the completion of a day shift.

**Figure A12.4: Basic Layout for Delineation of a Work Zone (small area)**



Source: DOR Traffic Sign Manual; Volume I; August 1997; Kathmandu, Nepal.

16. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. One person is necessary at each entry to the diversion from both directions. These personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.

17. In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets in order to be visible to the motorists at all times. There should be provision for lighting beacons and illumination for night constructions. In light of the ongoing load-shedding problem in Nepal, it is practical to use solar-powered LED lights, which are energy efficient, wherever feasible.

## Appendix 12: Emergency Response Plan Template

### Section 1.

#### System Information

Keep this basic information easily accessible to authorized staff for emergency responders, repair people, and the news media.

#### System information

System Name and Address		
Directions to the System		
Basic Description and Location of System Facilities		
Population Served and Service Connections	people	connections
System Owner		
Name, Title, and Phone Number of Person Responsible for Maintaining and Implementing the Emergency Plan		Phone Mobile

## Section 2.

### Chain of Command - Lines of Authority

The first response step in any emergency is to inform the person at the top of this list, who is responsible for managing the emergency and making key decisions.

#### Chain of command - lines of authority

Name and Title (as required)	Examples of Responsibilities During an Emergency	Contact Numbers
Mr/Ms .....  Wastewater System Manager	Responsible for overall management and decision making for the wastewater system. The System Manager is the lead for managing the emergency, providing information to regulatory agencies, the public and news media. All communications to external parties are to be approved by the wastewater system manager.	Phone:  Mobile:
Mr/Ms .....  Wastewater System Operator	In charge of operating the wastewater collection system, performing inspections, maintenance sampling and relaying critical information, facilities, and providing recommendations to the wastewater system manager.	Phone:  Mobile:
Mr/Ms .....  Wastewater Treatment Plant Operator	In charge of running wastewater treatment plant, performing inspections, maintenance and relaying critical information, assessing and providing recommendations to the system manager.	Phone:  Mobile:
Mr/Ms .....  Office Administrator	Responsible for administrative functions in the office including receiving phone calls and keeping records of events. This person will provide a standard pre-scripted message to those who call with general questions. Additional information will be released through the wastewater system manager.	Phone:  Mobile:
Mr/Ms .....  Field Staff	Delivers door hangers, posts notices, and supports wastewater system operator.	Phone:  Mobile:

**Section 3.**  
**Events that Cause Emergencies**

The events listed below may cause wastewater system emergencies. They are arranged from highest to lowest probable risk.

**Events that cause emergencies**

Type of Event	Probability or Risk (High-Med-Low)	Comments

**Section 4.****Emergency Notification****Notification call-up lists - Use these lists to notify first responders of an emergency.**

<b>Emergency Notification List</b>				
<b>Organization or Department</b>	<b>Name &amp; Position</b>	<b>Telephone</b>	<b>Night or Cell Phone</b>	<b>Email</b>
<b>Local Law Enforcement</b>				
<b>Fire Department</b>				
<b>Emergency Medical Services</b>				
<b>Wastewater Operator (if contractor)</b>				
<b>Primacy Agency Contact</b>				
<b>Interconnected Wastewater System</b>				
<b>Neighboring Wastewater System (not connected)</b>				
<b>KUKL Contact</b>				

<b>Priority Customers</b>				
<b>Organization or Department</b>	<b>Name &amp; Position</b>	<b>Telephone</b>	<b>Night or Mobile Phone</b>	<b>Email</b>
<b>Hospitals or Clinic(s)</b>				
<b>Public or Private Schools</b>				
<b>Public Water System</b>				

Notification List				
Organization or Department	Name & Position	Telephone	Night or Mobile Phone	Email
Police				
Regulatory Agency				
Authorized Testing Laboratory				

Service / Repair Notifications				
Organization or Department	Name & Position	Telephone	Night or Mobile Phone	Email
Nepal Electricity Authority				
Electrician				
Gas Supplier				
Water Testing Lab.				
KUKL				
Nepal Telecommunications				
Plumber				
Pump Supplier				
"Call Before You Dig"				
Rental Equipment Supplier				
Polymer Supplier				
Pipe Supplier				

Media Notification List					
Organization Department	or	Name & Position	Telephone	Night or Mobilel Phone	Email
Newspaper - Local					
Radio					
Radio					
TV Station					

**Notification procedures**

**Notify wastewater system customers**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Alert local law enforcement, or regulatory officials, and local health agencies**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Contact service and repair contractors**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	



**Contact neighboring wastewater systems, if necessary**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Contact downstream water systems, if necessary**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Procedures for issuing a health advisory**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Other procedures, as necessary**

<b>Who is Responsible:</b>	
<b>Procedures:</b>	

**Section 5.**  
**Effective Communication**

Communication with customers, the news media, and the general public is a critical part of emergency response.

**Designated public spokesperson**

Designate a spokesperson (and alternate) and contact regulatory agency for delivering messages to the news media and the public.

Spokesperson	Alternate

**Designate a spokesperson and alternates** \_\_\_\_\_

**Section 6.**  
**The Vulnerability Assessment**

This is an evaluation of each wastewater system component to identify weaknesses or deficiencies that may make them susceptible to damage or failure during an emergency. It also assesses facilities for security enhancements that may guard against unauthorized entry, vandalism, or terrorism.

**Facility vulnerability assessment and improvements identification**

System Component	Description and Condition	Vulnerability	Improvements or Mitigating Actions	Security Improvements
Collection System				
Sewage Pumping				
Effluent Disposal				
Computer and Telemetry System				

## Section 7. Response Actions for Specific Events

In any event there are a series of general steps to take:

1. Analyse the type and severity of the emergency;
2. Take immediate actions to save lives;
3. Take action to reduce injuries and system damage;
4. Make repairs based on priority demand; and
5. Return the system to normal operation.

The following tables identify the assessment, set forth immediate response actions, define what notifications need to be made, and describe important follow-up actions.

### A. Power outage

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

### B. Collection system blockage or line break

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**C. Collection system pumping facilities failure**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**D. Treatment system failure**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**E. Effluent disposal failure**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**F. Chemical contamination**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**G. Vandalism or terrorist attack**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**H. Flood**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**I. Earthquake**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**J. Hazardous materials spill into collection system**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**K. Electronic equipment failure**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**Cyber attack**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

**M. Other**

<b>Assessment</b>	
<b>Immediate Actions</b>	
<b>Notifications</b>	
<b>Follow-up Actions</b>	

## Section 8.

## Returning to Normal Operation

[illegible]

## Section 9. Plan Approval

This plan is officially in effect when reviewed, approved, and signed by the following people:

Name/Title	Signature	Date

## Section 10. Certificate of Completion

I certify to the Government of Nepal that this wastewater system has completed an Emergency Response Plan (ERP).

I certify that this document was prepared under my direction or supervision.

**Wastewater Systems:** \_\_\_\_\_

**System Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Print Name of Person Authorized to Sign this Certification on behalf of the System:**

**Title:**

**Signature:**

**Phone:**

**Fax:**

**Email:**

### Completion of the following:

- ☐ Security Vulnerability Assessment
- ☐ Emergency Response Plan

Source: [www.rcap.org](http://www.rcap.org) (modified)



### Appendix 13: Sample Semi-Annual Environmental Monitoring Report Template

*This template must be included as an appendix in the EIA/IEE that will be prepared for the project. It can be adapted to the specific project as necessary.*

#### 1. Introduction

- Overall project description and objectives
- Description of sub-projects
- Environmental category of the sub-projects
- Details of site personnel and/or consultants responsible for environmental monitoring
- Overall project and sub-project progress and status

No.	Sub-Project Name	Status of Sub-Project				List of Works	Progress of Works
		Design	Pre Construction	Construction	Operational Phase		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

#### 2. Compliance status with National/ State/ Local statutory environmental requirements

No.	Sub-Project Name	Statutory Environmental Requirements	Status of Compliance	Action Required

#### 3. Compliance status with environmental loan covenants

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

#### 3. Compliance status with the environmental management and monitoring plan

- Provide the monitoring results as per the parameters outlined in the EMP. Append supporting documents where applicable, including Environmental Site Inspection Reports.
- There should be reporting on the following items which can be incorporated in the checklist of routine Environmental Site Inspection Report followed with a summary in the semi-annual report send to ADB. Visual assessment and review of relevant site documentation during routine site inspection needs to note and record the following:
- What are the dust suppression techniques followed for site and if any dust was noted to escape the site boundaries;
- If muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads;
- Adequacy of type of erosion and sediment control measures installed on site, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Are their designated areas for concrete works, and refuelling;

- **Are their spill kits on site and if there are site procedure for handling emergencies;**
- **Is there any chemical stored on site and what is the storage condition?**
- **Is there any dewatering activities if yes, where is the water being discharged;**
- **How are the stockpiles being managed;**
- **How is solid and liquid waste being handled on site;**
- **Review of the complaint management system;**
- **Checking if there are any activities being under taken out of working hours and how that is being managed.**

### Summary Monitoring Table

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
<b>Design Phase</b>						
<b>Pre-Construction Phase</b>						
<b>Construction Phase</b>						
<b>Operational Phase</b>						

**Overall Compliance with CEMP/ EMP**

No.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

**Approach and methodology for environmental monitoring of the project**

- Brief description on the approach and methodology used for environmental monitoring of each sub-project

**Monitoring of Environmental Impacts on Project Surroundings (ambient air, water quality and noise levels)**

- Brief discussion on the basis for monitoring
- Indicate type and location of environmental parameters to be monitored
- Indicate the method of monitoring and equipment to be used
- Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

**Air Quality Results**

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM10 pg/m3	SO2 pg/m3	NO2 pg/m3

**Water Quality Results**

Site No.	Date of Sampling	Site Location	Parameters > Government Standards)					
			pH	Conductivity pS/cm	BOD mg/L	TSS mg/L	TN mg/L	TP mg/L

**Noise Quality Results**

Site No.	Date of Testing	Site Location	LAeq (dBA) (Government Standard)	
			Day Time	Night Time

**Summary of Key Issues and Remedial Actions**

- Summary of follow up time-bound actions to be taken within a set timeframe.

**Appendices**

- Photos
- Summary of consultations
- Copies of environmental clearances and permits
- Sample of environmental site inspection report
- Other

SAMPLE ENVIRONMENTAL SITE INSPECTION REPORT

Project Name Contract  
Number

NAME: \_\_\_\_\_ DATE: \_  
TITLE: \_\_\_\_\_ DMA: \_  
LOCATION: \_\_\_\_\_ GROUP: \_

WEATHER CONDITION:

INITIAL SITE CONDITION: \_\_\_\_\_

CONCLUDING SITE CONDITION:

Satisfactory \_\_\_\_ Unsatisfactory \_\_\_\_ Incident \_\_\_\_ Resolved \_\_\_\_ Unresolved

INCIDENT:  
Nature of incident:

Intervention Steps:

Incident  
Issues

Resoluti  
on

Signatur

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Emissions	Waste Minimization
Air Quality	Reuse and Recycling
Noise pollution	Dust and Litter Control
Hazardous Substances	Trees and Vegetation

Site Restored to Original Condition                      Yes                      No

e

Sign off

Name  
Position

**SOUTH ASIA REGIONAL DEPARTMENT  
SAFEGUARDS INFORMATION LOG FOR SAUW PROJECTS**

<b>Project:</b>	NEP: Kathmandu Valley Wastewater Management Project (Dhobighat / TP-03) of L-3000		
<b>Loan No.:</b>	3000	<b>Package No.:</b>	KUKL/WW/TP-03      WWTP – TP-03
<b>Components:</b>	This IEE is updated for Rehabilitation & Expansion of Dhobighat Waste Water Treatment Plant.		
<b>Contract Type:</b>	NCB		
<b>Date of IEE:</b>	Updated August 2018		
<b>Draft IEE</b>		<b>Updated/Revised IEE</b>	<b>Others</b>
		More information required.	A draft IEE has been prepared based on preliminary design. The draft IEE is disclosed on ADB website ( <a href="https://www.adb.org/sites/default/files/linked-documents/43524-014-nep-ieeeab.pdf">https://www.adb.org/sites/default/files/linked-documents/43524-014-nep-ieeeab.pdf</a> ) which included WWTPs. The civil works contract is on-going. The revised/updated IEE has been submitted to ADB for review and clearance.

	Section	Status		Comments/Remarks (include date accomplished or obtained, if applicable)	
1.	Environmental assessment report (EIA/IEE/env. due diligence) has been prepared?	<b>Yes</b>	<b>No</b>		Baseline environment chapter has updated in chapter IV. Description of the environment
		X			
2.	EIA/IEE/env. due diligence based on project components and detailed engineering design?	<b>Yes</b>	<b>No</b>		Detail engineering design has been updated.  There is no vegetation clearance at Dhobighat WWTP
		X			
3.	Statutory Requirements		Forest Clearance		
			No Objection Certificate		
			Site Location Clearance		

	Section	Status		Comments/Remarks (include date accomplished or obtained, if applicable)			
			Environmental Compliance Certificate			No any significant statutory clearance is required as TP - 03 is proposed under government own land	
			Permit to Construct (or equivalent)				
			Permit to Operate (or equivalent)				
			Others				
5.	Policy, legal, and administrative framework	Adequate		Not Adequate		Updated with package wise information	
		X					
		EIA/IEE/envi due diligence included discussion on:					
			National regulation/law on EIA				
			Environmental agency				
			Relevant international environmental agreements			Updated chapter II	
			Environmental standards (IFC's EHS Guidelines)			Updated chapter II	
6.	Anticipated environmental impacts and mitigation measures	EIA/IEE/env. due diligence satisfactorily discussed impacts and risks on:		Mitigation measures provided?			Updated chapter IX
				Yes X	No		
			Biodiversity conservation				Sub project doesn't have any endangered species and habitats
			Pollution prevention and abatement	X			Updated Chapter V
			Health and safety	X			Updated Chapter V
			Physical cultural resources (PCR)		X		Absence of PCR in sub project area.
			Cumulative impacts	X			Cumulative impacts due



	Section	Status			Comments/Remarks (include date accomplished or obtained, if applicable)		
							to WWTP expansion, other activities proposed in the urban area discussed
			Transboundary impacts			Not applicable	
7.	Impacts from Associated Facilities	Addressed	Not Addressed	Not applicable			Updated No associated facilities. Sewer lines and interceptors from which wastewater will be brought in to the WWTP and treated are part of L3000.
				X			
8.	Analysis of Alternatives	Yes	No				Not required.
9.	EMP budget included	Yes	No				Updated The environmental cost related to public awareness campaign and IEC and contractors training is included (Annual cost USD 34000).
		X					
10.	EMP implementation integrated in PAM,	Yes	No				Updated
		X					

	Section	Status		Comments/Remarks (include date accomplished or obtained, if applicable)	
	and in bid and contract documents				
11.	Consultation and Participation	Yes	No		List of consultation detail are explained in Chapter VII with update on recent consultation
		X			
12.	Grievance Redress Mechanism	Yes	No	GRM mechanism included in IEE.	Done
		X			
		Description of GRM		Included in IEE (main text)	
		Identification of GRC members		Done.	
13.	Disclosure		Endorsement to disclose on ADB website		May be disclosed
			Disclosed on project website		May be disclosed
			Relevant information available to stakeholders and affected people in language and form they understand		Information in local language provided
14.	Mobilized PID Environment Officer	Yes	No		PID safeguard unit chief appointed
		X			
15.	Mobilized PIU Environment Specialist	Yes	No		Not applicable. NO PIU in L3000
16.	Mobilized DSC Environment Specialist	Yes	No		DSC environment specialist already mobilized
		X			
17.	Confirm bid and contract documents and/or EMP include requirement for the	Yes	No		EMP include in bidding document. Contractor
		X			

	Section	Status		Comments/Remarks (include date accomplished or obtained, if applicable)	
	contractor to appoint EHS supervisor and/or nodal person for environmental safeguards				has appointed EHS officer
18.	If contract awarded already, confirm contractor's appointment of EHS supervisor and/or nodal person for environmental safeguards	Yes	No		Updated
		X			
19.	Awareness training on compliance to safeguard requirements	Yes	No	<b>Action required:</b> This should be package-specific. Provide information in the IEE on dates, topics discussed and attendance sheet.	Updated Table VII 1 and 2
		X			
20.	Monitoring and Reporting	Yes	No	<b>Action required:</b> This should be package-specific. Provide information on frequency of report submission by contractor to DSC, DSC to PMU, and PMU to ADB. Attach as appendix the checklists or templates or forms used in documentation and reporting.	Updated
		X			